Thank you to the Progressive Policy Institute for inviting me today. I value PPI’s policy voice because you focus on generating innovative ideas that are also pragmatic. If politics is the art of the possible, PPI is a fine gallery of that art. And I am honored to be here.

Speaking of acknowledging the possible, please note that my views are my own and do not necessarily represent the views of FTC staff or my fellow commissioners.

I really like the title of this event, “Innovation in a Rules-Bound World: How Regulatory Improvement Can Spur Growth.” I like it because the interplay of innovation and regulation is something I have been thinking about for a long time, and I’ve even referred to regulation as a physical constraint on innovation.

In fact, last year I gave a speech titled “The Procrustean Problem with Prescriptive Regulation.” In Greek mythology Procrustes was a rogue blacksmith, a son of the sea god Poseidon, who offered weary travelers a bed for the night. He even built an iron bed especially for his guests. But there was a catch: if the visitor was too small for the bed, Procrustes would forcefully stretch the guest’s limbs until they fit. If the visitor was too big for the bed, Procrustes would amputate limbs as necessary to fit them to the bed. Eventually, Procrustes met his demise at the hand of Greek hero Theseus, who fit Procrustes to his own bed by cutting off his head.

The story of Procrustes warns us against the human tendency to squeeze complicated things into simple boxes, to take complicated ideas, technologies, or people, and force them to fit
our preconceived models. As Nassim Taleb points out in “The Bed of Procrustes,” his book of aphorisms, we often use of this backward fitting approach without recognizing what we are doing. Even worse, sometimes we are oddly proud of our cleverness in reducing something complicated to something simple.¹

Needless to say, as regulators we should not force complex phenomena into simple boxes, let alone be proud of doing so. The lesson of Procrustes for regulators and policy makers is that we should resist the urge to simplify, make every effort to tolerate complexity, and develop institutions that are robust in the face of complex and rapidly changing phenomena.

There are many ways to apply the lesson of Procrustes, but today I’ll focus on three principles I try to apply to regulation: First, approach issues with regulatory humility, recognizing the fundamental limits of regulation. Second, prioritize action to resolve areas of real consumer harm. Third, use the appropriate regulatory tools. I believe these principles apply to regulation generally, but that they are particularly critical when the regulation involves technology or other fast-advancing industries, so my comments will draw on examples from those fields, particularly those where the FTC has played a role. Let me talk about each of these three principles in some depth.

**Principle 1: Embrace Regulatory Humility**

It is exceedingly difficult to predict the path of technology and its effects on society. The massive benefits of perhaps the most influential technology in history, the Internet, in large part have been a result of entrepreneurs’ freedom to experiment with different technologies and business models. The best of these experiments have survived and thrived, even in the face of initial unfamiliarity and unease about the impact on consumers and competitors. For example,

¹ Nassim N. Talib, THE BED OF PROCRUSTES xii (2010).
you may remember the early widespread skepticism directed toward online shopping. Today, let me just ask: how many of you bought something online this month? Early skepticism does not predict potential consumer harm. Conversely, as the failures of thousands of dotcoms show, early enthusiasm does not predict consumer benefit.

Because it is so difficult to predict the future of technology, government officials, like myself, must approach new technologies and new business models with a significant dose of regulatory humility. Regulatory humility is my name for recognizing the inherent limitations of regulation and acting according to those limits. Of course, the idea that regulatory action has inherent limits is much older than my use of this term. One of the most fundamental limitations of regulation was explained by F.A. Hayek in his 1945 paper, “The Use of Knowledge in Society.”

Hayek spent much of his illustrious career demonstrating the limits of centralized planning as compared to decentralized market structures, and his insights apply equally to regulation by the administrative state. For me, Hayek’s key insight in this paper was his recognition that regulators face a fundamental knowledge problem, and this problem limits the effective reach of regulation. A regulator must acquire knowledge about the present state and future trends of the industry being regulated. The more prescriptive the regulation, and the more complex the industry, the more detailed knowledge the regulator must collect. But, Hayek argues, regulators simply cannot gather all the information relevant to every problem.

What limits the ability of regulators to collect such information? First, collecting and analyzing such information is very time-consuming, because such knowledge is generally

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2 I have focused on what I think is the most fundamental limitation of regulation, the knowledge problem. However, there are many other obstacles to effective regulation, as public choice scholars have well documented. See, e.g., William A. Niskanen, Jr., BUREAUCRACY AND PUBLIC ECONOMICS (1994).


4 Id.
distributed throughout the industry, in what Hayek calls “the dispersed bits of incomplete and frequently contradictory knowledge.”

Second, in most cases, critical information lies latent in the minds of the individuals or in the institutional structures of the industry involved. That is, even those directly involved in the industry itself cannot themselves fully explain how things get done. James C. Scott, in his book “Seeing like a State,” uses the Greek term “mētis” to describe this “practical knowledge,” or “the wide array of practical skills and acquired intelligence in responding to a constantly changing natural and human environment.” These are the types of skills that can really only be learned by doing – think of riding a bike, for example, or speaking a language, or conducting an effective board meeting. Much of human knowledge falls into this category. And Scott argues quite convincingly that formal organizations, including regulators, not only fail to recognize and capture such knowledge, but also rely heavily on it. In fact, Scott indicates that regulation, quote, “is always and to some considerable degree parasitic on informal processes, which the formal scheme does not recognize, without which it could not exist, and which it alone cannot create or maintain.” In short, regulation cannot effectively capture practical knowledge.

A third aspect of the knowledge problem is that 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.

This knowledge problem means that centralized problem solving cannot make full use of the available knowledge about a problem and therefore in many cases offers worse solutions when compared to distributed decision-making.

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6 Id. at 310.
Hayek’s insight is actually not very controversial today. At the time Hayek wrote his paper, centralized planning was the en vogue solution for just about every social ill. Today, there is an overwhelming consensus that markets and other distributed social learning mechanisms are much better at solving the vast majority of problems. And even the most interventionist regulators often talk about preferring market mechanisms and “light touch” regulation. Yet, despite the lip service paid, regulators still too often instinctually react to apparent problems by proposing top-down solutions. This instinct is the opposite of regulatory humility. And to be more effective regulators, we must suppress this instinct.

In the modern age, there is a potential new source of regulatory hubris of which we must be aware. The success of the information economy means that we regulators can now gather so much data. Much more of the world has become “legible” to regulators. This data certainly can help enhance regulatory decisions. But data isn’t knowledge or wisdom. Data cannot capture much of the practical knowledge Scott describes. So “data-driven” decisions can be wrong. Even worse, data-driven decisions can seem right while being wrong. Political polling and statistics expert Nate Silver notes that “[o]ne of the pervasive risks that we face in the information age … is that even if the amount of knowledge in the world is increasing, the gap between what we know and what we think we know may be widening.” Regulatory humility can help narrow that gap.

So, Principle One is to recognize the limits of regulation and embrace regulatory humility. Having done so, then what? Congress has tasked the FTC with regulatory tasks – some of them quite important – so how can a decision maker act with regulatory humility and still carry out its mission? My next two principles address this practical problem.

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Principle 2: Focus on Identifying and Addressing Real Consumer Harm

My second principle, and a key way to practice regulatory humility, is to focus on identifying and addressing real consumer harm. As noted in the FTC at 100 Report, “[T]he improvement of consumer welfare is the proper objective of the agency’s competition and consumer protection work.”8 The most effective way to improve consumer welfare under the FTC’s mandate is to find and address the most severe consumer harms.

At the FTC, this focus is part of our statute. Congress charged us in Section 5 of the FTC Act with preventing deceptive or unfair acts and practices. Deceptive acts violate Section 5 only if they are material – that is, if they actually harm consumers. And practices are only unfair if there is a substantial harm that consumer cannot avoid and that outweighs any benefits to consumers or competition. In both cases, the law concerns itself with addressing actual consumer harms. Likewise the FTC carefully evaluates consumer welfare (or, its corollary, consumer harm) when it exercises its antitrust authority.

Not only does the law require the FTC to focus on consumer harm, such a focus is also good policy. Agencies have limited resources. We should generally spend those resources to stop existing or extremely likely harms, rather than trying to prevent speculative or insubstantial harms.

When we analyze harms and benefits, both in our enforcement efforts and in policy making more generally, we ought to follow the advice of Frederic Bastiat. In 1850, in a famous essay titled “That Which is Seen, and That Which is Not Seen,” Bastiat argued that he could tell

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the difference between a good and a bad economist based on single methodological habit.\textsuperscript{9} A bad economist, he said, judges a policy or action based only on the “seen,” first order effects of that action. In contrast, a good economist takes account, quote, “both of the effects which are seen, and also of those which it is necessary to foresee.”\textsuperscript{10} Bastiat explained that the bad economist’s myopic analysis might lead him to prevent a small present harm, yet trigger a much bigger overall harm. In contrast, the good economist’s thorough analysis will lead her to be more tolerant of the risk of a small present harm, if it will avoid a much larger harm later.

I think regulators face the same challenge, and should therefore engage in diligent cost-benefit analysis. The appropriate depth of such analysis might vary, depending on the situation. In cases of clear fraud by a single party, where there are no consumer benefits, the costs and benefits need not necessarily be detailed exhaustively. However, for cases where there are both costs and benefits, and the decision could affect a wide range of parties, regulators ought to carefully assess consumer harms and benefits. This will help keep the agency resources focused on where they can do the most good.

By focusing on practices that are actually harming or likely to harm consumers, the FTC has generally limited its forays into speculative harms, thereby preserving its resources for clear violations. I believe this self-restraint has been important to the FTC’s success in alleviating a wide range of disparate consumer harms without disrupting innovation. I think this is a model worth replicating.

At this point, I think it might be worth looking at a real life example of the application of this principle. One of the fastest developing technologies is the so-called Internet of Things (IoT), a term that refers to technologies that connect everyday devices to each other and to the

\textsuperscript{9} Frederic Bastiat, THAT WHICH IS SEEN, AND THAT WHICH IS NOT SEEN (1850).
\textsuperscript{10} Id.
Internet. The FTC staff recently issued a staff report on this topic, with some recommendations. I agreed with some of the recommendations but dissented from others, with the difference essentially coming down to the presence of, or lack of, real consumer harm.

For example, the report prioritized as a primary concern the need for security of IoT technology and the personal data it collects and thus reiterated the Commission’s recent unanimous and bi-partisan call for general data security and breach notification legislation. I supported this recommendation because of the demonstrated harms to consumers from a lack of security. Some IoT devices have already experienced data security failures that have harmed consumers. Raising awareness of security issues, and adopting a process-based standard for data security and a consistent data breach notification standard, could help secure consumer devices, thereby benefitting consumers.

On the other hand, the IoT report also supports the practice of “data minimization.” Without examining costs or benefits, the report encourages companies to delete valuable data that could have many unanticipated beneficial uses. The report proposed this practice out of concern over largely hypothetical future harms. This recommendation embodies what scholar Adam Thierer has called the “precautionary principle.” It preemptively cuts off innovation, rather than focusing on real consumer harms. I therefore dissented from that recommendation in the staff report.

**Principle 3: Use Appropriate Tools**

To recap: Principle One: regulatory humility. Principle Two: Focus on identifying and addressing real consumer harm. My final principle is this: use appropriate tools. The tools an

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agency uses can make a large difference in the agency’s effectiveness. For fast changing
technologies, agencies need tools that are nimble, transparent, and incremental.

A good example of a nimble, transparent, and incremental regulatory tool is the FTC’s
case-by-case enforcement process. Often, we equate regulation with large, APA-style
rulemakings. Such *ex ante* rulemaking sets out rules, often industry wide in scope, to prevent
future harms. For the reasons discussed above, including the knowledge problem, regulators
struggle to construct effective *ex ante* rules and to update such rules in a timely manner. And
such prescriptive *ex ante* regulations can hinder innovation. For example, if an innovative new
project or service does not easily fit in a particular statutory or regulatory box, the innovator may
be uncertain about how to comply with the law. Such legal uncertainty exacerbates the already
risky effort to develop something new, which discourages innovation.

Regulation at the FTC is generally quite different. Although the Commission does have
rulemaking authority, the vast majority of our actions are *ex post* case-by-case enforcement of
our general Section 5 authority. This incrementalist approach, which we have been using for
nearly 100 years, has significant benefits. Consistent with Hayek’s thesis about the knowledge
problem, addressing only a specific case at hand requires far less information than, for example,
an industry-wide rulemaking to address similar issues. This makes the knowledge problem more
tractable. Furthermore, this *ex post* enforcement requires specific facts on the ground and a
specifically alleged harm, and it generally only directly applies to the party to the enforcement
action. Thus, an incrementalist approach better limits the potential unintended consequences of a
regulatory action.

(As an aside, a case-by-case approach also dampens the incentives that fuel agency
capture problems. But public choice challenges in regulatory design is a whole other speech.)
Perhaps somewhat paradoxically, incremental approaches are particularly well-suited to dealing with fast-developing areas of technology. Even small distortions in such fast-moving industries can quickly divert the industry from its previous trajectory. A case-by-case approach allows the regulatory body to address bad actors without derailing an entire industry, and it enables the law to evolve alongside the technology in a much more organic fashion.

Another nimble, transparent and incremental tool that is well-suited to regulation in fast changing industries is industry self-regulation, with agency enforcement as a backstop. Compared to traditional government regulation, self-regulation has the potential to be more prompt, flexible, and responsive when business models or technologies change. Self-regulatory frameworks are easier to reconfigure than major regulatory systems that must be adjusted via legislation or agency rulemaking. Self-regulation can also be well attuned to market realities where self-regulatory organizations have obtained the support of member firms. A regulatory backstop that holds companies to the promises they make under a self-regulatory framework – like the FTC’s deception authority does – ensures that companies take seriously their responsibilities under a self-regulatory framework.

Perhaps another example can help illustrate the principle of using the proper tools. Last Thursday, as no doubt many of you are aware, the Federal Communications Commission voted to reclassify broadband service as a common carrier service under Title II of the Communications Act. The FCC did so nominally in order to address concerns about potential non-neutral behavior by Internet Service Providers. Did the FCC use the right tool to implement net neutrality? We don’t know all the details yet, but I don’t think anyone would argue that Title II – regulation created in 1934 to govern monopoly telephone companies – is either nimble or incremental.
In contrast, the FTC recently settled a case with TracFone for practices that raise many of the same “net neutrality” concerns. TracFone offered its customers certain plans with unlimited data. However, TracFone would slow down, or throttle, the data speeds of consumers that were using large amounts of data, even when networks were not congested. The FTC’s complaint alleged that such practices were deceptive and unfair under Section 5, and we recovered $40 million dollars in refunds for TracFone consumers. We are in litigation against AT&T for similar practices. By targeting practices where there were clear, existing consumer harms, with case-by-case enforcement actions, the FTC addressed consumer harms without preemptively limiting innovation.

**Conclusion**

In conclusion, I believe that regulators who follow these three principles - regulatory humility, a focus on identifying and addressing consumer harms, and use of the proper tools – will be able to carry out their regulatory missions while minimizing negative effects on innovation. Applying these principles can help us avoid the procrustean problem and thereby ensure that the comfortable regulatory bed we design today doesn’t become a torture rack for tomorrow’s technologies.

Thank you again to PPI for having me today, and I would be glad to take questions at this time.