
NISKANEN C E N T E R

Regulatory Comment

Comments submitted to the National Telecommunications and Information Administration in the Matter of:

INTERNATIONAL INTERNET POLICY PRIORITIES

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EXECUTIVE SUMMARY

One of the primary challenges to the continued free flow of information and speech online is the potential for a “control-driven model” of global Internet governance to supplant the existing American-inspired order. National laws and regulations, promulgated by countries around the world, could potentially impede cross-border information flows, to the significant detriment of not only U.S. companies and private sector interests, but free expression and human rights as well. But the threats to the current paradigm of multistakeholder-driven Internet governance do not spring only from nation-states. The emergence of advanced technologies, such as automated botnets, hold the potential to devolve considerable power over the globally-networked digital ecosystem into the hands of non-state actors. It is a fragile time for the Internet.

To combat these many emerging threats, it is imperative that the United States continue to play a leading role in defending the existing order for Internet governance. Digital commerce and trade requires a consistent, predictable, and simple legal environment to maximize the benefits to human beings worldwide. The right to freedom of expression, similarly, requires certainty and trust in an online environment made possible by a consensus-driven model of governance, led by stakeholders from industry and civil society capable of equitably balancing the complicated trade-offs that no single nation-state can do by fiat. The private sector and civil society have shown they can lead the way. In order for an American-inspired vision of Internet governance to triumph, however, the United States must continue to promote multistakeholder governance, while pushing back against ill-conceived laws and regulations that would threaten the free and open Internet.

INTRODUCTION

This inquiry comes at a particularly timely moment, as we stand at a historic crossroads in global Internet governance policy. The road we are currently on — governed by the principles set forth in the Clinton administration’s *Framework for Global Electronic Commerce* — has seen the flourishing of digital communications over the past quarter century. At their core, these policies, such as ensuring the free flow of information across borders and governance via multistakeholder-driven compromise, are built on a foundation of quintessential American values: openness, transparency, free expression, free and open markets, and a culture of tolerance and respect for ecumenicalism.

Turning off this road would lead us toward a theory of Internet governance that is inherently antithetical to those American values. The core vision of this alternative path, as articulated by Chinese President Xi Jinping in a speech on April 20, is a government-dictated, command-and-control system of governance. As President Xi describes it, the Internet of the future is one in which “the government ... will manage, enterprises ... will carry out responsibilities, society ... will supervise, and netizens ... will self-discipline.”ⁱ He continued:

*We must strengthen online positive propaganda, unequivocally adhere to the correct political direction, and the guidance of public opinion; and, oriented by values, we must use the Thought of Socialism with Chinese Characteristics for a New Era and the spirit of the 19th Party Congress to unite and bring together millions of netizens; deeply develop education on ideals and beliefs; deepen propaganda and education on Socialism with Chinese Characteristics for a New Era and the Chinese Dream; vigorously foster and practice the Socialist Core Value View; advance innovation in online propaganda ideas, concepts, forms, methods, measures, etc.; grasp these with timeliness and efficiency; build concentric circles online and offline; generate better social cohesion and consensus; and lay down a common intellectual basis for the united struggle of the entire Party and the whole nation. We must consolidate the main responsibilities of Internet enterprises. We can absolutely not let the Internet become a platform for the dissemination of harmful information, or a place where rumours spread that create trouble. We must strengthen self-discipline in the Internet sector, muster the vigor of all netizens, and mobilize forces on all sides to participate in governance.*ⁱⁱ

Such a future portends the end of the free and open Internet. As Samm Sacks, a senior fellow at the Center for Strategic and International Studies, noted in a recent article in *The Atlantic*, the ramifications of this vision of global Internet governance supplanting the existing American-led order are profound:

*This alternative would include technical standards requiring foreign companies to build versions of their products compliant with Chinese standards, and pressure to comply with government surveillance policies. It would require data to be stored on servers in-country and restrict transfer of data outside China without government permission. It would also permit government agencies and critical infrastructure systems to source only from local suppliers.*ⁱⁱⁱ

“The problem with China’s model,” Sacks notes, “is that it crashes headlong into the foundational principles of the [I]nternet in market-based democracies: online freedom, privacy, free international markets, and broad international cooperation.”^{iv} She goes on:

China’s control-driven model defies international openness, interoperability, and collaboration, the foundations of global [I]nternet governance and, ultimately, of the [I]nternet itself. The 21st Century will see a battle of whether it is the China model or the more inclusive, transparent, collaborative

principles that underpinned the [I]nternet's rise that come to dominate global cybersecurity governance.^v

In order to ensure the latter model of Internet governance prevails, the American government must continue to play a leading role in its defense. To that end, these comments will address the National Telecommunications and Information Administration (NTIA) notice of inquiry “seeking comments and recommendations ... on its international [I]nternet policy priorities for 2018 and beyond.”^{vi} Parts I-IV will answer specific questions (listed under each header) associated with each of the primary policy issues: (1) The Free Flow of Information and Jurisdiction, (2) Multistakeholder Approach to Internet Governance, (3) Privacy and Security, and (4) Emerging Technologies and Trends. Part V will then summarize the recommendations from Parts I-IV before concluding.

PART I: THE FREE FLOW OF INFORMATION AND JURISDICTION

Expansive interpretations of consumer harm, antitrust analysis that relies on ill-defined market boundaries, and amorphous rules governing privacy are all potentially crippling to an interconnected world that remains fragile. Theories surrounding “data price gouging” and laws like the General Data Protection Regulation (GDPR), while not rising to the potential threat posed by more overt state-backed calls for control, are nonetheless dangerous policy prescriptions that hold the potential to balkanize the global Internet.

The Trojan Horse Triumvirate: GDPR, “Data Price Gouging,” and Digital Trade

A. What are the challenges to the free flow of information online?

B. Which foreign laws and policies restrict the free flow of information online? What is the impact on U.S. companies and users in general?

D. What are the challenges to freedom of expression online?

E. What should be the role of all stakeholders globally — governments, companies, technical experts, civil society and end users — in ensuring free expression online?

As discussed above, the primary challenge to the continued free flow of information online, particularly speech, is the potential for the “control-driven model” of global Internet governance to usurp the existing order. However, other national laws and regulations could similarly impede cross-border information flows, to the significant detriment of not only U.S. companies, but free expression more broadly. The following section will detail three separate laws and policies that could act as Trojan horses that would, whether intended or not, fragment the global Internet.

GDPR

The European Union’s (EU) recently-implemented GDPR rules, for example, have already had a considerable effect on the continent’s digital economy.^{vii} Some of their negative economic effects include:

1. **“Members of the Fortune 500 will spend a combined \$7.8bn to avoid falling foul of Brussels’ [GDPR], according to estimates compiled by the International Association of Privacy Professionals (IAPP) and [accounting firm] EY. This equates to an average spend of almost \$16m each.”^{viii}**

2. “Of the companies who said they have finished preparations [for GDPR], **88% reported spending more than \$1 million** on GDPR preparations and **40% reported spending more than \$10 million.**”^{xix}
3. Fines for GDPR infringement can reach up to “**€20 million or 4% of the business’s total annual worldwide turnover.**”^{xx}
4. “Since the early hours of May 25, **ad exchanges have seen European ad demand volumes plummet between 25 and 40 percent** in some cases, according to [Digiday] sources.”^{xxi}

While the GDPR is effectively a tariff on the EU technology sector and a compliance tax on its American counterpart, the rules also had a chilling effect on trans-Atlantic speech. Some digital publishers were taken offline after GDPR went into effect (e.g., Instapaper, *Los Angeles Times*, *Chicago Tribune*, and A&E Networks websites); others switched to stripped down EU-only versions without images or illustrations (e.g., *USA Today* and NPR); and at least one major publisher, *The Washington Post*, started charging readers more for a GDPR-compliant subscription.

As Professor Daniel Lyons, a visiting fellow at the American Enterprise Institute, noted in recent commentary,^{xii} these actions were driven by “concerns that imperfect implementation would trigger liability,” with the unfortunate outcome being a reduction in net information exchange between the United States and EU. Looking to the future of a post-GDPR Europe, Lyons goes on to note that:

The chilling effect on digital products available to European consumers could be significant. Even if companies are not actively marketing to European residents, they may have European visitors interacting with their webpage, taking advantage of marketing offers, or subscribing to newsletters. If these interactions result in retention of personally identifiable information, the company is subject to the GDPR. The ease with which a company may find itself bound, coupled with the cost of compliance and potentially draconian penalties for violation, creates strong incentives for companies to withdraw — aggressively — from European markets.^{xiii}

Underlying the GDPR is a belief that nebulous privacy regulations, whatever their shortcomings, are still preferable to more targeted and gameable rules. Better to be too expansive and ensure maximal privacy protections for the broadest number of people, even if the costs to economic growth, free expression, and consumer welfare are substantial. Ultimately, these rules represent a clear value trade-off, heavily weighing in favor of privacy to the detriment of all other considerations. (It should be noted, however, that while the GDPR places a heady premium on privacy, it is unclear – and indeed, heavily contested – whether the rules have had, or will have, any substantive positive impact for user privacy.) A system that prioritizes privacy over all else not only jeopardizes economic growth and innovation, but also an individual’s right to free expression.

The Department of Commerce and NTIA should push back on overzealous privacy-protections regimes like GDPR in all international fora and negotiations. Although privacy is certainly an important value to defend internationally, the level of protection afforded to individuals’ right to online privacy comes with trade-offs, not least of which is a thriving digital economy. The United States should continue embracing a sectoral-based privacy regime where harms, if they materialize, are contextualized according to the type of information implicated. NTIA should everywhere and always maintain a commitment to balancing privacy with other rights and values, and push back against attempts to commit the United States to any legal regime that might imperil not only the country’s thriving technology industry, but other rights and values, such as freedom of speech.

“Data Price Gouging”

In an interview with *The New York Times*, Andreas Mundt, the president of Germany’s Federal Cartel Office (FCO), said, “The Facebook case is really about excessive pricing vis-à-vis the consumer.”^{xiv} Mundt was arguing that, because Facebook is the dominant firm in the social networking market, it has been essentially “data price gouging” its users by requiring them to share valuable personal data in exchange for using the platform’s free social networking services.

In a recent research brief, the Niskanen Center examined this ongoing investigation into Facebook’s purported abuse of its market power. We showed that there are a multitude of problems inherent in the FCO’s new theory of consumer exploitation:

Determining a data-price is but one of two interrelated problems. The other is adjudicating what constitutes “your” data; what information you “own” about yourself, as well as how, or whether, that ownership inheres in a legal, economic, and technical framework. Quantifying the value of data is difficult in isolation; when paired with the necessity of resolving age-old questions of epistemic philosophy, the task is near-impossible.^{xv}

In addition to these data-pricing concerns, the FCO will also need to wrestle with how to define the relevant market for Facebook to determine how dominant it actually is. For instance, if Facebook is actually in the attention industry — which encompasses all of entertainment — then its market share will be a fraction of what it is in the social networking market. These problems are thorny for antitrust regulators to grapple with and could lead to socially inefficient regulatory interventions for many technology companies beyond Facebook.

Digital Trade

Trade agreements should reiterate America’s commitment to online-intermediary liability protections. Content delivery networks (CDN) — linked servers that enable faster and more secure delivery of content to users — are one type of intermediary that Internet users interact with every day but are not aware of unless they stop working. As the Niskanen Center argued in 2016 comments submitted to the United States Trade Representative (USTR), such services actually help facilitate a safer and more secure online experience for users. And contrary to claims made by the Motion Picture Association of America (MPAA),^{xvi} CDNs are not “notorious markets” operating “in blatant violation of the law” by failing to effectively police intellectual property infringement. As we noted:

There are many benefits of utilizing CDNs, not least of which are the significant cost savings on storage and bandwidth when compared to central server streaming networks. Whatever benefits some actors participating in notorious markets may reap from CDN services, the mere possibility of a technological tool being used for ill is not justification enough for it to be held liable for the actions of users. As online content becomes more interactive and bandwidth-intensive, a more distributed network will increasingly become the most architecturally beneficial approach to optimizing user experience and services.^{xvii}

CDNs like Cloudflare and Akamai are increasingly valuable enablers of the digital ecosystem, and NTIA, in conjunction with USTR, should rebuff erroneous claims from the MPAA and others suggesting these services are aiding and abetting “notorious markets.” More broadly, NTIA should explicitly defend the intermediary liability protections that allow CDNs and other online services to facilitate the free exchange of speech and ideas online.^{xviii} We concluded our previous comments by saying that “any effort to expand

enforcement obligations ... to these CDN companies can only harm the health of the online ecosystem; it would chill free speech, cripple innovation of an evolving Internet architecture, and serve to make millions of websites less secure.”^{xxix}

The CLOUD Act: Bringing Order to Chaos

F. What role can NTIA play in helping to reduce restrictions on the free flow of information over the Internet and ensuring free expression online?

G. In which international organizations or venues might NTIA most effectively advocate for the free flow of information and freedom of expression? What specific actions should NTIA and the U.S. Government take?

H. How might NTIA better assist with jurisdictional challenges on the Internet?

Until recently, a primary challenge to the free flow of digital data was the lack of a comprehensive legal framework for addressing cross-border data access by law enforcement. With the recent passage of the Clarifying Lawful Overseas Use of Data (CLOUD) Act,^{xx} the United States has taken an important step in updating the law to accommodate the unique extraterritoriality issues raised by a digital world.^{xxi} As passed, the law permits the Attorney General, contingent on the “concurrence” of the Secretary of State, to enter into bilateral cross-border data-sharing agreements with foreign governments, subject to a determination that the foreign government, among other things:

1. “Demonstrates respect for the rule of law and principles of nondiscrimination”,^{xxii}
2. “Adheres to applicable international human rights obligations and commitments or demonstrates respect for international universal human rights,” which includes, among other things, “freedom of expression, association, and peaceful assembly”,^{xxiii} and
3. “Demonstrates a commitment to promote and protect the global free flow of information and the open, distributed, and interconnected nature of the Internet.”^{xxiv}

Additionally, the law stipulates that a foreign government entering into such an agreement with the United States may not use any order issued under the terms of the agreement “to infringe freedom of speech.”^{xxv} Although the Departments of State and Justice are the ultimate decision-makers in determining a country’s eligibility for entering into a data-sharing agreement, the Department of Commerce and NTIA may have a collaborative role to play in contributing to these determinations. Given its long history of dealing with international Internet policy the Department of Commerce and NTIA likely have unique and valuable insights to offer the Attorney General and Secretary of State.

NTIA should thus help inform future deliberations on such agreements by providing the Departments of Justice and State insights and information gleaned from international discussions with Internet stakeholders.

PART II: MULTISTAKEHOLDER APPROACH TO INTERNET GOVERNANCE

In theory, the Department of Commerce and NTIA are limited in actively setting and promoting international policy for the Internet. In practice, however, by working with and through other organizations, such as the Internet Corporation for Assigned Names and Numbers (ICANN) and the Internet Governance

Forum (IGF), NTIA can lend significant support to ongoing efforts aimed at providing multistakeholder governance, while continuing to promote American values.

The Framework for Global Electronic Commerce

A. Does the multistakeholder approach continue to support an environment for the Internet to grow and thrive? If so, why? If not, why not?

The *Framework for Global Electronic Commerce* (hereafter the *Framework*) was released by the Clinton administration in 1997 as a directive to government agencies for how to approach regulation of the inchoate Internet in their respective policy areas.^{xxvi} In a retrospective published fifteen years after the *Framework* was first implemented, Adam Thierer, a senior research fellow at the Mercatus Center at George Mason University, said:

[The Framework was] a paradigm for how cyberspace should be governed that remains the most succinct articulation of a pro-liberty, market-oriented vision for cyberspace ever penned. It recommended that we rely on civil society, contractual negotiations, voluntary agreements, and ongoing marketplace experiments to solve information age problems. In essence, they were recommending a high-tech Hippocratic oath: First, do no harm (to the Internet).^{xxvii}

Collectively, the set of principles underlying the *Framework* is a form of “soft law” (as opposed to “hard law”). Soft law includes using a multistakeholder approach to governance which incentivizes compromise and helps build trust among all parties.^{xxviii} This was the perfect foundation to enable the explosive growth and success of the Internet in its early years. The Department of Commerce echoed this philosophy recently in its green paper, *Fostering the Advancement of the Internet of Things*:

Over the past few decades in the United States, the role of government largely has been to establish and support an environment that allows technology to grow and thrive. Encouraging private sector leadership in technology and standards development, and using a multistakeholder approach to policy making, have been integral elements of the government’s approach to technology development and growth. Following a review of public comments, meetings with stakeholders, and the public workshop, it is clear that while specific policies may need to be developed for certain vertical segments of IoT, the challenges and opportunities presented by IoT require a reaffirmation rather than a reevaluation of this well-established U.S. Government policy approach to emerging technologies.^{xxix}

The paper went on to note that “the Department reaffirms its commitment to the policy approach that has made the United States the leading innovation economy. This approach is reflected in the 1997 Framework for Global Electronic Commerce, and has been maintained across all subsequent Presidential administrations.”^{xxx} We agree that this is the right approach for the Internet, the Internet of Things, and for most other emerging technologies.

Accountability, Trust, and “Governance Learning”

B. Are there public policy areas in which the multistakeholder approach works best? If yes, what are those areas and why? Are there areas in which the multistakeholder approach does not work effectively? If there are, what are those areas and why?

C. Are the existing accountability structures within multistakeholder Internet governance sufficient? If not, why not? What improvements can be made?

As Arizona State University legal scholars Gary Marchant and Braden Allenby have noted, soft law and multistakeholder governance practices are most applicable to those areas where technology is rapidly and continually outpacing the ability for regulators and policymakers to keep up.^{xxxii} A telling indicator of when a multistakeholder approach might be suitable, they note, is a policy arena in which “governments, industry, and the public are struggling to realize the promising benefits – and manage the disruptive impacts — of one rapidly emerging technology after another.”^{xxxiii} The multistakeholder process — a core tenet of the soft law system in emerging technology governance — aims to achieve a type of co-regulation that is fundamentally defined not by bureaucratic decision-making, but by an open and transparent consensus-building exercise driven by the private sector, civil society, non-governmental organizations, and others.^{xxxiii} That is why the *Framework* was so successful in promoting the growth and proliferation of the Internet: it prioritized flexible, adaptive, nonbinding standards of governance over top-down, command-and-control rules.

In the field of emerging technologies and the Internet, soft law and multistakeholder governance practices provide numerous benefits over older models of regulatory action. These benefits include:

1. Providing opportunities for “governance learning” by establishing a baseline quasi-regulatory structure that can be built upon;
2. Serving as a political steam valve to insulate policymakers from the need to act haphazardly and preemptively prior to known harms;
3. Introducing greater transparency, vested adaptivity, and enhanced responsiveness into rulemaking proceedings;
4. Amplifying trust and incentivizing compromise among stakeholders, thereby injecting heightened resiliency into the governance process; and
5. Creating more opportunities for equitably balancing innovation and the public interest without being excessively precautionary.^{xxxiv}

Taken together, the benefits of a multistakeholder governance approach to emerging technologies in general, and the Internet in particular, far outweigh the attendant costs.^{xxxv} (As a general response to Question B above, we would direct NTIA to a forthcoming law journal article in the *Colorado Technology Law Journal* authored by Ryan Hagemann, Adam Thierer, and Jennifer Skees: “Soft Law for Hard Problems: The Governance of Emerging Technologies in an Uncertain Future.” For ease of reference, we have submitted a copy of that journal article along with these comments.)

The NTIA and the Department of Commerce would be well-served by continuing to employ soft law governance mechanisms in their approach to the Internet and emerging technologies. Further, NTIA should reiterate its commitment to these principles at every opportunity. In every international multistakeholder discussion, forum, or engagement, the Department of Commerce and NTIA should commit to a policy of unceasing and relentless reaffirmation of these principles and how their propagation helped create the modern digital economy.

Staying the Course on the IANA Transition

D. Should the IANA Stewardship Transition be unwound? If yes, why and how? If not, why not?

It has been almost two years since the Department of Commerce ended its contract with ICANN and the U.S.-based nonprofit organization took full control of the IANA functions.^{xxxvi} Since the transition, ICANN has continued to be an excellent steward of the Internet’s unique identifiers. This is not surprising given the

multi-decade planning that went into preparing for the transition. As a testament to these preparations, at the time of the handover there was bipartisan and international support for moving oversight of this critical function to a private-sector organization operating on a multistakeholder governance model.

Technical experts and policymakers said this transition would cause no disruption to Internet users and preserve a level playing field for the Internet worldwide.^{xxxvii} As we near the two-year milestone, Assistant Secretary David Redl’s decision to review the transition is commendable. First, in considering whether to unwind the IANA Stewardship Transition, it is important to remember how widespread the support was for following through on the commitment to make this change.

New America’s Open Technology Institute released a paper arguing in favor of the transition.^{xxxviii} The American Enterprise Institute published an article calling it the “responsible” choice.^{xxxix} Immediately following the change, the Electronic Frontier Foundation said, “Now that the transfer of oversight has gone through, life will go on pretty much as it did before, with the exception that a broader group of people will have the formal responsibility of ensuring that the DNS root zone is being administered according to community-developed policies”^{xl}

Critics’ greatest fears about the transition have proven to be unfounded. There have been no significant disruptions to users and the stability of the multistakeholder system is strong.^{xli} Authoritarian regimes did not take control of Internet governance. Even at the time of the transition, the repressive regimes themselves recognized that this was not a radical change from the status quo ante. In criticizing the proposed transition, Rashid Ismailov, the Russian vice minister of telecom and mass communication, reportedly said, in effect, “that ICANN would remain a U.S. corporation and the functions of the NTIA would just be resolved within the ICANN procedures, and be totally laid on U.S. ground.”^{xlii}

In announcing its support for the transition, the Information Technology and Innovation Foundation argued that “if anything, threatening the legitimacy of the multistakeholder model will strengthen the hand of those nations that wish to gain greater control over the Internet — the main concern of those still opposing the transition — since they will be able to argue that the U.S. government still holds undue influence over ICANN, better justifying their own interventions.”^{xliii}

In February of this year, the Brookings Institution published a review of the transition by Joe Kane, a technology policy associate at R Street Institute, and Milton Mueller, a professor at Georgia Tech School of Public Policy, in which they said:

That transition was the right move at the time and remains so today ... ICANN is an imperfect organization with politics and problems of its own. But the transition led to dramatic improvements in ICANN’s accountability and corporate governance ... Accepting stewardship by ICANN is still preferable to reverting to the NTIA, which would bring injurious consequences for global Internet freedom. For those who value global Internet freedom, the former is the only option.^{xliv}

The verdict is clear: Internet stakeholders are largely satisfied with the transition and the Commerce Department would be committing an unforced error if it attempted to reverse its decision.

PART III: PRIVACY AND SECURITY

The giant machine that is the global digital economy depends on trust to oil the gears. Advances in privacy tools and security protocols have enabled users to trust one another enough to transact — without ever seeing each other in the flesh. These gains in online commerce should not be taken for granted and need to be defended by smart public policy.

Addressing Cybersecurity Threats

A. In what ways are cybersecurity threats harming international commerce? In what ways are the responses to those threats harming international commerce?

In 2015, 42 percent of small businesses in the United States were victims of a cybersecurity attack, according to a survey by the National Small Business Association.^{xlv} Often, these attacks occur in the form of botnets, a mass network of computers infected with malicious software to spam legitimate Internet users. In aggregate, these attacks are one of the leading harms to international commerce. But what can we do to prevent them?

According to congressional testimony from Daniel Castro, the vice president of the Information Technology and Innovation Foundation, in order to reduce the number and severity of these attacks, the United States should “reform its national cybersecurity policy to move away from an emphasis on relative offensive capabilities and instead prioritize absolute defensive capabilities, including prosecuting cybercrime.”^{xlvi} The government could improve the defensive capabilities of the private sector by codifying the process by which it shares zero-day exploits with firms. Furthermore, as detailed in regulatory comments filed last year by the Niskanen Center, the Commerce Department could promote the use of cybersecurity insurance and extend public-private information sharing regimes.^{xlvii} These steps could significantly reduce the harm posed by botnets.

However, some policy recommendations for dealing cybersecurity threats come with negative unintended consequences. For example, paring back intermediary liability protections for online service providers and content delivery networks would do more harm than good. The business models of these providers and networks, in which they connect users around the world and host content at little or no cost, are only economically viable if the government defends their protection from liability for third-party content. In fact, many of the new products created by these networks can promote online security. It would be a mistake to snuff out those innovations with well-intentioned but poorly-designed changes to liability protections.^{xlviii}

Strong encryption is a more general solution to a wide variety of cybersecurity threats on the Internet. As the *The Atlantic* noted in its coverage of our 2015 paper on the economic benefits of encryption, “The \$40-plus trillion online banking industry, for example, would have been ‘significantly stunted’ without strong cryptography... and the online purchases that in 2013 totaled more than \$3.3 trillion depended on encryption for trust and security.”^{xlix} In the few years since the paper’s release, the digital economy has only grown larger and, with it, so has the importance of encryption. The paper’s conclusion still holds true today: “The Internet is the lifeblood of the modern digital economy; encryption protocols are the white blood cells. The health of the Internet ecosystem depends on the proliferation of strong encryption.”^l

Competing Visions of Privacy

B. Which international venues are the most appropriate to address questions of digital privacy? What privacy issues should NTIA prioritize in those international venues?

Rules like GDPR – ill-conceived though they may be – are usually manifestations of a desire for more robust online privacy protections. Unfortunately, as the GDPR rollout demonstrates, apportioning broad, over-prescriptive, one-size-fits-all regulations to govern large, diverse, and complex economic ecosystems will inevitably result in unintended (though often foreseeable) consequences – not only for firms and economic agents but also for free speech and expression. While they may be crafted with the best of intentions, far-reaching rules and regulations fail to account for the inherent dynamism of market economies, and such rules can never fully or accurately account for the future opportunities and challenges that will arise.

As Craig Mundie, senior advisor to the CEO of Microsoft, aptly noted in a 2014 article for *Foreign Affairs*, had the United States embraced an all-encompassing GDPR-style regulatory approach to privacy in the early days of the Internet, its growth would have almost certainly been stymied:

If, in 1995, comprehensive legislation to protect Internet privacy had been enacted, it would have utterly failed to anticipate the complexities that arose after the turn of the century with the growth of social networking and location-based wireless services. The Internet has proven useful and valuable in ways that were difficult to imagine over a decade and a half ago, and it has created privacy challenges that were equally difficult to imagine. Legislative initiatives in the mid-1990s to heavily regulate the Internet in the name of privacy would likely have impeded its growth while also failing to address the more complex privacy issues that arose years later.^{li}

And indeed, just as the Internet of the 1990s did not resemble the Internet of the 2000s, neither will the Internet of the 2020s necessarily resemble the Internet of today. As the technologist Martin Geddes once wrote, the Internet is just a prototype.^{lii}

In that spirit, as a general matter, NTIA should affirm and support the United States' long-standing approach to regulating privacy sectorally as a superior alternative to more general and comprehensive rules. This approach has long served the country well, and has made the U.S. technology sector the envy of the world. In international venues, NTIA should point to the United States as an example of how countries can craft balanced privacy regulations that address particularized harms while promoting economic growth in digital markets. The agency should further affirm that the United States remains committed to regulating privacy concerns domestically, and eschew any attempt to bind the country to amorphous and unenforceable international standards or agreements.

Furthermore, NTIA should consider promoting the taxonomy of information harm put forward by the Information Technology and Innovation Foundation in their comments submitted to the Federal Trade Commission (FTC) last year:

When evaluating how consumers can be harmed through the misuse of their information, the FTC should use a more detailed typology for information and the harms that result from that information. In addition, as discussed above, limiting data collection and data sharing is an inappropriate method to reduce informational injury in many situations. Consumers are better served by more targeted rules that address specific harms. Only by narrowly tailoring these definitions and pursuing informational injury cases based on demonstrated harm can the FTC both protect consumer privacy and advance innovation.^{liii}

For all of these policies, the only international venues that are “appropriate to address questions of digital privacy” are multistakeholder fora that aim to promote voluntary, nonbinding standards. NTIA’s participation in such fora, however, should always, and explicitly, be premised on noncommittal conditions of involvement. And as the *Framework’s* first principle pronounced (and the Department of Commerce recently reaffirmed, as discussed *supra*), in all such venues, it should be the official policy of NTIA and the U.S. government that “the private sector should lead,” and “governments should encourage industry self-regulation and private sector leadership where possible.”^{liiv} American firms and civil society should thus serve as the tip of the spear in any international multistakeholder efforts that aim to “address” policies, issues, or concerns related to online or digital privacy. NTIA can serve as an effective advocate and convener of multistakeholder processes, but the private sector and civil society should continue to lead in this arena.

PART IV: EMERGING TECHNOLOGY AND TRENDS

The Internet allows emerging technologies to diffuse throughout the world at record speed. The benefits to innovation from the information superhighway are clear, but the ability to share data faster than ever also enables spam bots and intellectual property infringement. Fortunately, some emerging technologies, such as machine learning, can also be used to fight back against these scourges. International Internet policies should mitigate these risks while also maximizing the fruits of innovation.

As the Commerce Department works with international organizations in crafting these policies, it would be wise to make use of its in-house expertise: the Emerging Technology and Research Advisory Committee (ETRAC). The Committee can use its institutional knowledge to emulate the best practices of previous governance regimes and ensure an optimal balance between risk mitigation and benefit maximization.

Automated Content Filtering

A. What emerging technologies and trends should be the focus of international policy discussions? Please provide specific examples.

Ongoing debates surrounding foreign election interference have increasingly cast the specter of expanded use of automated content take-down systems. The use of so-called content recognition systems (CRS)^{lv} can certainly help assist online service platforms in combating the spread of everything from “fake news” to extremist terrorist content, while also balancing the needs of content creators and copyright holders. These systems often use artificial intelligence — specifically, machine learning algorithms — to automate the take-down process, which makes it cost effective for platform owners to police their networks for malicious or stolen content.

However, even though this technology is promising, mandating the implementation of CRS or predicated intermediary liability protections for online service providers on their use should be a red line set by U.S. representatives in any international discussions.^{lvi} Online intermediaries may choose different methods or levels of content moderation based on their community’s unique needs, and blanket requirements would ignore the “particular circumstances of time and place”^{lvii} to the detriment of economic dynamism.^{lviii}

Promoting Innovation

B. In which international venues should conversations about emerging technology and trends take place? Which international venues are the most effective? Which are the least effective?

C. What are the current best practices for promoting innovation and investment for emerging technologies? Are these best practices universal, or are they dependent upon a country’s level of economic development? How should NTIA promote these best practices? For any response, commenters may wish to consider describing specific goals and actions that NTIA, the Department, or the U.S. Government in general, might take (on its own or in conjunction with the private sector) to achieve those goals; the benefits and costs associated with the action; whether the proposal is agency-specific or interagency; the rationale and evidence to support it; and the roles of other stakeholders.

The U.S. government should use the soft law governance principles outlined above as its approach to regulating emerging technologies beyond the Internet. A multistakeholder model with nonbinding guidance and industry-led best practices is the best way forward for many of our most promising technologies, including regenerative medicine, the Internet of Things, autonomous vehicles, drones, supersonic flight, and

commercial space travel. Each of these technologies has the potential to radically improve the lives of Americans and policymakers should use what they have learned from Internet governance to inform how they approach these game-changing innovations.

Lastly, the Commerce Department should capitalize on the ETRAC, which is already housed at the Department but has been underutilized in the past. This committee is a vital store of institutional knowledge and could be leveraged to accelerate the Department's policy priorities once they have been established.^{lix} It is especially important that, given its role, the Committee maintains its commitment to the principles outlined in the *Framework*.^{lx}

PART V: SUMMARY OF RECOMMENDATIONS

To ensure that international Internet policy continues to remain consistent with American values, the Department of Commerce and NTIA should consider the following recommendations, as discussed *supra*:

The Free Flow of Information and Jurisdiction

1. Maintain a steady and unapologetic commitment to the American approach to privacy governance, balancing digital privacy with other rights and interests, such as freedom of expression and the growth of the digital economy;
2. Express support for digital competition policies rooted in a defense of the consumer welfare standard, rather than broad, ill-defined, and economically unsound claims (such as “data price gouging” or “excessive data pricing”) that might justify unwarranted interference in the market;
3. Defend the value of, and advocate for, online intermediary liability protections as an important legal framework for safeguarding free speech and digital trade; and
4. Offer recommendations to, and share information with, the Departments of Justice and State in future deliberations over bilateral data-sharing agreements, pursuant to the CLOUD Act.

Multistakeholder Approach to Internet Governance

1. Continuously reaffirm the Department of Commerce's commitment to the Framework and related soft law governance principles;
2. Emphasize the need for the private sector and civil society to lead on international multistakeholder efforts, while reiterating NTIA's limited role as a convener and advocate for the multistakeholder governance process; and
3. Stay the course on the successful IANA Stewardship Transition.

Privacy and Security

1. Affirm and support the United States' long-standing approach to regulating privacy sectorally;
2. Reiterate the value of secure encryption for promoting trust in, and the growth of, the digital market; and

3. **Affirm the United States’s commitment to regulating privacy concerns domestically, while abstaining from accepting amorphous and unenforceable international standards or agreements, even if only nonbinding.**

Emerging Technology and Trends

1. **Defend intermediary liability protections for online service providers and CDNs; and**
2. **Leverage the institutional knowledge housed at the Emerging Technology and Research Advisory Committee to help inform international conversations regarding new technologies.**

CONCLUSION

In announcing the *Framework*, President Bill Clinton began by saying:^{lxi}

The invention of the steam engine two centuries ago and the harnessing of electricity ushered in an industrial revolution that fundamentally altered the way we work, brought the world’s people closer together in space and time, and brought us greater prosperity. Today, the invention of the integrated circuit and computer and the harnessing of light for communications have made possible the creation of the global Internet and an electronic revolution that will once again transform our lives.

The global Internet and the electronic revolution did indeed transform our lives. But that transformation is far from over. If we are to avoid the grim possibility of global Internet governance with Chinese characteristics, we must embrace anew the principles underlying the Clinton administration’s *Framework*:

1. “The private sector should lead.”
2. “Governments should avoid undue restrictions on electronic commerce.”
3. “Where governmental involvement is needed, its aim should be to support and enforce a predictable, minimalist, consistent and simple legal environment for commerce.”
4. “Governments should recognize the unique qualities of the Internet.”
5. “Electronic commerce on the Internet should be facilitated on a global basis.”^{lxii}

This national framework applies as much, if not more so, at the international level. As the fifth principle notes, electronic commerce takes place on the global level and governance policy should be aligned with that reality. The rest of the principles remain as true today as when they were first put forward. Commerce, either electronic or analog, still needs a consistent, predictable, and simple legal environment to maximize the benefits to human beings worldwide. The private sector has shown that it can lead the way and, if the government can avoid undue restrictions, we can maintain an open and free Internet.

NTIA has an important role to play in these efforts. By working in concert with other departments and agencies, NTIA can help lead a united front in international negotiations to ensure the continuation of an American vision for the Internet – where freedom, openness, and collaborative governance trump state-sponsored repression, control, and censorship.

We would like to thank NTIA for the opportunity to comment on this issue and look forward to continued engagement on this and other topics.

ⁱ Rogier Creemers, Paul Triolo, and Graham Webster, “Translation: Xi Jinping’s April 20 Speech at the National

ⁱⁱ *Ibid.*

ⁱⁱⁱ Samm Sacks, “Beijing Wants to Rewrite the Rules of the Internet,” *The Atlantic*, 18 June 2018, <https://www.theatlantic.com/international/archive/2018/06/zte-huawei-china-trump-trade-cyber/563033/>.

^{iv} *Ibid.*

^v *Ibid.*

^{vi} Department of Commerce, National Telecommunications and Information Administration, “International Internet Policy Priorities,” *Federal Register*, Vol. 83, No. 108 (Tues., June 5, 2018), pp. 26036 - 26038, <https://www.ntia.doc.gov/files/ntia/publications/fr-rfc-international-internet-policy-priorities-06052018.pdf>.

^{vii} Adam Thierer, *GDPR Compliance: The Price of Privacy Protections*, Technology Liberation Front, 9 July 2018, <https://techliberation.com/2018/07/09/gdpr-compliance-the-price-of-privacy-protections/>.

^{viii} <https://www.ft.com/content/od47ffe4-ccb6-11e7-b781-794ce08b24dc>.

^{ix} “Pulse Survey: GDPR budgets top \$10 million for 40% of surveyed companies,” PriceWaterhouseCoopers, <https://www.pwc.com/us/en/services/consulting/library/general-data-protection-regulation-gdpr-budgets.html>.

^x “What if my company/organisation fails to comply with the data protection rules?,” European Commission, https://ec.europa.eu/info/law/law-topic/data-protection/reform/rules-business-and-organisations/enforcement-and-sanctions/sanctions/what-if-my-company-organisation-fails-comply-data-protection-rules_en.

^{xi} Jessica Davies, *GDPR mayhem: Programmatic ad buying plummets in Europe*, Digiday, 25 May 2018, <https://digiday.com/media/gdpr-mayhem-programmatic-ad-buying-plummets-europe/>.

^{xii} Daniel Lyons, “GDPR: Privacy as Europe’s tariff by other means?,” American Enterprise Institute, 3 July 2018, <https://www.aei.org/publication/gdpr-privacy-as-europes-tariff-by-other-means/>.

^{xiii} *Ibid.*

^{xiv} Natasha Singer and Sapna Maheshwari, “European Regulators Ask if Facebook Is Taking Too Much Data,” *The New York Times*, 24 April 2018, <https://www.nytimes.com/2018/04/24/technology/facebook-data-europe-investigations.html>.

^{xv} Ryan Hagemann, *Data Price Gouging: A Stalking Horse for a Neo-Brandeisian Antitrust Doctrine?* (Washington, D.C.: Niskanen Center, 8 May 2018), p. 6, https://niskanencenter.org/wp-content/uploads/2018/05/Brief-Data-Price-Gouging_-A-Stalking-Horse-for-a-Neo-Brandeisian-Antitrust-Doctrine_.pdf.

^{xvi} Joanna McIntosh, *Comments of the Motion Picture Association of America, Re: Request for public comment on the 2016 Special 301 Out of Cycle Review of Notorious Markets*, Docket No. USTR-2016-0013, submitted October 7, 2016, p. 11, available at <https://www.regulations.gov/document?D=USTR-2016-0013-0007>. (“Some hosting providers allow sites to hide behind a content delivery network (CDN). A CDN is typically used to effectively and efficiently deliver content to a global user base by placing servers all around the world that cache the pages of the website. One of the by-products of using a CDN is that they mask the true IP and hosting provider of a website. An example of a CDN frequently exploited by notorious markets to avoid detection and enforcement is Cloudflare. Cloudflare is a CDN that also provides reverse proxy functionality. Reverse proxy functionality hides the real IP address of a web server. Given the central role of hosting providers in the online ecosystem, it is very concerning that many refuse to take action upon being notified that their hosting services are being used in clear violation of their own terms of service prohibiting intellectual property infringement and, with regard to notorious markets such as those cited in this filing, in blatant violation of the law.”)

^{xvii} Ryan Hagemann, *Comments submitted to the United States Trade Representative in the Matter of: A Rebuttal to “A Request for Comment on the 2016 Special 301 Out-of-Cycle Review of Notorious Markets,”* Niskanen Center, Docket No. USTR-2016-2013, (submitted October 20, 2016), https://niskanencenter.org/wp-content/uploads/2016/10/NiskanenCenter_USTRCommentsNotoriousMarketsRebuttal.pdf.

^{xviii} Ryan Hagemann, *Comments submitted to the National Telecommunications and Information Administration in the Matter of: Promoting Stakeholder Action Against Botnets and Other Automated Threats*, Docket No. 170602536-7536-01, (submitted July 28, 2017), https://www.ntia.doc.gov/files/ntia/publications/niskanencenter_comments_botnets_ntia.pdf.

^{xix} Ryan Hagemann, *Comments submitted to the United States Trade Representative in the Matter of: A Rebuttal to “A Request for Comment on the 2016 Special 301 Out-of-Cycle Review of Notorious Markets,”* Niskanen Center, Docket No. USTR-2016-2013, (submitted October 20, 2016), https://niskanencenter.org/wp-content/uploads/2016/10/NiskanenCenter_USTRCommentsNotoriousMarketsRebuttal.pdf.

^{xx} CLOUD Act (S. 2383, attached to Pub. L. 115-141, 23 March 2018).

^{xxi} Curt Levey, et. al., *Coalition Letter to House and Senate Leadership RE: The Clarifying Lawful Overseas Uses of Data Act*, (Feb. 13, 2018), <http://bit.ly/cloudcoalitionletter>. (“By providing clear guidelines, the CLOUD Act takes several steps to avoid international conflicts of law and protect the privacy of citizens across the globe while prioritizing the fight against international crime and terrorism. Because it facilitates U.S. entry into bilateral agreements with other governments, the proposed legislation would encourage government-to-government cooperation. The CLOUD Act updates the law to make it clear that U.S. warrants and similar legal processes issued for data held by service providers will likely reach data stored overseas. At the same time, the legislation would also give these providers rights to raise international comity concerns that would require a judge to determine if competing government interests weigh in favor of compelling the provider to turn over the requested data.”)

^{xxii} 18 U.S.C. § 2523(b)(1)(B)(ii) (2018).

^{xxiii} 18 U.S.C. § 2523(b)(1)(B)(iii)(III) (2018).

^{xxiv} 18 U.S.C. § 2523(b)(1)(B)(vi) (2018).

^{xxv} 18 U.S.C. § 2523(b)(4)(E) (2018).

^{xxvi} White House, *A Framework for Global Electronic Commerce*, (1997), [hereafter the *Framework*], <https://clintonwhitehouse4.archives.gov/WH/New/Commerce/summary.html>.

^{xxvii} Adam Thierer, *15 Years On, President Clinton's 5 Principles for Internet Policy Remain the Perfect Paradigm*, *Forbes*, 12 Feb. 2012, <http://bit.ly/2KZ3mnn>.

^{xxviii} Ryan Hagemann, Adam Thierer, and Jennifer Skees, “Soft Law for Hard Problems: The Governance of Emerging Technologies in an Uncertain Future,” *Colorado Technology Law Journal* (forthcoming), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3118539.

^{xxix} National Telecommunications and Information Administration, *Fostering the Advancement of the Internet of Things*, (Jan. 12, 2017): p. 2, https://www.ntia.doc.gov/files/ntia/publications/iot_green_paper_01122017.pdf.

^{xxx} *Ibid.*, 40.

^{xxxi} Gary E. Marchant and Braden Allenby, “New Tools for Governing Emerging Technologies,” *Bulletin of the Atomic Scientists*, Vol. 73 (2017).

^{xxxii} *Ibid.*, 108.

^{xxxiii} Hagemann, Thierer, and Skees, “Soft Law for Hard Problems,” 15.

^{xxxiv} Ryan Hagemann, “New Rules for New Frontiers: Regulating Emerging Technologies in an Era of Soft Law,” *Washburn Law Journal*, Vol. 57, No. 2, (Spring 2018), pp. 244-255, <http://washburnlaw.edu/publications/wlj/issues/57-2.html>.

^{xxxv} *Ibid.*, 255. (These costs can potentially include, among other things: “(1) Diminished long-term legal clarity, given the lack of common law adjudication of soft criteria and the soft law systems they engender; (2) [s]ubjecting agencies to criticism that such approaches ignore the rule of law and provide new avenues by which industry interests can engage in regulatory capture, thereby undercutting institutional legitimacy; and (3) [o]pening the door to policy entrepreneurs motivated by hostility to technology and progress, ideologically dogmatic policy preferences, or nefarious intentions.”)

^{xxxvi} “Stewardship of IANA Functions Transitions to Global Internet Community as Contract with U.S. Government Ends,” ICANN Announcements, 1 Oct. 2016, <https://www.icann.org/news/announcement-2016-10-01-en>.

^{xxxvii} Stephen D. Crocker, Patrick Falstrom, and Ram Mohan, “Opposition gets facts wrong on ICANN’s security committee and the IANA transition,” *The Hill*, 21 Sept. 2016, <http://thehill.com/node/297035>.

^{xxxviii} David G. Post and Danielle Kehl, *Controlling Internet Infrastructure: The “IANA Transition” and Why It Matters for the Future of the Internet, Part I* (New America’s Open Technology Institute, Apr. 2015), <http://bit.ly/2LpW9M>.

^{xxxix} Shane Tews, “The IANA transition: Creating a responsible outcome,” *TechPolicyDaily*, 26 Sept. 2016, <http://www.aci.org/publication/the-iana-transition-creating-a-responsible-outcome/>.

^{xl} Jeremy Malcolm, “Oversight Transition Isn’t Giving Away the Internet, But Won’t Fix ICANN’s Problems,” *Electronic Frontier Foundation*, 3 Oct. 2016, <http://bit.ly/2LpbB8o>.

^{xli} Joe Kane and Milton Mueller, “U.S. government should not reverse course on internet governance transition,” *TechTank*, 7 Feb. 2018, <http://brook.gs/2BK7nqD>.

^{xlii} Monika Ermert, “ICANN Meeting in Marrakesh: More Hiccups On Way to IANA Transition,” *Intellectual Property Watch*, 3 Aug. 2016, <http://www.ip-watch.org/?p=46069>.

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- ^{xliii} Daniel Castro, “The IANA Transition Is Not Perfect, But Congress Should Approve It Anyway,” Innovation Files, 14 Sept. 2016, <https://itif.org/node/6515>.
- ^{xliv} Kane and Mueller, *supra* note 37.
- ^{xlv} National Small Business Association, “2015 Year End-Economic Report” (2016), <http://bit.ly/zuHO63o>.
- ^{xlvi} “Testimony of Daniel Castro Before the Senate Committee on Small Business and Entrepreneurship,” 25 Apr. 2018, <http://www2.itif.org/2018-small-business-cybersecurity-castro.pdf>.
- ^{xlvii} Ryan Hagemann, *Comments submitted to the National Telecommunications and Information Administration in the Matter of: Promoting Stakeholder Action Against Botnets and Other Automated Threats*, Docket No. 170602536-7536-01 (submitted July 28, 2017), https://www.ntia.doc.gov/files/ntia/publications/niskanencenter_comments_botnets_ntia.pdf.
- ^{xlviii} *Ibid.*
- ^{xlx} Kaveh Waddell, “How Much Is Encryption Worth to the Economy?” *The Atlantic*, 9 Nov. 2015, <http://bit.ly/2NVhuvD>.
- ¹ Ryan Hagemann and Josh Hampson, *Encryption, Trust, and the Online Economy: An Assessment of the Economic benefits Associated With Encryption*, Niskanen Center, 9 Nov. 2015, https://niskanencenter.org/wp-content/uploads/2015/11/RESEARCH-PAPER_EncryptionEconomicBenefits.pdf.
- ^{li} Craig Mundie, “Privacy Pragmatism,” *Foreign Affairs*, Vol. 93, No. 2 (March/April 2014), p. 517, <http://www.foreignaffairs.com/articles/140741/craig-mundie/privacy-pragmatism>.
- ^{lii} Martin Geddes, “The Internet is just a prototype,” 4 April 2015, <http://www.martingeddes.com/?p=1094>.
- ^{liii} Daniel Castro and Alan McQuinn, “Comments submitted to the Federal Trade Commission RE: Informational Injury Workshop, Project No. 175413,” Information Technology and Innovation Foundation, 27 Oct. 2017, <http://www2.itif.org/2017-informational-injury-comments.pdf>.
- ^{liv} *The Framework*.
- ^{lv} These refer to any number of software technologies or algorithms (including “filtering” and “fingerprinting” systems) that are involved in the automated identification and/or take-down of copyright-infringing materials online. See Evan Engstrom and Nick Feamster, *The Limits of Filtering: A Look at the Functionality & Shortcomings of Content Detection Tools*, (San Francisco: Engine, March 2017), <http://www.engine.is/the-limits-of-filtering>; See also Regina Zernay and Ryan Hagemann, *ACES in the Hole? Automated Copyright Enforcement Systems and the Future of Copyright Law*, Research Paper (Washington, D.C.: Niskanen Center, June 6, 2017): p. 36, http://bit.ly/niskanen_aces.
- ^{lvi} *Ibid.*, 36. (“As a result, it is imperative that policymakers refrain from advocating for additional conditionality set on the safe harbor provisions of the [Digital Millennium Copyright Act]. In particular, safe harbor provisions for [online service providers] should not be conditioned on the use of [content recognition systems], automated or otherwise.”)
- ^{lvii} Friedrich A. Hayek, “The Use of Knowledge in Society,” *American Economic Review* (1945), <https://www.econlib.org/library/Essays/hykKnw.html>.
- ^{lviii} Zernay and Hagemann, *ACES in the Hole?*.
- ^{lix} Ryan Hagemann and Joshua Hampson, “Comments submitted to the Bureau of Industry and Security in the Matter of: Emerging Technology and Research Advisory Committee Meeting,” (submitted March 14, 2017), http://bit.ly/niskanen_etrac.
- ^{lx} *Ibid.*
- ^{lxi} “Text of the President’s Message to Internet Users,” White House Office of the Press Secretary, 1 July 1997, <https://clintonwhitehouse4.archives.gov/WH/New/Commerce/message.html>.
- ^{lxii} *The Framework*.

Soft Law for Hard Problems: The Governance of Emerging Technologies in an Uncertain Future

by Ryan Hagemann, Jennifer Skees & Adam Thierer

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ABSTRACT

For a great many emerging technologies, as well as many existing ones, we are witnessing the twilight of the traditional regulatory system and its gradual replacement by an amorphous and constantly-evolving set of informal “soft law” governance mechanisms. This has profound ramifications for the future of statutory law, administrative regulation, and the evolution of a wide variety of technology sectors.

This paper explores the causes of this development. The underlying drivers of the modern computing and Internet revolution—microprocessors, software, sensors, networked technologies, wireless geolocation, and other digital devices and applications—are invading numerous precincts of the economy and upending the way business is done in a wide variety of sectors. These new technological capabilities are accelerating the well-known “pacing problem” of technology evolving faster than law’s ability to keep up. As a result, these new and rapidly-evolving technologies and sectors will present formidable challenges to traditional regulatory regimes and will necessitate the formulation of new governance processes.

We then examine how “soft law” systems, multistakeholder processes, and various other informal governance mechanisms are already evolving to fill that governance gap. Many other scholars have discussed the growth of soft law mechanisms in narrow contexts, but perhaps failed to acknowledge the extent to which these new governance models have taken hold across a wide range of sectors and have already become the dominant *modus operandi* for modern technological governance, at least in the United States. Toward that end, a partial inventory of many of these recent efforts and processes will be provided, with a particular focus on autonomous vehicles, commercial drones, the Internet of Things, and advanced medical and health technologies. Although this review of methods mostly covers developments at the United States federal level, the approaches identified here have also been mimicked in other countries and at a state level within the US.

Finally, the benefits and drawbacks of new soft law efforts will also be discussed and some suggestions will be offered for improving those governance mechanisms. The paper concludes that, for better or worse, the age of “hard law” governance will continue to give way and that soft law governance will become the new norm for a great many technologies and industry sectors. We also offer some suggestions for how to improve soft law systems and restrain their greatest potential risks.

I. INTRODUCTION

Highly disruptive forms of technological change are upending multiple sectors of the modern global economy as well as the laws and regulations that govern them. “All around the world,” note Arizona State University technology policy scholars Gary E. Marchant and Braden Allenby, “governments, industry, and the public are struggling to realize the promising benefits—and manage the disruptive impacts—of one rapidly emerging technology after another.”¹

Some of these interconnected technologies and sectors include: the Internet of Things (IoT), robotics, autonomous systems, artificial intelligence (AI), big data, 3D printing, virtual reality (VR), and the sharing economy. Even heavily-regulated sectors, such as transportation and medicine, are poised to undergo radical transformations thanks to the expansion and convergence of a wide range of technologies.

These technological developments will significantly challenge governance efforts of an anticipatory (*ex ante*) nature.² “Anticipatory governance,” has been defined as “the ability of a variety of lay and expert stakeholders, both individually and through an array of feedback mechanisms, to collectively imagine, critique, and thereby shape the issues presented by emerging technologies before they become reified in particular ways.”³

¹ Gary E. Marchant & Braden Allenby, *New Tools for Governing Emerging Technologies*, 73 BULL. OF THE ATOMIC SCIENTISTS 108, 108. (2017).

² Gregory N. Mandel, *Regulating Emerging Technologies*, 5 (Temple University, Legal Studies Research Paper No. 2009-18, 2009), available at <https://ssrn.com/abstract=1355674> (“New technologies place stress on existing regulation.”).

³ Daniel Barben, et al., *Anticipatory Governance of Nanotechnology: Foresight, Engagement, and Integration*, in THE HANDBOOK OF SCIENCE AND TECHNOLOGY STUDIES 992, 992-93 (Edward J. Hackett, et al., eds., 2008).

**** DRAFT -- DO NOT CIRCULATE ****

This paper will argue that soft law is in the process of becoming the primary *modus operandi* of modern technology policy and the governance of fast-moving emerging technologies in particular. In a sense, anticipatory hard law governance efforts are gradually dying, with very few legislative efforts witnessing final passage. Meanwhile, the executive branch and its various administrative agencies have largely shifted away from the use of hard law for a variety of reasons. This governance shift—which is happening largely organically and without any conscious design or authorization from congressional lawmakers—has profound ramifications for both the future of various technology sectors and regulatory policymaking more generally.

While this paper identifies how these developments more generally affect many different technology sectors, to keep things manageable we have narrowed our primary focus to information communications technologies (ICT), autonomous systems (such as drones and driverless cars), the “Internet of Things,”⁴ and certain advanced, digital-enabled medical technologies. These technologies share many common attributes and are increasingly intertwined, so it makes sense to discuss them together and use case studies drawn from those sectors. However, many of the issues and conclusions presented here will be equally applicable to other “emerging technology” sectors, including financial technology, nanotechnology, and synthetic biotech and genetic engineering.

We also regard this shift towards soft law as inevitable because of the relentless pace of technological innovation in these fields⁵ and the global reach of these technologies and sectors.⁶ For these sectors and a great many others that are being co-opted by the current information revolution, we believe traditional regulatory models have already been strained to the breaking point. The future of governance in these sectors “depends on the ability of policymakers to embrace a new model of regulation that uses very different tools from the dominant and traditional model of command-and-control regulation.”⁷

Soft law governance mechanisms will fill that governance gap. But this transition will not be without controversy. Both defenders and critics of traditional hard law systems will find reasons to question the wisdom of new soft law governance processes. Ironically, many of their

⁴ Definitions of the IoT differ, but generally refer to “scenarios where network connectivity and computing capability extends to objects, sensors and everyday items not normally considered computers, allowing these devices to generate, exchange and consume data with minimal human intervention.” See Ryan Hagemann, *Comments submitted to the National Telecommunications and Information Administration in the Matter of: The Benefits, Challenges, and Potential Roles for the Government in Fostering the Advancement of the Internet of Things*, NISKANEN CENTER, May 23, 2016, https://www.ntia.doc.gov/files/ntia/publications/niskanencenter_ntia_iiot_comments.pdf.

⁵ Walter D. Valdivia & David H. Guston, *Responsible Innovation: A Primer for Policymakers*, CENTER FOR TECHNOLOGY INNOVATION AT BROOKINGS INSTITUTION, May 2015, 1, https://www.brookings.edu/wp-content/uploads/2016/06/Valdivia-Guston_Responsible-Innovation_v9.pdf (“Technical change is advancing at a breakneck speed while the institutions that govern innovative activity slog forward trying to keep pace.”).

⁶ Alfred C. Aman, Jr., *Administrative Law for a New Century in GLOBALIZATION AND GOVERNANCE* 267, 267 (Aseem Prakash & Jeffrey A. Hart eds., 2000) (“Globalization is having a similar effect on the organization of the regulatory state.”).

⁷ Philip J. Weiser, *The Future of Internet Regulation*, 32 U.C. DAVIS L. REV. 536 (2009).

reservations will be rooted in common concerns about the transparency, accountability, and enforceability of soft law systems.⁸ These issues will need to be addressed if soft law is to garner greater acceptance among not only affected industries and stakeholders in specific technology policy debates, but also among the public more generally.

II. SOFT VS. HARD LAW PRIOR TO THE INTERNET AGE

This section attempts to define the primary differences between “hard” and “soft” law and explain how soft law efforts have generally worked prior to the rise of the Internet and information revolution. “There is considerable disagreement in the existing literature on their definitions,”⁹ however, and these distinctions may have different meanings depending on the field and context in which they are applied. Because the focus of this paper is the governance of various emerging technologies (and “connected” technologies in particular), we will focus on how soft law is unfolding in only this context.

A. The Rough Contours of “Hard” vs. “Soft” Law

Generally speaking, “hard law” involves standardized governmental rulemaking procedures and strictures. Traditional rulemaking includes the passage of authorizing legislation by Congress and all that process entails in terms of legislative procedure. For administrative agencies in the United States, traditional rulemaking requires the publication of a proposed rule in the *Code of Federal Regulations*, typically followed by hearings, the opportunity for affected parties to present evidence, and a notice-and-comment process that invites public participation guided by the Administrative Procedures Act (APA).¹⁰ Both formal and informal rulemaking under the APA would be considered “hard law” as this process typically involves some level of scrutiny by the Office of Information and Regulatory Affairs (OIRA), although not all agencies are required to run their proposed rules past OIRA for review.¹¹ Other formal constraints on this process include the

⁸ See Adam Thierer, *Does “Permissionless Innovation” Even Mean Anything?*, TECHNOLOGY LIBERATION FRONT, May 18, 2017, <https://techliberation.com/2017/05/18/does-permissionless-innovation-even-mean-anything> (“Plenty of questions remain about such soft law systems, and the irony is that defenders of both permissionless innovation and the precautionary principle will quite often be raising very similar concerns regarding the transparency, accountability, and enforceability of these systems.”).

⁹ Gregory Shaffer & Mark Pollack, *Hard v. Soft Law: Alternatives, Complements, and Antagonists in International Governance*, 94 MINN. L. REV. 706 (2010).

¹⁰ Administrative Procedure Act, 5 U.S.C. §§ 551–559 (2012).

¹¹ Under Executive Order 12866, any proposed regulation deemed to be of significant economic impact, usually defined as having an effect of \$100 million or more in a given year, must be reviewed by OIRA before it can be published in the Federal Register. However, rules that are “non-significant” can bypass OIRA altogether. Additionally, independent regulatory commissions, such as the Federal Communications Commission and Securities and Exchange Commission, are exempt from review under Executive Order 12866. Susan E. Dudley & Jerry Brito, REGULATION: A PRIMER 40-53 (2012).

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Federal Register Act,¹² the Freedom of Information Act (FOIA),¹³ and the Federal Advisory Committee Act (FACA).¹⁴

“Soft law,” by contrast, is a far more amorphous, open-ended concept. Gary Marchant, who has written extensively on soft law practices with several other scholars, observes along with Kenneth W. Abbott and Elizabeth A. Corley that the term “has no precise technical meaning and its definition is contested.”¹⁵ “Many scholars view soft law not as a sharply defined category,” they say, “but as part of a continuum—from hard law through soft law, to political and social undertakings, and finally to the absence of any obligation.”¹⁶

Marchant and Allenby define soft law “as a shorthand term to cover a variety of nonbinding norms and techniques for implementing them.”¹⁷ They explain that soft law includes, “instruments or arrangements that create substantive expectations that are not directly enforceable, unlike ‘hard law’ requirements such as treaties and statutes.”¹⁸ We will use their definition as our baseline throughout the paper, but we introduce a few additional caveats before moving on.

Some of the softest of those soft law mechanisms include “various types of private standards, guidelines, codes of conduct, and principles.”¹⁹ Kenneth Abbott says such soft governance approaches, “rely on decentralizing regulatory authority among public, private and public-private actors and institutions,” and that the advantage of such arrangements is that they, “can be adopted and revised more rapidly than formal regulations.”²⁰

But soft law can also include actions by regulatory agencies that do not involve as much delegation to third parties. Such “nonlegislative” activities could include “interpretive rules,” “guidance documents,” and “general statements of policy.”²¹ Those concerned about such soft law approaches sometimes describe them as “back-door” or “stealth” rulemaking activities.²²

¹² Federal Register Act, 44 U.S.C. §§ 1501-1511 (2014).

¹³ Freedom of Information Act, 5 U.S.C. § 552 (2016).

¹⁴ Federal Advisory Committee Act, 5a U.S.C. §§ 1-16 (2012).

¹⁵ Kenneth W. Abbott et al., *Soft Law Oversight Mechanisms for Nanotechnology*, JURIMETRICS, 285(Spring 2012).

¹⁶ *Id.* at 286.

¹⁷ *Id.* at 285.

¹⁸ Marchant & Allenby, *supra* note 1 at 112.

¹⁹ *Id.*

²⁰ Kenneth W. Abbott, *Introduction: The Challenges of Oversight for Emerging Technologies in INNOVATIVE GOVERNANCE MODELS FOR EMERGING TECHNOLOGIES* 6 (Gary E. Marchant et al. eds., 2014).

²¹ See David L. Franklin, *Legislative Rules, Nonlegislative Rules, and the Perils of the Short Cut*, 120 YALE L. J. 276 (2010).

²² John D. Graham & James Broughel, *Confronting the Problem of Stealth Regulation*, MERCATUS ON POLICY, April 2015, <https://www.mercatus.org/publication/confronting-problem-stealth-regulation>.

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Clyde Wayne Crews has also used the terms “regulatory dark matter” and “sub rosa regulation” to describe these approaches.²³

Because of the APA strictures, it is improper to use the terms “formal” and “informal” as synonyms for hard versus soft law. Under the APA, “formal” rulemaking incorporates trial-like procedures, the presentation of evidence at a hearing, and the potential cross-examination of expert witnesses.²⁴ But “agencies rarely use . . . formal rulemaking” and instead employ “a process by which the public can comment on regulations” through a notice-and-comment period.²⁵ This “informal” process is the most common process used to promulgate federal regulations in the United States today, and still follows a more strictly procedural format.

Regardless of whether they are formal or informal in character, significant regulations issued by executive branch agencies are also required to include a regulatory impact analysis (RIA), including a benefit-cost analysis (BCA) for those rules expected to have the largest economic impacts.²⁶ Various presidential executive orders and guidance issued by OIRA guide this process at the federal level.²⁷ As part of any BCA review, OIRA demands “[a] statement of the need for the regulatory action” that includes “a clear explanation” of that need, as well as “a description of the problem that the agency seeks to address.”²⁸ OIRA also asks agencies to “explain whether the action is intended to address a market failure or to promote some other goal,” to identify “a

²³ Clyde Wayne Crews, *Mapping Washington’s Lawlessness 2017: An Inventory of “Regulatory Dark Matter”*, 4 ISSUE ANALYSIS (2017), available at <https://cei.org/sites/default/files/Wayne%20Crews%20-%20Mapping%20Washington%27s%20Lawlessness%202017.pdf>

²⁴ See A. Lee Fritschler & Catherine E. Rudder, SMOKING IN POLITICS: BUREAUCRACY CENTERED POLICYMAKING 164 (2007) (noting that most important difference between formal and informal processes is that in the former a public hearing is required, and in the latter the decision as to whether to hold a hearing is left up to the agency.)

²⁵ John D. Graham & James W. Broughel, *Stealth Regulation: Addressing Agency Evasion of ORIA and the Administrative Procedure Act*, 1 HARV. J. OF L. & PUB. POL’Y, FEDERALIST ED. 33, 33 (2014), available at <https://www.mercatus.org/system/files/Graham-Testimony-May-2016-v1.pdf>.

²⁶ BCA represents an effort to formally identify the tradeoffs or opportunity costs associated with regulatory proposals and, to the maximum extent feasible, quantify those benefits and costs. See Dudley & Brito, *supra* note 11 at 97–98. (“The cost of a regulation is the opportunity cost—whatever desirable things society gives up in order to get the good things the regulation produces. The opportunity cost of alternative approaches is the appropriate measure of costs. This measure should reflect the benefits foregone when a particular action is selected and should include the change in consumer and producer surplus.”); see also Jerry Ellig & Patrick McLaughlin, *The Quality and Use of Regulatory Analysis in 2008*, 32 RISK ANALYSIS 855 (2012).

²⁷ See Richard B. Belzer, *Risk Assessment, Safety Assessment, and the Estimation of Regulatory Benefits* 5 (Mercatus Working Paper, 2012), available at <http://mercatus.org/publication/risk-assessment-safety-assessment-and-estimation-regulatory-benefits>.

²⁸ Office of Info. & Reg. Affairs, *Regulatory Impact Analysis: A Primer 2*, available at http://regulatoryreform.com/wp-content/uploads/2015/02/USA-Circular-a-4_regulatory-impact-analysis-a-primer.pdf (last visited Jan. 5, 2018).

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range of regulatory approaches” (“including the option of not regulating”), and to consider other alternatives to regulation.²⁹

Sometimes agencies evade many of these requirements,³⁰ and some independent agencies, including the Federal Trade Commission (FTC) and the Federal Communications Commission (FCC), are not subject to these requirements.³¹ Nonetheless, for most agencies and rule-making activities, the APA process and OIRA review are supposed to ensure that a system of “checks and balances” are in place to guide and constrain the federal regulatory process—and that includes both formal and informal rules.³² In other words, both formal and informal rulemakings are “by the book,” so to speak, in the sense that they must comply with the APA and OIRA procedures. By contrast, quasi-regulatory soft law mechanisms largely ignore “the book” and evade APA and OIRA review altogether.³³ This represents a crucial distinction between hard and soft law.

It might be tempting to conclude that the primary distinction between hard and soft law comes down to the *bindingness* and enforceability of the governance actions. This view characterizes hard law as possessing the full force of government’s power to sanction those in violations of the legal or regulatory rule in question. Soft law, by contrast, seemingly lacks equivalent sanctions. While it is technically correct that soft law lacks *precisely* the same binding force of hard law, the problem with *bindingness* as the distinguishing factor is that “[s]oft law rarely—if ever—operates absent support from hard law,” notes Adam Hill.³⁴ “Soft law thrives in an ecosystem sustained by hard law.”³⁵

Consequently, parties subject to soft law will often fall in line with its less binding norms and prescriptions precisely because such soft law is being formulated in “the shadow of the state.”³⁶ In other words, the threat of hard law is like the proverbial Sword of Damocles that hangs in the

²⁹ *Id.* (Stating options beyond regulation include: “[s]tate or local regulation, voluntary action on the part of the private sector, antitrust enforcement, consumer-initiated litigation in the product liability system, and administrative compensation systems.”).

³⁰ Nina A. Mendelson & Jonathan B. Wiener, *Responding to Agency Avoidance of OIRA*, 37 HARV. J. OF L. & PUB. POL’Y 448 (2014) (“Although OIRA review has become a settled feature of the American regulatory state, concerns have recently been raised that regulatory agencies might be trying to avoid it.”).

³¹ Curtis W. Copeland, *Economic Analysis and Independent Regulatory Agencies*, ADMINISTRATIVE CONFERENCE OF THE UNITED STATES, Apr. 30, 2013, <https://www.acus.gov/sites/default/files/documents/Copeland%20Final%20BCA%20Report%204-30-13.pdf>.

³² *Id.* at 37; *see also*, Brian Mannix, *The Public Interest and the Regulatory State*, LIBRARY OF LAW AND LIBERTY, Nov. 10, 2016, <http://www.libertylawsite.org/2016/11/10/the-public-interest-and-the-regulatory-state>.

³³ John D. Graham & Cory R. Liu, *Regulatory and Quasi-Regulatory Activity without OMB and Cost-Benefit Review*, 37 HARV. J. OF L. & PUB. POL’Y, 425, 426 (2014).

³⁴ Adam Hill, *Governance from the Ground Up* 21 (unpublished manuscript) (September 25, 2012) (available at https://papers.ssrn.com/sol3/papers2.cfm?abstract_id=2880188).

³⁵ *Id.*

³⁶ Abbott *et al.*, *supra* note 15 at 303; *see also*, Dudley & Brito, *supra* note 11 at 39 (noting that although nonlegislative rules and guidance documents “do not carry the force of law and are not legally binding, they are often binding in practical effect.”).

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room while soft law is being formulated. The sword of hard law need not fall to nonetheless be effective in bringing about the desired effect of achieving some semblance of control through soft law processes.³⁷

Debates continue to rage—both among academics and within the courts—over the constitutionality of these practices and agency guidances in particular. A 2000 D.C. Circuit decision noted that:

If an agency acts as if a document issued at headquarters is controlling in the field, if it treats the document in the same manner as it treats a legislative rule, if it bases enforcement actions on the policies or interpretations formulated in the document, if it leads private parties or State permitting authorities to believe that it will declare permits invalid unless they comply with the terms of the document, then the agency’s document is for all practical purposes “binding.”³⁸

Following that logic, that court and others have debated the legitimacy of guidance actions promulgated by many agencies in various contexts.³⁹ These inquiries have wrestled with the question of what constitutes “legislative rules versus interpretive rules”⁴⁰ and how much *Chevron*,⁴¹ *Skidmore*⁴², or *Auer*⁴³ deference should be granted to agencies when formulating regulatory policies.

These questions relating to the deeper constitutional issues are somewhat beyond the scope of this paper and have been discussed at length in the administrative law literature.⁴⁴ However, below in Section VI.A, we offer a few potential scenarios regarding what might happen if soft law actions are tested in court. We elaborate there on what level of deference courts might offer agencies when doing so.

³⁷ Of course, it may be the case that this changes over time. If enough soft law was challenged or just ignored in practice, and if no future hard law sanctions followed, it might be the case that potentially affected parties would simply begin ignoring soft law norms going forward. This is worthy of further exploration, but results may be complicated by the fact that we are still early in the process and the inherent murkiness of much soft law makes evaluating and identifying appropriate metrics and measurements more challenging.

³⁸ *Appalachian Power Co. v. EPA*, 208 F.3d 1015 (2000).

³⁹ *See, e.g., Perez v. Mortgage Bankers Ass’n*, 135 S. Ct. 1199 (2015); *United States v. Mead Corp.*, 533 U.S. 218 (2001); *ECA v. J.P. Morgan Chase*, 553 F.3d 187, 197-98 (2d Cir. 2009); *Ganino v. Citizens Util.*, 228 F.3d 154, 163-64 (2d Cir. 2000); *Commonwealth v. Fremont Inv. & Loan*, 897 N.E.2d 548 (Mass. 2008).

⁴⁰ *See Am. Mining Congress v. Mine Safety & Health Admin.*, 995 F.2d 1106 (D.C. Cir. 1993) (establishing a test to distinguish between the two types of rules.).

⁴¹ *Chevron U.S.A. v. Natural Res. Def. Council*, 467 U.S. 837 (1984).

⁴² *Skidmore v. Swift & Co.*, 323 U.S. 134, 65 S.Ct. 161 (1944).

⁴³ *Auer v. Robbins*, 519 U.S. 452 (1997).

⁴⁴ *See* David L. Franklin, *Legislative Rules, Nonlegislative Rules, and the Perils of the Short Cut*, 120 YALE L.J. 276 (2010); Jacob E. Gersen, *Legislative Rules Revisited*, 74 U. CHI. L. REV. 1705, 1720-21 (2007); John F. Manning, *Nonlegislative Rules*, 72 GEO. WASH. L. REV. 893 (2004); E. Donald Elliott, *Re-Inventing Rulemaking*, 41 DUKE L.J. 1490, 1491 (1992); Peter L. Strauss, *The Rulemaking Continuum*, 41 DUKE L.J. 1463 (1992).

But our primary purpose here is to instead show how the movement toward increased reliance on soft law is occurring despite those lingering questions about the constitutionality or procedural wisdom of such practices. More specifically, we argue that these practices are even more likely in fast-moving emerging technology sectors for reasons identified in Sec. III E, and elsewhere throughout this article. However, in Section VI.B of this article, we do offer a few suggested reforms that can bring greater transparency and accountability to soft law practices.

B. Pre-Digital Era Soft Law Theory & Applications

The challenges associated with defining “soft law” are compounded when attempting to catalogue its many variations. Crews has offered a preliminary inventory of what he refers to as “regulatory dark matter” and it primarily includes: “agency and presidential memoranda, guidance documents, notices, bulletins, directives, news releases, letters, and even blog posts.”⁴⁵ In total, he identifies 70 “Things that Are Not Quite Regulations,” which are unified by the fact that these mechanisms do not go through the traditional rulemaking process.⁴⁶

But most of these soft law mechanisms were used by regulatory agencies long before the rise of the Internet and other new technologies. There exists a huge range of soft law mechanisms, many of which defy easy categorization or which are hybrids of multiple categories. But for sake of simplification and analysis, throughout this paper, we will discuss three general types of soft law mechanisms: (1) “soft criteria;” (2) multistakeholder efforts (including agency-led workshops); and (3) consultations, jawboning and agency threats. Before the rise of the Internet and ICTs, these mechanisms were informal, isolated in their use, limited in their application, and largely pursued as methods of last resort after previous efforts at regulating had failed. In modern times, however, these soft law systems have become more formalized and more prevalent across federal agencies, often pursued as the first—and sometimes only—option.

In a later section, we will return to this three-part taxonomy and provide an inventory of each one’s application to emerging technologies in the current era, as well as a discussion of how their use has become a more widespread and indispensable means for regulators to address new technologies.

3. “Soft Criteria”

If soft law is generally defined as the implementation of those “arrangements that create substantive expectations that are not directly enforceable,”⁴⁷ then “soft criteria” refers to the corpus of “nonbinding norms and techniques”⁴⁸ that serve as the instruments of soft law’s implementation. In short, soft criteria are the means by which the soft law end is achieved—a skeletal structure that provides a governance foundation that can be built upon. These include a wide array of policy vehicles that go by many names, such as proactive principles, policy guidance

⁴⁵ Crews, *supra* note 23 at 3-4.

⁴⁶ *Id.* at 36-7.

⁴⁷ Marchant & Allenby, *supra* note 1 at 112.

⁴⁸ Abbott et al., *supra* note 15 at 285.

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documents, best practices and voluntary standards, white papers, reports, advisory circulars, opinion letters, amicus briefs, and many more.

While such approaches have been critiqued as toothless and unenforceable, soft criteria can actually serve as significant incentives and roadmaps for both regulators and industries. “These quasi-regulatory documents,” observe John D. Graham and Cory R. Liu, “can create major policy shifts that impose significant burdens on industries or compel those industries to engage in costly litigation if they intend to protect their rights under administrative law.”⁴⁹ Writing on the trade-offs associated with the promulgation of soft criteria, Todd Rakoff points out that:

[I]n the process of regulating the economy through administrative action, processes which are partially formal, and partially informal, are to be preferred over either very formal processes or very informal processes. In other words, the general run of economic regulation—which does not greatly implicate civil liberties—will be best carried out by a process lying somewhere in the middle of the scale.⁵⁰

The benefits and costs associated with soft criteria and soft law more broadly will be discussed in more detail in Section V. In the meantime, it will suffice to note that whatever the costs and benefits of soft criteria, they have traditionally been one of the most widely used forms of rulemaking activities used by agencies. In particular, guidance documents have been a particularly popular mechanism for federal agencies seeking to offer their thoughts on regulatory matters.

Between 1996 and 2000, for example, the Occupational Health and Safety Administration (OSHA) and National Highway Traffic Safety Administration (NHTSA) promulgated 3,374 and 1,225 guidance documents, respectively.⁵¹ The Environmental Protection Agency (EPA) in that same time period issued 2,653.⁵² However, of all the federal agencies, the Food and Drug Administration (FDA) is by far the most prolific in its reliance on guidance documents. By the agency’s own account, it releases “more than 100 guidances each year” and even assigns them two different levels based on factors including: the significance of the policy interpretation, the complexity or controversial nature of the policy, and whether the guidance is intended to address changes to existing practices.⁵³

⁴⁹ Graham & Liu, *supra* note 33 at 426,

⁵⁰ Todd D. Rakoff, *The Choice Between Formal and Informal Modes of Administrative Regulation*, 52 ADMIN L. REV. 159, 171-72 (2000).

⁵¹ COMMITTEE ON GOVERNMENT REFORM, NON-BINDING LEGAL EFFECT OF AGENCY GUIDANCE DOCUMENTS, H.R. REP. NO. 106-1009 at 5 (2000), *available at* <https://www.congress.gov/106/crpt/hrpt1009/CRPT-106hrpt1009.pdf>.

⁵² *Id.*

⁵³ *Fact Sheet: FDA Good Guidance Practices*, U.S. FOOD & DRUG ADMIN., Dec. 29, 2011, <https://www.fda.gov/AboutFDA/Transparency/TransparencyInitiative/ucm285282.htm> (“FDA issues more than 100 guidances each year. In fiscal year (FY) 2009, for example, FDA issued approximately 124 draft and final guidance documents; in FY 2010, the total was approximately 133, and in FY 2011, it was approximately 144. FDA develops two types of guidance documents - Level 1 and Level 2. In general: Level 1 guidances set forth the

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Part of the reason FDA has become so reliant on these soft criteria likely stems from increasingly burdensome requirements governing its formal rulemaking procedures.⁵⁴ As Lars Noah notes, while guidance documents “have a place in the portfolio of any agency ... the FDA has used this format for policy announcements that previously would have emerged after notice-and-comment rulemaking.”⁵⁵ He continues:

In some respects, Congress has endorsed and further encouraged this development, but it also has sought to proceduralize and put the brakes on guidance-making at the FDA, leading the agency to look for ways to escape even these limited constraints. Moreover, guidance documents represent only the tip of the iceberg, with the FDA making use of any number of even less formal tools and techniques in order to accomplish its ends.⁵⁶

The agency’s long history of promulgating non-binding guidances goes back over a century. The FDA’s predecessor, the Bureau of Chemistry, issued “Food Inspection Decisions” (FID) starting in the earliest years of the 20th Century as a means of clarifying inquiries from those entities it regulated.⁵⁷ As Kevin Michael Lewis points out, even in these early days “[t]he Secretary of Agriculture took pains to emphasize that FIDs were informal guidance documents only, and that they did not carry the force of law.”⁵⁸ In FID 44, for example, the Secretary noted the following:

From the tenor of many inquiries received in this Department it appears that many persons suppose that the answers to inquiries addressed to this Department, either in letters or in published decisions, have the force and effect of the rules and regulations for the enforcement of the food and drugs act of June 30, 1906 It seems highly desirable that an erroneous opinion of this kind should be corrected. The opinions or decisions of this Department do not add anything to the rules and regulations nor take anything away from them. They therefore are not to be considered in the light of rules and regulations. On the other hand, the decisions and opinions referred to express the attitude of this Department in relation to the interpretation of the law and the rules and regulations, and they are published for the information of the officials of the Department who may be

agency’s initial interpretations of new significant regulatory requirements; describe substantial changes in FDA’s earlier interpretation or policy; and deal with complex scientific or highly controversial issues. Level 2 guidances usually address existing practices or minor changes in FDA’s interpretation or policy.”).

⁵⁴ John C. Carey, *Is Rulemaking Old Medicine at the FDA?*, HLS STUDENT PAPERS 53 (1997), available at <https://dash.harvard.edu/handle/1/8852158>. (“[R]ulemaking has become increasingly burdensome for the FDA over the past twenty-five years and ... this has caused the FDA to increase its use of guidance as an alternative to rulemaking.”).

⁵⁵ Lars Noah, *Governance by the Backdoor: Administrative Law(lessness?) at the FDA*, 93 NEB. L. REV. 89, 124 (2014).

⁵⁶ *Id.*

⁵⁷ Kevin Michael Lewis, *Informal Guidance and the FDA*, HLS STUDENT PAPERS 6-7 (2011), available at <https://dash.harvard.edu/bitstream/handle/1/8592151/Lewis,%20K.M.%20-%20Informal%20Guidance%20and%20the%20FDA.pdf?sequence=1>.

⁵⁸ *Id.* at 7.

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charged with the execution of the law and especially to acquaint manufacturers, jobbers, and dealers with the attitude of this Department in these matters. They are therefore issued more in an advisory than in a mandatory spirit.⁵⁹

After Congress formally established the FDA in the 1938 Federal Food, Drug, and Cosmetic Act, the agency ceased issuing FIDs and began issuing trade correspondences “to advise regulated firms on how to comply with statutory requirements.”⁶⁰ When the APA was passed, the FDA once again reformulated its guidances, publishing them in the Federal Register as Statements of General Policy or Interpretation.⁶¹ In the decades that followed, the FDA developed other such soft criteria, such as “guidelines,” “advisory opinions,” “Good Guidance Practices,”⁶² “Compliance Policy Guides,” “guidance initiation forms,”⁶³ “concept papers,”⁶⁴ and “informal guidance.”⁶⁵

No other federal agency has as long a history with soft criteria, and if recent years are any indication, “it appears that the FDA will continue to use guidance as its primary policymaking method to effectuate its statutory mandate in the future.”⁶⁶ Indeed, the FDA’s use of such soft criteria has been so substantial that a Government Accountability Office report from 2015 noted that, “certain provisions of the OMB Bulletin [on “Good Guidance Practices”] were informed by written FDA practices for the initiation, development, issuance, and use of their guidance documents.”⁶⁷

Other agencies have embraced similar efforts at using soft criteria to better carry out their statutory missions. The FTC’s partnership with the Better Business Bureau’s National Advertising Division, for example, aims to use more self-regulatory mechanisms as an alternative to more heavy-handed approaches.⁶⁸ Philip Weiser explains this approach as one in which an agency

⁵⁹ *Id.* at 7-8.

⁶⁰ *Id.* at 9.

⁶¹ *Id.* at 12-13.

⁶² Noah, *supra* note 55 at 7.

⁶³ U.S. GOV’T ACCOUNTABILITY OFFICE, GAO-15-368, REGULATORY GUIDANCE PROCESSES: SELECTED DEPARTMENTS COULD STRENGTHEN INTERNAL CONTROL AND DISSEMINATION PRACTICES 11 (2015), *available at* <https://www.gao.gov/products/GAO-15-368> [hereinafter REG. GUIDANCE PROCESSES].

⁶⁴ *Id.*

⁶⁵ Lewis, *supra* note 57 at 16-23.

⁶⁶ *Id.* At 61.

⁶⁷ REG. GUIDANCE PROCESSES, *supra* note 63 at 4.

⁶⁸ Deborah Platt Majoras, Speech before the Council of Better Business Bureaus: Self Regulatory Organizations and the FTC (April 11, 2005) (*transcript available at* https://www.ftc.gov/sites/default/files/documents/public_statements/self-regulatory-organizations-and-ftc/050411selfregorgs.pdf) (“Self-regulation is a broad concept that includes any attempt by an industry to moderate its conduct with the intent of improving marketplace behavior for the ultimate benefit of consumers. The universe of self-regulatory organizations includes industry-wide or economy-wide private groups that provide, inter alia, certification, product information, complaint resolution, quality assurance, industrial standards, product compatibility standards, professional conduct standards, and complaint resolution. Implemented properly, each can provide efficiencies and other benefits to consumers that otherwise likely

integrates “its efforts with private bodies with expertise in the field. Where that integration involves the explicit embrace, oversight, and enforcement of actions by private bodies, the model of regulation is aptly described as ‘co-regulation.’”⁶⁹ As an example, he points to the FCC’s approach to assigning rights to the use of wireless spectrum via “frequency coordinators, which manage voluntary cooperation in the use of point-to-point microwave links and private land mobile radio systems.”⁷⁰ Although “the FCC is the authority that grants or denies licenses as a formal matter, it routinely relies on and defers to the judgment of the frequency coordinator.”⁷¹

In short, soft criteria can come in many different forms, and serve many different functions. However, the common theme that unites the myriad soft criteria deliverables is that they serve as a mechanism for actualizing soft law—they are the vehicle for implementing soft law. While many of these soft criteria are issued by federal agencies, they are sometimes produced in tandem with other stakeholders via collaborative proceedings. These “multistakeholder processes” are the topic of the next section.

4. *Multistakeholder efforts*

Multistakeholderism is a governance process that attempts to articulate a set of soft criteria using a deliberative, consensus-based dialogue including a wide array of actors, from industry firms and public and consumer interest nonprofits to government regulators and technical advisors.⁷² It serves as a forum in which interested parties can attempt to develop new, or improve upon existing, soft criteria through a democratic process of compromise and conversation. The multistakeholder process will often closely resemble the same type of deal-making and faction-based power distributions seen in Congress. It is, in a sense, a mini Congress devoted to a particular policy priority.

The multistakeholder process has developed into something of a catch-all term of art to describe various procedures. In an effort to more narrowly define the term, we will focus on

would not be possible without some form of government intervention.”); see also Jeffrey S. Edelstein, *Self-Regulation of Advertising: An Alternative to Litigation and Government Action*, 42 IDEA 509 (2003).

⁶⁹ Philip J. Weiser, *Entrepreneurial Administration* 9 (U.of Colo. L. Leg. Studies Res. Paper No. 16-11, Jan. 3, 2017), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2893139.

⁷⁰ Weiser, *supra* note 7 at 553; *Identifying Appropriate Regulatory Solutions: Principles For Analysing Self- and Co-Regulation*, OFCOM, (2008), available at <http://stakeholders.ofcom.org.uk/binaries/consultations/coregulation/statement/statement.pdf>.

⁷¹ *Id.*

⁷² Mariette van Huijstee, *Multi-Stakeholder Initiatives: A Strategic Guide for Civil Society Organizations*, CENTER FOR RESEARCH ON MULTINATIONAL CORPORATIONS, March 2012, <https://www.somo.nl/wp-content/uploads/2012/03/Multi-stakeholder-initiatives.pdf> (“There is no clear-cut definition of a ‘multi-stakeholder initiative’. Opinions differ regarding the scope of initiatives that MSI terminology should cover. Some experts feel that, in order to be worthy of the term, an initiative should be formally organised and characterised by a democratic, multi-stakeholder governance structure. Others consider dialogue platforms with representatives from business, civil society and other sectors to be MSIs as well. The common denominator between the diverse initiatives that are referred to as MSIs is that they are ‘interactive processes in which business, CSOs and possibly other stakeholder groups interact to make business processes more socially and/or environmentally sustainable.’”).

multistakeholder processes as the means to arrive at an end result of some set of soft criteria for informal governance. To that end, this paper uses the term multistakeholderism when referencing:

1. The process by which a set of soft criteria is produced;
2. The process by which existing standards or other soft criteria are reviewed; or
3. The process by which existing standards or other soft criteria are reconciled with soft criteria under consideration or construction.

It is important to note that a defining characteristic of the multistakeholder process is that it not only involves industry and agency officials, but also opens the door to nonprofits, civil society, and public interest groups. As a result, the legitimacy of the process is strengthened as a result of transparency and an open invitation to public participation. This also permits non-industry and non-government actors to contribute their time and energy to achieving an amenable solution.

In their seminal work *Responsive Regulation*, Ian Ayres and John Braithwaite use the term “tripartism” to stand in for the essential features of multistakeholderism, as we define it in this paper. Ayers and Braithwaite define tripartism “as a regulatory policy that fosters the participation of [public interest groups] in the regulatory process.”⁷³ This is achieved in three ways, they argue:

First, it grants the [public interest group] and all its members access to all the information that is available to the regulator. Second, it gives the [public interest group] a seat at the negotiating table with the firm and the agency when deals are done. Third, the policy grants the [public interest group] the same standing to sue or prosecute under the regulatory statute as the regulator.⁷⁴

Ayers and Braithwaite also discuss how such multistakeholder proceedings can actually be a boon for both regulators and industry. More open and cooperative communication, they contend, “may produce more efficient regulatory outcomes because bad arguments and bad solutions are less likely to go unchallenged. And genuine communication means that when challenges are advanced, they are listened to.”⁷⁵ Further, by involving civil society organizations in these conversations, they can lend strength to “the acceptability of deregulatory shifts by injecting public accountability and resistance to supine enforcement under the softer options.”⁷⁶ Those

⁷³ Ian Ayres & John Braithwaite, *RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE* 57 (1992).

⁷⁴ *Id.* at 57-58. Ayres and Braithwaite, however, note that in order for the public interest group to “become the fully fledged third player in the game,” they essentially need to be imbued with the power to “directly punish the firm” or “regulators who fail to punish noncompliance.” In the context of soft law multistakeholder processes, it will suffice to note that public interest groups, nonprofits, and civil society more broadly is already imbued with a significant degree of naming-and-shaming power, as well as the ability to petition agencies like the FTC to hold noncompliant firms to the promises they make to consumers.

⁷⁵ *Id.* at 87.

⁷⁶ *Id.* at 97.

softer options are the soft criteria that are ultimately advanced through the multistakeholder process.

Part of an agency’s objective in releasing guidance documents, advisory circulars, best practices, or staff reports is to build a body of work that expresses the issues related to a particular policy. In so doing, agencies may be better poised to claim regulatory oversight over, or ownership of, the policy issue under consideration when Congress decides to legislate or more formally delegate authority. In either case, the effect can be the development of soft criteria—whether intentionally or unintentionally—that may inform more formal rulemakings in the future. However, many more formalized criteria only crystallize once they have undergone “maturation” during multistakeholder processes.⁷⁷

For many emerging technology policy discussions, much of the procedural “sausage making” of soft law begins with, or closely orbits, the multistakeholder process. Sometimes these may be formally referenced as “workshops,” but in either situation, the structures are functionally identical.⁷⁸ For example, the FTC and NHTSA have been more likely to embrace “workshop,” while the National Telecommunications and Information Administration (NTIA) is more endeared to expressing its approach as “multistakeholder.”⁷⁹ In either event, the process is the same: bringing together disparate actors (the stakeholders) with an interest in the issue or policy under consideration.

The use of multistakeholder processes or initiatives has grown significantly over the past 25 years, most likely because of the proliferation of multinational corporate actors and the continued globalization of commercial activities, capital flows, and increasingly “borderless” technologies. By one account, in 1985, there was only a single multistakeholder initiative operating in this domain; by the early 2000s, this number had jumped to almost two-dozen.⁸⁰

⁷⁷ *Voluntary Best Practices for UAS Privacy, Transparency, and Accountability*, CONSENSUS, STAKEHOLDER-DRAFTED BEST PRACTICES CREATED IN THE NTIA-CONVENED MULTISTAKEHOLDER PROCESS, May 18, 2016, https://www.ntia.doc.gov/files/ntia/publications/uas_privacy_best_practices_6-21-16.pdf.

⁷⁸ van Huijstee, *supra* note 72.

⁷⁹ See <https://www.ftc.gov/news-events/audio-video/ftc-events/workshops> (listing all FTC workshops going back to 2011). Additionally, a search for “workshops” at the FTC website yields 433 results (https://www.ftc.gov/news-events/commission-actions?title=workshop&type=All&field_date_value_2%5Bvalue%5D%5Byear%5D=&field_date_value%5Bvalue%5D%5Bmonth%5D=&items_per_page=20), while a search for “multistakeholder” yields only one, which is the FTC providing comments to NTIA on the latter’s multistakeholder initiative on cybersecurity vulnerability disclosure (https://www.ftc.gov/news-events/commission-actions?title=multistakeholder&type=All&field_date_value_2%5Bvalue%5D%5Byear%5D=&field_date_value%5Bvalue%5D%5Bmonth%5D=&items_per_page=20). By contrast, a search for “multistakeholder” at the NTIA website yields over 200 results (<https://www.ntia.doc.gov/search/node/multistakeholder>).

⁸⁰ See S. Mena & G. Palazzo, *Input and Output Legitimacy of Multi-Stakeholder Initiatives*, Table 1: An Overview of Different Multi-Stakeholder Initiatives, 22 BUS. ETHICS Q. 527, 546-50 (2012).

Many of these pre-Internet era initiatives, both globally and domestically, revolved around regulatory approaches governing environmental issues.⁸¹ For example, the Forest Stewardship Council (FSC) is an international nonprofit that promotes responsible, sustainable management of the world’s forests.⁸² Working in concert with businesses and governments, FSC sets certification standards for forest products produced in environmentally friendly ways.⁸³ Notably, it was created in response to the failure of the international community to arrive at a legally binding consensus to deal with problems of deforestation, leading various stakeholders to conclude that a soft law approach to governance could succeed where previous efforts had failed.⁸⁴ Similar multistakeholder standards-setting organizations also emerged in the 1990s to deal with issues related to unsustainable fishing⁸⁵ and global finance standards for environmental impact disclosures.⁸⁶

Domestically, the Leadership in Energy and Environmental Design (LEED) certification standards were promulgated by the U.S. Green Building Council (USGBC) in 1993 to certify the design, construction, operation, and maintenance of environmentally friendly buildings.⁸⁷ Michael P. Vandenberg described the impetus behind these private environmental multistakeholder governance efforts as emerging from the failure of international efforts to adjudicate environmental issues through binding, enforceable regulations.⁸⁸ This was the primary motivation in the emergence of the FSC, and other multistakeholder governance projects that followed in the wake. In particular, Vandenberg notes that many of these “private-private” multistakeholder organizations have emerged to become the dominant players responding to “the environmental requirements that affect corporate and household behavior, and ultimately environmental quality.”⁸⁹ As a result, he argues that:

Environmental preferences have been expressed not just through the political process, whether at the federal, state, or local levels, but also through private interactions in social settings and the marketplace. The product is private environmental governance—a new model of legal and extralegal influences on the environmentally significant behavior of corporations and households.⁹⁰

He goes on:

⁸¹ Michael P. Vandenberg, *Private Environmental Governance*, 99 *Cornell L. Rev.* 129 (2013).

⁸² What is FSC?, Forest Stewardship Council, <https://ic.fsc.org/en/what-is-fsc> (last visited Nov. 28, 2017).

⁸³ *Id.*

⁸⁴ John Kirton & Michael J. Trebilcock eds., *HARD CHOICES, SOFT LAW: VOLUNTARY STANDARDS IN GLOBAL TRADE, ENVIRONMENT, AND SOCIAL GOVERNANCE* (2004).

⁸⁵ Marine Stewardship Council, <http://20-years.msc.org/> (last visited Nov. 28, 2017).

⁸⁶ Vandenberg, *supra* note 82 at 151-152.

⁸⁷ About USGBC, U.S. Green Building Council, <https://new.usgbc.org/about>, last accessed Nov. 28, 2017.

⁸⁸ Vandenberg, *supra* note 82 at 132.

⁸⁹ *Id.* at 133.

⁹⁰ *Id.* at 133.

These new private environmental governance activities play the standard-setting, implementation, monitoring, enforcement, and adjudication roles traditionally played by public regulatory regimes. They also interact in complex ways with public regulatory regimes, in some cases providing independent standards and enforcement, in others providing private enforcement of public standards, and in others undermining support for public standards.⁹¹

Even before the advent of the Internet and the recent rapid technological advancements, the traditional tools of regulatory governance were struggling to keep pace. As we will discuss in a subsequent section, these problems have only accelerated in recent years, leading to a massive proliferation of multistakeholder proceedings.

Of course, not all soft law proceedings involve discussion and collaboration. Sometimes more direct, one-on-one conversations can lead to soft law outcomes. These types of consultations are the topic of the next section.

5. Consultations, Jawboning & Agency Threats

Agencies with significant regulatory authority can often move market actors to change their behavior through more simplistic mechanisms than those suggested above. The final category of soft law methods involves very informal communications by agency officials, often of a verbal nature.

“Agency threats,” for example, can take many forms; they “can be very public, as a press release, or very private, as a face-to-face meeting.”⁹² Such “jawboning”⁹³ and “administrative arm-twisting”⁹⁴ can often achieve an intended outcome without the fuss and mess of formal rulemaking, convening stakeholders for prolonged engagements, or producing lengthy white papers and staff reports. “Threats, in short, are assertions that the agency will do something at some point given certain triggering activities,” Cortez observes. “A threat that is unenforceable on its face would not seem to appeal to many agencies.”⁹⁵ Many regulatory agencies have used “threats” in public statements and letters in an attempt to alter behavior of private parties without resorting to formal rulemakings.⁹⁶

For example, for many decades, the FCC effectively used letters of inquiry (LOIs) to engage in what became known within that field as “regulation by raised eyebrow,” using “regulatory

⁹¹ *Id.*

⁹² Nathan Cortez, *Regulating Disruptive Innovation*, 29 BERKELEY TECH. L. J., 186, 186-87 (2014).

⁹³ Derek E. Bambauer, *Against Jawboning*, 100 MINN. L. REV., 126 (2015) (“Jawboning of Internet intermediaries is increasingly common, and it operates beneath the notice of both courts and commentators.”).

⁹⁴ Lars Noah, *Administrative Arm Twisting in the Shadow of Congressional Delegations of Authority*, 5 WIS. L. REV. 873, 876-82, (1997).

⁹⁵ Cortez, *supra* note 92 at 188.

⁹⁶ Jerry Brito, “Agency Threats” and the Rule of Law: An Offer You Can’t Refuse, 37 HARV. J. OF L. & PUB. POL’Y 553, 553 (2014).

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threats that cajole industry members into slight modifications” of their programming content.⁹⁷ The LOIs would present FCC-licensed radio and television broadcasters with a series of questions to be answered with the implied threat of license revocation always hanging the air. This was “often sufficient to bring licensees’ behaviors into compliance with FCC policies.”⁹⁸ “Regulation by raised eyebrow means that if the FCC suggests that it is unhappy with some situation, broadcasters will react as if a regulation has been handed down,” note Kimberly A. Zarkin and Michael J. Zarkin.⁹⁹ But the FCC also used less formal methods to engage in regulation by raised eyebrow, including “speeches made by commissioners at the National Association of Broadcasters annual convention.”¹⁰⁰

The FCC’s use of such tactics have faded in recent years as First Amendment jurisprudence turned strongly in favor of greater free speech rights for media operators, including broadcasters.¹⁰¹ However, with increasingly regularity, the agency has taken up the use of implied threats in the context of merger reviews.¹⁰² In the past, agency officials would also jawbone industry through speeches and other public statements.¹⁰³ They can still engage in those activities today, but they can also take advantage of newer social media platforms to communicate or clarify new policy directions.¹⁰⁴

For example, agency blogs posts and Twitter accounts have been used by the FTC and FCC to explain new agency directives or decisions.¹⁰⁵ Tweets from both official agency accounts and the

⁹⁷ Thomas Streeter, *SELLING THE AIR: A CRITIQUE OF THE POLICY OF COMMERCIAL BROADCASTING IN THE UNITED STATES* 189 (1996).

⁹⁸ Paul Siegel, *COMMUNICATIONS LAW IN AMERICA* 404 (2011).

⁹⁹ Kimberly A. Zarkin & Michael J. Zarkin, *THE FEDERAL COMMUNICATIONS COMMISSION: FRONT LINES IN THE CULTURE AND REGULATION WARS* 146 (2006).

¹⁰⁰ *Id.*

¹⁰¹ See, e.g., Mary Wood, *Faculty Q & A: Kendrick Defines Pattern for Supreme Court’s First Amendment Jurisprudence*, UNIVERSITY OF VIRGINIA: SCHOOL OF LAW: NEWS & MEDIA, May 30, 2012, https://content.law.virginia.edu/news/2012_spr/kendrick_qa.htm.

¹⁰² Brent Skorup & Christopher Koopman, *Regulating without Regulation—How the FCC Sidesteps the First Amendment*, ORANGE CNTY REG., Feb. 24, 2017, available at <http://www.oregister.com/articles/publishers-744884-film-traditionally.html>; Bryan N. Tramont, *Too Much Power, Too Little Restraint: How the FCC Expands Its Reach Through Unenforceable and Unwieldy ‘Voluntary’ Agreements*, 32 FED. COMM. L.J. 49, 53 (2000).

¹⁰³ Zarkin & Zarkin, *supra* note 100 at 146 (“These ‘suggestions’ have often come in the form of speeches made by commissioners at the National Associations of Broadcasters annual convention.”).

¹⁰⁴ James Broughel, *The Hidden Dangers of Government Tweets—and Not Just Trump’s*, THE FISCAL TIMES, Mar. 23, 2017, available at <http://www.thefiscaltimes.com/Columns/2017/03/23/Hidden-Dangers-Government-Tweets-and-Not-Just-Trump-s>.

¹⁰⁵ U.S. GOVERNMENT ACCOUNTABILITY OFFICE, *FEDERAL AGENCIES NEED POLICIES AND PROCEDURES FOR MANAGING AND PROTECTING INFORMATION THEY ACCESS AND DISSEMINATE*, GAO-11-605, June 28, 2011, available at <https://www.gao.gov/products/GAO-11-605>. (“Federal agencies have been adapting commercially provided social media technologies to support their missions. Specifically, GAO identified several distinct ways that 23 of 24 major agencies are using Facebook, Twitter, and YouTube. These include reposting information available on official agency Web sites, posting information not otherwise available on agency Web sites, soliciting

accounts held by individual commissioners often reiterate and expand upon agency announcements and actions.¹⁰⁶ Social media activity represents the newest and the softest of all soft law mechanisms. It remains to be seen how big a role such activities will play in soft law policymaking going forward, or whether those actions might give rise to legal challenges by affected parties.¹⁰⁷

Before we discuss how soft mechanisms have evolved and expanded in a variety of technology sectors, Section III will explore why regulators are relying upon such soft law mechanisms with increasing regularity as they consider how to guide the future of various emerging technologies.

III. NEW REALITIES; NEW GOVERNANCE MECHANISMS

Momentous changes are happening throughout the modern global economy, driven by technology-based developments, spawned in large part by the rise of the Internet and the Digital Revolution. As Weiser notes, “[t]he traditional model of regulation is coming under strain in the face of increasing globalization and technological change.”¹⁰⁸ That strain—between those drivers of technological change and the acceleration of the so-called “pacing problem”—will be explored in this section, followed by a look at the byproducts of this process, including: innovation arbitrage, evasive entrepreneurship, and spontaneous private deregulation.

As will be made clear, these developments are helping to accelerate the movement away from hard law and toward soft law methods of technological governance.

A. The “Collingridge Dilemma” & the Challenge of Anticipatory Governance

Most scholarly work about the future of technological governance references “the Collingridge dilemma.” It is named after David Collingridge, who wrote about the challenges of governing new technologies in his 1980 book, *The Social Control of Technology*.¹⁰⁹

The Collingridge dilemma refers to the difficulty of putting the proverbial genie back in the bottle once a given technology has reached a certain inflection point.¹¹⁰ Such inflection points represent the moment when a particular technology achieves critical mass in terms of adoption or, more generally, the time when that technology begins to profoundly transform the way individuals and

comments from the public, responding to comments on posted content, and providing links to non-government sites.”).

¹⁰⁶ *See id.*

¹⁰⁷ *See Broughel, supra note 105.*

¹⁰⁸ Weiser, *supra* note 69 at 6; *see also* Aman, *supra* note 6 at 270 (“In the global era, administrative law now appears to be moving from its role as a surrogate political process that legitimates new extensions of public power, to one that legitimates new blends of public and private power and/or private power used for public interest ends.”).

¹⁰⁹ David Collingridge, *THE SOCIAL CONTROL OF TECHNOLOGY* 11 (1980).

¹¹⁰ Mandel, *supra* note 2 (“The early stages of an emerging technology’s development present a unique opportunity to shape its future. But, it is an opportunity that does not remain open forever. Interests, investment, and opinion can quickly begin to vest around certain regulatory and governance expectations.”).

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institutions act.¹¹¹ “The social consequences of a technology cannot be predicted early in the life of the technology,” Collingridge claimed.¹¹² “By the time undesirable consequences are discovered, however, the technology is often so much part of the whole economics and social fabric that its control is extremely difficult.”¹¹³ Collingridge referred to this as the “dilemma of control,” noting that: “When change is easy, the need for it cannot be foreseen; when the need for change is apparent, change has become expensive, difficult and time-consuming.”¹¹⁴

When Collingridge and subsequent scholars in the field of science and technology studies discuss this “dilemma” as it pertains to any number of emerging technologies, they often simultaneously express a desire to do something to overcome this challenge. Either implicitly or sometimes quite explicitly, they suggest that “something must be done” to address how the Collingridge dilemma increasingly complicates anticipatory governance efforts or limits “Precautionary Principle”-based regulatory efforts aimed at changing the trajectory of emerging technologies, or perhaps even prohibiting them altogether.¹¹⁵ “[N]ew technologies can benefit from decisive, well-timed regulation” or even “early regulatory interventions,” Cortez argues.¹¹⁶ Similarly, John Frank Weaver suggests regulating emerging tech like artificial intelligence systems “early and often” to “get out ahead of” various social and economic concerns that he and others fear.¹¹⁷

The sort of anticipatory governance these scholars generally favor has been defined as “a broad-based capacity extended through society that can act on a variety of inputs to manage emerging knowledge-based technologies while such management is still possible.”¹¹⁸ Wallach also uses the term “upstream governance” which represents “more control over the way that potentially harmful technologies are developed or introduced into the larger society. Upstream management is certainly better than introducing regulations downstream, after a technology is deeply entrenched, or something major has already gone wrong,” he argues.¹¹⁹

¹¹¹ Evgeny Morozov, *The Collingridge Dilemma*, in EDGE ANNUAL QUESTION, 2012: WHAT IS YOUR FAVORITE DEEP, ELEGANT, OR BEAUTIFUL EXPLANATION? (2012), available at <https://www.edge.org/response-detail/10898> (“Collingridge’s basic insight was that we can successfully regulate a given technology when it’s still young and unpopular and thus probably still hiding its unanticipated and undesirable consequences—or we can wait and see what those consequences are but then risk losing control over its regulation.”).

¹¹² Collingridge, *supra* note 110 at 11.

¹¹³ *Id.*

¹¹⁴ *Id.*

¹¹⁵ See, e.g., Wendell Wallach, A DANGEROUS MASTER: HOW TO KEEP TECHNOLOGY FROM SLIPPING BEYOND OUR CONTROL (2015).

¹¹⁶ Cortez, *supra* note 93 at 179.

¹¹⁷ John Frank Weaver, *We Need to Pass Legislation on Artificial Intelligence Early and Often*, SLATE, September 12, 2014, http://www.slate.com/blogs/future_tense/2014/09/12/we_need_to_pass_artificial_intelligence_laws_early_and_often.html.

¹¹⁸ David H. Guston, *Understanding Anticipatory Governance*, 44 SOC. STUD. OF SCI. 218(2013).

¹¹⁹ Wallach, *supra* note 116 at 72.

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The Precautionary Principle represents the most extreme form of “anticipatory” or “upstream” governance. “The Precautionary Principle takes many forms,” notes Cass Sunstein.¹²⁰ “But in all of them, the animating idea is that regulators should take steps to protect against potential harms, even if causal chains are unclear and even if we do not know that those harms will come to fruition.”¹²¹ This is typically accomplished through preemptive controls and limitations on new innovations imposed by existing or new laws and regulatory agencies.

The Precautionary Principle has been criticized as “literally incoherent”¹²² and also innovation-detering (because it fails to articulate a clear principle by which to judge the severity of risks worthy of control and “living in constant fear of worst-case scenarios—and premising public policy on them—means that best-case scenarios will never come about.”)¹²³. At least in the United States, a rigid version of the Precautionary Principle has not generally served as the default baseline for policymaking for most technology sectors. For example, since the early 1990s in the U.S., the Internet and the digital economy more generally thrived in an environment characterized by “permissionless innovation” and light-touch regulatory oversight.¹²⁴

Nonetheless, softer articulations of the Precautionary Principle often animate calls for early regulatory activism toward emerging technology.¹²⁵ For example, many scholars have already proposed anticipatory regulatory regimes for artificial intelligence (AI) or robotics in the form of an “Artificial Intelligence Development Act,”¹²⁶ a federal AI agency¹²⁷ (such as a “National Algorithmic Technology Safety Administration”¹²⁸ or a “Federal Robotics Commission”¹²⁹). The regulatory authority they envision in these cases would be squarely precautionary in character,

¹²⁰ Cass R. Sunstein, *LAWS OF FEAR: BEYOND THE PRECAUTIONARY PRINCIPLE* 16 (2005).

¹²¹ *Id.*

¹²² *Id.*

¹²³ Adam Thierer, *PERMISSIONLESS INNOVATION: THE CONTINUING CASE FOR COMPREHENSIVE TECHNOLOGICAL FREEDOM 2* (2016), available at <http://mercatus.org/permissionless/permissionlessinnovation.html> [*hereinafter* PERMISSIONLESS INNOVATION].

¹²⁴ Adam Thierer, *How Attitudes about Risk & Failure Affect Innovation on Either Side of the Atlantic*, PLAINTEXT, June 19, 2015, <https://readplaintext.com/how-attitudes-about-risk-failure-affect-innovation-on-either-side-of-the-atlantic-b5f0f41c3466>.

¹²⁵ Cortez, *supra* note 93 at 175 (“Agencies need not be so tentative with innovations. If agencies are concerned about regulating prematurely or in error, then they can experiment with timing rules, alternative enforcement mechanisms, and other variations on traditional interventions. If agencies do choose to proceed by making threats, then they should use them as a short-term precursor to more decisive, legally binding action.”).

¹²⁶ Matthew U. Scherer, *Regulating Artificial Intelligence Systems: Risks, Challenges, Competencies, and Strategies*, 29 HARV. J. OF L. & TECH 43, 43-45 (2016); see also Weaver, *supra* note 118.

¹²⁷ Scherer, *supra* note 127 at 45-7.

¹²⁸ Andrew Tutt, *An FDA for Algorithms*, (March 15, 2016) (unpublished manuscript) (on file at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2747994).

¹²⁹ Ryan Calo, *The Case for a Federal Robotics Commission*, BROOKINGS INSTITUTION, September 2014, <http://www.brookings.edu/research/reports2/2014/09/case-for-federal-robotics-commission>,

aimed at addressing a wide array of hypothetical harms through permissioned-based rulemaking before those problems even materialized.

This paper does not focus on the legitimacy of the Precautionary Principle as a policymaking tool in the normative sense.¹³⁰ Rather, we acknowledge that the combination of (1) the quickening pace of the “pacing problem,” which is discussed below, (2) the strong desire to do something about it, and (3) an implicit acknowledgment that traditional regulatory systems are not up to the task,¹³¹ likely explains the increased reliance upon soft law mechanisms as a potential answer to the Collingridge Dilemma. This suggests that, at least as a practical matter, Precautionary Principle-based policymaking will be increasingly difficult and in a great many cases completely unrealistic. That conclusion is rooted in the new technological realities of the modern digital world.

B. Underlying Drivers of Technological Change

New ICTs have been radically transforming many sectors of the economy and daily life more generally. “The strong tides that shaped digital technologies for the past 30 years will continue to expand and harden in the next 30 years,” argues Kevin Kelly.¹³² In other words, many of the underlying drivers of the digital revolution—massive increases in processing power and storage capacity, the steady miniaturization of computing, ubiquitous communications and networking capabilities, and the digitization of all data¹³³—are beginning to have a profound impact beyond the confines of the Internet and ICT sectors.¹³⁴ Correspondingly, the combination of these trends has led to an explosion in “[t]he sheer volume of transactions and content on the Internet” that “often overwhelms the capacity of traditional governmental processes to respond” to emerging technology developments in the ICT sector and others fields influenced by these same trends.¹³⁵

In a 2011 essay about how “software is eating the world,” venture capitalist Marc Andreessen explained how entrepreneurial technology companies “are invading and overturning established industry structures” such that he expects “many more industries to be disrupted by software” in coming years.¹³⁶ He continues:

Why is this happening now? Six decades into the computer revolution, four decades since the invention of the microprocessor, and two decades into the rise

¹³⁰ For such a critique, see PERMISSIONLESS INNOVATION, *supra* note 124.

¹³¹ Mandel, *supra* note 2 at 5 (“Because of the variation and uncertainties in emerging technology development, there are inherent limitations in how precise a universal or *ex ante* governance structure can be developed.”).

¹³² Kevin Kelly, THE INEVITABLE: UNDERSTANDING THE 12 TECHNOLOGICAL FORCES THAT WILL SHAPE OUR FUTURE 4 (2016).

¹³³ Adam Thierer, *The Pursuit of Privacy in a World Where Information Control Is Failing*, 36 HARV. J. OF L. & PUB. POL’Y 424, 424-25 (2013).

¹³⁴ Kelly, *supra* note 133 at 148 (“The shift from hierarchy to networks, from centralized heads to decentralized webs, where sharing is the default, has been the major cultural story of the last three decades—and that story is not done yet. The power of bottom up with still take us further.”).

¹³⁵ Milton L. Mueller, NETWORK AND STATES: THE GLOBAL POLITICS OF INTERNET GOVERNANCE 4 (2010).

¹³⁶ Marc Andreessen, *Why Software Is Eating the World*, WALL ST. J., Aug. 20, 2011, <http://www.wsj.com/articles/SB10001424053111903480904576512250915629460>.

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of the modern Internet, all of the technology required to transform industries through software finally works and can be widely delivered at global scale.¹³⁷

Similarly, others speak of the “softwarization of hardware”¹³⁸ and the continued growth of the IoT, which refers to the massive constellation of everyday devices that will now be continuously connected, sensing, and communicating.¹³⁹ Put simply, the world of atoms (i.e., physical things) is colliding with the world of bits (i.e., the information economy and digital technologies). “The past ten years have been about discovering new ways to create, invent, and work together on the Web,” noted Chris Anderson in his 2012 book *Makers*. “The next ten years will be about applying those lessons to the real world.”¹⁴⁰ And if the digital revolution is any guide, the primary lesson for “the real world” is that the pace of technological change will accelerate for many other sectors and have profound implications for their governance.

As software “eats the world” and digital technology converges with other existing and emerging sectors, it will continue to blur the lines between them. In the past, for example, it was easier to define what an automobile was and which congressional committees and regulatory authorities possessed jurisdiction over the technology and industry.¹⁴¹ Today, however, automobiles are becoming essentially computers on wheels, with countless automated systems being operated by sophisticated software and algorithms.¹⁴² This opens the door to potential regulatory interest beyond traditional automobile regulatory bodies. Meanwhile, other new technologies like the IoT, which includes a massive array of connected devices such as wearable fitness devices, defy easy regulatory classification.¹⁴³ Finally, some unique emerging technologies such as 3D printing, virtual reality,¹⁴⁴ and biometrics have never been subject to regulations governing their commercial use;¹⁴⁵ yet it is conceivable that several different agencies could claim some authority over them without a new grant of authority from Congress. Because these technologies are evolving so rapidly, legislation is rarely proposed to govern them because of how quickly they are likely to be out of date.

¹³⁷ *Id.*

¹³⁸ Quoted in Christopher Mims, *A New Dawn for Breast Pumps and Other Products*, WALL ST. J., Mar. 22, 2015, <http://www.wsj.com/articles/a-new-dawn-for-gadgets-1427065972?mod=LS1&ref=/news/technology>.

¹³⁹ Adam Thierer, *The Internet of Things and Wearable Technology: Addressing Privacy and Security Concerns Without Derailing Innovation*, 21 RICHMOND J. OF L. & TECH. (2015).

¹⁴⁰ Chris Anderson, *MAKERS: THE NEW INDUSTRIAL REVOLUTION* 17 (2012).

¹⁴¹ *See, e.g.*, 49 U.S.C. § 32901(a)(3)(defining automobile).

¹⁴² Adam Thierer & Ryan Hagemann, *Removing Roadblocks to Intelligent Vehicles and Driverless Cars*, 5 WAKE FOREST J. OF L. & POL’Y, 380-386 (2015).

¹⁴³ Thierer, *supra* note 140.

¹⁴⁴ Adam Thierer & Jonathan Camp, *Permissionless Innovation and Immersive Technology: Public Policy for Virtual and Augmented Reality* 7 (Mercatus Working Paper, Sep. 25, 201), available at <https://www.mercatus.org/publications/permissionless-innovation-virtual-reality-VR>.

¹⁴⁵ Ted Claypoole & Cameron Stoll, *Developing Laws Address Flourishing Commercial Use of Biometric Information*, BUSINESS LAW TODAY, May 2016, https://www.americanbar.org/publications/blt/2016/05/08_claypoole.html.

C. The Accelerating Pace of “the Pacing Problem”

Even as the gap between introduction of new technologies and their regulation is *increasing*, the gap between introduction and consumer adoption is *decreasing*.¹⁴⁶ From the point of its invention, it took over 30 years until a quarter of all American homes had a telephone. By contrast, it took only 7 years for a similar percentage to adopt Internet access.¹⁴⁷ Tablets and smartphones have experienced even faster rates of adoption.¹⁴⁸ Although there are many people who express hesitancy and skepticism towards some emerging technologies, like autonomous vehicles¹⁴⁹ or robotics¹⁵⁰, recent trends suggest consumers more rapidly acclimate themselves to, and eventually embrace, new technologies than they have before.¹⁵¹

Taken together, these new technological realities give rise to what philosophers and social scientists refer to as the “pacing problem.”¹⁵² In his recent book, *A Dangerous Master: How to Keep Technology from Slipping beyond Our Control*, Yale University bioethicist Wendell Wallach concisely defined the pacing problem as “the gap between the introduction of a new technology and the establishment of laws, regulations, and oversight mechanisms for shaping its safe development.”¹⁵³

Wallach notes, “There has always been a pacing problem,” but like many other scholars, he believes that modern technological innovation is occurring at an unprecedented pace, making it harder than ever to “govern” using traditional legal and regulatory mechanisms.¹⁵⁴ He continues:

The faster the rate of change, the more difficult it becomes to effectively monitor and regulate emerging technologies. Indeed, as the pace of technological development quickens, legal and ethical mechanisms for their oversight are

¹⁴⁶ E.g., Rita Gunter McGrath, *The Pace of Technology Adoption is Speeding Up*, HARVARD BUSINESS REVIEW (Nov. 25, 2013), <https://hbr.org/2013/11/the-pace-of-technology-adoption-is-speeding-up>.

¹⁴⁷ Drew Desilver, *Chart of the Week: The ever-accelerating rate of technology adoption*, Pew Research Center, Mar. 14, 2014, <http://www.pewresearch.org/fact-tank/2014/03/14/chart-of-the-week-the-ever-accelerating-rate-of-technology-adoption/>.

¹⁴⁸ See Michael DeGusta, *Are Smart Phones Spreading Faster than Any Technology in Human History?*, MIT TECH. REV., May 9, 2012, <https://www.technologyreview.com/s/427787/are-smart-phones-spreading-faster-than-any-technology-in-human-history/>.

¹⁴⁹ Pat McAssey, *Three in Four Americans Afraid to Ride in Self-Driving Cars, AAA Finds*, NESN, Mar. 8, 2017 4:20 P.M., <https://nesn.com/2017/03/three-in-four-americans-afraid-to-ride-in-self-driving-cars-aaa-finds/>

¹⁵⁰ See Matt Simon, *You Aren't Ready for the Weirdness of Working with Robots*, Wired, Oct. 12, 2017 8:00 A.M., <https://www.wired.com/story/you-arent-ready-for-the-weirdness-of-working-with-robots/>.

¹⁵¹ Adam Thierer, *Muddling Through: How We Learn to Cope with Technological Change*, MEDIUM, June 30, 2014, <https://medium.com/tech-liberation/muddling-through-how-we-learn-to-cope-with-technological-change-6282d0d342a6>.

¹⁵² Gary E. Marchant, *The Growing Gap Between Emerging Technologies and the Law in THE GROWING GAP BETWEEN EMERGING TECHNOLOGIES AND LEGAL-ETHICAL OVERSIGHT* (Gary E. Marchant et al. eds., 2011).

¹⁵³ Wallach, *supra* note 116 at 251.

¹⁵⁴ *Id.*; see also, Cortez, *supra* note 93 at 228 (“A persistent challenge for regulators is confronting new technologies or business practices that do not square well with existing regulatory frameworks.”).

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bogging down. This has been referred to as the pacing problem: The growing gap between the time technologies are deployed and the time effective means are enacted to ensure public safety.¹⁵⁵

Similarly, in his recent book, *Innovation and Its Enemies: Why People Resist New Technologies*, Calestous Juma of Harvard University’s Kennedy School argued that, “the pace of technological innovation is discernibly fast,” and that it is accelerating in an exponential fashion.¹⁵⁶ “The implications of exponential growth will continue to elude political leaders if they persist in operating with linear worldviews.”¹⁵⁷

Wallach and Juma are essentially making the same argument that Larry Downes did in his 2009 book, *The Laws of Disruption: Harnessing the New Forces That Govern Life and Business in the Digital Age*. Downes argued that lawmaking in the information age is inexorably governed by the “law of disruption” or the fact that “technology changes exponentially, but social, economic, and legal systems change incrementally.”¹⁵⁸ This law is “a simple but unavoidable principle of modern life,” he said, and it will have profound implications for the way businesses, government, and culture evolve going forward. “As the gap between the old world and the new gets wider,” he argues, “conflicts between social, economic, political, and legal systems” will intensify and “nothing can stop the chaos that will follow.”¹⁵⁹ Sofia Ranchordás similarly observes, “Law will necessarily lag behind innovation since it cannot be adapted at innovation’s speed.”¹⁶⁰

These scholars, exemplified by Downes, do not believe most Internet regulation can work in practice due to the “realities of digital life” and “the unique properties of information.”¹⁶¹ “Laws that can’t be enforced are laws in name only,” Downes argues. “Game over.”¹⁶² Consequently, he counsels, “the best way to regulate innovation is to leave it alone.”¹⁶³ Downes recommended that policymakers pursue various deregulatory actions to achieve that goal or simply forbear from regulating new technologies and developments altogether.¹⁶⁴

¹⁵⁵ Wallach, *supra* note 116 at 28-9.

¹⁵⁶ Calestous Juma, *INNOVATION AND ITS ENEMIES: WHY PEOPLE RESIST NEW TECHNOLOGIES* 5 (2016).

¹⁵⁷ *Id.* at 14.

¹⁵⁸ Larry Downes, *THE LAWS OF DISRUPTION: HARNESSING THE NEW FORCES THAT GOVERN LIFE AND BUSINESS IN THE DIGITAL AGE* 2 (2009).

¹⁵⁹ *Id.* at 2–3; Andy Grove, former CEO of Intel, “High tech runs three-times faster than normal businesses. And the government runs three-times slower than normal businesses. So we have a nine-times gap,” in Lillian Cunningham, *Google’s Eric Schmidt Expounds on His Senate Testimony*, WASH. POST, Oct. 1, 2011, http://www.washingtonpost.com/national/on-leadership/googles-eric-schmidt-expounds-on-his-senate-testimony/2011/09/30/gIQAPyVgCL_story.html.

¹⁶⁰ Sofia Ranchordás, *Does Sharing Mean Caring? Regulating Innovation in the Sharing Economy*, 16 MINN. J. OF L., SCI. & TECH., 37 (2015).

¹⁶¹ Downes, *supra* note 159 at 3.

¹⁶² *Id.*

¹⁶³ *Id.* at 270.

¹⁶⁴ *Id.*

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Other scholars, such as Cortez, still favor regulatory activism, but admit that “regulatory disruption”—i.e., “the idea that novel technologies or business practices can disturb existing regulatory frameworks”—is becoming a more pressing problem.¹⁶⁵ Even many policymakers acknowledge the challenge to traditional regulatory systems posed by the pacing problem. Sir Peter Gluckman, Chief Science Advisor for the Prime Minister of New Zealand, recently noted that:

Clearly society has the right and the responsibility to decide on the use of any technology—partly they do this through the marketplace and partly through political regulation. But regulatory approaches are complex particularly when technologies move fast.¹⁶⁶

Such views make it clear why more flexible regulatory responses will increasingly be favored as coping mechanisms for the pacing problem.

D. Technological Determinism by Another Name?

Assertions about the inevitability of the pacing problem, such as those discussed *supra*, are representative of an attitude sometimes labeled “technological determinism.” Sally Wyatt has explained how technological determinism is generally defined in a two-part fashion:

The first part is that technological developments take place outside society, independently of social, economic, and political forces. New or improved products or ways of making things arise from the activities of inventors, engineers, and designers following an internal, technical logic that has nothing to do with social relationships. The more crucial second part is that technological change causes or determines social change.¹⁶⁷

The opposite of technological determinism is generally referred to as “social constructivism,” which “presumes that social and cultural forces determine technical change.”¹⁶⁸

Deterministic views are often shared by scholars and activists of radically different ideological dispositions. The optimistic variant of hard determinism is perhaps best exemplified by the work of futurists like Ray Kurzweil¹⁶⁹ and Kevin Kelly.¹⁷⁰ Although ardent determinists such as Kurzweil

¹⁶⁵ Cortez, *supra* note 93 at 183 (“Regulatory disruption,” he argues, “occurs, then, when the ‘disruptee’ is the regulatory framework itself.”).

¹⁶⁶ Sir Peter Gluckman, Keynote address to the 17th International Biotechnology Symposium in Melbourne: New Technologies and Social Consensus, (October 2017) (*transcript available at* <http://www.pmcsa.org.nz/wp-content/uploads/Discussion-of-Social-Licence.pdf>).

¹⁶⁷ Sally Wyatt, *Technological Determinism Is Dead: Long Live Technological Determinism* 168, in *THE HANDBOOK OF SCIENCE AND TECHNOLOGY STUDIES* (Edward J. Hackett et al., eds., 2008).

¹⁶⁸ Thomas P. Hughes, *Technological Momentum* 102, in *DOES TECHNOLOGY DRIVE HISTORY? THE DILEMMA OF TECHNOLOGICAL DETERMINISM* (Merritt Roe Smith & Leo Marx eds., 1994).

¹⁶⁹ See Ray Kurzweil, *THE SINGULARITY IS NEAR: WHEN HUMANS TRANSCEND BIOLOGY* (2005); Ray Kurzweil, *THE AGE OF SPIRITUAL MACHINES: WHEN COMPUTERS EXCEED HUMAN INTELLIGENCE* (1999).

¹⁷⁰ Kevin Kelly, *WHAT INFORMATION WANTS* 11-13 (2010).

and Kelly do not always state it so bluntly, the clear implication of much of their work is that social and political systems have little chance of controlling the evolution of new technologies or technological processes.¹⁷¹ Moreover, the highly optimistic variants of hard determinism are also “imbued with the notion that technological progress equals social progress.”¹⁷²

Many leading technological critics from the past century also held strongly deterministic views about technology.¹⁷³ Perhaps most notable in this regard was French philosopher Jacques Ellul¹⁷⁴ who generally believed that technology is “self-perpetuating, all-persuasive, and inescapable,” and that it represents “an autonomous and uncontrollable force that dehumanized all that it touches.”¹⁷⁵ And still today, much casual writing about online privacy and security issues is similarly dominated by arguments that, “[t]echnological innovation is already calling the shots,” and making many laws and regulations irrelevant.¹⁷⁶ Even many Marxist theorists have held strongly deterministic views about the role of technology in history that share much in common with those espoused by some advocates of laissez-faire capitalism.¹⁷⁷ Thus, regardless of whether one subscribes to what Ian Barbour has labelled the warring viewpoints of “Technology as Liberator” or “Technology as a Threat,” all such scholars can hold strongly deterministic viewpoints regarding the primacy of technology as a social and economic force in society.¹⁷⁸

But deterministic reasoning is rarely as “hard” as this; there exists many “lesser” variants of determinism along the spectrum between hard determinism and social constructivism. Technological historian Merritt Roe Smith defines “soft determinism” as the view “which holds that technological change drives social change but at the same time responds discriminatingly to

¹⁷¹ *Id.* (Describing the evolution of the “technium” or “the greater, global, massively interconnected system of technology vibrating around us.” He says “the technium is maturing into its own thing. Its sustaining network of self-reinforcing processes and parts have given it a noticeable measure of autonomy.”).

¹⁷² Wyatt, *supra* note 168 at 168.

¹⁷³ See, e.g., Jacques Ellul, *LA TECHNIQUE OU L'ENJEU DU SIÈCLE* (1954) *translated in* Jacques Ellul, *THE TECHNOLOGICAL SOCIETY* (1964).

¹⁷⁴ *Id.*; see also Doug Hill, *Jacques Ellul, Technology Doomsdayer Before His Time*, *BOSTON GLOBE*, Jul. 8, 2015, <http://www.bostonglobe.com/ideas/2012/07/07/jacques-ellul-conference/1BVZp8uEiGKoeXAmkDJpeO/story.html>.

¹⁷⁵ See Ian G. Barbour, *ETHICS IN AN AGE OF TECHNOLOGY* 12 (1993).

¹⁷⁶ Zoltan Istvan, *Liberty Might Be Better Served by Doing Away with Privacy*, *MOTHERBOARD*, Jul. 14, 2017, https://motherboard.vice.com/en_us/article/bjx5y5/liberty-might-be-better-served-by-doing-away-with-privacy.

¹⁷⁷ Leo Marx, *The Idea of ‘Technology’ and Postmodern Pessimism*, in *DOES TECHNOLOGY DRIVE HISTORY? THE DILEMMA OF TECHNOLOGICAL DETERMINISM* 250 (Merritt Roe Smith & Leo Marx (eds.), 1994) (“To later followers of Marx and Engels, the most apt name of that power leading to communism, the political goal of progress—of history—is ‘technology.’”).

¹⁷⁸ Merritt Roe Smith & Leo Marx, *Introduction*, in *DOES TECHNOLOGY DRIVE HISTORY? THE DILEMMA OF TECHNOLOGICAL DETERMINISM* xii (Merritt Roe Smith & Leo Marx (eds.), 1994). (“To optimists, such a future is the outcome of many free choices and the realization of the dream of progress; to pessimists, it is a product of necessity’s iron hand, and it points to a totalitarian nightmare.”); Barbour, *supra* note 176 at 3 (“Technological determinists will be pessimists if they hold that the consequences of technology are on balance socially and environmentally harmful. . . . However, some determinists retain greater optimism about the consequences of technology.”).

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social pressures,” as compared to “hard determinism,” which “perceives technological development as an autonomous force, completely independent of social constraints.”¹⁷⁹

Some deterministic thinking is quite technology-specific. For example, many information technology scholars suggest that while some degree of social and political control of new information technologies is indeed possible, it has become more costly or complicated over time.¹⁸⁰ As Konstantinos Stylianou argues, “there are indeed technologies so disruptive that by their very nature they cause a certain change *regardless* of other factors,” such as the Internet.¹⁸¹ Stylianou concludes that:

It seems reasonable to infer that the thrust behind technological progress is so powerful that it is almost impossible for traditional legislation to catch up. While designing flexible rules may be of help, it also appears that technology has already advanced to the degree that is able to bypass or manipulate legislation. As a result, the cat-and-mouse chase game between the law and technology will probably always tip in favor of technology. It may thus be a wise choice for the law to stop underestimating the dynamics of technology, and instead adapt to embrace it.¹⁸²

In other words, whatever one thinks of the prospects of controlling certain older Industrial Era or Analog Era technologies, the Internet and most modern ICTs are qualitatively different from older communications technologies such as the telegraph, the telephone, radio, and television. Connected digital technologies, many scholars suggest, are inherently more resistant to control in a way that those previous technologies were not.¹⁸³

This perspective, which is largely the one we adopt here, may sound like just more hard deterministic thinking, but it represents a softer variety that holds that the special characteristics of some technologies—including many of the underlying drivers of modern technological change already identified in Section III.B—are fundamentally altering the capacity to govern many newer technologies and sectors using traditional regulatory mechanisms. And as suggested above and throughout the balance of this paper, the fact that such a diverse array of scholars and policymakers¹⁸⁴ generally share this semi-deterministic outlook suggests that widespread

¹⁷⁹ Merritt Roe Smith, *Technological Determinism in American Culture 2*, in *DOES TECHNOLOGY DRIVE HISTORY? THE DILEMMA OF TECHNOLOGICAL DETERMINISM* (Merritt Roe Smith & Leo Marx eds., 1994).

¹⁸⁰ Wallach, *supra* note 116 at 71-74.

¹⁸¹ Konstantinos K. Stylianou, *Hasta La Vista Privacy, or How Technology Terminated Privacy* 46, in *PERSONAL DATA PRIVACY A PROTECTION IN A SURVEILLANCE ERA: TECHNOLOGIES AND PRACTICES* (Christina Akrivopoulou & Athanasios-Efstratios Psygkas eds., 2011)(emphasis in original).

¹⁸² *Id.* at 54.

¹⁸³ See, e.g., Ithiel de Sola Pool, *TECHNOLOGIES OF FREEDOM: ON FREE SPEECH IN AN ELECTRONIC AGE* (1983).

¹⁸⁴ Soft deterministic thinking has increasingly been on display among public officials in recent decades. Policymakers have increasingly acknowledged the reality of the pacing problem, especially with the rise of the Internet and digital markets. In the late 1990s, for example, Clinton Administration senior advisor Ira C. Magaziner argued that “even if it were desirable to centrally control the Internet in some way, it is impossible, and life is too short to spend too much time doing things that are impossible. By the same token, we need to respect the nature of the medium in the sense that technology moves very quickly, and any policy that is tied to

consensus exists regarding the fact that the pacing problem is very real and likely accelerating. In turn, this will fuel a non-partisan and cross-disciplinarian search for soft law governance substitutes for traditional hard law processes and mechanisms.

E. Why Traditional “Hard Law” Systems Struggle to Keep Pace

But why, specifically, do modern emerging technologies and their respective pacing problems create such serious challenges for traditional regulatory processes? There are several closely related deficiencies associated with traditional “hard law” regulation as it pertains to emerging or rapidly-evolving technologies or sectors. Those issues include the slow-moving nature of the regulatory process itself (i.e., “pace of action” problem);¹⁸⁵ the bureaucratic bloat associated with many modern regulatory processes (i.e., “volume of rules” problem);¹⁸⁶ the inability to properly categorize and silo particular technologies under individual regulatory authorities (i.e., “coordination” problem);¹⁸⁷ and the limited access to the full range of informational inputs needed to make wise decisions about emerging technological processes (i.e., the “knowledge problem.”).¹⁸⁸

1. Bureaucratic Deficiencies (i.e., “pace of action” problem)

Generally speaking, traditional regulatory processes tend to be quite rigid, bureaucratic, inflexible, and slow to adapt to new realities. Congressional lawmakers have purposefully imposed statutory limitations on agency discretion directly through specific authorizing statutes that delimit the power of agencies and indirectly through various procedural limitations that act to check agency actions.¹⁸⁹ Notably these constraints include the APA and OIRA review processes already discussed *supra*. While these legal constraints on agency action are meant to create more accountability and transparency throughout the regulatory system, they can nonetheless slow down regulatory processes to some degree.¹⁹⁰

a given technology is going to be outmoded before it is enacted.” See Ira C. Magaziner, *Creating a Framework for Global Electronic Commerce*, PROGRESS & FREEDOM FOUNDATION, *Future Insight*, Jul. 1999, available at <http://www.pff.org/issues-pubs/futureinsights/fi6.1globaleconomiccommerce.html>.

¹⁸⁵ Weiser, *supra* note 69 at 44 (“Bureaucratic inertia and auto-pilot administration not only prevents innovative programs from being developed, but also can lead existing programs to be administered badly [. . .] “the essence of experimentation, departing from traditional models, and entrepreneurial leadership is overcoming bureaucratic inertia.”).

¹⁸⁶ Patrick A. Laughlin & Richard Williams, *The Consequences of Regulatory Accumulation and a Proposed Solution* (*Mercatus Working Paper*, Feb. 2014).

¹⁸⁷ Julie E. Cohen, *The Regulatory State in the Information Age*, 17 THEORETICAL INQUIRIES IN L. 369, 397 (2016).

¹⁸⁸ F. A. Hayek, *The Use of Knowledge in Society*, 35 AM. ECON. REV. 519 (1945).

¹⁸⁹ See generally, 5 U.S.C. §§ 551-559 (2012).

¹⁹⁰ Fritschler & Rudder, *supra* note 24 at 135 (“The primary reason for bureaucratic rules is to ensure accountability and appropriate behavior, but these same rules and lead to sclerotic, unresponsive government whose denizens follow the rules without advancing public interests effectively.”).

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Beyond those formal constraints, scholars have noted bureaucracies and existing regulatory regimes naturally tend to move quite slowly in response to social and economic change.¹⁹¹ This is partly because “[r]egulatory systems are designed to handle the technology in place when the regulatory system was developed,” and, therefore, struggle to adapt when “emerging technologies disrupt these systems.”¹⁹²

Moreover, bureaucracies tend to be notoriously risk-adverse. Powerful incentives exist for agencies and bureaucrats to be very cautious to avoid the negative publicity that may put their budgets at risk.¹⁹³ As the authors of a leading textbook on economic legal analysis observe:

Understandably, bureaucrats and politicians have an incentive to seek higher than optimal levels of risk reduction in order to maintain their jobs or their political status. Furthermore, to the extent that politicians respond to voter preferences and voters overestimate the risk of low probability events and underestimate the risk of higher probability events, an inefficient level of risk regulation is likely to result.¹⁹⁴

Still other regulatory analysts have observed the “characteristic pathologies of modern regulation—myopia, interest group pressure, draconian responses to sensationalist anecdotes, poor priority setting, and simple confusion.”¹⁹⁵ These factors make traditional hard law a poor fit for new, fast-moving technologies and sectors.¹⁹⁶

Another complication is the judicial deference factor. Current administrative law gives broad deference to an agency’s actions and statutory interpretations, which makes it difficult to enact changes via the courts. The usefulness and proper role of agency deference is an ongoing debate among judges, politicians, and scholars.¹⁹⁷ However, a change in deference may not impact

¹⁹¹ Weiser, *supra* note 69 at 44.

¹⁹² Mandel, *supra* note 2 at 5.

¹⁹³ William A. Niskanen, Jr., *BUREAUCRACY AND PUBLIC ECONOMICS* (1996).

¹⁹⁴ Henry N. Butler et al., *ECONOMIC ANALYSIS FOR LAWYERS*, THIRD EDITION 382 (2014).

¹⁹⁵ Richard H. Pildes & Cass R. Sunstein, *Reinventing the Regulatory State*, 68 U. CHI. L. REV. 1, 4 (1995).

¹⁹⁶ Niklas Elert & Magnus Henrekson, *Entrepreneurship and Institutions: A Bidirectional Relationship* 43, (Res. Inst. of Indus. Econ., IFN Working Paper No. 1153, 2017)(“Innovation causes rapid changes that do not jibe well with rigid top-down rules, especially not in the inherently unpredictable and fast-moving information-technology markets.”).

¹⁹⁷ Rebecca Wilhelm, *Democratic Senators Grill Gorsuch on Agency Deference*, BLOOMBERG BNA, Mar. 21, 2017, <https://www.bna.com/democratic-senators-grill-n57982085518/>; *Reflections on Seminole Rock and the Future of Judicial Deference to Agency Regulatory Interpretations*, NOTICE & COMMENT, Sep. 23, 2016, <http://yalejreg.com/nc/category/symposia/reflections-on-seminole-rock-and-the-future-of-judicial-deference-to-agency-regulatory-interpretations/>.

whether or how an agency chooses to regulate, given few agencies consider deference when determining regulatory action.¹⁹⁸

Allowing guidance to be challenged in the courts on a broader scale would increase the burden on agencies but alleviate some of the uncertainty. Some courts have already recognized this tension in the soft law context outside of emerging technologies. In *Appalachian Power Co. v. EPA*, the D.C. Circuit found expanding the scope of regulatory standards sufficiently via guidance could be a violation of rulemaking procedures under the APA.¹⁹⁹ Challenging rapid changes that are clearly intended to be pseudo-rulemaking under this standard would at least provide innovators with the protections of the APA process.

The challenging interaction between soft law actions related to technology and the courts’ deference to agency decisions will be discussed more thoroughly in a subsequent section.

2. Regulatory Accumulation & Demosclerosis (i.e., “volume of rules” problem)

Regarding interest group pressure, regulatory systems can become overly complex because it is often in the best interest of industry incumbents and special interests²⁰⁰ to make (or keep) them that way to protect themselves from new entrants and innovators.²⁰¹ This is a familiar by-product of what is referred to increasingly as “crony capitalism”²⁰² and it has important ramifications for the future of hard law enforcement efforts.

¹⁹⁸ Chris Walker, *Auer Deference Inside the Regulatory State: Some Preliminary Findings*, NOTICE & COMMENT, Sep. 14, 2016, <http://yalejreg.com/nc/category/symposia/reflections-on-seminole-rock-and-the-future-of-judicial-deference-to-agency-regulatory-interpretations/>.

¹⁹⁹ 208 F.3d at 1024.

²⁰⁰ Matthew D. Mitchell, *That Government Is Best Which Is Not Captured by Special Interests*, in *CAPITOL HILL, STATE HOUSE, OR CITY HALL: DEBATING THE LOCATION OF POLITICAL POWER AND DECISION-MAKING*, MERCATUS CENTER COLLOQUIUM, (2017), available at <https://www.mercatus.org/publications/government-best-which-not-captured-special-interests> (“liberty often ‘yields’ because special interests want it to. In other words, people stand to benefit by limiting the freedom of others. Producers, for example, gain by limiting customers’ freedom to shop at the competition or to pay competitive prices. And in many cases, special interests have successfully fought for their own government-granted privileges that limit the freedom of others.”).

²⁰¹ Mark Zachary Taylor, *THE POLITICS OF INNOVATION: WHY SOME COUNTRIES ARE BETTER THAN OTHERS AT SCIENCE & TECHNOLOGY* 14, 16, 213 (2016) (“Distributional politics tend to slow innovation... [because] losers tend to resort to politics to slow innovation. [. . .] Time and again, the losing interest groups created by scientific progress or technological change have been able to convince politicians to block, slow, or alter government support for scientific and technological progress. They support taxes, regulations, subsidies, procurement policies, spending, and so forth that obstruct progress in new S&T, and favor the status quo S&T. The losers and their political representatives have interfered with markets, public institutions and policies, and even the scientific debate itself—whatever they can to protect their interests.”).

²⁰² Matthew D. Mitchell, *THE PATHOLOGY OF PRIVILEGE: THE ECONOMIC CONSEQUENCES OF GOVERNMENT FAVORITISM* (2014); Randall G. Holcombe & Andrea O’Sullivan, *LIBERALISM AND CRONYISM: TWO RIVAL POLITICAL AND ECONOMIC SYSTEMS* (2013).

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“Lobbying increases the complexity of regulation and the scope of government,” notes Mancur Olson, and it gives rise to what he referred to as the problem of “complex understandings” of law and regulation.²⁰³ As he explained it:

When regulations are established through lobbying or other measures, there is an incentive for ingenious lawyers and others to find ways of getting around the regulations or ways of profiting from them in unexpected ways. [. . .] The more elaborate the regulation, the greater the need for specialists to deal with these regulations. . . . When these specialists become significant enough, there is even the possibility that the specialists with a vested interest in the complex regulations will collude or lobby against simplification or elimination of the regulation.²⁰⁴

In his recent book, *The Business of America is Lobbying*, Lee Drutman confirmed Olson’s insight using hard data and showed how lobbying has become “sticky” over time in the sense that “lobbying has its own internal momentum” and has become self-perpetuating.²⁰⁵ “As companies lobby more,” Drutman argues, “they have a greater capacity to tackle big issues, and they have more lobbyists encouraging corporate managers to think of public policy as a strategic advantage.”²⁰⁶ This is the essence of Olson’s problem of “complex understandings” in action.

These complex understandings end up taking the form of myriad regulatory restrictions that can raise the cost of starting or running a business or nonbusiness venture.²⁰⁷ For example, research from the Mercatus Center at George Mason University has shown that, “between 1970 and 2008, the number of prescriptive words like ‘shall’ or ‘must’ in the code of federal regulations grew from 403,000 to nearly 963,000, or about 15,000 edicts a year.”²⁰⁸

“The problem is that as time goes on, these restrictions pile up,” notes Stony Brook University finance professor Noah Smith. The result is the “landscape that entrepreneurs have to navigate becomes ever more twisted and torturous. The eventual result is a reduction in both dynamism

²⁰³ Mancur Olson, *THE RISE AND DECLINE OF NATIONS: ECONOMIC GROWTH, STAGFLATION, AND SOCIAL RIGIDITIES* 69 (1982).

²⁰⁴ *Id.* at 70.

²⁰⁵ Lee Drutman, *THE BUSINESS OF AMERICA IS LOBBYING: HOW CORPORATIONS BECAME POLITICIZED AND POLITICS BECAME MORE CORPORATE* 2 (2015).

²⁰⁶ *Id.*

²⁰⁷ *Too Much Federal Regulation Has Piled Up in America*, *THE ECONOMIST*, Mar. 2, 2017, available at <http://www.economist.com/news/united-states/21717838-republicans-and-democrats-have-been-equally-culpable-adding-rulebook-too-much?fsrc=scn/tw/te/bl/ed/grudgesandkludgestoomuchfederalregulationhaspiledupinamerica> (“The endless pile-up of regulation enrages businessmen. One in five small firms say it is their biggest problem, according to the National Federation of Independent Business, a lobby group. (Many businessmen grumble in private about the Obama administration’s zealous regulatory enforcement). Based on its own survey of businessmen, the World Economic Forum ranks America 29th for the ease of complying with its regulations, sandwiched between Saudi Arabia and Taiwan.”).

²⁰⁸ *Id.*; see also, Laughlin & Williams, *supra* note 187.

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and the forward march of technology.”²⁰⁹ This has particular implications for the innovative capacity of business as well as the overall competitiveness of the entire economy because “[t]his growing legal burden impedes economic growth.”²¹⁰ Research has also shown that “[e]conomic growth in the United States has, on average, been slowed by 0.8 percent per year since 1980 owing to the cumulative effects of regulation.” This means that “the US economy would have been about 25 percent larger than it actually was as of 2012” if regulation had been held to roughly the same aggregate level it stood at in 1980.²¹¹

While the negative implications of regulatory accumulation for economic growth are well documented,²¹² it is equally true that the problem of “complex understandings” and chronic rent-seeking can complicate the policymaking process and can lead to what Jonathan Rauch has labeled “demosclerosis,” or “government’s progressive loss of the ability to adapt.”²¹³ “[A]s layer is dropped upon layer,” he notes, “the accumulated mass becomes gradually less rational and less flexible.”²¹⁴ An August 2017 survey by the Congressional Management Foundation “found overwhelming majorities of senior congressional aides believe Congress is not equipped to execute its basic functions.”²¹⁵ The most cited areas of concern by congressional staff dealt with the lack of both the skills and abilities as well as adequate time and resources “to understand, consider and deliberate policy and legislation.”²¹⁶ As Congress has lost its expertise and understanding, the regulatory bureaucracy has continued to grow.

This inflexibility is especially damaging when attempting to appropriately handle new, disruptive technologies. As Alice Armitage, Andrew K. Cordova, and Rebecca Siegel, recently wrote:

²⁰⁹ Noah Smith, *Business Protections Need an Expiration Date*, BLOOMBERG VIEW, Mar. 8, 2017, <https://www.bloomberg.com/view/articles/2017-03-08/business-protections-need-an-expiration-date>.

²¹⁰ Philip K. Howard, *Radically Simplify Law*, CATO ONLINE FORUM, Nov. 12, 2014, <http://www.cato.org/publications/cato-online-forum/radically-simplify-law> (“Too much law, however, can have similar effects as too little law. People slow down, they become defensive, they don’t initiate projects because they are surrounded by legal risks and bureaucratic hurdles. They tiptoe through the day looking over their shoulders rather than driving forward on the power of their instincts. Instead of trial and error, they focus on avoiding error. Modern America is the land of too much law. Like sediment in a harbor, law has steadily accumulated, mainly since the 1960s, until most productive activity requires slogging through a legal swamp. It’s degenerative. Law is denser now than it was 10 years ago, and will be denser still in the next decade.”).

²¹¹ Bentley Coffey et al., *The Cumulative Cost of Regulations* (Mercatus Working Paper, April 2016), available at <https://www.mercatus.org/publication/cumulative-cost-regulations>.

²¹² John W. Dawson & John J. Seater, *Federal Regulation and Aggregate Economic Growth*, 18 J. OF ECON. GROWTH 137 (2013); Tue Gorgens et al., *How Does Public Regulation Affect Growth?* (U. of Aarhus, Working Paper No. 2003-14, 2003).

²¹³ Jonathan Rauch, *GOVERNMENT’S END: WHY WASHINGTON STOPPED WORKING* 125 (1999).

²¹⁴ *Id.* 152.

²¹⁵ Jeff Stein, *A Staff Survey Shows Just How Broken Congress Is*, Vox, Aug. 8, 2017, <https://www.vox.com/policy-and-politics/2017/8/8/16112362/congress-survey-broken-yikes>.

²¹⁶ Congressional Management Foundation, *State of the Congress: Staff Perspectives on Institutional Capacity in the House and Senate* 9 (2017), <http://www.congressfoundation.org/projects/resilient-democracy-coalition/state-of-the-congress>.

With fast-paced, innovative companies, regulators need to be educated and informed about what is taking place in the industries they regulate so that issues can be spotted in advance and dealt with in a timely and thorough manner. In order for that to happen, the regulatory process must be nimble, flexible, and user-focused.²¹⁷

The more regulations accumulate and the more a regulator must monitor, the less the administrative state is able to be informed and adaptable.²¹⁸

This institutional inflexibility or incompetence further frustrates hard law policymaking and enforcement efforts over time, and it likely encourages many policymakers—both in Congress and regulatory agencies—to seek out alternative policymaking options. Put simply, when law is overly complicated or fails to adapt to current circumstances, even those responsible for enforcing it may seek to ignore it or operate beyond it. In such a policymaking environment, soft law alternatives become more attractive to regulators precisely because those procedures do not “go by the book” and permit greater flexibility and creativity.

3. Multi-layered issues & agency overlap (i.e., “coordination problem”)

Numerous scholars have documented how, “unlike traditional products and technologies, many emerging technologies span multiple industries and applications”²¹⁹ and “often raise particular challenges for interagency coordination”²²⁰ because they “have developed in utter disregard of the executive branch organization chart, cascading around and across existing lines of authority.”²²¹

The emerging technologies and sectors highlighted in this paper—robotics, AI, autonomous systems, big data, and the IoT—all provide excellent examples of this problem in action. Defining the contours of these technologies and sectors—such as “robots”²²² or “AI”²²³—is notoriously challenging because they are multi-layered and interrelated. They all share common attributes and elements (such as the “underlying drivers” identified in Section III.B) and often build on each

²¹⁷ Alice Armitage et. al, *Design Thinking; The Answer to the Impasse Between Innovation and Regulation*, 2 GEO. L. TECH. REV. 3, 65 (2017).

²¹⁸ See Stein, *supra* note 216.

²¹⁹ Marc A. Saner & Gary E. Marchant, *Proactive International Regulatory Cooperating for Governance of Emerging Technologies*, 55 JURIMETRICS, 149-50 (2015).

²²⁰ Mandel, *supra* note 2 at 8.

²²¹ Cohen, *supra* note 188 at 397.

²²² Braden R. Allenby, THE RIGHTFUL PLACE OF SCIENCE: FUTURE CONFLICT & EMERGING TECHNOLOGIES, 82 (2016), available at <https://cspo.org/publication/the-rightful-place-of-science-future-conflict-emerging-technologies> (“The definitional issue may sound arcane, but it is in fact central to debate about how to govern robots. [. . .] there is no accepted definition for such a category, it is unclear exactly what is at issue. Drawing up any sort of legal document becomes very difficult, since no one knows exactly what is being regulated.”).

²²³ Adam Thierer et al., *Artificial Intelligence and Public Policy* 7, MERCATUS RESEARCH (2017), <https://www.mercatus.org/publications/artificial-intelligence-public-policy> (“Indeed, some of the most seasoned artificial intelligence experts struggle to formulate a concise definition and taxonomy of these technologies. The difficulty is due partially to the ephemeral nature of the technology itself and partially to the uneven history of human interest and understanding in this subject.”).

other in some fashion. Autonomous vehicle technology, for example, combines elements of all of the above-mentioned technologies and then intersects with the many complicated mechanical technologies that already constitute an “automobile.” This opens the door to potential regulation of autonomous vehicles by not only the many federal and state agencies that already oversee the auto sector today, but also other agencies such as the FCC and FTC.

On the other hand, some more novel applications of the above technologies might defy any regulatory classification or agency assignment. As noted above, some scholars have already proposed new laws and agencies such as an “Artificial Intelligence Development Act,” or “Federal Robotics Commission.”²²⁴ Formulating such laws or agencies would be significantly challenging and time-consuming, however, and such efforts would confront the reality of the pacing problem and could be outdated before they are even finalized. The same is true for other new technologies not discussed in this paper, such as additive manufacturing (3D printing), immersive technology (virtual reality and augmented reality), and biometrics (such as facial recognition technology).

This is why most technology policy scholars concur with Marchant and Wallach’s conclusion that, “no single entity is capable of fully governing any of these multifaceted and rapidly developing fields and the innovative tools and techniques they produce” and this can lead to “inconsistent recommendations, duplication of efforts, and general confusion” over the future governance of these sectors and technologies.²²⁵

4. Limited knowledge & information overload (i.e., “knowledge problem”)

Finally, regulators might find soft law preferable to hard law when they have limited time, resources, and knowledge to deal with fast-moving technologies and rapidly-evolving sectors. Economists and political scientists have long referenced the “knowledge problem”²²⁶ associated with regulatory efforts, noting that “because decisionmakers do not have, and in some cases, cannot have the required knowledge”²²⁷ it makes wise policy-making far more challenging.²²⁸

²²⁴ E.g., Calo, *supra* note 130.

²²⁵ Gary E. Marchant & Wendell Wallach, *Coordinating Technology Governance*, 31 ISSUES IN SCI. &TECH. 43, 43-44 (2015).

²²⁶ Hayek, *supra* note 189 at 519.

²²⁷ Daniel Gervais, *The Regulation of Inchoate Technologies*, 47 HOUSTON L. REV. 665, 678-9 (2010).

²²⁸ Charles E. Lindblom, *The Science of ‘Muddling Through,’* 19 PUB. ADMIN.REV. 79, 84 (1959) (“But it is impossible to take everything important into consideration unless ‘important’ is so narrowly defined that analysis is in fact quite limited. Limits on human intellectual capacities and on available information set definite limits to man’s capacity to be comprehensive. In actual fact, therefore, no one can practice the rational-comprehensive method for really complex problems, and every administrator faced with a sufficiently complex problem must find ways drastically to simplify.”).

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In the past, it may have been the case that regulators sometimes lacked sufficient information to make good decisions.²²⁹ However, in a world where “every five minutes we produce enough data to fill a Library of Congress,”²³⁰ it may now be the case that regulators face the problem of having *too much* information at their disposal. “Agencies too suffer the effects of infoglut” or “unmanageable, mediated information flows leading to information overload,” notes Cohen.²³¹ In other words, the sheer volume of information raises the prospect of a signal to noise ratio problem developing for many regulatory agencies.

But it is the fundamental *uncertainty* and *pace* associated with the future course of technological evolution that raises the most serious “knowledge problem.”²³² Regulators themselves increasingly acknowledge this problem. For example, in September 2016, the U.S. Department of Transportation (DOT) released a “Federal Automated Vehicles Policy” guidance document that established a series of best practices for developers of highly automated vehicles (HAVs).²³³ “The speed with which HAVs are advancing, combined with the complexity and novelty of these innovations, threatens to outpace the Agency’s conventional regulatory processes and capabilities,” the DOT noted in the guidance.²³⁴ “To meet this challenge, we must rapidly build our expertise and knowledge to keep pace with developments, expand our regulatory capability, and increase our speed of execution.”²³⁵

Unfortunately, as acting FTC Acting Chairman Maureen Ohlhausen has noted, even with expanded agency resources, “collecting and analyzing such information is very time-consuming” and, moreover, “even when a regulator manages to collect information, that information quickly becomes out of date as a regulated industry continues to evolve. Obsolete data is a particular concern for regulators of fast-changing technological fields,” she observes.²³⁶ This is another

²²⁹ Bridget M. Hutter, *A Risk Regulation Perspective on Regulatory Excellence*, in *ACHIEVING REGULATORY EXCELLENCE* 104, 104 (Cary Coglianese ed., 2017) (“Regulators must have access to accurate information so that they have a clear idea of the risks they are regulating.”).

²³⁰ Taylor Owen, *DISRUPTIVE POWER: THE CRISIS OF THE STATE IN THE DIGITAL AGE* 42 (2015).

²³¹ Cohen, *supra* note 188 at 397, 383.

²³² Jaime Bonnin Roca et al., *When Risks Cannot Be Seen: Regulating Uncertainty in Emerging Technologies*, 46 *RES. POL’Y* 1187, 1215, 1218 (2017) (“Regardless of the regulatory approach taken, the writing and enforcement of regulation regarding emerging technologies takes place in the presence of significant uncertainty, and requires substantial regulator discretion. Unfortunately, regulators may not have sufficient knowledge to adequately exercise such discretion.”).

²³³ U.S. Dept. of Transp., *Federal Automated Vehicle Policy: Accelerating the Next Revolution in Roadway Safety* 8, NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., Sept. 2016, <https://www.transportation.gov/sites/dot.gov/files/docs/AV%20policy%20guidance%20PDF.pdf> [*hereinafter* 2016 NHTSA AV Guidance].

²³⁴ Request for Comment on Federal Automated Vehicles Policy, 81 *Fed. Reg.* 65,703 (proposed Sept. 23, 2016).

²³⁵ *Id.*

²³⁶ Maureen K. Ohlhausen, Remarks at Progressive Policy Institute conference on “Innovation in a Rules-Bound World: How Regulatory Improvement Can Spur Growth: Three Regulatory Principles to Promote Innovation (Mar. 2, 2015) (*transcript available at* https://www.ftc.gov/system/files/documents/public_statements/627591/150302ppiregreform.pdf); *see also*,

reason soft law is important: It can adapt more rapidly to changing marketplace circumstances, stakeholder input, and changing political headwinds. For example, the DOT moved quickly to update its preliminary 2016 guidance document by releasing a new “2.0” version of the guidance in September of 2017.²³⁷ The new guidance made important changes to the earlier document, reflecting concerns over proposed new regulatory authorities for NHTSA and mandatory safety assessment submissions.²³⁸ Such changes are a perfect example of the flexibility inherent in soft law, and how changes in technology, regulatory receptiveness to industry feedback, and changes in the political landscape can rapidly alter existing agency guidance.

5. Synthesis

The deficiencies associated with hard law identified here mean that, as Marc Saner argues, “the control paradigm is too limited to address all the issues that arise in the context of emerging technologies.”²³⁹ By the control paradigm, he generally means traditional administrative regulatory agencies and the hard law processes they employ. Reflecting what appears to be the growing consensus among many scholars, Saner notes that the control problem paradigm “has its limits when diffusion, pacing and ethical issues associated with emerging technologies become significant, as is often the case.”²⁴⁰ This is why, as William McGeeveran observes, so many “[s]cholars commonly point out the challenge of keeping the law current with developing digital architecture, and with social and business adaptations to that technology. It is expensive to keep command-and-control regulations up to date in those circumstances.”²⁴¹ Before discussing examples of how the subsequent move toward soft law alternatives is unfolding in practice for various emerging technology sectors, we introduce a few other emerging realities that also will frustrate traditional regulatory processes and which will also likely necessitate the soft law approaches to emerging technology governance. These related concepts—innovation arbitrage, evasive entrepreneurship, and spontaneous private deregulation—are discussed briefly below.

F. The Rise of Innovation Arbitrage

The rise of “innovation arbitrage” represents another factor complicating modern technological governance efforts. Innovation arbitrage can be thought of as:

Cortez, *supra* note 93 at 189 (“But in dynamic industries—characterized by disruptive innovation, unexpected market entries, new business models, and other exogenous shocks—agencies may lack sufficient information to regulate with certainty.”).

²³⁷ U.S. Dept. of Transp., *Automated Driving Systems 2.0: A Vision for Safety*, NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., Sept. 2017, https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/13069a-ads2.0_090617_v9a_tag.pdf [*hereinafter* 2017 NHTSA AV Guidance].

²³⁸ Ryan Hagemann, *Comments submitted to the National Highway Traffic Safety Administration in the Matter of: Automated Driving Systems: A Vision for Safety*, Docket No. NHTSA-2017-0082, submitted Oct. 3, 2017, available at <https://niskanencenter.org/wp-content/uploads/2017/10/Comments-Autonomous-Vehicle-Guidance-NHTSA.pdf>.

²³⁹ Marc A. Saner, *The Role of Adaptation in the Governance of Emerging Technologies*, in *INNOVATIVE GOVERNANCE MODELS FOR EMERGING TECHNOLOGIES* 106 (Gary E. Marchant et al. eds., 2014).

²⁴⁰ *Id.*

²⁴¹ William McGeeveran, *Friending the Privacy Regulators*, 58 ARIZ. L. REV. 959, 987 (2016).

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The idea that innovators can, and will with increasingly regularity, move to those jurisdictions that provide a legal and regulatory environment more hospitable to entrepreneurial activity. Just as capital now fluidly moves around the globe seeking out more friendly regulatory treatment, the same is increasingly true for innovations. And this will also play out domestically as innovators seek to play state and local governments off each other in search of some sort of competitive advantage.²⁴²

In essence, the same globalization trends that have made it easier for goods, services, and capital to be produced and sold anywhere in the world,²⁴³ are now also a driving force in the digital realm. Innovators can take advantage of the fact that “[i]nformation technology divorces income-earning potential from residence in any specific geographic location.”²⁴⁴ As a result, “the processes of globalization can weaken the state in various ways, not the least of which is that they make it relatively easy for some industries to move production around the globe.”²⁴⁵

The realities of a more globalized and interconnected world, coupled with overly stringent rules that prohibit innovative commercial activities, can incentivize firms to offshore their operations to jurisdictions with less burdensome regulations. Of course, as Alfred Aman notes, “[e]ven if such ‘locational threats’ never materialize, they have the capacity to affect seriously the politics and political decisions at federal, state and local levels.”²⁴⁶ Such “locational threats” can also contribute to uncertainty for would-be investors in industries working on new technologies.²⁴⁷ “Another dimension of consistency,” as Aman discusses further, “is geographical. If rules differ across polities (cities, states, countries), an entrepreneur can exploit these institutional inconsistencies by locating where rules are less binding or less enforced, provided that there is

²⁴² Adam Thierer, *Innovation Arbitrage, Technological Civil Disobedience & Spontaneous Deregulation*, MEDIUM, Dec. 7, 2016, <https://medium.com/tech-liberation/innovation-arbitrage-technological-civil-disobedience-spontaneous-deregulation-eb90da50f1e2#.zpwzhifty>.

²⁴³ Milton Friedman once noted that, “It is today possible, to a greater extent than at any time in the world’s history, for a company to locate anywhere, to use resources from anywhere to produce a product that can be sold anywhere.” Quoted in James Dale Davidson & William Rees-Mogg, *THE SOVEREIGN INDIVIDUAL: MASTERING THE TRANSITION TO THE INFORMATION AGE* 197 (1999).

²⁴⁴ *Id.* at 202.

²⁴⁵ Alfred C. Aman, Jr., *Administrative Law for a New Century*, in *PROVINCE OF ADMINISTRATIVE LAW* 113 (M. Taggart ed., 1997).

²⁴⁶ *Id.* at 271.

²⁴⁷ Amazon’s off-shoring of drone research, development, and testing is a prime example of how this regulatory uncertainty impacts decisions to invest in future technologies in locations with onerous or fluctuating regulatory policies. (“While the FAA has been dragging its feet, Amazon has taken advantage of less strict drone regulations abroad. Prime Air development centers are located in the UK and Israel, and test flights have been conducted in Canada and India. If the FAA is too slow to relax US drone restrictions, Amazon will initially launch Prime Air internationally.”) Tasha Keeney, *Amazon Drones Could Deliver a Package in Under Thirty Minutes for One Dollar*, ARK INVEST, Dec. 1, 2015, <https://ark-invest.com/research/amazon-drone-delivery>.

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free movement.²⁴⁸ As internationalization progresses, such cross-border institutional arbitrage is becoming increasingly important.”²⁴⁹

The commercial unmanned aircraft system (UAS)—or drones as they are more commonly called—industry provides a perfect example of this phenomenon in practice. Amazon was so constrained by the Federal Aviation Administration (FAA), it opted to move much of its research and development, as well as operational testing, overseas to the United Kingdom and Canada.²⁵⁰ By the time the FAA finally approved its initial application for drone delivery services, the company was no longer operating the particular prototype for which it had originally applied for permission.²⁵¹ Similarly, researchers in Australia have also shown that reasonable tradeoffs resulting in less cumbersome regulations would also enable the drone industry to flourish and innovate.²⁵²

Other companies initially launched in the United States have also chosen to go abroad in order to develop their products and services without restrictive regulatory intervention.²⁵³ When the FDA ordered 23andMe to stop marketing its at-home genetic analysis kit in 2014,²⁵⁴ the company was greeted warmly by officials in the United Kingdom. The country’s Medicines and Healthcare Products Regulatory Agency said 23andMe’s test could be used there, albeit with some loose limits.²⁵⁵ While a more limited version in the United States was later agreed to, the ability to move to another regulatory scheme that was more supportive increased the leverage in future negotiations and the ability of the company to even engage in negotiations.

The threats and competition are not just between nations, either. Within the United States, innovation arbitrage is at work among state and local governments, pulling potentially lucrative emerging technology sectors—and the potential tax revenue and job creation they produce—

²⁴⁸ Ed Pilkington, *Amazon Tests Delivery Drones at Secret Canada Site after US Frustration*, THE GUARDIAN, Mar. 30, 2015, <https://www.theguardian.com/technology/2015/mar/30/amazon-tests-drones-secret-site-canada-us-faa>.

²⁴⁹ *Id.* at 102.

²⁵⁰ Ruth Reader, *Amazon Spurns Slow FAA, Reveals It’s Been Testing Drones Abroad*, VENTURE BEAT, Mar. 24, 2015 1:19 P.M., <https://venturebeat.com/2015/03/24/amazon-spurns-slow-faa-as-it-tests-drones-abroad/>.

²⁵¹ *Id.*

²⁵² Darcy Allen, *The Case for Cutting Red Tape on Drones*, INST. FOR PUB. AFFAIRS, Dec. 15, 2016, <https://www.ipa.org.au/publications-ipa/research-papers/case-for-cutting-red-tape-drones>.

²⁵³ Alan McQuinn, *Commercial Drone Companies Fly Away from FAA Regulations, Go Abroad*, INSIDE SOURCES, Sept. 30, 2014, <http://www.insidesources.com/commercial-drone-companies-fly-away-from-faa-regulations-go-abroad/>

²⁵⁴ Larry Downes & Paul Nunes, *Regulating 23andMe to Death Won’t Stop the New Age of Genetic Testing*, WIRED, Jan. 1, 2014, <http://www.wired.com/opinion/2014/01/the-fda-may-win-the-battle-this-holiday-season-but-23andme-will-win-the-war>.

²⁵⁵ Jessica Firger, *U.K. Approves Sales of 23andMe Genetic Test Banned in U.S.*, CBS NEWS, Dec. 3, 2014, <http://www.cbsnews.com/news/23-and-me-genetic-test-uk-approves-sale-banned-in-us>.

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away from less favorable regulatory environments.²⁵⁶ With the growth of autonomous vehicles, for example, states like Arizona,²⁵⁷ Florida,²⁵⁸ and Ohio²⁵⁹ have moved quickly to make it known that they would provide a more hospitable regulatory environment for autonomous cars and trucks than more restrictive states like California. As a result, more restrictive states have attempted to modify such regulations after the fact to re-attract innovators and technology.²⁶⁰

When discussing the implications of these trends, some scholars intermingle the themes of globalization, innovation arbitrage, and technological determinism to suggest that countries might not have any option but to adapt their policies or else face the prospect of being left behind in the race for global competitive advantage. As Braden Allenby has argued:

Cultures that attempt to block technology for reasons that appear desirable will, all things equal, eventually be dominated by those that embrace it. This obviously poses an unhappy dilemma: if a culture wishes to maintain dominance, must it develop all technologies where it is capable of so doing? If this is the case, does it imply that ethical judgments about technologies move over time to the lowest common denominator? There are no good answers to these questions, but they do indicate the likelihood that in a highly competitive global environment, where many cultures are jostling for position, technological evolution will be difficult, if not impossible, to stop.²⁶¹

This may be overstating the extent to which globalization and innovation arbitrage could cause a potential race to the regulatory bottom for governing emerging technologies. Nonetheless, for purposes of our inquiry here, it is enough to note that these trends will likely have an influence on the mix of methods government officials opt to use when considering technological governance. To the extent soft law tools and methods offer a way for governments to have at least *some* say over the future course of technology developments, they may be viewed as

²⁵⁶ *States Use Credits & Incentives to Attract Startups and Technology Companies*, DELOITTE, <https://www2.deloitte.com/us/en/pages/tax/articles/states-use-credits-and-incentives-to-attract-startups-and-technology-companies.html> (last visited Oct. 31, 2017).

²⁵⁷ Ryan Randazzo, *Arizona Getting Ahead of Autonomous Vehicle Industry by Stepping Aside*, AZ CENTRAL, Jun. 23, 2017 1:26 p.m., <http://www.azcentral.com/story/money/business/tech/2017/06/23/arizona-getting-ahead-autonomous-vehicle-industry-stepping-aside-waymo-uber-intel-chevy-bolt/405436001/>.

²⁵⁸ Arian Campo-Flores, *Cities Rush to Build Infrastructure—for Self-Driving Cars*, WALL ST. J., Nov. 9, 2017, <https://www.wsj.com/articles/cities-rush-to-build-infrastructurefor-self-driving-cars-1510236002>.

²⁵⁹ Ann Thompson, *ODOT Wants to Make Ohio Even More Appealing to Self-Driving Car Industry*, WOSU PUB. MEDIA, Mar. 13, 2017, <http://radio.wosu.org/post/odot-wants-make-ohio-even-more-appealing-self-driving-car-industry>.

²⁶⁰ See, e.g., Jonathan Shieber, *California DMV Changes Rules to Allow Testing and Use of Fully Autonomous Vehicles*, TECHCRUNCH, Oct. 11, 2017, <https://techcrunch.com/2017/10/11/california-dmv-changes-rules-to-allow-testing-and-use-of-fully-autonomous-vehicles/>.

²⁶¹ Braden Allenby, *The Dynamics of Emerging Technology Systems*, in INNOVATIVE GOVERNANCE MODELS FOR EMERGING TECHNOLOGIES 33 (Gary E. Marchant et al. eds., 2013).

preferable to hard law efforts that could result in the sort of problems Allenby and others identify.

G. Evasive Entrepreneurship & Spontaneous Private Deregulation

Innovation arbitrage might also be considered a form of “evasive entrepreneurship.” Evasive Entrepreneurship describes “entrepreneurial efforts aimed at avoiding the legal system”²⁶² and/or efforts aimed at minimizing “losses associated with the formal legal structure”²⁶³ “by using innovations to exploit contradictions in that framework.”²⁶⁴

Others have referred to such behavior as “technological civil disobedience.”²⁶⁵ “Civil disobedience,” the political theorist Hannah Arendt once argued,

Arises when a significant number of citizens have become convinced either that the normal channels of change no longer function, and grievances will not be heard or acted upon, or that, on the contrary, the government is about to change and has embarked upon and persists in modes of action whose legality and constitutionality are open to grave doubt.²⁶⁶

By extension, “technological civil disobedience” can be viewed as:

The refusal of innovators (individuals, groups, or even corporations) or consumers to obey technology-specific laws or regulations because they find them offensive, confusing, time-consuming, expensive, or perhaps just annoying and irrelevant.²⁶⁷

Similarly, Elizabeth Pollman and Jordan M. Barry have also documented the rise of “regulatory entrepreneurs,” or companies that “are in the business of trying to change or shape the law” and which are “strategically operating in a zone of questionable legality or breaking the law until they can (hopefully) change it.”²⁶⁸ These are firms that generally push “permissionless innovation” as

²⁶² David S. Lucas & Caleb S. Fuller, *Entrepreneurship: Productive, Unproductive, and Destructive—Relative to What?*, 7 J.OF BUS. VENTURING INSIGHTS 45, 48 (2017).

²⁶³ Christopher J. Coyne & Peter T. Leeson, *The Plight of Underdeveloped Countries*, 24 CATO J. 235, 244-45 (2004). (“Those who undertake productive activities must invest a large amount of resources to evade the unproductive activities of others. In many cases, evasion is the only way that productive opportunities can be made profitable. Because engaging in evasive activities involves a large amount of resources, the welfare implications of these efforts constitute a significant deadweight loss for society as a whole.”).

²⁶⁴ Elert & Henrekson, *supra* note 197 at 96.

²⁶⁵ Thierer, *supra* note 242.

²⁶⁶ Hannah Arendt, *CRISES OF THE REPUBLIC: LYING IN POLITICS, CIVIL DISOBEDIENCE, ON VIOLENCE, THOUGHTS ON POLITICS AND REVOLUTION* 74 (1972).

²⁶⁷ Thierer, *supra* note 242

²⁶⁸ Elizabeth Pollman & Jordan M. Barry, *Regulatory Entrepreneurship*, 90 SO. CAL. L .REV. 9, 15 (Forthcoming 2017), available at https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2741987.

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a policy prerogative in that they “follow the maxim that it is better to beg forgiveness than to ask for permission.”²⁶⁹

Today’s regulatory entrepreneurs also “seek to grow ‘too big to ban’ before regulators can act,” they note.²⁷⁰ “They make an issue as publicly salient as possible, rally the public to their cause, then use their popular support as leverage to win the change they want from resistant officials.”²⁷¹ One way regulatory entrepreneurs seek to do so is by mobilizing their user base to become citizen lobbyists on behalf of the company.²⁷² New devices and platforms are making it easier than ever for individuals and/or companies to not openly defy rules that limit their freedom to create or use modern technologies, but also to rally users around a political objective.

Uber, the ride-sharing company founded in 2009, is probably the most prominent example of a “regulatory entrepreneur” that has employed these tactics effectively and used “civil disobedience as a business model.”²⁷³ The firm has aggressively entered new local transportation markets across the globe without first seeking formal permission from most regulatory authorities. When regulators pushed back, the firm has tapped the power of its network of drivers and customers to lobby on its behalf.²⁷⁴

For example, Bradley Tusk, one of Uber’s political strategists in New York City, described their approach thusly: “We mobilized our customers, over 100,000 of them, either e-mailed or tweeted at City Hall or the city council.”²⁷⁵ In this way, Uber successfully used the “too big to ban” strategy to make it almost impossible for the city to completely shut down their service.²⁷⁶ Uber has been able to use this approach so frequently and effectively—both domestically and

²⁶⁹ *Id.* at 14. The popular Silicon Valley saying, “It’s easier to ask forgiveness than it is to get permission” is of uncertain origin but it is often attributed to Grace M. Hopper, a computer scientist who was a rear admiral in the United States Navy. See Diane Hamblen, *Only the Limits of Our Imagination: An Exclusive Interview with RADM Grace M. Hopper*, SHIPS AHOY, July 1986, available at http://web.archive.org/web/20090114165606/http://www.chips.navy.mil/archives/86_jul/interview.html.

²⁷⁰ Pollman & Barry, *supra* note 268 at 7.

²⁷¹ *Id.* at 4.

²⁷² *Id.* at 7 (“information technology continues to advance, making people more connected, generating large amounts of data about people’s preferences and activities, and making it easier for citizens to express their preferences to policymakers.”).

²⁷³ Rob Tracinski, *Civil Disobedience as a Business Model*, REAL CLEAR FUTURE, Apr. 12, 2017, http://www.realclearfuture.com/articles/2017/04/12/civil_disobedience_as_a_business_model_111952.html (“The fact that Uber violates local laws is no secret. That’s the company’s whole business model.”).

²⁷⁴ See Stephanie Metha, *Meet Uber’s Political Genius*, VANITY FAIR, June 17, 2016, <http://www.vanityfair.com/news/2016/06/bradley-tusk-fanduel-uber>.

²⁷⁵ *Id.*

²⁷⁶ Tracinski, *supra* note 273 (“Legal technicalities aside, Uber’s obvious strategy has been simply to flood city streets with its drivers and to keep regulators tied up in court long enough for urban riders to get used to having many more cars available at lower prices. The point is to offer a service people find so valuable that they question the very legitimacy of the laws that restrict it—and they form a political lobby sufficiently influential to override the entrenched interests of the taxi monopoly.”).

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increasingly globally—that some have come to call it “Travis’s Law,” after former Uber CEO Travis Kalanick.²⁷⁷

On the other hand, some decry Uber’s “reputation for lawlessness” and “toxic culture of rule breaking”²⁷⁸ and cite examples of the firm pushing the envelope too aggressively. More recently this has played out when cities such as Austin have “called their bluff” when Uber pulled out rather than comply with city ordinances only to find after a brief and dramatic exit the companies returns and complies.²⁷⁹ Nonetheless, Uber and other ride-sharing companies continue to put enormous pressure on traditional regulatory regimes across the world with a high rate of success

Comma.ai provides another case study in how an emerging technology innovator used the twin threats of engaging in global innovation arbitrage and technological civil disobedience to buck regulatory threats.²⁸⁰ Comma.ai is a start-up that designs a bolt-on solution to converting traditional human-operated vehicles into semi-autonomous vehicles. It was founded by hacker George Hotz, who as a teenager in 2007, gained notoriety for being the first to hack and unlock an iPhone.²⁸¹ Hotz and Comma.ai had hoped to use cheap camera and GPS technology and their own proprietary software to create a \$999 after-market kit called the “Comma One.”

However, in October 2016, regulators at NHTSA, the federal agency responsible for road safety and automobile regulation, notified Hotz that the agency was “concerned that your product would put the safety of your customers and other road users at risk. We strongly encourage you to delay selling or deploying your product on the public roadways unless and until you can ensure it is safe.”²⁸²

Hotz escalated the controversy by reposting the full letter online and responding angrily to it via Twitter, decrying the agency’s “threats” and the absence of an “attempt at a dialog (*sic*).”²⁸³ In

²⁷⁷ Brad Stone, *The \$99 Billion Idea*, BLOOMBERG BUSINESSWEEK, Jan. 26, 2017, <https://www.bloomberg.com/features/2017-uber-airbnb-99-billion-idea> (“Kalanick had broken every rule of advocacy. Nevertheless, Uber’s lawyers and lobbyists, who’d begged him, unsuccessfully, to seek compromise and testify with humility, began to whisper in reverent tones about a new political dictate that contravened all their old assumptions. Travis’s Law. It goes something like this: OUR PRODUCT IS SO SUPERIOR TO THE STATUS QUO THAT IF WE GIVE PEOPLE THE OPPORTUNITY TO SEE IT OR TRY IT, IN ANY PLACE IN THE WORLD WHERE GOVERNMENT HAS TO BE AT LEAST SOMEWHAT RESPONSIVE TO THE PEOPLE, THEY WILL DEMAND IT AND DEFEND ITS RIGHT TO EXIST.”).

²⁷⁸ Matthew Yglesias, *Uber’s Toxic Culture of Rule Breaking, Explained*, Vox, Mar. 21, 2017, <http://www.vox.com/new-money/2017/3/21/14980502/uber-toxic-culture-rule-breaking-explained>.

²⁷⁹ *Uber and Lyft Have Their Bluff Called in Austin*, THE ECONOMIST, May 17, 2016, <https://www.economist.com/blogs/gulliver/2016/05/game-texas-holdem>.

²⁸⁰ This case study adapted from: Thierer, *supra* note 242.

²⁸¹ Alex Heath, *Meet Geohot, the Guy Who Unlocked the First iPhone And Hacked the Sony PS3*, CULT OF MAC, Apr. 30, 2012, <http://www.cultofmac.com/164137/meet-geohot-guy-who-unlocked-the-first-iphone-and-hacked-the-sony-ps3>.

²⁸² National Highway Traffic Safety Administration, *Special Order Directed to Comma.ai*, Oct. 27, 2016, <https://www.scribd.com/document/329218929/2016-10-27-Special-Order-Directed-to-Comma-ai>.

²⁸³ https://twitter.com/comma_ai/status/791958356042719234.

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two additional tweets that followed, Hotz said he would “rather spend [his] life building amazing tech than dealing with regulators and lawyers”²⁸⁴ and would be cancelling the Comma One in the United States and that his firm would “be exploring other products and markets. Hello from Shenzhen, China.”²⁸⁵

Hotz’s threat to leave the United States and embrace a global innovation arbitrage response drew a great deal of media coverage,²⁸⁶ but the firm quickly abandoned that plan and instead announced that it would be open-sourcing its software and offering it freely to other developers.²⁸⁷ In this way, Hotz was engaging in a rather creative form of technological civil disobedience: making it harder for regulators to control the technology by removing himself and his firm as gatekeepers of it.

When these strategies are employed effectively, they can result in the “spontaneous private deregulation” of certain technologies and sectors, or the “*de facto* rather than the *de jure* elimination of traditional laws and regulations owing to a combination of rapid technological change as well the potential threat of innovation arbitrage and technological civil disobedience.”²⁸⁸ “Benign or otherwise, spontaneous deregulation is happening increasingly rapidly and in ever more industries,” noted Benjamin Edelman and Damien Geradin in a *Harvard Business Review* article on the phenomenon.²⁸⁹

Should such examples of “evasive entrepreneurship” and resulting “spontaneous private deregulation” be tolerated? The normative case in favor of it usually comes down to a desire to disrupt captured bureaucracies or inefficient regulatory regimes that have failed to serve the public interest.²⁹⁰ By taking on counter-productive regulations, Lucas and Fuller argue, “the

²⁸⁴ https://twitter.com/comma_ai/status/791958385348321284.

²⁸⁵ https://twitter.com/comma_ai/status/791958413345382400.

²⁸⁶ See Brad Templeton, *Comma.ai Cancels Comma-One Add-on Box After Threats From NHTSA*, ROBOHUB, Oct. 31, 2016, <http://robohub.org/comma-ai-cancels-comma-one-add-on-box-after-threats-from-nhtsa>; Sean O’Kane, *George Hotz Cancels His Self-Driving Car Project After NHTSA Expresses Concern*, THE VERGE, Oct. 28, 2016, <http://www.theverge.com/2016/10/28/13453344/comma-ai-self-driving-car-comma-one-kit-canceled>; Kyle Stock, *NHTSA Scared This Self-Driving Entrepreneur Off the Road*, BLOOMBERG TECH., Oct. 28, 2016, <https://www.bloomberg.com/news/articles/2016-10-28/nhtsa-scared-this-self-driving-entrepreneur-off-the-road>.

²⁸⁷ Megan Geuss, *After Mothballing Comma One, George Hotz Releases Free Autonomous Car Software*, ARS TECHNICA, Nov. 30, 2016, <http://arstechnica.com/cars/2016/11/after-mothballing-comma-one-george-hotz-releases-free-autonomous-car-software>.

²⁸⁸ Thierer, *supra* note 242.

²⁸⁹ Benjamin Edelman & Damien Geradin, *Spontaneous Deregulation*, HARV. BUS. REV., Apr. 2016, available at <https://hbr.org/2016/04/spontaneous-deregulation>.

²⁹⁰ Elert & Henrekson, *supra* note 198 at 106 (“destructive evasive entrepreneurship is entrepreneurship that circumvents institutions and results in activities that reduce social welfare. Productive evasive entrepreneurship, on the other hand, is entrepreneurship that circumvents institutions while increasing social welfare.”); see also Michael Farren, *Ending the Uber Wars: How to Solve a Special Interest Nightmare*, FISCAL TIMES, Aug. 11, 2015, <http://www.thefiscaltimes.com/2015/08/11/Ending-Uber-Wars-How-Solve-Special-Interest-Nightmare>.

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entrepreneur increases social value, expanding the range of choice available to consumers and enabling further exchange. The costs incurred to this end ... are all inputs into this productive activity.”²⁹¹ More generally, simply disrupting the status quo has a value to many. As Joi Ito has argued:

Society and institutions in general tend to lean toward order and away from chaos. In the process this stifles disobedience. It can also stifle creativity, flexibility, and productive change—and in the long run—society’s health and sustainability. This is true across the board, from academia, to corporations, to governments, to our communities.²⁹²

Toward that end, Ito helped create a \$250,000 “MIT Media Lab Disobedience award,” which was launched at the MIT Media Lab’s Forbidden Research symposium in July 2016 and funded by Internet entrepreneur and LinkedIn co-founder Reid Hoffman.²⁹³

To be sure, this disobedience—especially by innovators seeking to eventually make a profit—is controversial. Heated debates will continue to take place about where to draw the line between ethical versus unethical forms of technological civil disobedience.²⁹⁴ “The welfare effects of specific cases of evasive entrepreneurship can be more or less easy to evaluate, but the basic philosophy for doing so is easily understood,” note Niklas Elert and Magnus Henrekson. “However, welfare analysis is not the only standard for judging the effects of evasive entrepreneurship. Other moral and ethical considerations must also be reckoned with when evasive actions are judged.”²⁹⁵

The normative considerations surrounding evasive entrepreneurship are not the focus of this paper, however. Instead, our point here is that these trends constitute another factor complicating traditional hard law enforcement efforts and will likely fuel the continued movement toward soft law alternatives.²⁹⁶

²⁹¹ Lucas & Fuller, *supra* note 262 at 47.

²⁹² Joi Ito, *On Disobedience*, Mar. 21, 2016, <https://joi.ito.com/weblog/2016/03/21/on-disobedience.html>.

²⁹³ Jessica Sousa, *Rewarding Disobedience*, MIT MEDIA LAB, Mar. 7, 2017, <https://www.media.mit.edu/posts/disobedience-award>

²⁹⁴ Ito, *supra* note 291 (“There is a difficult line--sometimes obvious only in retrospect--between disobedience that helps society and disobedience that doesn't.”).

²⁹⁵ Elert & Henrekson, *supra* note 198 at 32.

²⁹⁶ *Id.* at 42 (“Their status quo serving nature mean that institutions tend to lag behind technology-driven innovation and entrepreneurship, and this problem is likely to become even more serious in the future. If this legal gap continues to grow, the prevalence of institutional contradictions is likely to increase, as will the potential—or even the need—for challenging existing, obsolescent institutions. Evasive entrepreneurship may increasingly become a necessary strategy for entrepreneurs who seek to test new ideas in highly dynamic markets and cannot afford to wait for regulatory green light.”).

H. Summary and Implications

To review, this section has argued that “regulatory disruption” or “the idea that novel technologies or business practices can disturb existing regulatory frameworks,”²⁹⁷ is a phenomenon that, while not new, is far more prevalent than it was in the past. That is equally true of the so-called “pacing problem,” which appears to be accelerating.²⁹⁸ Moreover, as firms increasingly consider innovation arbitrage opportunities or resort to forms of evasive entrepreneurialism, the potential for regulatory disruption and evasion is likely to accelerate. Finally, we have argued that these trends will significantly challenge anticipatory governance efforts and Precautionary Principle-oriented policymaking.

As Taylor Owen has concluded,

Put another way, the state is losing its status as the pre-eminent mechanism for collective action. Where it used to be that the state had a virtual monopoly on the ability to shape the behavior of large numbers of people, this is no longer the case. Enabled by digital technology, disruptive innovators are now able to influence the behavior of large numbers of people without many of the societal constraints that have developed around state action.²⁹⁹

With these insights in mind, we turn to the situation on the ground in the United States as it pertains to the governance of some specific emerging technologies.

IV. SOFT LAW FOR EMERGING TECH

As noted above, emerging technologies pose a formidable challenge for regulators operating in the context of the digital age. Where previously the state commanded a position of absolute authority over the promulgation of regulations, “the emergence of new and uncertain technologies [. . .] has led to an increasing demand for adaptive regulation that is periodically revised to ensure that it updates its content to incorporate the latest available knowledge.”³⁰⁰ This new reality has necessitated the development of more flexible and decentralized governance approaches through which matters of public policy reach a wider audience and hold out the hope of achieving rough consensus. As Aman aptly notes:

The need for increased bargaining on the part of the state to achieve goals that are realistically enforceable is indicative of a state that can no longer accomplish its objectives by direct command-and-control regulations.³⁰¹

As a result, the administrative state is now more a co-equal in crafting regulations for emerging technologies and innovations, and requires more consent from industry and civil society to

²⁹⁷ Cortez, *supra* note 93 at 182.

²⁹⁸ See generally, Collingridge, *supra* note 110.

²⁹⁹ Owen, *supra* note 230 at 9.

³⁰⁰ Roca et al., *supra* note 232 at 1215.

³⁰¹ Aman, *supra* note 245.

effectively regulate these new industries. Scholars often refer to the need for new forms of “governance ... that move beyond traditional command-and-control policymaking and enforcement to improve the effectiveness and legitimacy of regulation.”³⁰² Another common term for this is “co-regulation,” a form of governance driven by the “hope that active engagement with industry partners will make the resulting requirements more feasible and more widely accepted by regulated parties.”³⁰³ In this new governance space, soft law mechanisms are increasingly becoming the primary means by which federal agencies craft rules and regulations governing new emerging technologies.

This section will provide a more detailed exposition of how federal regulatory agencies and other government bodies are currently using a variety of soft law mechanisms to address concerns surrounding emerging technologies and sectors. By identifying the commonalities between these soft law processes and how organizational cultures are increasingly reliant on their use, we can start to develop a broader framework to map out and detail this new emerging regulatory landscape. In particular, we examine “who” are the co-equal stakeholders in regulatory proceedings, “where” the forums for engagement and action are, “how” the system works in practice, and “when” the time is ripe for engagement and promulgation of new governance activities.

A. Classifying the Regulatory Methodologies (the *Who* and *Where*) of the New Soft Law System

This section begins attempting to craft a rough taxonomy of the many different types of soft law. This is not an exact science. The lines are quite murky between the concepts and methods described here. Just as new emerging technologies often straddle categories, new governance mechanisms often blend together as well.

To simplify matters, we can use the same general categories outlined in Section II.B to classify the soft law mechanisms governing emerging technologies, and clarify the processes from which they emerge.

1. “Soft Criteria”

The criteria that steer decisions by policymakers overseeing the development of emerging technologies goes by many names. Whether informal guidance, standards, best practices, or codes of conduct, it suffices to consider these informal regulatory mechanisms under the broad banner of what we previously called “soft criteria.” Though each subset of this category, as previously discussed, intimates slightly different distinctions, these criteria can have a significant impact on whether or how a new technology is “regulated,” in a loose sense of the term. Some criteria begin with industry-led efforts to craft self-regulatory regimes, while others are established through a multistakeholder-driven process, which will be discussed in the next section.

³⁰² McGeeveran, *supra* note 241 at 979-980.

³⁰³ *Id.* at 980.

Some modern examples of these soft criteria include:

- NHTSA **policy guidance** on autonomous vehicles³⁰⁴ and **proactive principles** for improving motor vehicle cybersecurity.³⁰⁵
- NTIA privacy **best practice recommendations** for commercial facial recognition use;³⁰⁶
- Office of Science and Technology Policy (OSTP) **white papers** and **reports** on big data and artificial intelligence;³⁰⁷

³⁰⁴2016 NHTSA AV Guidance, *supra* note 233 (The Vehicle Performance Guidance for Automated Vehicles (or “Guidance”) section outlines best practices for the safe pre-deployment design, development and testing of HAVs prior to commercial sale or operation on public roads. The Model State Policy confirms that States retain their traditional responsibilities for vehicle licensing and registration, traffic laws and enforcement, and motor vehicle insurance and liability regimes. The shared objective is to ensure the establishment of a consistent national framework rather than a patchwork of incompatible laws. This section identifies potential new tools, authorities and regulatory structures that could aid the safe and appropriately expeditious deployment of new technologies by enabling the Agency to be more nimble and flexible.).

³⁰⁵ NAT’L HIGHWAY TRAFFIC SAFETY ADMIN., *Cybersecurity Best Practices for Modern Vehicles*, REP. NO. DOT HS 812 333 (October 2016), *available at* https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/812333_cybersecurityformodernvehicles.pdf. These cybersecurity best practices came fresh on the heels of a January 2016 agreement NHTSA struck with 18 automakers in January 2016 to adopt “proactive safety principles.” The objective of Section 4 of that agreement was to “enhance automotive cybersecurity,” and encouraged the auto industry to “explore and employ ways to work collaboratively in order to mitigate cyber threats that could present unreasonable safety risks.” U.S. DEPT. OF TRANSP., *Proactive Safety Principles*, Jan. 15, 2016, *available at* www.transportation.gov/briefing-room/proactive-safety-principles-2016.

³⁰⁶ NAT’L TELECOMM. & INFO. ADMIN., *Privacy Best Practice Recommendations for Commercial Facial Recognition Use*, https://www.ntia.doc.gov/files/ntia/publications/privacy_best_practices_recommendations_for_commercial_use_of_facial_recognition.pdf (last visited Jan. 5, 2018) (Encouraging transparency, develop good data management practices, allow people to control the sharing of their data, use security safeguards, ensure data quality, allow problem resolution and redress.).

³⁰⁷ EXEC. OFFICE OF THE PRESIDENT, *Preparing for the Future of Artificial Intelligence* (Oct. 2016), *available at* https://obamawhitehouse.archives.gov/sites/default/files/whitehouse_files/microsites/ostp/NSTC/preparing_for_the_future_of_ai.pdf (Making 23 recommendations including, but not limited to, encouraging agencies to prioritize open data standards, exploring ways for agencies to apply AI to their missions, and working with industry to expand sharing of data for safety and other purposes.); EXEC. OFFICE OF THE PRESIDENT, *Big Data: A Report on Algorithmic Systems, Opportunity, and Civil Rights* (May 2016), *available at* https://obamawhitehouse.archives.gov/sites/default/files/microsites/ostp/2016_0504_data_discrimination.pdf (Looking to the future of big data it will be important to: 1) support research 2) encourage market participants to design algorithmic systems that include transparency and accountability mechanisms 3) broaden participation in computer science and data science 4) consider the roles of government and the private sector in setting the rules of the road for how data is used); EXEC. OFFICE OF THE PRESIDENT, *Big Data: Seizing Opportunities and Preserving Value* (May 2014), *available at* https://obamawhitehouse.archives.gov/sites/default/files/docs/big_data_privacy_report_may_1_2014.pdf. (“Broad Principles: 1. Preserving Privacy Values: Maintaining our privacy values by protecting personal information in the marketplace, both in the United States and through interoperable global privacy frameworks; 2. Educating Robustly and Responsibly: Recognizing schools—particularly K- 12—as an important sphere for using big data to enhance learning opportunities, while protecting personal data usage and building digital literacy and skills; 3. Big Data and Discrimination: Preventing new modes of discrimination that some uses of big data may enable; 4. Law Enforcement and Security: Ensuring big data’s responsible use in law

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- FDA **guidance for industry** on various best practices for conducting clinical trials,³⁰⁸ “medical” smart phone apps,³⁰⁹ and medical devices made through 3-D printing;³¹⁰
- FTC **staff reports** and **guidance documents** on the IoT;³¹¹ and
- FAA **advisory circulars** on small UAS.³¹²

There are also other examples that receive less attention. In its draft guidance on “Technical Considerations for Additive Manufactured Devices,” the FDA used the term “leapfrog guidance” (LFG) to describe early-stage thinking about emerging technologies:

enforcement, public safety, and national security; and 5. Data as a Public Resource: Harnessing data as a public resource, using it to improve the delivery of public services, and investing in research and technology that will further power the big data revolution.”).

³⁰⁸ U.S. FOOD & DRUG ADMIN., *Selected FDA GCP/Clinical Trial Guidance Documents*, Sep. 25, 2017, available at <https://www.fda.gov/ScienceResearch/SpecialTopics/RunningClinicalTrials/GuidancesInformationSheetsandNotices/ucm219433.htm>

³⁰⁹ U.S. FOOD & DRUG ADMIN., *Mobile Medical Applications: Guidance for Industry and Food and Drug Administration Staff*, Feb. 9, 2015, <https://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM263366.pdf>.

³¹⁰ U.S. FOOD & DRUG ADMIN., *Technical Considerations for Additive Manufactured Medical Devices: Guidance for Industry and Food and Drug Administration Staff*, Dec. 5, 2017, <https://www.fda.gov/downloads/MedicalDevices/DeviceRegulationandGuidance/GuidanceDocuments/UCM499809.pdf> [*hereinafter* *Technical Considerations*].

³¹¹ FED. TRADE COMM’N, *Internet of Things: Privacy and Security in a Connected World*, FTC STAFF REP. (Jan. 2015), available at <https://www.ftc.gov/system/files/documents/reports/federal-trade-commission-staff-report-november-2013-workshop-entitled-internet-things-privacy/150127iotrpt.pdf> (Summarizing the workshop and provides staff’s recommendations in this area. Section II of this report discusses how we define the “Internet of Things.” Section III describes some of the benefits and risks of the new technologies that are part of the IoT phenomenon. Section IV examines the application of existing privacy principles to these new technologies, and Section V addresses whether legislation would be appropriate in this area. Sections IV and V begin by discussing the views of written commenters and workshop speakers, and then set forth staff recommendations. These recommendations focus on the types of products and services consumers are likely to encounter today and in the foreseeable future.); FED. TRADE COMM’N, *Careful Connections: Building Security in the Internet of Things*, <https://www.ftc.gov/system/files/documents/plain-language/pdf0199-carefulconnections-buildingsecurityinternetofthings.pdf> (last visited Jan. 5, 2018) (Laying out several fundamental steps designers can use to protect connected devices. These steps include designing the product with authentication in mind, using encryption, limiting permissions, and protecting the interfaces between the device and other devices or services.).

³¹² FED. AVIATION ADMIN., U.S. DEPT. OF TRANSP., AC No. 107-2, SMALL UNMANNED AIRCRAFT SYSTEMS (SUAS) (JUN. 21, 2016), available at https://www.faa.gov/documentLibrary/media/Advisory_Circular/AC_107-2.pdf (providing guidance in the areas of airman (remote pilot) certification, aircraft registration and marking, aircraft airworthiness, and the operation of small Unmanned Aircraft Systems (sUAS) in the National Airspace System (NAS) to promote compliance with the requirements of Title 14 of the Code of Federal Regulations (14 CFR) Part 107, Small Unmanned Aircraft Systems. It does not provide, nor is it intended to provide, a legal interpretation of the regulations. Remote pilots are encouraged to use this information as best practice methods for developing operational programs scaled to specific small unmanned aircraft (UA), associated system equipment, and operations. Use of this AC is intended to assist the remote pilot in meeting the requirements of applicable 14 CFR regulations.).

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Leap frog guidances are intended to serve as a mechanism by which the Agency can share initial thoughts regarding emerging technologies that are likely to be of public health importance early in product development. This leap-frog guidance represents the Agency's initial thinking, and our recommendations may change as more information becomes available.³¹³

LFGs are less official than policy “green papers”—documents that establish government policy “thinking” on an issue that remains open to reinterpretation—and serve to avoid formalizing a particular policy approach.³¹⁴ The objective is to retain enough adaptability to changing circumstances that the agency can reassess and reorient its approaches in the future.³¹⁵ For example, although the original 2016 NHTSA guidance on autonomous vehicles recommended expanded regulatory authorities, it explicitly noted the agency’s intention to update the draft based on feedback and changing circumstances.³¹⁶ Indeed, in September 2017, NHTSA did just that, and the most recent draft reflects far more willingness to embrace a hands-off regulatory approach, repeatedly reiterating the need for industry to embrace “voluntary standards.”³¹⁷ It makes this perspective clear throughout the document, explicitly noting, for instance, that:

The Federal Government wants to ensure it does not impede progress with unnecessary or unintended barriers to innovation. Safety remains the number one priority for U.S. DOT and is the specific focus of NHTSA.³¹⁸

Such an about-face—and in so short a time—would have been difficult to imagine in previous eras. However, the need to embrace these types of soft criteria is necessary in an age of rapid technological change. The pace of that change requires that regulators adopt an approach that is at least as flexible and adaptable as the level of innovation embraced by those industries they are charged with regulating. Such criteria communicate nascent-stage thoughts, and are akin to the types of recommendations and guidance offered, for example, by federal advisory committees.³¹⁹

In addition to the many guidance documents that may be issued by a federal agency, federal advisory committees also contribute to an ever-growing body of recommendations for emerging technologies. Many of these committees meet on an annual or semi-annual basis, and provide

³¹³ *Technical Considerations*, *supra* note 310.

³¹⁴ *Policy Papers and Policy Analysis*, STANFORD LAW SCHOOL, <https://www-cdn.law.stanford.edu/wp-content/uploads/2015/04/Definitions-of-White-Papers-Briefing-Books-Memos-2.pdf> (last visited Nov. 29, 2017) [*hereinafter Policy Papers*].

³¹⁵ *Id.*

³¹⁶ 2016 NHTSA AV Guidance, *supra* note 233 at 8.

³¹⁷ 2017 NHTSA AV Guidance, *supra* note 237.

³¹⁸ *Id.* at 7

³¹⁹ *Policy Papers*, *supra* note 314.

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formal or informal recommendations to the agencies.³²⁰ In the case of emerging technologies, the Emerging Technology Research Advisory Committee (ETRAC) is of particular note.³²¹

ETRAC lives under the Department of Commerce’s Bureau of Industry and Security (BIS) and provides recommendations to the Department on the “issuance of regulations.”³²² Much of the Committee’s work revolves around analyzing the potential threats related to emerging technologies—specifically those technologies that may qualify under dual-use export restrictions (technologies that could be used for both commercial and military purposes).³²³ Perennial reevaluation of technologies is a key component of the Committee’s work, given the ongoing and often rapid change associated with technologies like optical imaging satellites.³²⁴

However, ETRAC doesn’t actually set the threshold standard for what constitutes worthwhile restrictions. They merely advise BIS on when the Department of Commerce should start looking at evaluating a particular technology for export control restrictions, and assessing the point at which an “emerging” technology becomes an “emergent” technology.³²⁵ As one member of the Committee put it during a recent meeting, such evaluations are “a dialogue, not a metric.”³²⁶ However, whereas portions of every ETRAC meeting involve close-door discussions,³²⁷ the types of discussions surrounding when and how to regulate emerging technologies reflect a similar approach used by other federal agencies: the multistakeholder process.

2. Multistakeholder Efforts

The multistakeholder process is arguably at the core of the regulatory process surrounding emerging technologies. Such processes sometimes begin with calls from individual agencies attempting to get ahead of emerging technology issues.³²⁸ Other times, like in NTIA’s

³²⁰ *When is the Federal Advisory Committee Act (FACA) Applicable?*, U.S. GEN. SERV. ADMIN., Aug. 13, 2017, <https://www.gsa.gov/policy-regulations/policy/federal-advisory-committee-management/advice-and-guidance/when-is-federal-advisory-committee-act-faca-applicable>.

³²¹ See Emerging Technology Research Advisory Committee, Charter, Section 3(e), <https://tac.bis.doc.gov/index.php/documents/pdfs/279-etrac-charter/file>.

³²² See *id.*

³²³ See *id.*

³²⁴ Joshua Hampson, *National Security Needs Robust Commercial Space*, NISKANEN CENTER, June 21, 2017, <https://niskanencenter.org/blog/national-security-needs-robust-commercial-space/>.

³²⁵ Ryan Hagemann, Remarks and Discussion at the Meeting of the Emerging Technology and Research Advisory Committee (Mar. 23, 2017).

³²⁶ *Id.*; see also Ryan Hagemann & Joshua Hampson, *Comments Submitted to the Bureau of Industry and Security in the Matter of: Emerging Technology and Research Advisory Committee Meeting*, submitted Mar. 14, 2017, available at https://niskanencenter.org/wp-content/uploads/2017/03/NiskanenCenter_CommentsETRACMeetingBIS.pdf.

³²⁷ Emerging Technology and Research Advisory Committee (ETRAC); Notice of Recruitment of Private Sector Members, 79 Fed. Reg. 39,367 (July 10, 2014).

³²⁸ For example, following a request for comment on the threats posed by the emerging IoT, in 2016 the Department of Commerce and NTIA convened the first meeting of an ongoing multistakeholder process to address the “need for a secure lifecycle approach to IoT devices.” *Multistakeholder Process; Internet of Things*

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multistakeholder process on the privacy implications of UASs, the proceedings are foisted upon the agency through an executive action.³²⁹ These processes have become more commonplace throughout the administrative state and are not limited to emerging technologies.³³⁰ Still, the use and identification becomes more important in new technologies where regulators may lack expertise.

Multistakeholder approaches have been the cornerstone of America’s digital economy policy efforts for two decades.³³¹ In July 1997, the Clinton Administration released *The Framework for Global Electronic Commerce*, a statement of the Administration’s principles and policy objectives toward the Internet.³³² Generally speaking, the *Framework* recommended reliance upon civil society, contractual negotiations, voluntary agreements, and ongoing marketplace experiments to solve information age problems.³³³

Specifically, the *Framework* said that “the private sector should lead [and] the Internet should develop as a market driven arena, not a regulated industry.”³³⁴ It also significantly constrained the role of federal agencies by arguing, “Governments should encourage industry self-regulation and private sector leadership where possible” and “avoid undue restrictions on electronic commerce.”³³⁵ The document added “parties should be able to enter into legitimate agreements to buy and sell products and services across the Internet with minimal government involvement or intervention.”³³⁶ “Where governmental involvement is needed,” it continued, “its aim should

(IoT) Security Upgradability and Patching, NAT’L TELECOMM. & INFO. ADMIN., <https://www.ntia.doc.gov/other-publication/2016/multistakeholder-process-iot-security> (last visited Jan. 5, 2018).

³²⁹ The NTIA multistakeholder process for addressing privacy, transparency, and accountability issues with respect to commercial UASs was initiated by a Presidential Memorandum issued by President Obama in February 2015. *Presidential Memorandum: Promoting Economic Competitiveness While Safeguarding Privacy, Civil Rights, and Civil Liberties in Domestic Use of Unmanned Aircraft Systems*, THE WHITE HOUSE: OFFICE OF THE PRESS SECRETARY, Feb. 15, 2015, <https://obamawhitehouse.archives.gov/the-press-office/2015/02/15/presidential-memorandum-promoting-economic-competitiveness-while-safegua> [*hereinafter* Presidential Memorandum].

³³⁰ Indeed, multistakeholder processes are not even limited to the United States. At an international level, multistakeholder partnerships have even begun taking root within the United Nations, and are perceived by some “as the future of international cooperation, moving beyond traditional nation-state multilateralism.” Jens Martens, *Multistakeholder Partnerships – Future Models of Multistakeholderism* 4 (Friedrich Ebert Stiftung, Occasional Papers No. 29, Jan. 2007), available at <http://library.fes.de/pdf-files/iez/04244.pdf>.

³³¹ White House, *The Framework for Global Electronic Commerce* (July 1997), <http://clinton4.nara.gov/WH/New/Commerce> [*hereinafter* Clinton Framework].

³³² *Id.*

³³³ Adam Thierer, *15 Years On, President Clinton’s 5 Principles for Internet Policy Remain the Perfect Paradigm*, FORBES, Feb. 12, 2012, <http://www.forbes.com/sites/adamthierer/2012/02/12/15-years-on-president-clintons-5-principles-for-internet-policy-remain-the-perfect-paradigm>.

³³⁴ Clinton Framework, *supra* note 331.

³³⁵ *Id.*

³³⁶ *Id.*

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be to support and enforce a predictable, minimalist, consistent and simple legal environment for commerce.”³³⁷

These multistakeholder principles guided the Clinton Administration’s work in transitioning Internet governance and policymaking efforts from the National Science Foundation to NTIA and the Internet Corporation of Assigned Names and Numbers (ICANN).³³⁸ More importantly, the approach and principles embodied by the *Framework* became the foundation of many future government efforts to create policy consensus through multistakeholder efforts.³³⁹

For example, in 2003, the Bush Administration released its National Strategy to Secure Cyberspace, which “was developed in close collaboration with key sectors of the economy that rely on cyberspace, state and local governments, colleges and universities, and concerned organizations.”³⁴⁰ The document repeatedly stressed that “private sector and government must work together through a voluntary, collaborative process to protect the nation’s connected infrastructure”³⁴¹ and laid the groundwork for subsequent public-private multistakeholder efforts related to cybersecurity.³⁴²

More recently, in January 2017, the Department of Commerce Internet Policy Task Force & Digital Economy Leadership Team issued a green paper on “Fostering the Advancement of the Internet of Things,” which also built on, and explicitly reaffirmed, the Clinton Administration’s *Framework*.³⁴³ The IoT report cited the importance of multistakeholder approaches almost 20 times in the document and noted that:

The U.S. Government, through numerous administrations, has a long record of promoting technology and innovation, and the Department expects to build on that foundation in our approach to the IoT environment. Dating back at least to the 1997 *Framework for Global Electronic Commerce*, the U.S. Government has been operating under the principle that the private sector should lead in digital

³³⁷ *Id.*

³³⁸ See *Statement of Policy, Management of Internet Names and Addresses*, 63 Fed. Reg. 31,741 (1998).

³³⁹ Joe Waz & Phil Weiser, *Internet Governance: The Role of Multistakeholder Organizations*, 10 J. OF TELECOMM. & HIGH TECH L. 331 (2012).

³⁴⁰ Executive Office of the President, *National Strategy to Secure Cyberspace* 53 (Feb. 2003), https://www.uscert.gov/sites/default/files/publications/cyberspace_strategy.pdf.

³⁴¹ NAT’L TELECOMM. & INFO. ADMIN., *Fostering the Advancement of the Internet of Things* 11 (Jan. 12, 2017), available at <https://www.ntia.doc.gov/other-publication/2017/green-paper-fostering-advancement-internet-things> [hereinafter *Fostering the Advancement*].

³⁴² *Multistakeholder Process: Internet of Things (IoT) Security Upgradability and Patching*, Sept. 11, 2017, <https://www.ntia.doc.gov/other-publication/2016/multistakeholder-process-iot-security>; *Multistakeholder Process: Cybersecurity Vulnerabilities*, NAT’L TELECOMM. & INFO. ADMIN., Dec. 15, 2016, <https://www.ntia.doc.gov/other-publication/2016/multistakeholder-process-cybersecurity-vulnerabilities>.

³⁴³ *Fostering the Advancement*, *supra* note 341 at 11; see also Ryan Hagemann, *Comments submitted to the National Telecommunications and Information Administration in the Matter of: Green Paper: Fostering the Advancement of the Internet of Things*, Docket No. 170105023-7023-01, submitted Feb. 8, 2017, available at https://www.ntia.doc.gov/files/ntia/publications/niskanencenter_commentsiotgreenpaperntia.pdf.

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technology advancement. Even where collective action is necessary, the U.S. Government has encouraged multistakeholder approaches and private sector coordination and leadership where possible. When governmental involvement is needed, it should support and enforce a predictable, minimalist, consistent, and simple legal environment for commerce.³⁴⁴

These principles have long served as general guidance for the government’s approach to regulating emerging technologies and continue to inform multistakeholder proceedings. The concrete deliverables that result from such efforts have included NTIA’s Voluntary Best Practices for UAS Privacy, Transparency, and Accountability³⁴⁵ and working group documents from the ongoing multistakeholder process addressing IoT security upgradability and patching of devices and systems.³⁴⁶

In both multistakeholder processes, the focus was on public meetings in which various interested parties—including industry, trade associations, civil society organizations and nonprofits, and representatives from NTIA—discussed their concerns associated with various governance approaches. The general sentiment of those involved was one of skepticism towards the ability of traditional command-and-control regulations to effectively govern these new technologies. Although some individuals and organization demurred from this perspective, they were, in both processes, a small minority.

For some participants, the stakes involved were high enough that they were able to assemble in force and repeatedly push against provisions they viewed as harmful to their interests. For example, in the UAS multistakeholder process, representatives from the Newspaper Association of America (NAA) and other organizations representing newsgatherers pushed repeatedly for provisions that would exempt their members from the consensus best practices.³⁴⁷ As a result of their efforts, and in order to acquire support for the final document, the stakeholders explicitly exempted “newsgatherers and news reporting organizations” from the voluntary provisions.³⁴⁸

The UAS multistakeholder process was, at times, contentious. This was most likely the result of its focus on privacy—a topic that can often elicit very strong emotional responses in the policy arena.³⁴⁹ By contrast, the multistakeholder process focused on IoT cybersecurity has been far less

³⁴⁴ *Id.*

³⁴⁵ *Voluntary Best Practices for UAS Privacy, Transparency, and Accountability*, CONSENSUS, STAKEHOLDER-DRAFTED BEST PRACTICES CREATED IN THE NTIA-CONVENED MULTISTAKEHOLDER PROCESS, May 18, 2016, https://www.ntia.doc.gov/files/ntia/publications/uas_privacy_best_practices_6-21-16.pdf [*hereinafter* Voluntary Best Practices].

³⁴⁶ Multistakeholder Process on Internet of Things Security Upgradability and Patching, 81 Fed. Reg. 64, 139 (Sept.19, 2016).

³⁴⁷ Tonda F. Rush, *FAA Proposes Drone Use Regulations*, NAT’L NEWSPAPERS ASS’N, Feb. 26, 2015, <http://www.nnaweb.org/article?articleId=1024>.

³⁴⁸ Voluntary Best Practices, *supra* note 345 at 7.

³⁴⁹ Daniel Castro & Alan McQuinn, *The Privacy Panic Cycle: A Guide to Public Fears About New Technologies*, INFO. TECH. & INNOVATION FOUNDATION, September 2015, <http://www2.itif.org/2015-privacy-panic.pdf>; *see also* Adam Thierer, *Ongoing Series: Moral Panics / Techno-Panics*, TECH. LIBERATION FRONT,

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antagonistic. Whereas the UAS-focused proceeding involved a single group discussion at every meeting, the IoT multistakeholder efforts are broken out into numerous separate working groups focused on distinct topics. The result has been a number of working draft documents that delve far deeper into the details of IoT cybersecurity than the equivalent UAS best practices document.³⁵⁰ These differences are most likely accounted for by the involvement of more technical experts and wider agreement on the appropriate responses to cybersecurity concerns. By contrast, privacy is a far more difficult and nebulous topic to address through technical expertise, which resulted in consensus-standards gravitating towards higher-level concepts.

In general, both of these processes embraced a democratic governance process. Like congressional debates, while these negotiations were public, there was political brinkmanship and strategic “horse trading” occurring behind the scenes. If the conversation became too heated or strayed from the intended purpose, a representative of NTIA arbitrated, but never attempted to dictate the terms of the discussion. In all, the experience closely mirrored a legislative process, but with the explicit understanding that the deliverables ultimately promulgated would be voluntary and non-binding.

Although these proceedings emphasized the voluntary nature of the ultimate products, it is important to note that even the most deferential self-regulatory regime is still fundamentally co-regulatory in nature. Industry will always be beholden to some public interest regulatory authority, like the FTC’s Section 5 powers to address unfair and deceptive practices.³⁵¹

Phil Weiser has documented how, beginning in the 2000s, the FCC created “a model of co-regulation, with a private sector collaborative body operating under its oversight” when it initially began looking into broadband network management and “net neutrality” matters.³⁵² He says “the concept of co-regulation involves industry self-policing through an independent and credible body subject to government accountability and oversight.”³⁵³ These attempts at self-regulation and co-regulatory governance can also manifest through third party validators.³⁵⁴

<https://techliberation.com/ongoing-series/ongoing-series-moral-panics-techno-panics/> (last visited Jan. 5, 2018); Ryan Hagemann, *The Parallel Fears Driving Perceptions of AI and Genomics*, NISKANEN CENTER, Aug. 30, 2017, <https://niskanencenter.org/blog/parallel-fears-driving-perceptions-ai-genomics>.

³⁵⁰ Hagemann contributed to the NTIA IoT Working Group on Incentives, Barriers, and Adoption, which addressed the issue of how stakeholders can “foster greater adoption of appropriate patching and updating practices” for IoT devices (available at <https://www.ntia.doc.gov/files/ntia/publications/iot-patching-incentive-sept12.pdf>). See also, NAT’L TELECOMM. & INFO. ADMIN., *Voluntary Framework for Enhancing Update Process Security*, Sept. 12, 2017, available at <https://www.ntia.doc.gov/files/ntia/publications/iot-patching-capabilities-sept12.pdf>; the NAT’L TELECOMM. & INFO. ADMIN., *IoT Security Standards Catalog*, Sept. 12, 2017, available at https://www.ntia.doc.gov/files/ntia/publications/iotsecuritystandardscatalog_draft_09.12.17.pdf.

³⁵¹ 15 U.S.C. § 45.

³⁵² Weiser, *supra* note 69 at 529.

³⁵³ *Id.* at 553.

³⁵⁴ See, e.g., *Vision for Trust*, ONLINE TRUST ALLIANCE, <https://otalliance.org/vision-trust> (last visited Jan. 5, 2018) (aiming to assemble advocates, industry, policymakers, and others in order to “develop best practices and facilitate knowledge sharing” on issues related to online security and IoT cybersecurity).

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The co-regulatory process has also been clearly observed in both the soft law and self-regulation of the autonomous vehicle industry. In early 2017, the Commission on Autonomous Vehicle Testing and Safety, a project of Securing America’s Future Energy (SAFE), released a report with various self-regulatory best practices “to address public policy and safety issues that have the potential to slow or halt deployment of autonomous vehicles.”³⁵⁵ The industry-led self-regulatory framework included recommendations aimed at recognizing the obstacles facing autonomous vehicle (AV) adoption, including the risks of lackluster public acceptance and overly burdensome regulations compounded by a “complex network of national, state, and local laws.”³⁵⁶ Importantly, the report noted that, “[a]s the party responsible for building the technology, industry is ultimately accountable for educating regulators and customers on the state of the technology, and the steps being taken to ensure it is deployed in a safe and responsible fashion.”³⁵⁷

Recognizing potential obstacles to the deployment of a new technology, firms may call for the creation of formal or informal consortiums that help to set early-stage standards, thereby preempting calls for more stringent regulatory rulemaking processes.³⁵⁸ This may potentially also set the stage—intentionally or unintentionally—for a multistakeholder process.

Of course, self-regulatory efforts are not confined to consortiums or nascent standards development. Guidelines and best practices may also emerge from industry and professional societies. As Marchant and Allenby note:

Another example of a soft-law instrument comes in the form of guidelines produced by professional societies. For example, the International Society of Stem Cell Research has produced guidelines on stem cell research that restrict certain types of research and provide ethical safeguards for other types of research. Although not directly enforceable, these guidelines set professional expectations for stem cell researchers, and can be indirectly enforced by research institutions, funding agencies, and scientific journals requiring scientists to comply.³⁵⁹

³⁵⁵ 2017 NHTSA AV Guidance, *supra* note 237.

³⁵⁶ *Id.* at 8-9.

³⁵⁷ *Id.* at 9.

³⁵⁸ See, e.g., *Introduction from the Founding Co-Chairs*, PARTNERSHIP ON AI TO BENEFIT PEOPLE AND SOCIETY, <https://www.partnershiponai.org/introduction/> (last visited Jan. 5, 2018)(stating was founded in 2016, ostensibly to “invest more attention and effort on harnessing AI to contribute to solutions for some of humanity’s most challenging problems.”). However, its emergence came following a comprehensive White House report examining emerging and potential concerns associated with AI, suggesting that industry recognizes the need to engage proactively on issues in order to head off potentially onerous legislative proposals or regulations before momentum can materialize. Interestingly, the Partnership is structured much in the same way that a future AI multistakeholder process might be constructed: “Crucially, the Partnership on AI has been explicitly designed to bring together researchers, academics, businesses, policy makers, and all with an interest in this endeavor, in a structure that ensures balanced governance by diverse stakeholders.”

³⁵⁹ Marchant & Allenby, *supra* note 1 at 112-3.

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In other contexts, self-regulatory efforts will build on or better formalize the “privacy-by-design,” “safety-by-design,” and “security-by-design” efforts for technologies like the IoT and AVs that are already underway throughout the private sector.³⁶⁰

“Privacy by design,” for example, refers to efforts to “embed privacy into the architecture of technologies and practices” for organizations.³⁶¹ Various trade associations have already worked with others (including government agencies) to formulate privacy and security “by design” best practices for online advertising,³⁶² connected cars,³⁶³ and personal wellness devices.³⁶⁴ Over the past two decades, many of these online safety best practices and codes of conduct have been implemented by various third party validators and industry groups.³⁶⁵ In addition, a number of organizations and consortiums have cropped up to serve as independent standards-creation bodies that help hold firms accountable to these types of design standards and best practices.

One example is the Online Trust Alliance (OTA), which recently released the second version of its IoT Trust Framework, aimed at establishing standards for privacy and security on IoT devices.³⁶⁶ Another is the “Voluntary Principles for Energy Efficient Connected Devices” from the Connected Devices Alliance’s (CDA), an initiative from the Group of 20 (an international forum for governments from the world’s 20 largest economies), which provides guidance to designers, manufacturers, and policymakers to drive for continual improvement in the energy efficiency of connected devices.³⁶⁷ In recent years, the number of third party organizations dedicated to setting standards and best practice in the emerging technologies space has blossomed, and will likely continue cropping up to serve the expectations of the regulatory environment.³⁶⁸

³⁶⁰ Ira S. Rubinstein, *Regulating Privacy by Design*, 26 BERKELEY TECH.L. J., 1409 (2011); Peter Schaar, *Privacy by Design*, 3 IDENTITY IN THE INFO. SOC’Y, 267 (2010).

³⁶¹ Ann Cavoukian, *2011: The Decade of Privacy by Design Starts Now*, ITBUSINESS, Jan. 15, 2011, <http://blogs.itbusiness.ca/2011/01/2011-the-decade-of-privacy-by-design-starts-now>.

³⁶² *Self-Regulatory Principles*, DIGITAL ADVERTISING ALLIANCE, <http://www.aboutads.info/principles> (last accessed Nov. 30, 2017).

³⁶³ *Consumer Privacy Protection Principles: Privacy Principles for Vehicle Technologies and Services*, ALLIANCE OF AUTO. MFRS, INC., & ASS’N OF GLOBAL AUTOMAKERS, INC., Nov. 12, 2014, <http://www.autoalliance.org/?objectid=865F3AC0-68FD-11E4-866D000C296BA163>.

³⁶⁴ *Association Unveils First-of-Its-Kind, Industry Supported Principles on Wellness Data Privacy*, CONSUMER TECH. ASS’N, Oct. 26, 2015, <https://www.cta.tech/News/News-Releases/Press-Releases/2015-Press-Releases/Association-Unveils-First-of-Its-Kind,-Industry-Su.aspx>.

³⁶⁵ Adam Thierer, *Parental Controls & Online Child Protection: A Survey of Tools and Methods* PROGRESS & FREEDOM FOUND., Summer 2009, <http://www.pff.org/parentalcontrols>.

³⁶⁶ *OTA Calls IoT Cyberattacks “Shot Across the Bow,”* ONLINE TRUST ALLIANCE, Jan. 5, 2017, <https://otalliance.org/news-events/press-releases/ota-calls-iot-cyberattacks-%E2%80%9Cshot-across-bow%E2%80%9D>.

³⁶⁷ *CTA Applauds Connected Devices Alliance’s Voluntary Principles for Energy Efficiency*, CONSUMER TECH. ASS’N, Mar. 21, 2017, <https://www.cta.tech/News/Press-Releases/2017/March/CTA-Applauds-Connected-Devices-Alliance%E2%80%99s-Voluntar.aspx>.

³⁶⁸ Although the growth and proliferation of such bodies is difficult to reduce to a single number, it has been noted that since the late 1980s, standards-setting organizations not traditionally considered part of the “Big Is”—the

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In addition to the IoT and AV related actions, in June 2016, NTIA issued “Privacy Best Practice Recommendations for Commercial Facial Recognition Use.”³⁶⁹ A multistakeholder group came up with best practices that included transparency requirements, good data management practices, limitations on data use, security safeguards, and redress methods when problems develop.³⁷⁰ The report noted that these best practices were “intended to provide a flexible and evolving approach to the use of facial recognition technology, designed to keep pace with the dynamic marketplace surrounding these technologies.”³⁷¹ Like other best practices developed through the multistakeholder process, the recommendations did not create a binding rule; rather, the facial recognition best practices were “left to implementers and operators to determine the most appropriate way to implement each of these privacy guidelines.”³⁷²

Such recommendations are an increasingly common output of multistakeholder processes. Regulators have begun to understand that the technological pacing problem has significantly constrained their ability to regulate new digital technologies, and are increasingly reliant on the expertise housed in private firms to execute on best practices and standards. Privacy and safety professionals within immersive technology companies will need to work with others to devise their own best practices for their devices and applications as they raise privacy, safety, or security flags.³⁷³

Whatever the particular costs and benefits of the multistakeholder process (addressed more directly in Section V), it remains a central nexus around which the soft criteria for addressing emerging technologies are assessed. As Hagemann has previously noted in other work, “multistakeholderism has become, and will likely continue to be, an important component of the regulatory rulemaking process for emerging technologies.”³⁷⁴ However, this process can and should be improved. “Ensuring consistent processes, transparency, and clear and accelerated

International Organization for Standardization (ISO), International Electrotechnical Commission (IEC), or International Telecommunications Union (ITU)—have risen to accommodate the unique needs of new emerging ICT sectors. (“By the end of the [1980s], a dramatic shift in the center of effort had begun with the launch of a trickle, and then an increasing flood, of new organizations that were neither governmental in membership, accredited in process, nor anticipating eventual endorsement by and of the Big Is of their output.”) Andrew Updegrave, *Standards, Cycles and Evolution: Learning From the Past in a New Era of Change*, CONSORTIUM STANDARDS BULL., Vol. IV, No. 5, May 2005, available at <http://www.consortiuminfo.org/bulletins/may05.php#feature>.

³⁶⁹ *Privacy Best Practice Recommendations for Commercial Facial Recognition Use*, *supra* note 306.

³⁷⁰ *Id.*

³⁷¹ *Id.* at 1.

³⁷² *Id.*

³⁷³ *See* Thierer & Camp, *supra* note 145.

³⁷⁴ Ryan Hagemann, *New Rules for New Frontiers: A Regulatory Manifesto for Emerging Technologies*, NISKANEN CENTER, Jan. 30, 2016, <https://niskanencenter.org/blog/new-rules-new-frontiers-regulatory-manifesto-emerging-technologies/>.

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timelines for such engagements ... will be key to ensuring that innovation isn't hamstrung by unnecessarily complicated and lengthy bureaucratic timetables.”³⁷⁵

Despite some drawbacks, the multistakeholder process has been relatively successful at avoiding the worst of precautionary regulation. Part of the reason for that is the inclusive, collaborative, and consensus-based nature of multistakeholderism. As Julie Cohen has written: “Collaborative (or co-regulatory) proceedings typically culminate in consensus best-practice standards intended to guide both compliance and enforcement, and may rely significantly on self-regulation or private enforcement.”³⁷⁶ Those “consensus best-practice standards,” because they are predicated on an inclusive dialogue, result in a diminished likelihood that advocacy organizations opposed to any particular technology entering the market sans regulatory oversight will be forcefully opposed to them down the road. Inclusion in the multistakeholder process can effectively neuter otherwise vociferous opponents by giving them an equal voice in a forum aimed at achieving ideal outcomes for all parties involved.³⁷⁷

While multistakeholder efforts are aimed at achieving broad consensus on a set of best practices or voluntary standards, other soft law mechanisms are more narrowly tailored toward individual firms seeking *ex ante* approval for operational deployment or testing of a new technology. While consulting with regulatory agencies can sometimes yield innovation-friendly outcomes, other times the use of such pipelines result in implicit, but informal, suggestions from regulators. The next section discusses these and other soft law alternatives to multistakeholderism.

3. Consultations, Jawboning & Agency Threats

Prior to convening multistakeholder processes or more official interactions with innovators, agencies may engage in an informal process of quasi-regulation through sandboxing, jawboning, or other agency threats. Sandboxing refers to an invitation to discuss potential regulatory actions before an innovator or business engages in certain behaviors.³⁷⁸ The discussion and setting is more informal and off the record than requesting a formal advisory opinion that would be requested from an agency.

Sandboxing is becoming more prevalent in the field of financial regulation. Such processes can range in formality but typically involve a meeting between a disruptive technology provider in the regulated area and regulators to discuss either how to promote the new innovation or perhaps deal with concerns associated with it. Some industries and regulators have wholeheartedly embraced this approach. Arizona attorney general Mark Brnovich recently proposed a state-level sandboxing experiment, noting:

³⁷⁵ *Id.*

³⁷⁶ Cohen, *supra* note 188 at 399.

³⁷⁷ Again, recall the example of the NAA's involvement in the UAS privacy best practices multistakeholder process. Had NAA not been able to push the other stakeholders towards exempting it from the final document, the organization likely would have been publicly critical of the end result, to say nothing of the diminished power of the best practices, which would have lacked support from a key element of civil society.

³⁷⁸ See Ivo Jenik & Kate Lauer, *Regulatory Sandboxes and Financial Inclusion 1* (CONSULTATIVE GROUP TO ASSIST THE POOR, Working Paper, Oct.2017), available at <http://www.cgap.org/blog/regulatory-sandboxes-potential-financial-inclusion>

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Countries already encouraging fintech investment by instituting sandboxes include the United Kingdom, Singapore and Australia, and the results so far are promising.

...

To become a sandbox company in Arizona, an applicant would describe the product, including how it benefits consumers, and propose a reasonable plan to any customer impacts if the product were to fail. Such contingency plans would vary depending on the product, but could include record-keeping for unwinding transactions, for instance. The sandbox term would be 12 months with possible extensions. Companies that successfully test a product or service could remain in the sandbox — and continue to offer the new product or service to consumers — while seeking full licensure. We anticipate this sandbox would reduce the regulatory barriers preventing companies from testing their products in the United States.³⁷⁹

Of course it’s not always the regulators who initiate these conversations. William McGeeveran describes how tech companies often engage privacy regulators in a process of “regulatory friending.”³⁸⁰ This generally refers to efforts to work in a more collaborative fashion with policymakers and engage in constructive dialogue to achieve policy objectives without resorting to hard law solutions. For example, examining a case study of how privacy regulators in the United States and Ireland investigated Facebook’s privacy practices in 2011, he found that policymakers on both sides of the Atlantic utilized “responsive regulation,”³⁸¹ which “emphasizes less adversarial techniques and considers formal enforcement actions more of a last resort.”³⁸² He argues that this is an effective way to address many privacy-related concerns and “help regulators to encourage companies to improve their practices continually, retain the flexibility to deal with changing technology, and discharge their oversight duties cost-effectively.”³⁸³

Of course, these processes could become more problematic when agency officials engage in “jawboning” strategies or other types of highly informal “agency threats.”³⁸⁴ Under these circumstances, agencies do not issue restrictive rules, but rather off-the-record suggestions of behavior under threat of more formal or informal regulation. These tactics are not new. As noted earlier, for many decades the FCC effectively used LOIs and other public and private jawboning tactics to engage in “regulation by raised eyebrow.”³⁸⁵ These were subtle but clear warnings to encourage radio and television programmers to modify content so that the agency did not need

³⁷⁹ Mark Brnovich, *Regulatory Sandboxes Can Help States Advance Fintech*, AM. BANKER, Sept.5, 2017, <https://www.americanbanker.com/opinion/regulatory-sandboxes-can-help-states-advance-fintech>.

³⁸⁰ McGeeveran, *supra* note 241.

³⁸¹ Ayres & Braithwaite, *supra* note 73.

³⁸² McGeeveran, *supra* note 241 at 959.

³⁸³ *Id.* at 1025.

³⁸⁴ Derek E. Bambauer, *Against Jawboning*, 100 MINN. L. REV. 51, 128 (2015).

³⁸⁵ *See, e.g.*, David L. Bazelon, *FCC Regulation of the Telecommunications Press*, 1975 DUKE L.J. 213, 216-18 (1975).

to pursue direct censorship strategies, which would have been far more likely to be litigated and struck down under the First Amendment.³⁸⁶

Threats are still a feature of tech policymaking today. “Jawboning of Internet intermediaries is increasingly common,” notes Derek E. Bambauer, “and it operates beneath the notice of both courts and commentators.”³⁸⁷ And former Mercatus scholar Jerry Brito has likewise documented the continued use of threats by various agencies “to avoid executive regulatory review and other accountability measures that ostensibly slow the regulatory process.”³⁸⁸ Needless to say, that is not a good excuse for such heavy-handed behavior. Others refer to the potential benefit of these tactics in “maintaining the well-oiled ‘shotgun behind the door’ as an incentive for companies to comply.”³⁸⁹ While these tactics will likely always be a feature of modern regulatory processes, their use can upset the collaborative efforts and undermine trust, credibility, and accountability within soft law systems. Section V will discuss such concerns in more detail.

B. Modeling the Pathways to Regulation (the *How* and *When*)

As Alfred Kahn once noted, the “central, continuing responsibility of legislatures and regulatory commissions ... [is] finding the best possible mix of inevitably imperfect regulation and inevitably imperfect competition.”³⁹⁰ The current soft law regulatory ecosystem encapsulates that sentiment. How it does so, however, can be an understandably unwieldy process to imagine. To that end, Figure 1 attempts to apply the multistakeholder soft law taxonomy developed *supra* in a more visually digestible format.

³⁸⁶ See John Greenya, *Can They Say That on the Air? The FCC and Indecency*, WASH. LAWYER (2005), available at <http://www.dcbbar.org/bar-resources/publications/washington-lawyer/articles/november-2005-indecency.cfm>.

³⁸⁷ Bambauer, *supra* note 384 at 128.

³⁸⁸ Brito, *supra* note 97 at 553.

³⁸⁹ *Id.*

³⁹⁰ Alfred Kahn, *THE ECONOMICS OF REGULATION: PRINCIPLES AND INSTITUTIONS* 114 (1988).

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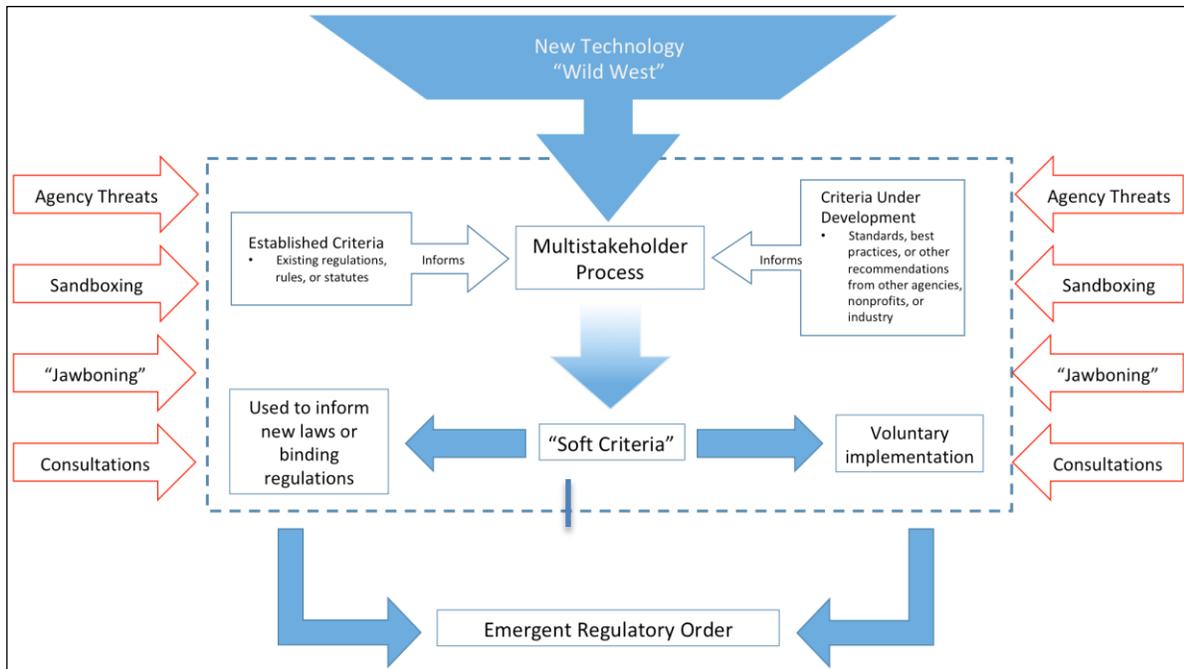


Figure 1: This flowchart describes the various pathways by which a new technology can become “regulated” in a multistakeholder-driven environment.

Although the regulatory ecosystem for emerging technologies can be conceptually confusing, there is a general method to the proverbial madness. The process tracks roughly along the following lines.

First, a new technology emerges into an unregulated “Wild West” of uncertainty. Existing agencies, like the FTC, may possess broad authorities to regulate certain related issues or concerns like privacy; however, the complexity of many new technologies means there is a great deal of potential regulatory overlap. As a result, it is not always immediately clear which agency possesses the statutory authority to oversee the promulgation of new rules to govern this technological advancement, often leaving it to legislators to propose interagency collaborations that can, and often do, lead to further confusion.³⁹¹ By contrast, a new non-autonomous

³⁹¹ As one example, there remains considerable uncertainty surrounding which federal agency is appropriately situated to address cybersecurity concerns for networked AVs. One legislative proposal calls for both NHTSA and the FTC to establish federal standards that would apply to both cybersecurity as well as privacy. However, NHTSA has no historic role in regulating cybersecurity or privacy. Similarly, the FTC, while possessing broad authority to police “unfair and deceptive practices,” has no expertise or historical involvement in developing standards. Notably absent from the proposal is any mention of the National Institute of Standards and Technology, which does, in fact, have both a historic role and existing expertise to address cybersecurity. “Markey, Blumenthal To Introduce Legislation to Protect Drivers from Auto Security and Privacy Vulnerabilities with Standards and ‘Cyber Dashboard,’” Press Release, Office of Senator Ed Markey, February 11, 2015, <http://www.markey.senate.gov/news/press-releases/markey-blumenthal-to-introduce-legislation-to-protect-drivers-from-auto-security-and-privacy-vulnerabilities-with-standards-and-cyber-dashboard>.

automobile has a fairly clear pathway to market entry under the auspices of the Department of Transportation.³⁹²

The result of this confusion leads policymakers and regulators, often wary of being the first pioneers to step foot into new frontiers, to call for *something to be done*. As a result, a government agency—of its own accord, in consultation with other agencies, or at the direction of Congress or the President—may call for a multistakeholder process to be convened. Sometimes, however, the private sector beats them to the punch, and establishes an industry consortium to develop their own set of best practices or standards.

Alternatively, the new technology may so clearly impact public safety (such as the case with UASs) that a multistakeholder process is convened even before industry has a chance to develop on its own robust criteria for adoption.³⁹³ At any of these stages, multistakeholderism may be suggested as a mechanism to help adjudicate some of the more pressing concerns associated with commercial deployment. Industry may develop new standards, with a multistakeholder process or workshop being convened thereafter, or the multistakeholder process may be circumnavigated entirely, leading directly to some type of co-regulatory/self-regulatory regime—assuming the technology is relatively unobjectionable or its impacts seemingly innocuous—resulting from consultations or agency jawboning.

Throughout this entire process, consultations and “sandboxing” or agency threats and “jawboning” may result, which has the unfortunate effect of injecting greater uncertainty into the developmental ecosystem than would result from only engaging in one form of soft law development at a time.³⁹⁴ At a certain point, however, some regulatory order will invariably emerge to regulate the emerging technology. Its exact nature and development may be technology-specific, predicated on voluntary adoption of industry-led standards and self-regulation, or ultimately result in a more formal rulemaking process. The multistakeholder process may or may not play a pivotal role in the emergence of such a regime, but it often remains a default fallback for seeing the technology through regulatory maturation.

The costs and benefits associated with multistakeholderism as a governance model for emerging technologies will be discussed in the following section.

V. ADVANTAGES & DISADVANTAGES OF NEW SOFT LAW REGIMES

In assessing the impact that soft law has had on emerging technology regulations, it quickly becomes clear that the advantages and disadvantages of this approach are bundled together in confusing and sometimes conflicting ways. On the one hand, regulations can provide a degree of market certainty for firms investing in new technologies.³⁹⁵ Yet, overly prescriptive rules can have

³⁹² See generally, *Laws Administered by NHTSA*, NAT’L HIGHWAY & TRAFFIC SAFETY ADMIN., <https://www.nhtsa.gov/laws-regulations/statutory-authorities> (last visited Jan. 5, 2018).

³⁹³ Presidential Memorandum, *supra* note 329.

³⁹⁴ See Ayres & Braithwaite, *supra* note 73.

³⁹⁵ See Brian Knight, *Regulating FinTech: Creating a Regulatory Regime that Enables Innovation While Providing Appropriate Consumer Protection*, MERCATUS CENTER, May 12, 2016,

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a negative impact on those investments. The advantage of the multistakeholder process and corresponding soft law mechanisms is that excessively prophylactic rules can be avoided.³⁹⁶ The disadvantage, however, is that non-binding soft criteria that are not promulgated through an official regulatory rulemaking results in less certainty.³⁹⁷ On net, however, the soft law regime seems to have positively contributed to the promotion of emerging technologies, balancing a light-touch regulatory approach with the public interest concerns of federal agencies.³⁹⁸ However, there is a great deal of overlap in disadvantages and advantages resulting from this approach to regulatory governance.³⁹⁹

It is easy to see why soft law governance would arise for emerging technologies. Phil Weiser argues that soft law “experimental” governance efforts “will mostly arise in cases where agencies possess broad authority without specific authorizations to act. In cases where regulatory agencies are specifically barred from proceeding in a particular area, they cannot take any actions, experimental or otherwise. In cases where they are specifically authorized to act, there is no cause for concern.”⁴⁰⁰ Clearly new technologies fit this model. However, this does not fully take into account all the advantages of soft law for agencies. Because of these advantages, even when they have clearly delegated authority (such as the FDA over medical technology) agencies may still opt to use soft law approaches instead of more formal hard law.

A good example of the advantages of soft law is the UAS privacy best practices multistakeholder process discussed in more detail earlier. While it seems reasonable to charge NTIA with developing voluntary guidelines for privacy issues relating to the operation for commercial drones, that authority arguably falls under the FTC’s purview.⁴⁰¹ Since NTIA is not viewed as the “privacy cop on the beat” and possesses no formal regulatory authority on this issue, the multistakeholder process could very well have failed to deliver enforceable best practices.⁴⁰² On the other hand, if such a process had been assigned to the FTC, they would have likely lacked the technical expertise to truly understand potential issues. Of course, since Congress has not expressly delegated this authority to regulate UAS, it is possible that it could later become NTIA’s, FAA’s, or some other agency’s responsibility. If the soft law system fails to establish clear outcomes, fails to deliver a transparent process for stakeholders and the public, or possesses an

<https://www.mercatus.org/publication/regulating-fintech-creating-regulatory-regime-enables-innovation-while-providing> (discussing such concerns regarding innovation in financial services such as FinTech).

³⁹⁶ Roca et. al, *supra* note 232 at 1218 (“adaptive regulation offers a series of policy mechanisms to balance technology uncertainty and the need for innovation, independent of regulatory style.”).

³⁹⁷ See, e.g., Ariel Dora Stern, *Innovation from Regulatory Uncertainty: Evidence from Medical Technology*, 145 J. OF PUB. ECON. 181 (2016)

³⁹⁸ See *id.*.

³⁹⁹ See *id.*; see also Knight, *supra* note 395.

⁴⁰⁰ *Id.* at 33.

⁴⁰¹ See generally, *Privacy and Security*, FED. TRADE COMM’N, <https://www.ftc.gov/tips-advice/business-center/privacy-and-security>, last accessed Sep. 26, 2017.

⁴⁰² See generally, *About NTIA*, NAT’L TELECOMM. & INFO. ADMIN., <https://www.ntia.doc.gov/about>, last accessed Sep. 26, 2017.

inadequate authority to deliver on promises, the certainty of promulgated rules can be in question.⁴⁰³ Many soft law processes can provide a first pass attempt at regulation through cooperative compromise or self-governance, which would likely increase compliance and limit potential harms to innovation.

In short, perceived advantages of soft law mechanisms can become disadvantages, and vice-versa. This section will discuss those various benefits and costs resulting from the soft law governance system.

A. Legitimacy, Trust, and Market Certainty

1. Legitimacy

At first glance, a soft law approach to technological governance would seemingly undermine legitimacy in the government agencies that are tasked with promoting the public interest. As A. Lee Fritschler and Catherine E. Rudder point out, the “delegated power of bureaucracies creates major challenges to political accountability and for democratic processes.”⁴⁰⁴ “Production of law by agencies,” they further suggest, “could be dangerous for representative government. If there were no way for elected officials or an independent judiciary to control administrative decisions, policymaking by an independent bureaucracy would contradict traditional theories of representation on which democratic systems are built.”⁴⁰⁵ There are of course ways to rein in these dangers and increase the legitimacy of soft law processes.

Checks and balances on the power of regulatory agencies, given to both Congress and the judiciary, may be used to lend legitimacy to the administrative state’s actions or inaction.⁴⁰⁶ While the nature of those powers and the efficacy with which they are wielded may be too wide-ranging, or perhaps not wide-ranging enough, that discussion is beyond the scope of this paper.⁴⁰⁷ It will suffice to say that most people consider these institutions to be legitimate on their face, whatever their flaws and failings may be.⁴⁰⁸ But if regulatory agencies begin delegating their own rulemaking authority to coteries of industry and civil society stakeholders, does that threaten their perceived legitimacy, or enhance it?

The answer may depend on the soft law process engaged in by the agency and its attempts to reach out to stakeholders and the public. Gregory Mandel, for one, notes that, “[B]road stakeholder outreach and dialogue can bring credibility, new ideas, current information,

⁴⁰³ See Omer Tene & J. Trevor Hughes, *The Promise and Shortcomings of Privacy Multistakeholder Policymaking: A Case Study*, 66 ME.L.REV. 437 (2014).

⁴⁰⁴ Fritschler & Rudder, *supra* note 24 at 2.

⁴⁰⁵ *Id.* at 48.

⁴⁰⁶ See, e.g., Paul R. Verkuil, *The Checks & Balances of the Regulatory State*, REAL CLEAR POLITICS, Oct. 25, 2016, http://www.realclearpolicy.com/articles/2016/10/25/the_checks__balances_of_the_regulatory_state_1752.html.

⁴⁰⁷ See, e.g., Phillip Hamburger, *Is Administrative Law Unlawful?* (2014).

⁴⁰⁸ E.g., John A. Rohr, TO RUN A CONSTITUTION: THE LEGITIMACY OF THE ADMINISTRATIVE STATE ix-x (1986); *but see*, Philip Wallach, *The Administrative State’s Legitimacy Crisis*, CTR. FOR EFFECTIVE PUB. MGMT. (Apr. 2016), available at https://www.brookings.edu/wp-content/uploads/2016/07/Administrative-state-legitimacy-crisis_FINAL.pdf.

continual feedback, and public trust to a governance system.”⁴⁰⁹ This is an important point. Such delegation can help build trust and legitimacy by increasing the mechanisms through which industry and the public engage with administrative regulation and add a greater sense of democratic underpinnings to the system. Weiser, however, argues the legitimacy comes not from public trust but from legal authority and the ability to enforce their actions through acceptable legal means.⁴¹⁰ For soft law to truly be effective, both elements must be present. Stakeholders, consumers, and regulators must buy into the process as a replacement for hard law options, and the solutions must be enforceable to achieve the desired behavior.

2. Trust

While the legitimacy of soft law mechanisms can be a double-edged sword, the trust that emerges from multistakeholder processes and engagements is largely beneficial to innovators, regulators, and consumers. Even to enter into a soft law process, a certain level of trust must exist between the regulatory body, the innovator, and the public. They must all believe that actions and agreements will be undertaken in reasonably good faith and that all interests will be appropriately balanced and considered. Soft law mechanisms can especially help to build trust among stakeholders who would otherwise be engaged in a media firestorm of barb-slinging and muckraking against one another and regulators.⁴¹¹

A soft law system that can promote greater trust amongst these organizations and individuals engaged in the rulemaking process means the ultimate outcome can yield a more broad-based acceptance of the results. This type of engagement is far more substantial and productive than mere comment filings, in which commenters have less incentive to hold back from strongly rebuking the opposing side and instead is more likely to achieve a consensus result that addresses the most important issues on all sides.⁴¹²

While regulatory comment filings can add significant on-the-record analysis for regulators to consider, they can also serve to undermine thoughtful policy prescriptions.⁴¹³ One need look no further than the recent rulemaking surrounding the FCC’s proposed changes to net neutrality to see how grassroots activism often eschews reasoned discourse for digital mob rule.⁴¹⁴ The Information Technology and Innovation Foundation discussed these issues in a paper about how such populist sentiments can in fact undermine innovation and technological progress. It argues that:

⁴⁰⁹ Mandel, *supra* note 2 at 9.

⁴¹⁰ *Id.* at 32.

⁴¹¹ See Hagemann, *supra* note 374.

⁴¹² See *id.*

⁴¹³ See *Fraudulent Comments that Undermine the FCC’s Net Neutrality Comment Process Must be Investigated*, FIGHT FOR THE FUTURE, Jun. 28, 2017 13:23 EDT, <https://www.fightforthefuture.org/news/2017-06-28-fraudulent-comments-that-undermine-the-fccs-net/>.

⁴¹⁴ See *id.*

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Populism ... has found a new target in the technologies that are increasingly ubiquitous in the economy and everyday life. Technology policy discussions have thus morphed into emotionally charged battlefields where sound bites and slogans trump facts and reason. This phenomenon is undermining effective innovation policy and slowing the pace of innovation progress.⁴¹⁵

Although public engagement can be a significant benefit to agency determinations in proposed rules, the traditional rulemaking process can also be quickly log jammed by spurious comments unsubstantiated by evidence.⁴¹⁶ The most recent actions only further show the risk agencies are taking when choosing to engage in a soft law process that more directly interacts with stakeholders.⁴¹⁷

Most multistakeholder processes reliant on direct participant engagement and discussion, however, tend to appeal only to those individuals and organizations with an interest or expertise in the issue being debated.⁴¹⁸ They therefore do not draw nearly the public engagement as the net neutrality debate did and typically those not involved are unaware until results of the processes have been completed. A soft law approach, as a result, can be a means of building bridges and trust between disparate perspectives, while promoting compromise by disincentivizing the most zealous castigations from those less inclined to bargaining.⁴¹⁹

If agencies avoid public comments or consulting industry leaders it can undermine the perception of the democratic legitimacy of their actions. This is perhaps even truer in regards to soft law processes. As McGeeveren states, such actions “Can be perceived by the public as a charade, undermining confidence in the seriousness of enforcement of the law.”⁴²⁰ Consulting with multiple stakeholders through the soft law process helps build trust in the industry that the agency action was considered. While the public may still question whether the result is merely an agency succumbing to an industry’s wishes, it provides more legitimacy than regulation without any consultation. In the end, the public and the industry both typically view soft law actions to be as legitimate as hard law processes.

3. Certainty

Soft law can provide a type of flexible certainty for innovators by providing parameters of what to expect in terms of possible regulation. These procedures result in a greater degree of certainty

⁴¹⁵ Robert D. Atkinson et al., *How Tech Populism is Undermining Innovation*, INFO. TECH. & INNOVATION FOUND., April 2015, 1-2, <http://www2.itif.org/2015-tech-populism.pdf>.

⁴¹⁶ See Marcus Hobley, *Public Opinion Can Play a Positive Role in Policy Making*, THE GUARDIAN, Sept. 3, 2012 03:00 EDT, <https://www.theguardian.com/public-leaders-network/2012/sep/03/public-opinion-influence-policy>.

⁴¹⁷ See, e.g., Colin Lecher, *FCC Chairman Ajit Pai Condemns Death Threats Allegedly Sent to Congressman over Net Neutrality*, THE VERGE, Nov. 30, 2017 12:14 P.M. EST, <https://www.theverge.com/2017/11/30/16719824/ajit-pai-net-neutrality-death-threat>.

⁴¹⁸ See Eugene Scalia, *The Value of Public Participation in Rulemaking*, THE REG. REV., Sept. 25, 2017, <https://www.theregreview.org/2017/09/25/scalia-public-participation-rulemaking/>.

⁴¹⁹ See *id.*

⁴²⁰ McGeeveran, *supra* note 241 at 987.

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to the regulatory process without the severe negative consequences that might occur through top-down formal regulation.

Uncertainty can limit an inflow of resources into a market, slowing or preventing innovation. This is particularly true for newer and more disruptive startups or industries that are seeking external funding or insurance.⁴²¹ As Robert Hoerr discussed in his paper on regulatory uncertainty:

Prolonged regulatory ambiguity is a cause for concern because markets place a high value on risk mitigation and predictability of outcomes. Developing innovation technology requires capital from venture capital investors who are comfortable with the risk of complete failure in exchange for the substantial rewards of success. Uncertainty in the regulatory environment has the potential to increase both the costs and time needed for development, thereby making the commercialization process unpredictable and, in the worst case, incapable of being financed.⁴²²

Although Hoerr focuses his analysis specifically on the regulatory process for FDA approvals, his insight can be applied just as equally to any number of agencies confronting the impact of emerging technologies.⁴²³ Notably, technologies like AVs—which are accountable to an existing regulatory regime—benefit from an increase in certainty for innovators, investors, and consumers.⁴²⁴ By contrast, technologies with greater sectorial overlap, such as AI, often face demands for new agencies and regulatory regimes to provide policy certainty instead of relying on existing soft law.⁴²⁵

Less defined and rigidly proscribed rules can also mean *less* certainty as soft criteria are crafted. This is particularly true if an innovator wishes not to comply with or otherwise challenge a soft law regulation. Under a more traditional regulation framework, an innovator has both administrative and legal remedies to pursue when they wish to challenge an agency’s actions. With soft law, there is less certainty if (or when) such actions can even be challenged.⁴²⁶ These less defined procedures for remedy or challenge can also create uncertainty for the agency regarding what deference will be given to their actions if they are challenged.⁴²⁷

⁴²¹ See, e.g., Amy Huffman, *Venture Capital and Regulations Impact the Future of Telehealth Companies*, EXITEVENT, Dec. 9, 2016, <https://www.exitevent.com/2016/12/venture-capital-and-regulations-impact-future-of-telehealth-companies/>.

⁴²² Robert A. Hoerr, *Regulatory uncertainty and the associated business risk for emerging technologies*, 13 J. OF NANOPARTICLE RES. 1514 (2011).

⁴²³ See *id.*

⁴²⁴ See PERMISSIONLESS INNOVATION, *supra* note 124 at 4-5.

⁴²⁵ See, e.g., Ali Breland, *Elon Musk: We Need to Regulate AI Before It’s Too Late*, THE HILL, Jul. 17, 2017, <http://thehill.com/policy/technology/342345-elon-musk-we-need-to-regulate-ai-before-its-too-late>.

⁴²⁶ See Gwendolyn McKee, *Judicial Review of Agency Guidance Documents: Rethinking the Finality Doctrine*, 60 ADMIN. L.REV. 371 (2008).

⁴²⁷ See Lydia Wheeler, *Sessions: DOJ Prohibited From Issuing Guidance That Creates New Rules*, THE HILL, Nov. 17, 2017, <http://thehill.com/regulation/administration/360930-sessions-issues-memo-prohibiting-doj-from-issuing-regulatory>.

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Companies that straddle multiple regulated industries face another potential uncertainty related to soft law actions: relying on guidance from the wrong regulator. For example, a company following FTC guidelines for privacy and security best practices for its product only to find that the FDA has now considered it a medical device subject to new and different guidance and regulation is likely to find itself in a precarious position.⁴²⁸ Likewise, this same scenario could unfold for driverless car innovators if a regulatory turf war develops between the FTC and NHTSA over which agency’s guidance documents should be followed. Even if those two agencies worked closely together on guidance (or carved up topics like they now seem to be doing, with NHTSA covering safety concerns and FTC covering privacy issues), there is no guarantee that confusing “middle” issues won’t muddle that enforcement picture.⁴²⁹ For example, the cybersecurity concerns surrounding connected cars (i.e., the “hackability” of these vehicles) could give rise to both safety and privacy concerns later.⁴³⁰ In that case, whose guidance prevails and how would challenges to it be handled without a clear Congressional directive?

The courts have handled deference questions when agencies conflict before; however, this lack of clear delegation of authority to anyone combined with a disagreement over the nature of the technology would further complicate the question.⁴³¹ In order to prevail, a company would need to prove that either the grant of authority to the agency justifying its action was unambiguous in its grant or that the agency interpretation is unreasonable or beyond the statutory grant given the circumstances.⁴³² This makes it clear that the best solution would be for Congress to better clarify agency authority going forward, thus allowing both innovators and regulators to know at least what agency is controlling for specific matters.

Paradoxically, what makes traditional administrative action incapable of keeping pace with new technological realities is also what gives the system legitimacy. That is, doing things “by the book” means a painstakingly slow process that may be irrelevant for the technology by the time it is finished. The average rule takes twelve months from proposal to enactment through APA processes.⁴³³ For technologies that are rapidly evolving, such a timeframe may present unnecessary delay for innovators awaiting a regulatory pronouncement or result in ineffective regulation as a result of rapid technological advancement in the industry.

⁴²⁸ See *Mobile Medical Applications*, *supra* note 309.

⁴²⁹ See *FTC and NHTSA Seek Input on Benefits and Privacy and Security Issues Associated with Current and Future Motor Vehicles*, FED. TRADE COMM’N, https://www.ftc.gov/system/files/attachments/press-releases/ftc-nhtsa-conduct-workshop-june-28-privacy-security-issues-related-connected-automated-vehicles/notice_connected_cars_workshop_with_nhtsa_1.pdf, last accessed Dec. 5, 2017.

⁴³⁰ See *id.*

⁴³¹ See Jacob Gerensen, *Overlapping and Underlapping Jurisdiction in Administrative Law* (U. of Chicago Pub. L. & Leg. Theory, Working Paper No. 161, 2007).

⁴³² See Jonathan H. Adler, *No Chevron Deference for Agency Interpretation of Court’s Jurisdiction*, THE VOLOKH CONSPIRACY, Aug. 10, 2013 2:58 p.m., <http://volokh.com/2013/08/10/no-chevron-deference-for-agency-interpretation-of-courts-jurisdiction/>.

⁴³³ See James Hobbs, *Is the Rulemaking Process Really a Quagmire?*, THE REGULATORY REVIEW, Jan. 17, 2013, <https://www.theregreview.org/2013/01/17/17-hobbs-regulatory-breakdown-chapter-8/>.

In short, soft law can both alleviate and aggravate issues of uncertainty. Some of the legal aspects of these problems will be discussed later.

B. Speed, Flexibility, and Adaptability

As discussed *supra*, both agencies and innovators may view soft law as a means of overcoming the pacing problem. This is because it frees agencies of many of the burdens that prevent quick, focused, and responsive action. At the same time, this ossification inherent in the traditional rulemaking process did not develop without reason.

Scholars have argued the speed, flexibility, and adaptability of soft law makes such mechanisms useful and appealing to regulators. As McGeeveran argues, “Rapid technological change increases the benefits of responsive regulation.”⁴³⁴ A benefit of soft law over more formal regulatory processes is it allows a “continuing dialogue rather than fixed dictates.” This flexibility and adaptability results in “a particularly strong response to situations where lawmakers have difficulty staying abreast of rapid technological change.”⁴³⁵ In summary:

By using responsive regulation based on broader principles, regulators can secure compliance even as the details of technology change. At the same time, the resulting flexibility enables continuous change and improvement of interfaces and business methods—indeed, not just enables but encourages it. Rather than giving up on the possibility of controlling the inexorable evolution of technology, responsive regulation allows agencies to respond to those changes and ameliorate privacy impacts without throttling productive innovation.⁴³⁶

These unique features of soft law can be used either to harm or help technology depending on if the regulatory culture using them takes a precautionary or permissionless approach to technology. Some scholars like Juma hope that “decisive,” “adaptive” and “flexible” leaders will steer a sensible policy course with an eye toward limiting “the spread of political unrest and resentment toward technological innovation.”⁴³⁷ But the tools remain even when such sensible regulators are not in power, and therefore yields justifiable concerns about the risk of such power when the intent is to stifle or control an industry.

While there are certainly risks involved in allowing regulators to use a less scrutinized process, scholars have noted that these risks may or may not be mitigated by the existing market for a specific technology.⁴³⁸ Ignoring the existing market and innovator information in either a formal or soft law process can result in regulation that has a negative impact on innovative technology or disruptive industries.

⁴³⁴ McGeeveran, *supra* note 241 at 987.

⁴³⁵ *Id.*

⁴³⁶ *Id.*

⁴³⁷ Juma, *supra* note 157 at 284.

⁴³⁸ *See* Gervais, *supra* note 227.

The likelihood of mistakes—which can be made in any regulatory intervention—is significantly higher when one ignores the inchoate nature of certain technologies, or views it rather naively as another facet of the market or user behavior.⁴³⁹ As a result, Gervais cautions against intervention “when dealing with an inchoate technology ... increas[ing] in proportion to the level of inchoateness—which, in turn, increases unpredictability and the ability of the technology and its users to circumvent the regulatory objective.”⁴⁴⁰

Other scholars have argued the variety of options available under soft law may be overused, but actually create a trial-and-error system of regulation that allows both regulators and innovators to adapt to changing norms and technology.⁴⁴¹ Weiser, for example, notes that “considerable flexibility for a range of alternative options exist within current structures and is already being used by agencies and private entities to great effect.” He further argues for greater use of soft law, because the “underappreciated model of earned regulatory authority, calls for a more self-conscious use of this model, and explains how agencies can spearhead and implement this model successfully through entrepreneurial leadership and a culture of trial-and-error problem solving.”⁴⁴² Scholars like Weiser are not concerned about some of the uncertainty or separation of power trade-offs that must be made in order to allow for this flexibility. Instead, they find the evolution of the regulatory process to yield its own self-regulatory system of review sufficient to replace these. “The value of allowing administrative agencies some degree of ‘common law-like’ authority,” says Weiser, “is that they can address emerging issues as they arise rather than await specific congressional authorization.”⁴⁴³ Recent FTC actions may provide the most thorough example of how this may play out. Observers closely monitoring the FTC’s recently soft law activities, have agreed that the agency has increasingly relied on such guidance to expand its authority and definition of unfair practices.⁴⁴⁴ The FTC has used the benefits of soft law to become the default regulator not only for merger and antitrust but also broad applications of data security, privacy, and other potential “unfair” practices.⁴⁴⁵ Its ability to gain such an area of regulatory expertise shows that soft law provides adaptability advantages not only for the innovator but also for the “entrepreneurial state.”⁴⁴⁶ As a result, agencies and regulators adapt to the new era of technology and gain regulatory control of such new technologies using new and existing soft law tools without formal grants of power from lawmakers.

⁴³⁹ *Id.* at 670.

⁴⁴⁰ *Id.* at 701.

⁴⁴¹ *See, e.g.,* Weiser, *supra* note 69.

⁴⁴² *Id.* at 8.

⁴⁴³ *Id.* at 33.

⁴⁴⁴ *See, e.g.,* Michael C. Gilleran, *The Rise of Unfair and Deceptive Trade Practices Claims*, AMERICAN BAR ASSOCIATION, Oct. 17, 2011, <http://apps.americanbar.org/litigation/committees/businessstorts/articles/fall2011-unfair-deceptive-trade-practice-act-claims.html>.

⁴⁴⁵ *See* Christopher Koopman et al., *Informational Injury in FTC Privacy and Data Security Cases*, MERCATUS CENTER, Oct. 27, 2017, <https://www.mercatus.org/publications/informational-injury-ftc-privacy-and-data-security-cases>.

⁴⁴⁶ *See* Weiser, *supra* note 69.

René von Schomberg, Director General for Research at the European Commission, makes a similar argument, noting, “A good governance approach ... might be one which allows flexibility in responding to new developments.”⁴⁴⁷ He goes on:

The power of governments is arguably limited by their dependence on the insights and cooperation of societal actors when it comes to the governance of new technologies: the development of a code of conduct, then, is one of their few options for intervening in a timely and responsible manner.⁴⁴⁸

In particular, he discusses the benefits of a multistakeholder-like process to govern such developments through codes of conduct and standards, arguing in favor of the European Commission’s approach:

The ideal is a situation in which all the actors involved communicate and collaborate. The philosophy behind the European Commission’s code of conduct, then, is precisely to support and promote active and inclusive governance and communication. It assigns responsibilities to actors beyond governments, and promotes these actors’ active involvement against the backdrop of a set of basic and widely shared principles of governance and ethics. Through codes of conduct, governments can allocate tasks and roles to all actors involved in technological development, thereby organizing collective responsibility for the field.⁴⁴⁹

The responsiveness and ease of use of soft law makes it preferential in many cases, but at the same time requires monitoring to insure such power is not abused without recourse. The best method for this check on power may vary depending on the technology regulated and the method used.

C. Clarity and Precision

One potential objection to soft law processes and procedures relates to clarity and precision.

Many of the concerns that agency actions lack clarity are related to subsequent attempts to modify or change existing guidance or the continued accumulation of guidance.⁴⁵⁰ Additionally, when guidance is unclear or imprecise there may be neither administrative nor judicial remedies clearly available.⁴⁵¹ Furthermore, unclear guidance undermines the advantages of delegation to “ensure[] a single interpretation prevails.”⁴⁵²

Still, soft law specifically targeted at an emerging technology can help provide some degree of clarity regarding regulatory intent, rather than attempting to figure out which agency and which

⁴⁴⁷ René von Schomberg, *The Precautionary Principle: Its Use Within Hard and Soft Law*, Symposium on the European Parliament’s Role in Risk Governance, p. 154.

⁴⁴⁸ *Id.*

⁴⁴⁹ *Id.*

⁴⁵⁰ See Crews, *supra* note 23.

⁴⁵¹ See McKee, *supra* note 426.

⁴⁵² Robin Kundis Craig, *Agencies Interpreting Courts Interpreting Statutes: The Deference Conundrum of a Divided Supreme Court*, 61 EMORY L.J. 1, 5-6 (2011).

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regulations may be used to regulate a technology after it has fully developed. This is especially needed in light of the problems identified in Section III. The FDA, for example, has used regulatory guidance to provide initial clarity in emerging fields such as nanotechnology before the agency was ready to issue more formal binding guidance.⁴⁵³ This has prevented some of the problems of creating an agency standard that would prevent innovation in such fields while also clarifying what type or direction of development might be preferred.⁴⁵⁴ As a result, both regulators and regulated entities can more appropriately, and precisely, prioritize research and allocate resources.

Similarly, agencies can be much more precise in using soft law. In addition to multistakeholder proceedings, the sandboxing conversations discussed earlier in this paper can occur between a particular innovator or business and an agency prior to action. While this may seem overly precautionary, at times it can prevent much more restrictive action by allowing these negotiations to occur in advance, while limiting their scope. Likewise, opinion letters and other more traditional agency soft law mechanisms can provide a specific company with clarity of possible regulatory trajectory or impact to adequately weigh what next steps to take.

While soft law lacks the clarity of hard statutes or agency rules, it does provide an increased clarity *ex ante* rather than *ex post*. Of course, there are risks that must be managed, but often this opaque clarity is preferable to the true regulatory uncertainty and threats that occur in the absence of any decisions related to a new technology.

D. Transparency, Accountability, and Oversight

Doing things “by the book” has traditionally been viewed as an essential element of transparency and accountability. However, the current multistakeholder-focused process of soft law for emerging technologies does not typically follow the strictures expected of regulatory rulemaking. This means the potential for uncertainty in policymaking is more pronounced and opens the door to public policy entrepreneurs whose goals may not be the advancement of socially beneficial technologies. As Fritschler and Rudder note, a public policy entrepreneur “is one who takes advantage of the power of position to aggressively tackle an issue and strategically advance it. Public [policy] entrepreneurs do not ‘go by the book,’ or, in less colloquial terms, they do not necessarily follow the bureaucratic rules if those rules are obstacles to achieving the desired goal.”⁴⁵⁵ Indeed, one of the drawbacks to a soft law system is that such individuals may act in concert with others through non-transparent channels, with no oversight from, or accountability to, the broader stakeholder community engaged in the process.

This is a relatively timeless feature of policymaking, however. In suggesting effective courses of advocacy for technology law policy, one individual argued regulatory practices are seldom driven by the rules as written, which:

Can be a let-down for students coming out of law school who, having learned about rules, how they are made, and how to do things with rules, think they finally

⁴⁵³ See Noah, *supra* note 55 at 120-22.

⁴⁵⁴ See *id.*

⁴⁵⁵ Fritschler & Rudder, *supra* note 24 at 134.

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get it. For the more creative, it is salvation. The sooner they allow for the fact that cases can be lost on policy even where the rules are in their favor, the sooner that deeper realizations, deeper thinking, deeper creativity, and better lawyering can emerge. From that, hopefully comes the empowering realization that they can use the inherent complexities and flexibility of the regulatory system to create better solutions.⁴⁵⁶

Although one of the benefits of formal rulemaking is that “it subjects agency assumptions to greater scrutiny,” this can also be a drawback, as it creates path-dependent solutions and outcomes.⁴⁵⁷ As a result, public policy entrepreneurship can be both an advantage as well as a disadvantage to the transparency and accountability of a soft law regime. Of course, there are compliance and transparency checks even within the soft law system. As Weiser points out, OMB has established best practices for standard setting that require openness, balance, due process, review, and the development of consensus.⁴⁵⁸

Additionally, some scholars and advocates have criticized the multistakeholder process for failing to adequately consider concerns of consumers or those affected beyond the corporations.⁴⁵⁹ These concerns are perhaps most prevalent in areas such as data security and privacy where consumers are less likely to have direct contact with the industry and technology. Some critics have argued that participation costs and time requirements limit the accessibility of such processes only to those companies or groups with the most resources and thereby stifle marginalized or disempowered groups.⁴⁶⁰ Furthermore, concerns have been voiced about whether “civil society” advocates or “invited experts” assigned to represent such groups actually advocate for their own opinion or that of certain demographic or market groups they are said to represent.⁴⁶¹ These concerns about representation can derail the process or undermine the legitimacy of the multistakeholder outcomes. Notably, such concerns led to a walk out during the “Do Not Track” discussions by some non-profit advocacy organizations.⁴⁶²

Generally speaking, agencies should follow the formalities set out under the APA, even when engaging in “softer” forms of policymakers.⁴⁶³ It isn’t that hard for an agency to incorporate a notice-and-comment procedure into their soft law activities. And posting notices or agency determinations in the *Federal Register* doesn’t seem like too much to ask. In fact, many agencies have already been doing both these things for agency workshops and multi-stakeholder

⁴⁵⁶ Brad Bernthal, “The Craft of Technology Policy Advocacy,” Appendix A, Version 1.0, January 19, 2009, p. 18.

⁴⁵⁷ Aaron L. Nielson, *In Defense of Formal Rulemaking*, 75 OHIO ST. L.J. 237, 288 (2014).

⁴⁵⁸ Weiser, *supra* note 69 at 35.

⁴⁵⁹ See, e.g., Tene & Hughes, *supra* note 400 at 452-56 .

⁴⁶⁰ *Id.* at 455-56.

⁴⁶¹ *Id.* at 455.

⁴⁶² See *id.*

⁴⁶³ See Final Bulletin for Agency Good Guidance Practices, 72 Fed. Reg. 16. 3432-40 (Jan. 25, 2017).

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processes.⁴⁶⁴ Issuing soft law regulatory changes for comments, however, carries the risk of public backlash. The recent hostility over proposed FCC changes to its Open Internet Order, for example, illustrates why some agencies may prefer to keep soft law mechanisms more informal rather than deal with public or industry outcry for a middle of the road approach.

Agencies also need to be more careful about the use of other informal mechanisms. On the one hand, the use of social media platforms (such as Twitter) by agencies can be applauded as an admirable way of informing the public of new agencies activities and engaging in public dialogue. Yet, when commenting publicly via social media about new agency reports and documents, it is unclear whether those statements should be construed as agency interpretations and what force these statements may have later.⁴⁶⁵ At least under the APA, these are not clearly defined policy vehicles or legal instruments and agencies should understand that noble attempts to “clarify” new standards via social media may actually make things more confusing.⁴⁶⁶ It would be better for agencies to clarify whether social media posts are not legally binding agency statements. After all, the FDA has issued guidance and admonishment over how regulated companies use social media, and there is no reason why agencies cannot issue similar such guidance for their own use.⁴⁶⁷

Concerns over delegation and deference are not new and are not isolated to the technology policy area. Such concerns are highly relevant to any discussion of soft law administrative actions.

E. Delegated Policymaking: Congress and the Courts

There has long existed broad, non-partisan concern about the accountability and legitimacy of delegated policymaking. These concerns are not without merit; however, after nearly 50 years of debate, it seems Congress is unable or unwilling to address the issue in a substantive manner. While recent use the Congressional Review Act and attempts to update the APA for greater Congressional oversight show promise, the overarching stagnation of Congress means it is

⁴⁶⁴ See, Crews, *supra* note 23; see also, e.g., *Food and Drug Administration Report on Good Guidance Practices: Improving Efficiency and Transparency*, FOOD & DRUG ADMIN., Dec. 2011, available at <https://www.fda.gov/downloads/AboutFDA/Transparency/TransparencyInitiative/UCM285124.pdf>.

⁴⁶⁵ See Dahlia Lithwick, *Trump’s Tweets Must Now Be Taken Seriously*, SLATE, June 12, 2017 6:36 P.M., http://www.slate.com/articles/news_and_politics/jurisprudence/2017/06/the_9th_circuit_just_decreed_that_trump_s_twitter_feed_must_be_taken_seriously.html; Elizabeth Landers, *White House: Trump’s Tweets are ‘Official Statements’*, CNN, June 6, 2017 4:37 p.m. ET, <http://www.cnn.com/2017/06/06/politics/trump-tweets-official-statements/index.html>.

⁴⁶⁶ See *A Guide to the Rulemaking Process*, OFFICE OF THE FEDERAL REGISTER, https://www.federalregister.gov/uploads/2011/01/the_rulemaking_process.pdf (last visited Aug. 29, 2017).

⁴⁶⁷ Warning letter from Robert Dean, Division Director, Office of Prescription Drug Promotion, Food and Drug Administration to Eric Gervais, Executive Vice President Duchesnay, Inc., (Aug. 7, 2015), available at <https://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/EnforcementActivitiesbyFDA/WarningLettersandNoticeofViolationLetterstoPharmaceuticalCompanies/UCM457961.pdf>; Thomas Abrams, *FDA Issues Draft Guidances for Industry on Social Media and Internet Communications about Medical Products: Designed with Patients in Mind*, FDA VOICE, Jun. 17, 2014, <https://blogs.fda.gov/fdavoices/index.php/2014/06/fda-issues-draft-guidances-for-industry-on-social-media-and-internet-communications-about-medical-products-designed-with-patients-in-mind/>.

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unlikely that some degree of moderate delegation will ever truly end. Discussion of Congressional delegation is the subject of much more scholarship, and we do not attempt to resolve the issue here; however, we do wish to briefly acknowledge it due to its relevance to any discussion of agency actions and the administrative state.

Of course, transfers of legislative or judicial power from the legislative branch to executive branch agencies call into question the democratic accountability and legitimacy of such actions. As Vincent Ostrom and Barbara Allen write:

Transferring rulemaking authority to the Executive means that law is no longer formulated by those who are required to address citizens as constituents. Instead, professional or administrative criteria become paramount and the standards to be implemented are set by enforcers rather than with the consent of the governed.⁴⁶⁸

Additionally, such transfers also raise the concern that “placing rulemaking in the hands of enforcers rather than legislators, who face citizens as constituents, is yielding a transformation in the nature of law.”⁴⁶⁹

1. Congressional Delegation

Still, delegating authority to agencies does not leave Congress without any control over their actions. Specifically, the appropriations power and the growing willingness to use the Congressional Review Act provide Congress continued oversight for agency actions after they have delegated the regulatory power to the agency. As Fritschler and Rudder note:

Agencies are sensitive to the *potential* that Congress may review anything that they do. They are acutely aware that Congress has the ability to punish them through legislative action and the power of the purse and to embarrass agency officials by bringing them before Congress to explain their actions.⁴⁷⁰ Of course the effectiveness of this oversight in part depends on Congress’s willingness to carry through on such oversight. Additionally, the oversight alone does impact the policies and form of policies of an agency except on the margins.

But they also observe that:

It is difficult to generalize about the nature, quality, and ethics of congressional oversight. It can be weak in terms of both general policy guidance and influence on the millions of policy decisions that bureaucrats make. On the other hand, it can be devastating to an agency that out of ignorance or hubris defies the wishes of its small but powerful and important congressional constituency.⁴⁷¹

⁴⁶⁸ Vincent Ostrom & Barbara Allen, *The Continuing Constitutional Crisis in American Government*, in THE INTELLECTUAL CRISIS IN AMERICAN PUBLIC ADMINISTRATION 130 (2008).

⁴⁶⁹ *Id.*

⁴⁷⁰ Fritschler & Rudder, *supra* note 24 at 81.

⁴⁷¹ *Id.* at 82.

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Congress has shown at times that it will act when it believes an agency has exceeded the appropriate use of delegated powers. Typically, Congress has exercised extreme restraint in undertaking such actions and only used its review powers in the most egregious cases. More recently, however, at the start of the Trump administration Congress overturned several administrative actions through the use of the Congressional Review Act.⁴⁷² In the past, Congress has shown that it is willing to use the appropriations power to regulate an agency that may overstep its bounds in various ways, as it did in the late 1970s and early 1980s when threatening to shut down the FTC for its unregulated and unspecified expansion of power related to deceptive practices.⁴⁷³

Of course agency heads have interests of their own, including their positions, budget, and authority, and are, therefore, self-interestedly somewhat beholden to the political authorities that appoint them and fund their agencies. As a result, these agency actors may have just as concentrated an interest as their politically elected counterparts. As law professor David Schoenbrod notes in *Power without Responsibility: How Congress Abuses the People through Delegation*:

Agency heads are usually not apolitical and, indeed, concentrated interests often prevail more easily in an agency than they can in Congress. Effective participation in agency lawmaking usually requires expensive legal representation as well as close connections to members of Congress who will pressure the agency on one’s behalf. The agency itself is often closely linked with the industry it regulates. Not only large corporations, but also labor unions, cause-based groups, and other cohesive minority interests sometimes can use delegation to triumph over the interests of the larger part of the general public, which lacks the organization, finances, and know-how to participate as effectively in the administrative process.⁴⁷⁴

More specifically, administrative law scholars have expressed particular concern about the potential for agencies to abuse broad delegated powers.⁴⁷⁵ Yet Congress has the powers to rein in agencies or limit delegation should it choose to. Perhaps these concerns over delegation, instead, reflect the increasing ossification and non-responsiveness of the legislative process. As John D. Graham and James Broughel write:

In the end, however, much of the problem lies with Congress. It is Congress, after all, that delegates so much of its legislative authority to the executive branch.

⁴⁷² See Stephen Dinan, *GOP Rolled Back 14 of 15 Obama Rules Using Congressional Review Act*, WASH. TIMES, May 15, 2017, <http://www.washingtontimes.com/news/2017/may/15/gop-rolled-back-14-of-15-obama-rules-using-congres/>.

⁴⁷³ Geoffrey Manne & Berin Szoka, *Time for Congress to Stop the FTC’s Power Grab on Antitrust Enforcement*, FORBES, Dec. 20, 2012 2:24 P.M., <https://www.forbes.com/sites/beltway/2012/12/20/time-for-congress-to-stop-the-ftcs-power-grab-on-antitrust-enforcement/#16c3bb751fc8>.

⁴⁷⁴ David Schoenbrod, *POWER WITHOUT RESPONSIBILITY: HOW CONGRESS ABUSES THE PEOPLE THROUGH DELEGATION* 13 (1993).

⁴⁷⁵ *E.g.*, Brito, *supra* note 97 at 553-577.; Noah, *supra* note 95 at 873; Rauch, *supra* note 214.

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Congress needs to begin holding agencies accountable, through oversight, setting agency budgets, and legislation that more clearly defines agency duties and powers. Until Congress admits its own role in creating these problems, agencies will continue to evade the checks and balances that have been put in place over the last century, and the American public can have little faith that agency actions actually advance the public interest.⁴⁷⁶

Needless to say, such concerns will only be elevated as the use of soft law governance mechanisms becomes more common.

2. Judicial Delegation and Deference Standards

Soft law concerns are not limited merely to squabbles between the legislative and executive branches over checks and balances or authority. Rather, the courts’ deference to agencies and view of separation of powers also greatly impacts the enforceability and attraction of soft law actions. This is especially true when examining the deference the courts give to agency actions.

Chief Justice John Roberts has warned that, “[T]he danger posed by the growing power of the administrative state cannot be dismissed.”⁴⁷⁷ Excessive court deference to agency interpretations of their own statutory authority has led to an administrative state that “wields vast power and touches almost every aspect of daily life.”⁴⁷⁸

By their nature, soft law mechanisms lack the same substantive expectations or direct enforceability of traditional “hard law” processes. This development raises a variety of interesting questions regarding the enforceability and legitimacy of soft law processes through the legal system. In this section, we examine a narrow slice of this controversy: What will happen when these soft law tools get challenged in court?

Thus far, there have not been significant legal challenges to recent tech-oriented soft law activities. That may be because those soft law processes followed many of the traditional requirements set forth in the APA in terms of public notices, and the opportunity for comments to be filed with the agency.⁴⁷⁹ It may also be the case that affected parties played a role in shaping the final product outside traditional notice and comment, and so were unlikely to pursue legal action.⁴⁸⁰ Or it may simply be because the soft law mechanisms lacked clear enforcement “teeth” and did not raise novel issues that anyone felt the need to challenge in court.⁴⁸¹

Still, while these challenges have not yet reached the courts, it is important to understand the levels of deference (described in greater detail in Figure 2) they may face to clearly understand

⁴⁷⁶ Graham & Broughel, *supra* note 25.

⁴⁷⁷ *FCC v. City of Arlington*, 569 U.S. (2013) (Roberts, dissenting)

⁴⁷⁸ *Id.*

⁴⁷⁹ See Cortez, *supra* note 93 at 206-17.

⁴⁸⁰ See Nick Sinai, *Sandboxing and Smart Regulation in an Age of A/B Testing*, TECHCRUNCH, Jan. 30, 2015, <https://techcrunch.com/2015/01/30/sandboxing-and-smart-regulation-in-an-age-of-ab-testing/>.

⁴⁸¹ See Cortez, *supra* note 93.

the true power of soft law. Similarly, these standards provide greater insight into how to navigate potential judicial obstacles that may arise if and when such standards are challenged.

Judicial Standard	Level of Deference to Administrative Agency	When It Applies
<i>Chevron</i> ⁴⁸²	Deference to agency interpretation unless unreasonable	Ambiguity in a statutory grant to an agency concerning the issue; agency has acted through formal or informal rulemaking
<i>Skidmore</i> ⁴⁸³	Deference accorded assuming thoroughness, validity, consistency, and persuasiveness of action	Agency interpretations and statements that “lack the force of law”
<i>Auer</i> ⁴⁸⁴	Controlling unless clearly erroneous	Agency interpretations of its own regulations

Figure 2: This matrix outlines the various standards of judicial deference that courts have developed in response to the extent of a federal agency’s interpretation of its rulemaking authority.

Under all of these judicial standards, the courts are more likely to favor the agency’s interpretations;⁴⁸⁵ however, how much so depends on how the agency created the regulation and the purported source of authority to do so.

Chevron provides the highest level of deference to agency interpretations.⁴⁸⁶ If Congress created ambiguity in granting authority and the agency has gone through formal or informal rulemaking processes, then the courts will be highly deferential to the agency’s interpretation, provided that it is reasonable given the ambiguity in the original statutory language at issue.⁴⁸⁷ Still, this deference is not absolute and requires ambiguity that would necessitate agency

⁴⁸² *Chevron* 467 U.S. 837.

⁴⁸³ *Skidmore* 323 U.S. 134.

⁴⁸⁴ *Auer* 519 U.S. 452.

⁴⁸⁵ See David Borgen & Jennifer Liu, *Significant Legal Developments in Wage & Hour Law: Deference Standards*, GOLDSTEIN, DEMCHAK, BALLER, BORGAN & DARDARIAN, Oct. 19, 2017, http://gbdhlegal.com/wp-content/uploads/article/NELA_Paper.2007.pdf.

⁴⁸⁶ *Id.*

⁴⁸⁷ *Chevron* 467 U.S. at 842-43.

interpretation.⁴⁸⁸ Under *Skidmore* deference, courts give persuasive weight to agency interpretations or reinterpretations made through subsequent agency actions (i.e., additional guidance documents, clarification letters, amicus briefs, etc.).⁴⁸⁹ *Skidmore* deference does not require there to be ambiguity in the original interpretation or guidance, but is designed to allow agencies to change interpretation or policy.⁴⁹⁰ *Auer* deference provides a high level of deference to agency interpretations of its own regulations so long as that interpretation is not plainly erroneous or clearly a *post hoc* rationalization.⁴⁹¹

In the end, all three standards are highly deferential toward agency interpretations and reinterpretations. *Chevron* remains the most deferential;⁴⁹² but the sort of soft law activities related to disruptive technologies we are witnessing today will likely increasingly implicate *Auer* and *Skidmore*.

3. Issues in Applying Judicial Deference to Soft Law

Both formal and informal guidance documents have become more prevalent tools for agencies.⁴⁹³ Yet there is not a clear or established definition of what constitutes “guidance documents.”⁴⁹⁴ It also remains unclear whether guidance documents are as “voluntary” as agencies might insist; especially when the plain language of the documents makes clear demands of affected parties.⁴⁹⁵ As a result, the appropriate deference due to these new soft law recommendations under the current standards may not be uniform, making it difficult to determine when and how they may be challenged in court. The D.C. Circuit questioned the potential misuse of agency guidance power in *Appalachian Power Co. v. EPA*, stating that the result is law made “without notice and comment, without public participation, and without publication in the *Federal Register* or the *Code of Federal Regulations*.”⁴⁹⁶ The problem of uncertainty stifling innovation takes on greater weight with an agency’s perceived ability to enforce a “recommendation” for emerging technologies with little to no warning or input.⁴⁹⁷ Drawing on the use of soft law in other sectors can potentially help in drawing an inference regarding their use in the context of emerging technology regulations. In *Perez v. Mortgage Bankers Association*, for instance, the Department of Labor had issued a 2006 opinion letter

⁴⁸⁸ Borgen & Liu, *supra* note 485.

⁴⁸⁹ *Skidmore* 323 U.S. at 139-40.

⁴⁹⁰ Borgen & Liu, *supra* note 485.

⁴⁹¹ *Auer* 519 U.S. at 462-63.

⁴⁹² *Id.*

⁴⁹³ *See Crews, supra* note 23.

⁴⁹⁴ *See id.*

⁴⁹⁵ Adam Theirer, *DOT’s Driverless Cars Guidance: Will “Agency Threats” Rule the Future?*, THE TECHNOLOGY LIBERATION FRONT, Sep. 20, 2016, <https://techliberation.com/2016/09/20/dots-driverless-cars-guidance-will-agency-threats-rule-the-future/>.

⁴⁹⁶ 208 F.3d at 1020.

⁴⁹⁷ *See* Mark Seidenfeld, *Substituting Substantive for Procedural Review of Guidance Documents*, 90 TEX. L. REV. 331, 376 (2011).

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stating that under the Fair Labor Standards Act (FLSA) mortgage officers are generally non-exempt employees.⁴⁹⁸ In 2010, the Department of Labor issued an Administrative Interpretation withdrawing the 2006 opinion letter and stating instead that mortgage officers fall under the administrative exemption of the 2004 FLSA regulations.⁴⁹⁹ As interpretative rules, neither of these opinions had required procedural notice-and-comment. The Supreme Court held that notice-and-comment is not required when an agency is changing its interpretation of previously issued interpretative rules or guidance.⁵⁰⁰ The Court did, however, note that the agencies are “require[d] to provide more substantial justification when ‘its new policy rests upon factual findings that contradict those which underlay its prior policy; or when its prior policy has engendered serious reliance interests.’”⁵⁰¹

Likewise the courts have at least questioned the scope of deference regarding agencies ability to determine its jurisdiction when such jurisdiction is ambiguous. In *City of Arlington v. FCC*, the Supreme Court held an agency’s interpretation of the scope of its jurisdiction is subject to *Chevron* deference when there is ambiguity in the statutory grant of authority.⁵⁰² However, Chief Justice Roberts and his fellow dissenters sought to distinguish such questions from more typical administrative actions.⁵⁰³ They argued that it was for the courts to determine if an agency was entitled to interpretive authority “because Congress has conferred on the agency interpretative authority over the question at issue.”⁵⁰⁴ Roberts’ dissent stated, “An agency cannot exercise interpretative authority until it has it; the question whether an agency enjoys that authority must be decided by a court, *without deference to the agency*.”⁵⁰⁵ Justice Scalia, writing for the majority, rejected this distinction arguing that it was too broad of a scope for *de novo* judicial review of agency jurisdiction and would result in the force of agency actions becoming “unpredictable and destroy the whole stabilizing force of *Chevron*.”⁵⁰⁶ As a result, an agency may not egregiously overstep its bounds or claim authority over technology clearly delegated to another agency (the FAA cannot declare itself the regulator of high-speed rail for example); however, when there is ambiguity regarding the authority the agency’s own interpretation is likely to prevail.⁵⁰⁷

Chevron deference requires first that there be ambiguity in the Congressional expression of intent and then that the agency interpretation of the ambiguity be reasonable.⁵⁰⁸ Therefore if an agency has been delegated to regulate certain related policy areas or provided with a catchall,

⁴⁹⁸ 135 S.Ct. 1199, 1204 (2015).

⁴⁹⁹ *Id.* at 1204-5.

⁵⁰⁰ *Id.* at 1208-9.

⁵⁰¹ *Id.* at 1209.

⁵⁰² 569 U.S. 290 (2013); 133 S.Ct. 1863 (2013).

⁵⁰³ *Id.* at 1877.

⁵⁰⁴ *Id.*

⁵⁰⁵ *Id.* (emphasis added).

⁵⁰⁶ *Id.* at 1874.

⁵⁰⁷ *See id.*

⁵⁰⁸ *Chevron*, 467 U.S. at 842-43.

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the agency’s interpretation of its own authority over emerging technology is likely to be valid in accordance with *City of Arlington*.

The clearest example of how conflicts between emerging technology and judicial deference of the hard law era standards may play out through litigation is Flytenow’s recent challenge to FAA’s legal interpretation of the company’s compliance with existing federal aviation regulations.⁵⁰⁹ The FAA reinterpreted its definition of common carriage to be more expansive, thereby subjecting FlyteNow pilots to regulations to which they were previously not subjected, effectively rendering the business model illegal.⁵¹⁰ FlyteNow challenged the FAA’s decision to expand this interpretation.⁵¹¹

Unfortunately, the D.C. Circuit Court ruled that because the FAA was providing a reinterpretation of existing regulations the agency was entitled to *Auer* deference.⁵¹² This means the agency’s interpretations of its own regulations are given controlling weight unless these interpretations are clearly erroneous or inconsistent with the regulations.⁵¹³ The application of *Auer* in this case showcases the breadth of agency power in determining a reasonable interpretation, which includes the ability to reinterpret definitions that had previously been established and generally accepted.⁵¹⁴

For disruptive technologies, such deference presents three main challenges. First, an innovator cannot predict how an agency will reinterpret existing regulations, which may result in seemingly compliant activities being deemed illegal after the fact.⁵¹⁵ Second, agencies could attempt to use such reinterpretations to shoehorn a new technology into a category that it does not properly fit. Finally, such regulatory interpretations send a signal that innovation is not welcome and delays transformative changes.⁵¹⁶

⁵⁰⁹ Stewart B. Herman & Timothy J. Lynes, *Flytenow v. FAA Decision: Flight-Sharing Requires FAA Part 119 Certification*, THE NAT’L L. REV., Mar. 1, 2016, <https://www.natlawreview.com/article/flytenow-v-faa-decision-flight-sharing-requires-faa-part-119-certification>.

⁵¹⁰ Christopher Koopman, *Defining Common Carriers: Flight Sharing, the FAA, and the Future of Aviation* (Mercatus Working Paper, 2016) available at <https://www.mercatus.org/system/files/mercatus-koopman-common-carriers-flight-sharing-v1.pdf>.

⁵¹¹ Letter from Mark W. Bury, Acting Assistant Chief Counsel for International Law, Legislation, and Regulations Division of the Federal Aviation Administration to Gregory S. Winton, The Aviation Law Firm (Aug. 14, 2014), available at [https://www.faa.gov/about/office_org/headquarters_offices/agc/pol_adjudication/agc200/Interpretations/data/interps/2014/Winton-AviationLawFirm%20-%20\(2014\)%20Legal%20Interpretation.pdf](https://www.faa.gov/about/office_org/headquarters_offices/agc/pol_adjudication/agc200/Interpretations/data/interps/2014/Winton-AviationLawFirm%20-%20(2014)%20Legal%20Interpretation.pdf).

⁵¹² *Flytenow v. FAA*, 808 F.3d 882, 884 (D.C. Cir. 2015).

⁵¹³ *Auer*, 519 U.S. at 462-63.

⁵¹⁴ See *Flytenow*, 808 F.3d at 889-90.

⁵¹⁵ See Koopman, *supra* note 510 at 3.

⁵¹⁶ Eli Dourado, *The FAA Is Constantly Thwarting Innovation*, SLATE, Feb. 17, 2016 10:24 a.m., http://www.slate.com/articles/technology/future_tense/2016/02/the_faa_is_constantly_thwarting_aviation_innovation.html.

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As Christopher Koopman of the Mercatus Center at George Mason University has explained, the courts will likely defer to the FAA’s continued reinterpretations until there is a statutory intervention by Congress.⁵¹⁷ Such an intervention would be most helpful for long-standing definitions, such as common carriage, which may or may not have had time to evolve with technology.⁵¹⁸ Furthermore, subjecting such reinterpretations to notice-and-comment would provide a robust debate on the usefulness of the original regulation or definition. When agencies are changing long-standing traditional interpretations that regulated industries and individuals have relied on, the protection of APA-style process would help insure that such novel interpretations are consistent with legislative intent and democratic ideals.⁵¹⁹

Because emerging technologies are often difficult to delimit or categorize, addressing deference to agency guidance or actions becomes problematic—especially when it is unclear whether the interpretation falls within the agency’s jurisdiction.

Still, deference alone did not create the current regulatory quagmire and providing deference creates certainty around enforceability for both innovators and regulators. While this certainty may not reach an ideal outcome, it at least provides a standard to challenge. In challenging the high level of deference when appropriate, disruptive technology can help advance a soft law mechanism that uses the benefits of the soft law process without allowing it to devolve into “soft despotism.”

VI. ENSURING SOFT LAW DOES NOT DEVOLVE INTO “SOFT DESPOTISM”

It seems uncontroversial that “if a president or agency seeks to change regulatory policy, there are some basic administrative procedures that should be followed.”⁵²⁰ As discussed previously, adherence to these processes helps ensure greater transparency and accountability in the rulemaking process. Some administrative law scholars worry that, “[W]hen presidents and their officers become accustomed to issuing binding administrative edicts, they can easily drift into utterly arbitrary and despotic acts,” or what Philip Hamburger refers to as “soft despotism.”⁵²¹ This is certainly a valid concern.

As noted throughout this paper, however, the steady growth of soft law efforts potentially makes such concerns even more acute because the process is even less constrained by formal

⁵¹⁷ Koopman, *supra* note 510.

⁵¹⁸ *Id.*

⁵¹⁹ See Graham & Liu, *supra* note 33 at 430.

⁵²⁰ Graham & Liu, *supra* note 33 at 430 (“The lesson from this example is that regulators may be tempted, during settlement negotiations, to commit themselves to rulemakings that have not yet been analyzed from a cost-benefit perspective. If policymakers are serious about evidence-based regulatory reform, this practice needs to be restrained. Congress should consider new legislation that constrains agency powers to enter into such settlements without first conducting appropriate analysis to determine whether a rule is necessary and desirable. A public comment process is also needed before the agency makes the commitment. Congress should require that ample time be made available for public comments as well as for routine OMB review of the matter.”).

⁵²¹ HAMBURGER, *SUPRA* note 407 at 508-9.

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administrative procedures. When confronted with this problem, critics of varying ideological perspectives usually argue that, “Congress must reassert its lawmaking authority under Article I of the Constitution, and punish officials who engage in arbitrary behavior.”⁵²² Such punishments could include using appropriations powers to cut funds to agencies that deliberately and repeatedly engage in such behavior or removing officials (including agency heads and cabinet level officials) who encourage or engage in the behavior. On a smaller level, it could involve closer scrutiny requirements for agency’s including requiring Congressional review or more formal policy statements before an agency is able to take action.

A. Legislative Reform Efforts to Prevent Abuse of Soft Law

Crews and other scholars have outlined a wide variety of potential reform options aimed at curbing regulatory accumulation, curtailing the most costly rules, or at least bringing more transparency and accountability to the regulatory policymaking process.⁵²³ Those reforms include a moratorium on new regulation, the compilation of an annual regulatory transparency report card, and expanded resources for OIRA.⁵²⁴ Similarly, Patrick McLaughlin of the Mercatus Center has outlined several reforms that lawmakers could implement to begin tackling this serious problem.⁵²⁵ They include: legislative impact accounting, regulatory budgeting, regulatory review commissions, and hard caps on regulatory growth.⁵²⁶

All of these regulatory reform proposals have merit and are worthy of continued consideration. The prospects for comprehensive or even narrow regulatory reform seem dim, however. Most of these reform proposals have been under consideration for many years now and yet have failed to gain serious legislative traction. Meanwhile, possibly as a result of the inability of such regulatory reforms to take root, the scope of federal regulation has steadily increased. Susan E. Dudley and Jerry Brito have documented how both the number of pages published in the *Federal Register* and the estimated budgetary costs of federal regulation have both grown precipitously over the past 50 years.⁵²⁷

Regardless, even if such reforms were implemented to address regulatory burdens, it is unclear how much, if any, impact such proposals would have on the soft law processes and mechanisms described throughout this paper. The informality of many soft law processes means that no “rules” are being implemented through traditional mechanisms. Most of these reform proposals are targeted at regulations that go through a traditional APA process. As a result, it is difficult to know what if any impact they may have on the soft law mechanisms discussed earlier.

⁵²² Crews, *supra* note 23 at 45.

⁵²³ Clyde Wayne Crews Jr., *One Nation, Ungovernable? Confronting the Modern Regulatory State*, in WHAT AMERICA’S DECLINE IN ECONOMIC FREEDOM MEANS FOR ENTREPRENEURSHIP AND PROSPERITY, (2015), https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3016478.

⁵²⁴ *See id.*

⁵²⁵ Patrick McLaughlin, *Regulatory Accumulation: The Problem and Solutions*, MERCATUS CENTER POLICY SPOTLIGHT (September 2017), <https://www.mercatus.org/publications/regulatory-accumulation-problem-and-solutions>.

⁵²⁶ *Id.*

⁵²⁷ DUDLEY & BRITO, *supra* note 11 at 6-7.

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It may be the case that more formalized congressional or OIRA review is needed for the growing volume of soft criteria. Under the George W. Bush Administration, an executive order required regulatory agencies to submit “significant guidance” for review similar to that of formal rule making.⁵²⁸ The Obama Administration repealed this requirement just two years later.⁵²⁹ As Richard Williams and James Broughel pointed out, OMB still retained the right to review significant guidance, but even during the time the Bush Administration’s executive order was in effect, OIRA only reviewed one of over 400 FDA issued guidance documents.⁵³⁰ In order for such executive actions to yield more impactful reforms, they would have to broaden the definition of significant guidance for greater review. Even so, agencies could still attempt to escape such review with more informal soft law processes rather than a formal issuance of guidance.

To the extent congressional lawmakers wanted to curtail soft law activities that were even less formal—such as multistakeholder processes, workshops, and best practice documents—the easiest way for them to do so would be to either directly order agencies to cease such activities altogether or, more simply, to cut the budgets of agencies that refused to limit such activities. This also seems unlikely, however, and leaves stepped-up oversight by relevant committees as the most practical way for Congress to influence soft law activities by federal agencies. Yet the prospects of either direct statutory constraints on soft law policymaking or agency budget cuts seem highly unlikely.

Congress could also address the level of deference accorded to regulatory activities. In January 2017, Rep. John Ratcliffe (R-TX) proposed the “Separation of Powers Restoration Act,” which would demand that courts “decide de novo all relevant questions of law, including the interpretation of constitutional and statutory provisions, and rules made by agencies.”⁵³¹ This bill would effectively end *Chevron* deference and require stricter scrutiny of the scope of agency power.⁵³² But again, it is unclear whether this reform proposal would have any impact on soft law activities. This proposed legislation does include “major guidance” similar to the Bush Administration’s executive order, but adds rules or guidance that are likely to have “significant adverse effects on ... innovation” to the list of guidance and rules that would be subject to greater scrutiny.⁵³³ Notably, the act adopts an expanded definition of “rule,” which applies to rules that have a greater impact on small businesses.⁵³⁴ Still, even this expanded definition and oversight

⁵²⁸ Exec. Order No. 13422, 3 CFR 13422 (2007).

⁵²⁹ Exec. Order No. 13497, 3 CFR 13497 (2009).

⁵³⁰ Richard Williams & James Broughel, *Where Is the OIRA Oversight of FDA Guidance Documents?*, MERCATUS CENTER, Jun. 9, 2015, <https://www.mercatus.org/publication/where-oira-oversight-fda-guidance-documents>.

⁵³¹ H.R. 76, “Separation of Powers Restoration Act,” 115th Congress, January 3, 2017, <https://www.congress.gov/bill/115th-congress/house-bill/76/text>.

⁵³² C. Jarrett Dieterle, *Rep. John Ratcliffe on the Separation of Powers Restoration Act*, LEGBRANCH.COM, Sep. 25, 2017, <http://www.legbranch.com/theblog/2017/9/25/rep-john-ratcliffe-on-the-separation-of-powers-restoration-act>.

⁵³³ See H.R. 5, “Regulatory Accountability Act of 2017,” 115th Congress, Jan. 11, 2017.

⁵³⁴ *Id.*

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requirements would not address many of the soft law processes currently being used by agencies.⁵³⁵

Clearly, such actions would impact *Chevron* deference and formal rulemaking; however, it is unclear whether such a legislative limitation would apply to more informal forms of soft law. These free-range agency actions are more typically accorded *Skidmore* or *Auer* deference. Additionally, formalizing such requirements might only lead to further administrative entrepreneurialism without having the desired impact, as seen with the FDA’s actions under the executive orders discussed above.⁵³⁶

B. Presidential Actions to Formalize Administrative Guidelines & BCA for Soft Law Enactments

While a president can take several steps to formalize regulatory reform, creating a more lasting version to accomplish significant changes in the administrative state would require Congressional action rather than an executive order. As seen with the rollback of the Bush era Executive Order, executive orders do not create the guaranteed lasting regulatory change needed for true reform and can be easily undone by the next administration. A congressionally passed statute would require much more action and heightened risk for an agency to overturn or circumvent than the potential to merely wait for the next administration under an executive order.

Scholars have suggested this could happen. In an Administrative Conference of the United States report, Curtis Copeland argued that:

Congress could enact legislation clearly stating whether or not independent regulatory agencies should prepare cost-benefit or other types of economic analyses before issuing their rules. . . . Agency-specific or crosscutting legislation could also clearly indicate how independent regulatory agencies’ cost-benefit analyses should be conducted.⁵³⁷

Such a solution, however, is not a silver bullet. Many agencies already formally or informally consider the costs and benefits of their actions. Encouraging a culture that would promote voluntary transparency and disclosure of such information as best practices could achieve the same result and also account for the more amorphous areas of soft law.⁵³⁸

Overall, it may be a regulatory culture shift that is needed. In such a change, agencies would embrace not only the new power and flexibility of soft law tools, but also transparency, dialogue, and restraint.

⁵³⁵ *See id.*

⁵³⁶ *See Williams & Broughel, supra* note 530.

⁵³⁷ Curtis W. Copeland, “Economic Analysis and Independent Regulatory Agencies,” (Administrative Conference of the United States, April 30, 2013): 114, <https://www.acus.gov/sites/default/files/documents/Copeland%20Final%20BCA%20Report%204-30-13.pdf>.

⁵³⁸ *Id.*

C. Opportunities for Increased Legislative Oversight

More generally, Congress also has an oversight role to play here, and not just when it comes to curtailing egregious agency threats. Many of the controversies associated with court deference to agency interpretations arise from poor congressional drafting of underlying statutes.⁵³⁹ Agencies only have as much power as lawmakers say they do, but when Congress fails to clearly articulate and restrain their power by statute, agencies will often take advantage of the process to be overly-creative (and expansive) in their reading of their own authority.

Ideally, if regulation of an emerging technology is necessary, Congress ought to speak directly to the issue and clarify what, if any, new regulatory authority is needed for those technologies and to what extent existing laws or agency rules should, or should not, cover those technologies. This could help ensure that if delegation is necessary it is done as unambiguously as possible to provide notice and certainty to both regulators and the regulated entities.

Again, if agencies overstep those boundaries, congressional oversight efforts become more essential to rein them in. This is preemptively done by rewriting ambiguous legislation to control grants of agency authority, but can also be accomplished retroactively via the “power of the purse.” The appropriations process provides congress with a direct route to control agency budgets and encourage more accountability and transparency.⁵⁴⁰ Congress has previously tried to exercise such control over the FTC following the agency’s broad interpretation of its authority over unfair trade practices in the early 1970s.⁵⁴¹ After the related outcry, in the 1970s and 1980s, a Democrat-controlled Congress responded to the overreach by slashing the FTC’s appropriations and requiring it issue a formal policy statement on the use of its unfair trade practices power.⁵⁴² Congress later codified the policy statement into law, but this case study shows Congress can use its appropriations as well as legislative power to curtail agency overreach.⁵⁴³ Even when clarified and codified, however, such standards typically remain sufficiently broad to allow agencies flexibility and adaptability.

Finally, Congress could enact more formal regulatory reforms, such as the Regulatory Accountability Act⁵⁴⁴ or the REINS Act,⁵⁴⁵ which provide Congressional oversight for significant regulatory actions. These proposed reforms would generally require Congressional approval for major rule changes, but might not have as significant an impact on guidance.⁵⁴⁶ Still, by beginning

⁵³⁹ See John F. Manning, *Inside Congress’s Mind*, 115 COLUMBIA L. REV. 1911 (2015).

⁵⁴⁰ See Charles Tiefer, *Controlling Federal Agencies by Claims on Their Appropriations? The Takings Bill and the Power of the Purse*, 13 YALE J. ON REG. 501 (1996).

⁵⁴¹ Manne & Szoka, *supra* note 473.

⁵⁴² *Id.*

⁵⁴³ See *id.*

⁵⁴⁴ H.R.5, *supra* note 533.

⁵⁴⁵ H.R.26, 115th Cong. (2017).

⁵⁴⁶ See *id.*; H.R.5, *supra* note 533.

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to subject “significant” rule changes to Congressional review, Congress can take back some control over agency decision-making and check the worst excesses.⁵⁴⁷

While Congress may not technically be able to overrule a court ruling by legislation or limit its constitutional interpretations,⁵⁴⁸ the legislature can pass a law that would establish a heightened level of evidence regarding the purpose of an administrative action.⁵⁴⁹ For example, in Section 7 of the Federal Communications Act is a provision that places the burden of proof on an agency when trying to limit the use of provision of a new technology.⁵⁵⁰ Congress could shift the presumption of innocence more broadly to a new technology, thus creating the equivalent of an “innovator’s presumption” across the administrative state.⁵⁵¹ This would force the burden for necessity upon those who want to limit a technology’s use through regulatory requirements rather than those who favor a more wait and see approach.⁵⁵²

Legislative oversight still has significant barriers and disadvantages. For example, for the reasons noted earlier, growing dysfunction in the legislative branch make it unlikely that these reforms will occur anytime soon; meanwhile, agencies will undoubtedly continue to push the boundaries of their soft law authority.⁵⁵³

There are of course a few exceptions where Congress will overcome its dysfunction and address emerging technologies. Most recently this has been seen in bills related to AVs that would preempt many state level regulations and firmly establish federal control over certain aspects of the technology’s research, testing, and deployment.⁵⁵⁴ However, even in these cases, Congress has still acted more slowly than regulatory agencies or the states.⁵⁵⁵ As a result, such congressional action most likely remains an exception when there is a growing consensus around the best regulatory practices for a new technology or when it is clear the common law or agency actions risk serious harm. In short, legislation on autonomous AVs is the exception to the rule of soft law in the modern era.

⁵⁴⁷ See Philip A. Wallach & Nicholas W. Zeppos, *How Powerful is the Congressional Review Act?*, BROOKINGS, Apr. 4, 2017, <https://www.brookings.edu/research/how-powerful-is-the-congressional-review-act/>.

⁵⁴⁸ Leon Friedman, *Overruling the Court*, THE AMERICAN PROSPECT, Dec. 19, 2001, <http://prospect.org/article/overruling-court>.

⁵⁴⁹ See, e.g., 42 CFR 1005.15 (setting the burden of proof for certain ALJ hearings).

⁵⁵⁰ See Brent Skorup, *Five Things the FCC Can Do to Promote Innovation*, PLAIN TEXT, Jan. 27, 2014, <https://readplaintext.com/five-things-the-fcc-can-do-to-promote-innovation-16305b3e63d1>.

⁵⁵¹ Adam Thierer, *Converting Permissionless Innovation into Policy: 3 Reforms*, PLAIN TEXT, Nov. 29, 2017, <https://readplaintext.com/converting-permissionless-innovation-into-public-policy-3-reforms-8268fd2f3d71>.

⁵⁵² *Id.*

⁵⁵³ See Stein, *supra* note 216.

⁵⁵⁴ S.1885, “AV START Act,” 115th Congress, Nov. 28, 2017; H.R.338, “SELF DRIVE Act,” 115th Congress, July 25, 2017.

⁵⁵⁵ See Bradley Tusk, *Shockingly, Congress Acted Responsibly in Regulating Autonomous Cars...So What’s Next?*, TECHCRUNCH Sep. 10, 2017, <https://techcrunch.com/2017/09/10/shockingly-congress-acted-responsibly-in-regulating-autonomous-cars-so-whats-next/>.

D. Reforming Judicial Oversight of Agency Actions

The limitations of executive orders and the ossification of legislative action leaves the courts as the principal check on agency overreach. This is especially relevant now that the era of nearly unlimited *Chevron* deference may be coming to a close.

Although the courts remain highly deferential to agency interpretations in general, some have begun to show more restraint in granting such deference.⁵⁵⁶ However, lower courts can only go so far and are still bound by previous Supreme Court decision, such as *Chevron*.

Legislators seem aware that increased debate about the courts’ deference to administrative actions is emerging. During his Senate confirmation hearing, Justice Neil Gorsuch was questioned on his opinion on the doctrine.⁵⁵⁷ Prior to his appointment, Gorsuch wrote in his concurring opinion in *Gutierrez-Brizuela v. Lynch* that the *Chevron* doctrine allowed bureaucracy “to swallow huge amounts of core judicial and legislative power.”⁵⁵⁸ Similarly, Judge Kent Jordan of the Third Circuit recently questioned the negative impact of both *Chevron* and *Auer* deference on the proper separation of powers.⁵⁵⁹ As discussed earlier, even Chief Justice Roberts has voiced concerns about the great deal of deference courts have given the administrative state.⁵⁶⁰ Such a reassessment of agency deference is long overdue and would force agencies to be more careful about their soft law activities in the future.⁵⁶¹

Limiting *Chevron*, however, would not fully solve concerns over judicial deference. The soft law issues addressed in this paper are not typically subject to *Chevron* deference and as a result, other judicial deference standards are more relevant to possible outcomes. Still, a judicial decision overturning or limiting *Chevron* deference would likely have a limiting impact or at least call for a renewed scrutiny of other standards of deference to agency decisions.

Furthermore, merely determining what soft law is subject to judicial review and how would help establish a legal certainty for innovators and regulators. Weiser states, “Given that there is no judicial oversight of best practices development, it is important that agencies pre-commit to a level of procedural regularity and fairness in how they develop them.”⁵⁶² But an alternative would be to establish the necessary standing and judicial oversight for regulated entities to challenge

⁵⁵⁶ Jonathan H. Adler, *Another Federal Judge Questions Chevron Deference*, WASH. POST, Mar. 25, 2017, https://www.washingtonpost.com/news/volokh-conspiracy/wp/2017/03/25/another-federal-judge-questions-chevron-deference/?utm_term=.9760ea9b82bf.

⁵⁵⁷ Tessa Berenson, *How Neil Gorsuch Could Dramatically Reshape Government*, TIME, Mar. 19, 2017, <http://time.com/4701114/neil-gorsuch-confirmation-hearing-chevron-doctrine/>.

⁵⁵⁸ 834 F.3d 1142, 1149 (2016).

⁵⁵⁹ Adler, *supra* note 556.

⁵⁶⁰ *City of Arlington*, 133 S.Ct. at 1877.

⁵⁶¹ Ilya Somin, *Gorsuch is Right about Chevron Deference*, WASH. POST, Mar. 25, 2017, https://www.washingtonpost.com/news/volokh-conspiracy/wp/2017/03/25/gorsuch-is-right-about-chevron-deference/?utm_term=.ae603603f60a.

⁵⁶² Weiser, *supra* note 69 at 13.

these less formal forms of regulation through the court, especially when such transparency did not previously exist.

Finally, it is worth noting that similar soft law trends are playing out at the state and local level in various ways. These actions are particularly relevant in the AV and FinTech industries. In such cases, the question of judicial deference is more complicated, but states generally follow a version of federal deference standards as applicable. *Chevron*, *Skidmore*, and *Auer* only apply to federal agencies and their actions. State level deference can vary. This is the subject for another paper, but we can safely predict that many of the same issues raised here for federal soft law enactments will play out in the states in coming years.⁵⁶³

E. Agency-Based Safeguards

Congress could also examine the possibility of establishing oversight and safeguards for the most informal agency soft law actions, such as the use of social media and “regulation by raised eyebrow.” To make agency use of social media more accountable, Congress could demand that official guidelines regarding the nature and regulatory force of such comments and statements be promulgated. While this has recently become a larger debate in light of President Trump’s widespread use of Twitter, such standards must also be more formally stated for the social media presence of agencies and their heads or principal officers.⁵⁶⁴

As James Broughel has commented:

One way to rein in abusive government use of social media may be to have the government write updated guidelines on the topic. The Office of Management and Budget is the logical agency to do this; it already writes guidelines for countless other regulatory agency functions. Such guidance should be published publicly in draft form in the Federal Register, it should be subject to rigorous third party review (perhaps from the National Academy of Sciences) and the public should have adequate time to comment on the guidelines.⁵⁶⁵

To limit the potential for abuse, Congress can take steps to rein in and limit delegation of open-ended powers to agencies in the future. At a minimum, legislators must make their regulatory intent and standards clearer *before* delegating authority to regulatory agencies, and if they fail to do so, courts should not be shy about declaring overly broad delegations of ambiguous authority to be presumptively invalid under the Constitution.⁵⁶⁶

Another positive deregulatory action would be the implementation of sunset provisions to require the reevaluation of effectiveness and attempt to insure regulations do not become to cumulatively burdensome. Sunset provisions have been endorsed by a wide variety of scholars

⁵⁶³ See Knight, *supra* note 395.

⁵⁶⁴ See Broughel, *supra* note 105.

⁵⁶⁵ *Id.*

⁵⁶⁶ Theodore Lowi, THE END OF LIBERALISM 300 (1979) (“The [Supreme] Court’s rule must once again become one of declaring invalid and unconstitutional any delegation of power to an administrative agency or to the president that is not accompanied by clear standards of implementation.”).

as useful tool to encourage lawmakers and regulators to consider a little periodic house-cleaning. As Sofia Ranchordas has argued:

Regulators can increase flexibility of regulations to accompany the pace of innovation both by including a sunset clause—which predetermines their expiry at the end of a certain period—or by experimenting with new rules. . . . Terminating regulations by employing sunset clauses or by experimenting on a small-scale can be useful to ensure that rules keep up with the changes in technology and society.⁵⁶⁷

Sunsetting and reevaluating regulations becomes ever more important in light of the increasing speed of the pacing problem. If the same technology that was groundbreaking or relevant one, two, or five years ago is no longer groundbreaking or relevant, then the regulations that govern that technology should probably be reevaluated. Similarly, a provision could be created to require a ruling could only stay in the guidance phase for a set period of time before requiring more formal analysis and rulemaking to continue—a kind of “regulatory incubation” period.

Another solution to encourage regulatory housecleaning would be to apply the recent Trump Administration executive order regarding “one in, two out” more broadly to include guidance as well as more formal rules.⁵⁶⁸ This would compel agencies to reevaluate the need for existing regulations, potentially helping ease the “volume of rules” problem identified previously in this paper. Of course, such an approach is not without tradeoffs. In an effort to require fewer regulations, agencies might default to broad, imprecise regulations rather than more appropriate narrowly tailored options. However, studies of smaller scale attempts have shown that these efforts typically do reduce the overall regulatory burden.⁵⁶⁹

F. Consider Liberalization Opportunities & Deregulatory Alternatives

In many cases, efforts to exercise control over various technologies may not be necessary at all. Consumer welfare is often better served by allowing markets and culture to evolve naturally for a time to determine the appropriate tradeoffs between potential harms and benefits of technology. Too often attempts to promote consumer welfare for fear of the worst-case scenario prevent consumer choice and circumvent both the consumer and the innovator’s personal responsibility.⁵⁷⁰

Policymakers should consider more tightly delimiting the horizons of the regulatory state and limiting its reach to only the most problematic issues. This increases not only the freedom of

⁵⁶⁷ See Ranchordas, *supra* note 161.

⁵⁶⁸ *Presidential Executive Order on Reducing Regulation and Controlling Regulatory Costs*, THE WHITE HOUSE, Jan. 30, 2017, <https://www.whitehouse.gov/the-press-office/2017/01/30/presidential-executive-order-reducing-regulation-and-controlling>.

⁵⁶⁹ See *The Better Regulation Initiative*, NOVA SCOTIA: BETTER REGULATION INITIATIVE, https://novascotia.ca/lae/cci/docs/BR_Factsheet.pdf (last visited Dec. 18, 2017).

⁵⁷⁰ See PERMISSIONLESS INNOVATION, *supra* note 123 at 83-84.

innovators, but also affords greater legitimacy and seriousness to those regulations and actions that are undertaken.

Of course, this is a controversial proposal and one that hinges upon how “technological harm” is perceived and defined. This is a task for another paper. For purposes of this discussion, however, it is worth noting that overly expansive conceptions of “harm” should be avoided if for no other reason than agency resources are limited and the pacing problem seems likely to continue accelerating.⁵⁷¹ Establishing clearer definitions for such harms would nonetheless be a good step towards greater certainty and objective standards for evaluating when such injuries have materialized.⁵⁷²

If that is indeed the case, policymakers should pick their battles wisely with an eye toward expending their resources and whatever control potential they have on the most serious harms that are identified.

Similarly, far too many traditionally regulated sectors, such as transportation, telecommunications, and health, already have an unlevel playing field for new entrants. Too often incumbents push for disruptors to be regulated in the same way, or even more stringently. Rather than solving a regulatory problem, “asymmetric regulation leads to distortions by providing protection to incumbents against the competition with new entrants.”⁵⁷³ Instead of trying to level the playing field by increasing the regulatory burdens across the industry, new technologies should be regulated at the lowest level until more regulation proves necessary. As Koopman, Thierer, and Mitchell point out: “The solution is not to punish new innovations by simply rolling old regulatory regimes onto new technologies and sectors. The better alternative is to level the playing field by “deregulating down” to put everyone on equal footing, not by “regulating up” to achieve parity.”⁵⁷⁴

VII. CONCLUSION

We stand at a crossroads in terms of governance approaches for a great many emerging technologies. The era of “hard law” governance appears to be fading and the age of “soft law” is firmly underway. Scholars and policy advocates of quite different ideological dispositions may have reservations about this development, but that is unlikely to keep it from happening.

This paper has argued that many of those normative concerns about soft law regimes, while legitimate, will not be able to overcome the practical realities that are necessitating the increasing use of these formal governance mechanisms. It may also be the case that soft law mechanisms—especially those which incorporate multistakeholder processes—offer the best opportunity to achieve the sort of democratic deliberation and rough policy consensus that hard

⁵⁷¹ Christopher Koopman et al., *supra* note 445.

⁵⁷² See, e.g., Daniel Castro & Alan McQuinn, *2017 Informational Injury Comments*, INFO. TECH. & INNOVATION FOUND., Oct. 27, 2017, <http://www2.itif.org/2017-informational-injury-comments.pdf>.

⁵⁷³ Gervais, *supra* note 226 at 681.

⁵⁷⁴ Thierer, *supra* note 551.

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law regimes were supposed to advance but have either failed to or face formidable obstacles going forward.

It is our hope that these new mechanisms and processes come to offer a more “collaborative, transparent, adaptable system” of technological governance,⁵⁷⁵—and one that accomplishes its goals without suffocating new types of life-enriching innovation.

In that sense, it may be that the case that much like Churchill once famously said that democracy represented “the worst form of Government except for all those other forms that have been tried from time to time,” it may be the case that soft law represents the worst form of technological governance except for all those others that have been tried before.⁵⁷⁶

⁵⁷⁵ Mandel, *supra* note 2 at 10.

⁵⁷⁶ Adam Thierer, *Does ‘Permissionless Innovation’ Even Mean Anything?* Remarks prepared for Fifth Annual Conference on Governance of Emerging Technologies: Law, Policy & Ethics at Arizona State University, Phoenix, AZ, May 18, 2017, <https://techliberation.com/2017/05/18/does-permissionless-innovation-even-mean-anything>.