I appreciate the opportunity to appear before you today and provide some perspectives on standard setting and competition. I regret that I cannot be with you in person, but obligations on the East Coast have dictated that I make a “virtual” appearance at this important conference.

The setting of standards has long been a staple of our market economy. The setting of a standard – whether naturally through marketplace selection, or deliberately under the auspices of a standard setting organization (“SSO”) – can allow products supplied by different firms to interoperate, making them more valuable to consumers and thus increasing the chances of

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1 The views stated here are my own and do not necessarily reflect the views of the Commission or any other Commissioner.
market acceptance. The setting of standards for electrical plugs and outlets, for example, while now taken for granted, has assisted in the proliferation of electrical appliances that consumers purchase, secure in the knowledge that they will plug into any electrical outlet at home or elsewhere in the United States. In an economy increasingly characterized by information technology and intellectual property, the setting of industry standards has become both more critical and more complicated. Technology industries increasingly rely on interoperability, which produces efficiencies that can lead to increased competition, cost reductions, increased innovation and output, and the provision of new services.  

While standard setting potentially provides tremendous benefits for consumers, it also potentially presents competitive issues that cannot be ignored. The most dangerous of these, of course, is the potential that a standard-setting effort will be used as a mechanism for competitors to fix prices, allocate markets, or boycott a competing firm or technology. Fortunately, we have not seen frequent instances of naked collusion in the standard-setting context. Still, SSOs should continue to take precautions to avoid facilitating collusion or other anticompetitive agreements.

What has become more common, though, is the potential for an intellectual property rights owner to “hold up” other members of a standard-setting organization after a standard has been set. If, at the start of the process, any one of a number of competing formats could win the standards battle, then no single format will command more than a competitive price. But

\[2 \text{ See FTC/DOJ Hearings on Competition and Intellectual Property Law and Policy in the Knowledge-Based Economy, available at http://www.ftc.gov/opp/intellect/index.htm, Peterson (“Consideration” stmt) 1, available at http://www.ftc.gov/opp/intellect/021106peterson.pdf (noting that many innovative information technology products “might never have existed without standards”). Hereinafter, citations to statements and transcripts associated with these hearings state the speaker’s or contributor’s name; date of testimony, if applicable; and relevant page(s).} \]
standardization can change that dynamic. After the standard is chosen, industry participants likely will start designing, testing, and producing goods that conform to the standard – that is, after all, the whole idea of engaging in standard setting. Early in the standardization process, industry members might easily be able to abandon one technology in favor of another. But once the level of resources committed to the standard rises and the costs of switching to a new technology mount, industry members may find themselves locked into using the chosen technology. In that case, competition for the standard ends (at least for a time, until, for example, the next generation of technology supplants it). In other words, before lock in – or “ex ante” – technologies compete to be the standard, and no patent-holder can demand more than a competitive royalty rate. After lock in – or “ex post” – the owner of the chosen technology may have the power to charge users supra-competitive royalty rates -- rates that may ultimately be passed on to consumers in the form of higher prices.

“Hold up” by no means is inevitable. For example, if the chosen standard has to compete with rival standards, the owner of the SSO’s chosen technology may end up with little market power. If users can respond to a supra-competitive royalty rate by defecting to a rival standard, the patent holder will find itself unable to obtain anything more than the competitive price. But if there are no rival standards, the owner of the technology chosen for the standard may have market power sufficient to command supra-competitive royalties.

Moreover, even if an intellectual property owner can obtain a royalty rate higher than those of other technology owners, members of the organization that chose the standard are not necessarily being held up. The higher royalty rate may be explained by the superiority of its

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3 See, e.g., Lemley 4/18 at 76.
technology. That is, its peerless technology – developed through “superior skill, foresight, and industry” – may explain the ability to charge a premium.

The ability of a patent holder to charge a high royalty rate may, however, result from the reduction in competition that may occur after a standard is chosen and lock in has occurred. The antitrust laws are concerned with situations in which a patent holder obtains such market power as a result of anticompetitive conduct. The Commission’s recent Unocal case alleged just this sort of hold up. There, the standard setter was the California Air Resources Board, or “CARB,” which was developing obligatory standards for certain low-emission gasoline products. The Federal Trade Commission charged in an administrative complaint that Unocal misrepresented to CARB that certain gasoline research was non-proprietary and in the public domain. At the same time, Unocal was allegedly pursuing patent rights that would allow it to charge companies producing CARB-mandated gasoline substantial royalties if its intellectual property became part of CARB’s standards. These high royalties would likely be passed on to consumers, resulting in up to $500 million in additional consumer costs each year, the Commission’s complaint alleged. Unocal settled the case with the Commission this summer, entering into two consent decrees that resolved both the monopolization case and Chevron’s proposed $18 billion acquisition of Unocal and in which Chevron agreed not to enforce the Unocal patents.5

4 United States v. Alcoa, 148 F.2d 416, 430 (2d Cir. 1945) (Hand, J.).

5 The Commission was concerned that if Chevron had unconditionally inherited these patents in the merger, it could have been positioned to gain sensitive information and to claim royalties from its rivals. This, the Commission believed, would likely lessen competition in the refining and marketing of CARB reformulated gasoline, because Chevron could use its patent position to coordinate with its downstream rivals, injuring consumers. See Statement of Federal Trade Commission, In re Unocal and In re Chevron and Unocal, available at http://www.ftc.gov/os/adjpro/d9305/050802statement.pdf.
SSOs have employed a variety of tools to prevent their members from being held up by a rights owner. For example, some have enacted SSO IP policies that require their members to disclose patents (or other intellectual property) related to a standard under consideration. Such disclosure rules could make SSO standard selection more competitive – and thus help avoid hold up – by flushing out members’ relevant intellectual property early. That can allow the SSO members to decide whether the patented technology is worth the royalty that its owner may later charge, or whether the group would be better off selecting another technology (if one is available). [Issues regarding such disclosure rules are presented in a case that now is before the Commission, *In re Rambus*, so I will not discuss that any further.]

Another mechanism through which SSOs have endeavored to avoid the hold up problem is through passage of rules governing IP licensing agreements. That is, in some SSOs, members commonly agree that any intellectual property rights holders that are members of the SSO must license technology incorporated in the standard on “reasonable and non-discriminatory” (“RAND”) terms. The intent is to help mitigate hold up by preventing patentees from demanding supracompetitive royalties once it becomes costly for the SSO members to switch to another technology.

Experience has shown, however, that some agreements on RAND rates can be vague and may not fully protect industry participants from the risk of hold up. Consequently, some

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7 See, e.g., Lemley, 90 CAL. L. REV. at 1964 (“without some idea of what [reasonable and nondiscriminatory] terms are, reasonable and nondiscriminatory licensing loses much of its meaning”).

8 See, e.g., Peterson (“Consideration” stmt) 6.
experienced members of SSOs and commentators have suggested that owners of patented technology should be permitted to state their intended royalty rates \textit{ex ante}, that is, before the standard is set. Indeed, as some have suggested, if owners stated their royalty rates upfront, then price could become part of the competition among technologies for incorporation into the standard. Others have proposed that permitting SSO members to go further and engage in joint \textit{ex ante} royalty discussions (perhaps even auctions) would also mitigate the hold-up problem.\footnote{See, \textit{e.g.}, Robert A. Skitol, \textit{Concerted Buying Power: Its Potential for Addressing the Patent Holdup Problem in Standard Setting}, 72 ANTITRUST L. J. 727 (2005); David Balto & Daniel Prywes (stmt) 2, \textit{available at} http://www.ftc.gov/os/comments/intelpropertycomments/baltopyrywes.htm (proposing permissive discussion and joint negotiation of licensing terms).} Such discussions would allow SSO members to collectively discuss – before lock in (“\textit{ex ante}”) – a royalty rate (or at least a maximum rate) for incorporated technology.

Both of these proposals, however, have raised concerns that agreed rates are exercises in collective price-fixing and therefore run afoul of the antitrust laws’ per se ban on price fixing. Consequently, some SSOs and their participants have hesitated to allow unilateral announcements of royalty rates by, let alone \textit{ex ante} joint royalty discussions with, firms that own the technology being considered for incorporation into the standard, settling instead for rules that demand RAND terms for members.\footnote{See, \textit{e.g.}, Skitol, 72 ANTITRUST L. J. at 744; Peterson (“Consideration” stmt) 6, \textit{available at} http://www.ftc.gov/opp/intellect/021106peterson.pdf (“Some participants in standards development activities have refused to permit license terms to be taken into consideration in the selection of a standard because of a concern about antitrust risks.”); Lemley, 90 CAL. L. REV. at 1965 (“some SSOs expressly forbid discussion of [the terms on which licenses must be granted beyond the vague requirement that they be ‘reasonable’] when a standard is under consideration, presumably for fear of antitrust liability”).}
While the antitrust concerns are understandable, they may have unduly prevented announcements of pricing intentions or royalty discussions that may, in fact, provide procompetitive benefits. First, a patent holder’s voluntary and unilateral disclosure of its maximum royalty rate, like most unilateral conduct, is highly unlikely to require antitrust scrutiny. Unilateral announcement of a price is, by definition, not a collective act subject to per se condemnation or even review under Section 1 of the Sherman Act, and it is hard to see how announcing one’s price before sale (without more) could amount to exclusionary conduct under Section 2.\footnote{\textit{Cf.} Michael A. Carrier, \textit{Why Antitrust Should Defer to the Intellectual Property Rules of Standard-Setting Organizations: A Commentary on Teece & Sherry}, 87 MINN. L. REV. 2019, 2036-37 (2003) (“a patentee[‘s] announcing to the members of the SSO the terms of RAND licensing before the adoption of the standard [is no antitrust violation] [e]ven if the patentee and its competitors are members of the SSO and collectively possess market power”). However, any collective response from the SSO members to the patent holder's statement of its royalty rate – or any collective demand from the SSO members that the patent holder disclose its royalty rate (or maximum royalty rate) for its technology to be considered for the standard – would be evaluated under the rule of reason as joint ex ante royalty discussions. \textit{See infra} at 7-11.}

Second, joint ex ante royalty discussions that are reasonably necessary to avoid hold up do not warrant per se condemnation. Rather, they merit the balancing undertaken in a rule of reason review. We would apply the rule of reason to joint ex ante royalty discussions because, quite simply, they can be a sensible way of preventing hold up, which can itself be anticompetitive. Put another way, transparency on price can increase competition among rival technologies striving for incorporation into the standard at issue. They may allow the “buyers” (the potential licensees in the standard-setting group) to get a competitive price from the “sellers” (the rival patentees vying to be incorporated into the standard that the group is adopting) before lock in ends the competition for the standard and potentially confers market
power on the holder of the chosen technology. (Indeed, a few SSOs do this already: SSOs that require members to license incorporated technology to each other royalty-free\textsuperscript{12} have already, in effect, collectively negotiated a royalty arrangement.) If joint ex ante royalty discussions succeed in staving off hold up, we can generally expect lower royalty rates to lead to lower marginal costs for the standardized product and lower consumer prices.\textsuperscript{13} By mitigating hold up, joint ex ante royalty discussions might also make possible the more timely and efficient development of standards. A reduction in ex ante uncertainty on royalty rates may “reduce the extent to which litigation is needed to resolve issues relating to patent and standards.”\textsuperscript{14} Joint ex ante royalty discussions also could prevent delays in the implementation of the standard resulting from ex post litigation (or threats of it), which may involve “inefficient allocation of resources intended for innovation.”\textsuperscript{15}

In a rule-of-reason analysis, of course, these possible procompetitive benefits are weighed against the risk of anticompetitive harms. In particular, some have raised concerns that the SSO members could use joint ex ante royalty discussions to force patent holders to offer

\textsuperscript{12} See, \textit{e.g.}, Lemley, 90 CAL. L. REV. at 1905 (describing four SSOs that “permitted a member to own patents, but only if [it] agreed to license the patents to other members on a royalty-free basis”).

\textsuperscript{13} See, \textit{e.g.}, Shapiro 11/6 at 55; Peterson (“Consideration” stmt) 8 (favoring ex ante negotiations, noting that hold up can “raise product costs and thereby raise product prices”).

\textsuperscript{14} Peterson (“Consideration” stmt) 6.

royalty rates below the competitive level. The fear is that innovators may then reduce new investments in their research and development efforts.

While theoretically possible, this risk is unlikely to be a frequent practical concern. If the SSO members jointly lack buying power, they would not be able to impose a lower-than-competitive rate. Further, SSO members may have incentives to temper their instinct to drive royalty rates too low. Manufacturing members of the SSO may recognize that patent holders (particularly non-manufacturing patent holders) who fear that the group will demand anticompetitively low royalty rates may choose not to join the SSO in the first place. If they do not join, then it will be harder for the members to know about the patent holders’ potentially relevant intellectual property before setting a standard – exposing the group to a greater risk of demands for high royalty rates from a non-member in the end. Moreover, concerns about collective buyer power may be minimal when the patent holders are themselves manufacturers. Such patent holders may be willing to license their technology for very little – perhaps even for free – in exchange for gaining the first-mover advantage in manufacturing the standardized product.

16 See, e.g., Holleman (stmt) 5, available at http://www.ftc.gov/os/comments/intelpropertycomments/hollemanrichardj.pdf (arguing that joint negotiations of licensing terms “would essentially allow an industry to impose license terms on a patent owner” and that “[r]equiring specific terms ... will be equivalent to a compulsory licensing approach”).

17 See, e.g., Farrell 11/6 at 48 (noting that buyers “could squeeze relative to the appropriate, that is, ex ante reward as well as relative to the inflated ex post opportunistic reward”). Cf. ROGER BLAIR & JEFFREY HARRISON, MONOPSONY: ANTITRUST LAW AND ECONOMICS 74-75 (1993) (discussing economics of seller exit).

18 See, e.g., Updegrove 4/18 at 225-26 (discussing some patent holders’ preference for first-mover advantages over royalties in computer and telecom industries).
It may also be appropriate to consider whether joint ex ante royalty discussions are reasonably necessary to mitigate hold up.\textsuperscript{19} In such an analysis, we likely would consider whether an uncoordinated series of bilateral negotiations between patentees and individual would-be licensees would be equally capable of mitigating hold up,\textsuperscript{20} or whether bilateral negotiations actually frustrate the necessary collective evaluation of which technology alternative is preferable, taking into consideration both the merits of the technologies and their prices.

Joint ex ante royalty discussions, of course, can offer an opportunity for SSO members to reach side price-fixing agreements that are per se illegal. If in conducting joint ex ante royalty discussions, manufacturing rivals cross over the line from discussing the price of technology they will “buy,” if they choose a particular standard and start discussing – and fixing – the price of the products they sell, summary condemnation is almost certainly warranted. In fact, joint ex ante royalty discussions might make such collusion cheaper: “the costs of gathering together and deciding on a common plan could be spread over plans associated with both buying and

\textsuperscript{19} See, e.g., Federal Trade Commission & U.S. Department of Justice, \textsc{Antitrust Guidelines for Collaborations Among Competitors} (April 2000) § 3.36(b) (noting that “[t]he Agencies consider only those efficiencies for which the relevant agreement is reasonably necessary”); U.S. Department of Justice & Federal Trade Commission, \textsc{Antitrust Guidelines for the Licensing of Intellectual Property} (April 1995) § 4.2 (“If it is clear that the parties could have achieved similar efficiencies by means that are significantly less restrictive, then the Agencies will not give weight to the parties’ efficiency claim”).

\textsuperscript{20} See, e.g., Holleman (stmt) 4 (noting that “outside of the activities of the SDO, individual standards participants are able to approach the patent holder to inquire of available licensing terms”; if the patent holder declines to “engage in [such] discussions,” individual standards participants can choose “to not support the patent holder’s technology or to propose an alternative technology to the standards developing committee.”).
selling.” Concerns about legitimate royalty discussions bleeding into such dangerous territory may dissuade some groups from conducting them in the first place. But those risks are not cause for declaring the entire enterprise per se illegal, especially since some standards developers may “already have extensive experience managing this risk.”

Of course, even absent antitrust concerns, SSO members may refrain from such discussions for business reasons alone. Some members of the standard-setting community apparently believe that joint ex ante royalty discussions are time-consuming, costly, and unproductive. Discussions may prove too complex, involving important non-price terms and heterogeneous royalty rates. Moreover, SSO members may feel that productive joint ex ante royalty discussions demand the skills of especially talented business people who understand the complicated legal, engineering, and business matters at issue. Indeed, at the FTC/DOJ Hearings on Competition and Intellectual Property Law, one panelist testified that his large company

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21 Blair & Harrison, Monopoly at 124; see also id. at 159 (“‘permission’ to collude as buyers creates a huge danger that collusion as sellers will also occur”); Vogel v. Am. Soc’y of Appraisers, 744 F.2d 598, 603 (7th Cir. 1984) (Posner, J.) (noting that “[t]he strongest objection to [sellers’ agreement to ban] fixed-percentage fees [, a practice that may well be “a praiseworthy effort at self-regulation,”] is that by putting pricing on the [sellers’] agenda the ban could foster price fixing,” even though such price-fixing was “too speculative to bring the per se rule into play” in this case).

22 Peterson (“Consideration” stmt) at 7. See also Vogel, 744 F.2d at 603; Dep’t of Justice & Federal Trade Commission, Statements of Antitrust Enforcement Policy in Health Care, in 4 Trade Reg. Rep. (CCH) 13,153, at 20,812-14 and 20,813 n.20 (Statement 7) (Sept. 5, 1996) (clarifying that certain joint purchasing agreements do not raise antitrust concerns, but that attendant anticompetitive activities remain unlawful).

23 See generally Vishny 11/6 at 34 (discussing non-price terms such as “territorial discussions, ... international implications, .... field of use kinds of restrictions,” and the prospect of cross-licensing in lieu of royalties for certain licensees); see also Patterson 4/18 at 229 (noting that ex ante negotiations are made harder by the desire sometimes to have different firms pay different rates).
simply does not have enough of such people to attend “the 300 different standards consortia or standards bodies” in which his company participates.\textsuperscript{24} Joint ex ante royalty discussions may prove costly in another way: some SSOs and their members want to concentrate on the difficult job of choosing the technically best standard, and deem cost considerations to be a distraction.\textsuperscript{25}

Thus, by pointing out the potential for joint ex ante royalty discussions to mitigate or eliminate the hold-up problem, I do not mean to suggest that such discussions in SSOs are required. I simply offer my view that conducting legitimate joint ex ante royalty discussions does not warrant per se condemnation.

\textbf{Conclusion}

Antitrust concerns should never be taken lightly; neither, however, should the benefits that the setting of standards can bring to consumers. Fortunately, our antitrust laws and enforcement program are flexible enough to permit procompetitive standard-setting activity. I appreciate the opportunity to discuss these important issues with you today. Thank you.

\textsuperscript{24} Thompson 11/6 at 33.

\textsuperscript{25} See, e.g., IEEE (stmt) 5, available at http://www.ftc.gov/os/comments/intelpropertycomments/ieee.pdf (standard setting should aim to “develop the best technical standard, as independent of marketing and intellectual property rights issues as possible”); Holleman (stmt) 4-5 (stating that licensing terms discussions are “a bad idea” because, among other things, SSO discussions “should be focused on technical issues – not licensing terms and conditions.”).