# 1AC---Harvard

### 1AC---Innovation Advantage

#### Advantage one is Innovation:

#### The Ninth Circuit’s decision in *FTC v. Qualcomm* permits ICT firms who hold standard-essential patents to engage in exclusionary conduct with antitrust impunity.

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Standards can enhance competition and consumer choice, but they also massively inflate the value of patents deemed essential to the standard, and give their owners the power to sue companies that implement the standard for money damages or injunctions to block them from using their SEPs. When standards cover critical features like wireless connectivity, SEP owners wield a huge amount of “hold-up” power because their patents allow them to effectively block access to the standard altogether. That lets them charge unduly large tolls to anyone who wants to implement the standard.

To minimize that risk, standard-setting organizations typically require companies that want their patented technology incorporated into a standard to promise in advance to license their SEPs to others on fair, reasonable, and non-discriminatory (FRAND) terms. But that promise strikes at a key tension between antitrust and patent law: patent owners have no obligation to let anyone use technology their patent covers, but to get those technologies incorporated into standards, patent owners usually have to promise that they will give permission to anyone who wants to implement the standard as long as they pay a reasonable license fee.

Qualcomm is one of the most important and dominant companies in the history of wireless communication standards. It is a multinational conglomerate that has owned patents on every major wireless communication standard since its first CDMA patent in 1985, and it participates in the standard-setting organizations that define those standards. Qualcomm is somewhat unique in that it not only licenses SEPs, but also supplies the modem chips used by a wide range of devices. These include chips that implement wireless communication standards, which lie at the heart of every mobile computing device.

Although Qualcomm promised to license its SEPs (including patents essential to CDMA, 3G, 4G, and 5G) on FRAND terms, its conduct has to many looked unfair, unreasonable, and highly discriminatory. In particular, Qualcomm has drawn scrutiny for bundling tens of thousands of patents together—including many that are not standard-essential—and offering portfolio-only licenses no matter what licensees actually want or need; refusing to sell modem chips to anyone without a SEP license and threatening to withhold chips from companies trying to negotiate different license terms; refusing to license anyone other than original-equipment manufacturers (OEMs); and insisting on royalties calculated as a percentage of the sale price of a handset sold to end users for hundreds of dollars, despite the minimal contribution of any particular patent to the retail value.

In 2017, the U.S. Federal Trade Commission [sued](https://www.ftc.gov/news-events/press-releases/2017/01/ftc-charges-qualcomm-monopolizing-key-semiconductor-device-used) Qualcomm for violating both sections of the Sherman Antitrust Act by engaging in a number of anticompetitive SEP licensing practices. In May 2019, the U.S. District Court for the Northern District of California agreed with the FTC, identifying numerous instances of Qualcomm’s unlawful, anticompetitive conduct in a comprehensive [233-page opinion](https://www.eff.org/document/ftc-v-qualcomm-district-court-opinion). We were pleased to see the FTC take action and the district court credit the overwhelming evidence that Qualcomm’s conduct is corrosive to market-based competition and threatens to cement Qualcomm’s dominance for years to come.

But this month, a panel of judges from the Court of Appeals for the Ninth Circuit unanimously [overturned](https://www.eff.org/document/ninth-circuit-opinion-ftc-v-qualcomm) the district court’s decision, reasoning that Qualcomm’s conduct was “hypercompetitive” but not “anticompetitive,” and therefore not a violation of antitrust law. To reach that result, the Ninth Circuit made the patent grant more powerful and antitrust law weaker than ever.

According to the Ninth Circuit, patent owners don’t have a duty to let anyone use what their patent covers, and therefore Qualcomm had no duty to license its SEPs to anyone. But that framing requires ignoring the promises Qualcomm made to license its SEPs on reasonable and non-discriminatory terms—promises that courts in this country and around the world have consistently enforced. It also means ignoring antitrust principles like the essential facilities doctrine, which limits the ability of a monopolist with hold-up power over an essential facility (like a port) to shut out rivals. Instead, the Ninth Circuit held rather simplistically that a duty to deal could arise only if the monopolist had provided access, and then reversed its policy.

But even when Qualcomm restricted its licensing policies in critical ways, the Ninth Circuit found reasons to approve those restrictions. For example, Qualcomm stopped licensing its patents to chip manufacturers and started licensing them only to OEMs. This had a major benefit: it let Qualcomm charge a much higher royalty rate based on the high retail price of the end user devices, like smartphones and tablets, that OEMs make and sell. If Qualcomm had continued to license to chip suppliers, its patents would be “exhausted” once the chips were sold to OEMs, extinguishing Qualcomm’s right to assert its patents and control how the chips were used.

Patent exhaustion is a century-old doctrine that protects the rights of consumers to use things they buy without getting the patent owner’s permission again and again. Patent exhaustion is important because it prevents price-gouging, but also because it protects space for innovation by letting people use things they buy freely, including to build innovations of their own. The doctrine thus helps patent law serve its underlying goal—promoting economic growth and innovation. In other words, the doctrine of exhaustion is baked into the patent grant; it is not optional. Nevertheless, the Ninth Circuit wholeheartedly approved of Qualcomm’s efforts to avoid exhaustion—even when that meant cutting off access to previous licensees (chip-makers) in ways that let Qualcomm charge far more in licensing fees than its SEPs could possibly have contributed to the retail value of the final product.

It makes no sense that Qualcomm could contract around a fundamental principle like patent exhaustion, but at the same time did not assume any antitrust duty to deal under these circumstances. Worse, it’s harmful for the economy, innovation, and consumers. Unfortunately, the kind of harm that antitrust law recognizes is limited to harm affecting “competition” or the “competitive process.” Antitrust law, at least as the Ninth Circuit interprets it, doesn’t do nearly enough to address the harm downstream consumers experience when they pay inflated prices for high-tech devices, and miss out on innovation that might have developed from fair, reasonable, and non-discriminatory licensing practices.

We hope the FTC sticks to its guns and asks the Ninth Circuit to go en banc and reconsider this decision. Otherwise, antitrust law will become an even weaker weapon against innovation-stifling conduct in technology markets.

#### FRAND enforcement is key because of the massive exclusionary power conferred upon SEP holders.

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I. Standard Setting and the Competitive Process

The fundamental economics in the information technology sector, driven by network effects, implies that there is enormous value associated with establishing compatibility standards. Popular standards include the mobile broadband standards used in cell phones, which are established by the 3rd Generation Partnership Project (3GPP), and the Wi-Fi technology for wireless local area networks, which is enabled by the 802.11 standard established by the Institute of Electrical and Electronics Engineers (IEEE).4

There are many SSOs, and their rules and procedures differ considerably. In addition to IEEE, leading SSOs include the International Organization for Standardization (ISO), the International Telecommunication Union (ITU), the European Telecommunications Standards Institute (ETSI), the Internet Engineering Task Force (IETF), and the World Wide Web Consortium (W3C).5 SSOs generally establish standards by holding a series of committee meetings among industry participants. These meetings culminate in a vote on a technical specification that describes what features or attributes a product must have in order to comply with the standard. Most SSOs are open to all industry participants and seek to operate on a consensus basis, applying certain voting rules. SSOs do not normally engage in patent licensing, nor do they specify how patent royalties will be divided up among patent holders. They leave that to their members, which in some cases form patent pools to address these issues.6

SSOs adopt specific policies relating to intellectual property rights (IPRs).7 These IPR policies are generally intended to enable the SEP holders to obtain reasonable royalties for licensing their patents, while prohibiting them from charging excessive royalties after other industry participants have committed to the standard. At that point, firms committed to implementing the standard— which we call “implementers”—would find it very costly to avoid using the patented technology. For this purpose, most SSOs require SEP owners to license their SEPs on FRAND terms.8

FRAND policies are especially necessary because negotiations between SEP holders and implementers generally take place only after the implementers have used and infringed the technologies claimed by the SEPs. Standards involving information and communications technology can involve hundreds or even thousands of SEPs, many with uncertain boundaries for infringement. In addition, a time lag exists between patent application and patent issuance. For these and other reasons, it is impractical for implementers to enter into negotiations for patent licenses with all SEP owners prior to the establishment of a standard and to their implementation of it.9

The fact that patent negotiations generally do not take place until after implementers have used and infringed the technologies has several critical implications. First, at the time of negotiation, implementers are locked into the standard and the technologies claimed by the SEPs—that is, the cost to switch to an alternative technology or standard at that point—ex post—is much greater than it was ex ante, before the patented technology was first included in the standard. Ex post, the patent holder is no longer competing to have its technology included in the standard, nor is it competing to have implementers of the standard use its technology. Instead, because the patent holder owns an asset that is essential to the standard, implementers have no choice but to use the patented technology.

If the standard is commercially successful, implementers are willing to pay a much larger royalty for use of the patented technology than they would have paid ex ante, when the SEP holder faced competition from other technologies. In these circumstances, the SEP holder can be said to have obtained monopoly power in the market in which the patented technology is licensed for use in implementing the standard.10

Second, because of lock-in and the implementer’s ongoing infringement, the potential for litigation looms large in licensing negotiations. In effect, the parties are negotiating about how to settle an infringement suit, and that negotiation is heavily influenced by their predictions as to what the court will do if they cannot agree. This situation is not unique to SEPs; it arises frequently when firms are faced with patent infringement claims for products they have independently developed or technologies they have inadvertently infringed. Patent law addresses such instances by specifying that patent holders are entitled to “reasonable royalties,” defined as the royalties that the parties would have negotiated prior to the infringement and thus prior to lock-in.11 Those hypothetical ex ante royalties reflect the market value of the patent license. Notwithstanding the law’s embrace of this principle, however, as a practical matter, patent holders are generally able to recover more than the ex ante value of the patent when litigation occurs after the implementers are locked in. Further, negotiations in the shadow of litigation after lock-in tend to result in royalties in excess of the ex ante or market value of the patented technology.12

Third, the shadow of litigation is particularly problematic in the communications and technology sector, in which products typically include hundreds or thousands of patented technologies. A court-ordered injunction involving such products would deprive the implementer of not only the value of the technology covered by the patent-in-suit, but also the value of the entire product.13 Implementers that are forced to bear the risk of an injunction are thus induced to agree to royalties greater than those that would be appropriate if only the value of the patented technology were at stake. Those royalties systematically provide SEP holders with excessive compensation in comparison with the benchmark of ex ante royalties.

These implications of lock-in and ex post dealings are well-understood: they represent an example of the general concept of lock-in and opportunism developed by Oliver Williamson.14 The Federal Circuit has also recognized the market distortions caused by the inclusion of patented technologies in public standards and the resulting danger of patent holdup involving SEPs.15

For these and other reasons, the SEP holder has ex post monopoly power that, if left unchecked, would enable it to obtain royalties far in excess of the royalties that it could earn in a competitive market.16 To address this common problem and limit ex post opportunism by SEP holders, SSOs typically require participants that own SEPs to make certain FRAND commitments. In particular, by requiring a commitment to license on “fair and reasonable” terms, the FRAND requirement aims to prevent, or at least reduce, the extent of monopoly pricing by SEP holders. And by requiring a commitment to license on “nondiscriminatory” terms, the FRAND requirement can prevent SEP holders from extracting monopoly premiums by selective licensing or, more important, migrating their monopoly power from the FRAND-regulated market to unregulated standard-implementing product markets by licensing to only one or a few implementers or licensing to selected implementers on discriminatorily favorable terms.

#### Weakened antitrust enforcement emboldens firms to follow Qualcomm’s lead, which collapses FRAND integrity.

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While the FRAND process has been highly productive, it is also fragile. Firms are tempted to make commitments at the beginning when the incentive to join is large, but renege on them later when they can profit by doing so. At least in this particular case, private FRAND enforcement had not worked very well. Qualcomm had been able to violate FRAND commitments in order to exclude rivals and obtain higher royalties than FRAND would permit, largely with impunity. Other firms will very likely follow Qualcomm’s lead. If that happens the FRAND system will fall apart, doing irreparable injury to the modern wireless telecommunications network or, at the very least, diminishing the leadership role of the United States in preserving effective network competition.

While governments can be heavily involved in standard set-ting,9 the implementation of technical standards in information technologies is largely the work of private actors. Government involvement is limited mainly to enforcement of contract, intellectual property, or antitrust law. As private actors, those involved in standard setting or compliance are fully subject to the federal antitrust laws.

This Article addresses one question: when is an SSO participant’s violation of a FRAND commitment an antitrust violation, and if it is, of what kind and what are the implications for remedies? It warns against two extremes. One is thinking that any violation of a FRAND commitment is an antitrust violation as well. In the first instance FRAND obligations are contractual, and most breaches of contract do not violate any antitrust law. The other extreme is thinking that, because a FRAND violation is a breach of contract, it cannot also be an antitrust violation. The question of an antitrust violation does not de-pend on whether the conduct breached a particular agreement but rather on whether it caused competitive harm. This can happen because the conduct restrained trade under section 1 of the Sherman Act, was unreasonably exclusionary under section 2 of the Sherman Act, or amounted to an anticompetitive condition or understanding as defined by section 3 of the Clay-ton Act.10 The end goal is to identify practices that harm com-petition, thereby injuring consumers.

The Ninth Circuit’s Qualcomm decision will make antitrust violations in the context of FRAND licensing much more difficult to prove, even in cases where anticompetitive behavior and consumer harm seem clear.11 Indeed, in this case the court itself acknowledged the harm to consumers but appeared to think that they were not entitled to protection.12 If this decision stands, FRAND obligations will to a larger extent have to be settled through private litigation and the federal antitrust enforcement agencies will have a diminished role. Anticompetitive behavior by one firm that is not effectively disciplined will lead others to do the same thing.

#### A trusted, credible system for ICT innovation is critical to rapid tech diffusion and growth---absent FRAND, the system will collapse.

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It is easy to take a pessimistic view about whether the system will break. If the current trend continues, the system is likely to break at some point for the simple reason that companies will not trust it anymore. The series of legal disputes witnessed over the past years – sometimes referred to as the “smartphone patent wars” – has been fodder for a pessimistic reading of “the two tales of SEPs”. While it is common in the business world that disputes over patents and licenses are settled in courts, various SEP disputes have revealed problematic aspects of the SEP market that are different from those disputes that follow the normal stream of business and contracts. Often, the SEP disputes are less concerned about the rights and boundaries of patents, and more about antitrust limits to market behavior: they concern market abusive practices and restrictions to competition as much as they are about intellectual property.

If the SEP system actually does break at some point, the consequences would be felt throughout the economy. SEPs have been a critical part of the ICT revolution. SEPs have allowed for the fast rates of innovation diffusion that the world has witnessed over the past quarter of a century. All the computer and Internet related products and services that people are now dependent upon for their private and professional lives are intricate webs of intellectual property. As many as 250,000 patents can be used to claim ownership of some technical specification or design element in a single smartphone (NYT 2012). A laptop, suggests one calculation, implements more than 250 interoperability standards (Biddle et al. 2010), and the number of SEP holders for 3G and 4G standards grew from 2 in 1994 to 130 in 2013 while the number of SEPs rose from fewer than 150 in 1994 to more than 150,000 in 2013 (Galetovic and Gupta 2016). The standardization-body ETSI has registered more than 150,000 declarations of SEPs from companies, and ETSI is just one of many bodies in the world of ICT standardization. For the 3G standard, the same body has about 24,000 patents that have been declared essential. Now, with the economy yet again on the threshold of big technological change, a trusted and credible system for creators and users of technology to standardize proprietary technology would be a boon for innovation, interoperability and – ultimately – the consumers.

And there are reasons for optimism. Although many of the problems in the SEP regimes need to be addressed, the numbers above indicate that the SEP system is in fact attractive to patent holders and SEP implementers. It is easy to see why: neither holders nor implementers are presented with alternative options that on the face of it would be far more profitable for them. In other words, there simply would not be as many patents declared as essential if both creators and users of technology believed the SEP system worked to their disadvantage or was grossly unfair. While the reality for some companies may be that legal disputes and unpredictability prompt them to find other ways than SEPs to get access to key technologies for their products, it remains the case that most stakeholders have strong economic incentives to maintain a balanced SEP system that is trusted.

First, standard essential patents are an asset for creators of technology because, by becoming essential to a standard, their volumes of sales for technologies that users value rise significantly. As many holders want to raise more revenues for their SEPs and – ideally – have the freedom to contract with buyers on their terms, they can expand their customer base when they agree to sell patented technology in accordance with a set of rules that are designed to prevent SEP holders exploiting the weakness of a customer that has grown dependent on having access to their technology.

Second, SEPs are hugely beneficial also to those that buy the licenses – the implementers or users. Through the SEP system, they can access technologies that are interoperable and work with different products and functionalities – and they can do it under conditions that, if history is a guide, in most cases give them stable and predictable terms of contract. As a consequence, both creators and users can focus on their competitive advantages and profit on the economies of scale and specialization. Downstream firms do not need to develop their own upstream technology and upstream firms do not need to package their technologies in end-customer products in order to make their products valuable.

Third, standard-setting organisations (SSOs) also have a big stake in an SEP system that works well – and, like creators and users of technology, they would stand to lose significantly if the SEP system were to collapse.

Lastly, the biggest beneficiaries are individual consumers – those who buy the end products using FRAND-conditioned SEPs. The advent of SEPs and the rules represented by FRAND have enabled a development of fast technology creation and contributed to the rapid diffusion in ICT goods and ICT-based services. The SEP system has also allowed for new competition, both between existing technologies and brands, and from new ones that have stepped into the market with the ambition to disrupt it, again to the benefit of the consumer. It is difficult to imagine that the ICT and digital development would have been as fast as it has been if SEPs had not been a central feature of the market.

The changing fortunes of companies operating in the cellular and smartphone market would not have been possible if there had not been an SEP system that supported competition. Now that the world economy is on the doorstep of new innovations that are dependent on a great number of input technologies – e.g. the Internet-of-Things, transport connectivity and intelligent vehicles – it is crucially important for the consumer that a balanced and functioning SEP system is maintained and that actors in the system converge towards it – which would ultimately meet their economic interests.

#### ICT innovation unlocks productivity feedbacks that are crucial to post-COVID economic recovery and long-term growth.

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Introduction

As the global economy has entered recession in 2020, triggered by the COVID-19 pandemic, the human casualties, and economic damage are perceived to be very large. Even as the health crisis will gradually become manageable, the impact on economic growth can be long-lasting and the recovery path can take several years. In particular, growth drivers such as the pace of job creation, income generation and investment may take several years to get back to pre-crisis trends. Initially the productivity of those growth drivers may be of less concern as the mantra of ‘we’ll do what it takes to avoid worse’ is predominant in this phase of the crisis.

However, once the recovery gets underway the productive use of resources is key to sustained growth. While we do not ignore the short-term challenges of the economic recovery, our primary focus in this paper is on the productivity puzzle from a long-term perspective. Productivity is driven by technological change and innovation which, in turn, depends on investment in human and physical capital as well as in other ‘missing capitals’ often referred to as intangible assets. Indeed, those investments create a positive feedback effect, as the productivity it generates also helps to make more efficient usage of scarce resources in the future. When properly measured and valued, productivity also provides a critical yardstick to realise a fairer distribution of the gains from economic growth to those who bring the resources to bear. It thereby creates the incentives for people to produce and business to invest helping to drive economic growth and raise living standards.

Unfortunately, in the aftermath of the global financial crisis of 2008/2009, many economies around the world, especially advanced economies, have failed to recharge the economy by powering productivity as the key source of growth in the long term. Indeed the latest update of The Conference Board Total Economy Database (July 2020) points at significant weakening in labor productivity growth in Europe up to 2019 (figure 1a–c). While the United States experienced somewhat faster productivity growth from 2017 to 2019 than the Euro Area and the United Kingdom, it still has not recovered to the rates of productivity growth from before the global financial crisis either.

The slowdown in productivity growth over the past 15 years has been well documented. There are multiple causes including an exhaustion of catch-up potential in emerging markets impacting economies along entire global value chains, and the drag from the global financial crisis because of low demand and weak investment, too low interest rates causing misallocations an overreliance on cheap labor, and failing fiscal policies (Bauer et al., 2020; Cette et al., 2016; Crafts, 2018; Dieppe, 2020; Fernald et al., 2017; Syverson, 2016).1 Technical measurement issues regarding inputs and outputs may have played a role as well.

In our earlier work we have stressed the importance of time lags in the adoption of new technologies, and in particular the complexity in generating productivity growth from the latest round of new digital technologies since the early 2010s, including the move toward mobile, ubiquitous access to broadband, the rise of cloud storage and advances in artificial intelligence (AI) and robotics (van Ark, 2016a, 2016b; van Ark and O’Mahony, 2016; van Ark et al., 2016).

While the first priority for economic recovery from the COVID-19 crisis is to restore jobs, it is important that any employment-intensive growth path does go together with a productivity revival. In this paper, we argue that it is possible to avoid another productivity slowdown. Underneath the aggregate figures, there is evidence pointing toward a possible tipping point at which many advanced economies may expect to see more widespread impacts from the adoption and absorption of digital technology on productivity and GDP growth.

In Section 2 we review the latest literature on the productivity impacts of general purpose technologies (GPTs), including the notion of time lapses through which digital technologies result in faster productivity growth. We also look at patterns by which innovation and productivity effects GPTs emerge across industries and disperse across the economy. We explain why the New Digital Economy (NDE) is especially characterised by long lag effects.

In Section 3 we provide an empirical analysis of productivity growth by industry data to observe whether we can detect a distinct pattern across groups of industries pointing to a structural improvement in recent years. We use a taxonomy on digital intensity by industry which was recently developed by the Organisation for Economic Co-operation and Development (OECD) (Calvino et al., 2018), showing that the most digital-intensive industries have experienced a relatively strong performance in terms of labor productivity growth since 2007 and especially since 2013.

In Section 4 of the paper, we discuss the connection between labor and skills in the digital economy, which we believe provides the key to a productivity revival. We developed a new metric on innovation competencies by occupation on the basis of data from the O\*Net database on occupation-specific descriptors in the United States (Hao et al., 2018). When applied to the United Kingdom, we find that innovation competencies point at stronger productivity effects by industry.

In Section 5 we focus on how productivity has been behaving in the short-term during the COVID-19 recession. In particular, we address the potential trade-offs between traditional pro-cyclical recovery effects and scarring effects the recession leaves, especially on the labor market. We argue that increased adoption and usage of digital technologies during the COVID-19 crisis may create a positive productivity effect. In the final section, Section 6, we will review our hypothesis that a productivity revival could be imminent in the light of the recovery from the COVID-19 crisis. In order not to miss this opportunity again, as happened a decade ago, we argue that a coordinated effort from business and policy is needed, and has to be delivered in such a way that the gains from productivity will be more widespread and such that those who provide the resources for growth are incentivised to deliver them in an efficient way.

2. The productivity paradox of the New Digital Economy

It is well known that General Purpose Technologies (GPTs), defined as new methods of producing and inventing new goods and services which are important enough to have a long-term aggregate impact on the economy, can take a significant amount of time to translate to faster productivity growth at the aggregate level of the economy. This is inherent to the three critical characteristics of a GPT as identified by Bresnahan and Trajtenberg (1995).2

1. Pervasiveness –The GPT should spread to most sectors.

2. Improvement –The GPT should get better over time and, hence, should keep lowering the costs of its users.

3. Innovation spawning –The GPT should make it easier to invent and produce new products or processes.

Historical analysis has focussed on productivity trends in previous technology phases (Bakker et al., 2019; Crafts, 2004). Recent literature has shown that the information and communication technology (ICT) revolution of the past 50 years can be characterised as a GPT and doesn’t pale with previous GPTs such as steam technology, electricity and the combustion engine. For example, Hempell (2005) concludes that ‘investment in information and communication technologies (ICT) are closely linked to complementary innovations and are most productive in firms with experience from earlier innovations’. In a more recent analysis of the evolution of the Internet, Simcoe (2015) argues that the modularity of the internet has prevented a fall in return to investments in innovation by ‘facilitating low-cost adaptation of a shared general-purpose technology to the demands of heterogeneous applications’. In a review of the data, Liao et al. (2016) conclude that:

‘...ICT investment does contribute to productivity but not in the usual manner –we find a positive (but lagged) ICT effect on technological progress. We argue that for a positive ICT role on growth to actually take place, a period of negative relationship between productivity and ICT investment together with ICT-using sectors’ capacity to learn from the embodied new technology was crucial. In addition, it took a learning period with appropriate complementary co-inventions for the new ICT-capital to become effective and its gains to be realised. Our findings provide solid, further empirical evidence to support ICT as a general purpose technology’.

#### Growth solves nuclear war.

Henricksen 17, \*Thomas H., emeritus senior fellow at the Hoover Institution; (March 23rd, 2017, “Post-American World Order,” Hoover Institution, <http://www.hoover.org/research/post-american-world-order>)

What Is To Be Done?

The first marching order is to dodge any kind of perpetual war of the sort that George Orwell outlined in  “1984,” which engulfed the three super states of Eastasia, Eurasia, and Oceania, and made possible the totalitarian Big Brother regime. A long-running Cold War-type confrontation would almost certainly take another form than the one that ran from 1945 until the downfall of the Soviet Union.

What prescriptions can be offered in the face of the escalating competition among the three global powers? First, by staying militarily and economically strong, the United States will have the resources to deter its peers’ hawkish behavior that might otherwise trigger a major conflict. Judging by the history of the Cold War, the coming strategic chess match with Russia and China will prove tense and demanding—since all the countries boast nuclear arms and long-range ballistic missiles. Next, the United States should widen and sustain willing coalitions of partners, something at which America excels, and at which China and Russia fail conspicuously.

There can be little room for error in fraught crises among nuclear-weaponized and hostile powers. Short- and long-term standoffs are likely, as they were during the Cold War. Thus, the playbook, in part, involves a waiting game in which each power looks to its rivals to suffer grievous internal problems which could entail a collapse, as happened to the Soviet Union.

Some Chinese and Russian experts predict grave domestic problems for each other. They also entertain similar thoughts about the United States, which they view as terminally decadent and catastrophically polarized over politics, ethnicity, and the future direction of the country. So, the brewing three-way struggle also involves a systemic contest, which will test the competitors’ economic and political institutions.

At this juncture, the world is entering a standoff among the three great and several not-so-great powers. Averting war, while defending our interests, will prove a challenge, calling for deft policy, political endurance, and economic growth, as well as sufficient military force to keep at bay aggressive states or prevail over them if ever a war breaks out.

#### Absence of domestic 5G competition cedes leadership in technical standards to China.

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There is little doubt today that American superiority in the next generation of mobile communications, commonly called 5G, is a matter of extraordinary national concern. There is also little doubt that China is a strong competitor, already having outspent the United States by [$24 billion](https://www2.deloitte.com/content/dam/Deloitte/us/Documents/technology-media-telecommunications/us-tmt-5g-deployment-imperative.pdf#page=3) and planning [$411 billion](https://www.scmp.com/tech/china-tech/article/2098948/china-plans-28-trillion-yuan-capital-expenditure-create-worlds) in 5G investment over the next decade. The Chinese government has also laid out multiple national plans for establishing the country as a leader in mobile technology, and the Chinese firm Huawei is poised to be the [top smartphone manufacturer](https://www.cnbc.com/2018/11/16/huawei-aims-to-overtake-samsung-as-no-1-smartphone-player-by-2020.html) by 2020.

And what are United States companies doing about this? Bickering over patents.

For years, the leading American supplier of advanced mobile communications chips has been the San Diego-based Qualcomm. The company has been an innovator of mobile technology, but it has also been a remarkable innovator of convoluted legal strategies. As an ongoing Federal Trade Commission [lawsuit alleges](https://www.ftc.gov/news-events/press-releases/2017/01/ftc-charges-qualcomm-monopolizing-key-semiconductor-device-used), Qualcomm has used its dominant position as a chip supplier and its extensive patent holdings to weave an intricate web of patent licensing across the mobile industry. The effect of that complex licensing scheme, the FTC claims, has been to force competitor chipmakers out of the market and to extract concessions and high patent royalties from smartphone and mobile-device makers.

Qualcomm today faces only one major U.S. competitor—Intel, whose chips Apple recently [started using](https://www.cultofmac.com/484250/intel-reaping-rewards-apples-scrap-qualcomm/) instead of Qualcomm’s. Not surprisingly, Qualcomm has leveraged its patents to force a retaliatory investigation against Apple, the effect of which could be, as an administrative judge [recently determined](http://www.fosspatents.com/2018/10/itc-judge-didnt-buy-testimony-for-which.html), to boot Intel out of the mobile-chip market and leave Qualcomm as a monopoly.

It is hard to imagine that this infighting among Apple, Intel and Qualcomm is getting the United States very far in 5G, and it is harder to imagine that Qualcomm’s desired outcome would do so, either. The best path, instead, is the obvious one: allowing competition and expanding the number of firms working on 5G.

Competition encourages companies to out-innovate each other in order to grab market share. Of particular importance to 5G, competition leads to [better cybersecurity](https://morningconsult.com/opinions/in-the-race-to-5g-monopoly-considered-harmful/) in products, making them less vulnerable to hacking or misuse.

Competition is especially crucial when it comes to the technical standards that define how 5G works. These standards are the work of 3GPP, an international consortium of technology companies in the field. Chinese players such as Huawei and ZTE are major participants in 3GPP. Ensuring that 3GPP’s standards reflect American values requires having as many American companies at the negotiating table as possible—which is harder to achieve when those companies are trying to sue each other out of business.

Certainly patents themselves, as rewards for new inventions, are a driver of innovation in areas such as 5G. The problem, though, is not the existence of a patent system but the ever-expanding power of the patent laws, which encourage companies to pour dollars into complex patent licensing and assertion schemes—as companies like Qualcomm have done—rather than to perform the hard work of building new technologies. When innovation in patent strategy is more profitable than actual innovation, we lose the race to 5G and other technologies.

But don’t take my word for it. [Multiple members of Congress](https://www.patentprogress.org/2019/01/11/congress-weighs-in-on-qualcomm-and-apple-at-the-itc/), from both sides of the aisle, have denounced the use of patents to kick companies like Intel out of 5G development, predicting that such actions would “dampen the quality, innovation, competitive pricing, and in this case the preservation of a strong U.S. presence in the development of 5G and thus the national security of the United States.”

Or look to what China itself is doing. The Chinese government is handing out rewards left and right to encourage technology research and development. Indeed, it grants subsidies and financial benefits (ranging from the [ordinary](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2818503) to the [imperfect](https://funginstitute.berkeley.edu/wp-content/uploads/2013/12/patent_subsidy_Zhen.pdf) to the [bizarre](https://www.scmp.com/news/china/article/1681850/how-get-out-jail-early-china-buy-inventors-idea-and-patent-it)) to encourage its citizens to file for patents. But while China specifically encourages filing for patents, it does little to encourage using them: Patent infringement awards in court are peanuts—often only [five figures](https://scholarship.law.berkeley.edu/btlj/vol33/iss2/2/)—and most Chinese patent owners drop their patents [within five years](https://www.bloomberg.com/news/articles/2018-09-26/china-claims-more-patents-than-any-country-most-are-worthless) of getting them. The message in China is clear: You will be rewarded for innovating, but not for quibbling over patents.

The United States should take the same tack if it wants to match China in 5G. Ever-stronger patent rights encourage counterproductive disputes that are a drag on industry, a drag on research and development, and ultimately a drag on domestic competitiveness on the global stage. If America wants to lead in 5G, then it must clear the path for strong competition among leading American technology companies.

#### Standards leadership allows China to export digital authoritarianism.

Drew et al. 21, \*Dr Alexi Drew, Research Associate, The Policy Institute, King’s College London; (May 7th, 2021, “The Critical Geopolitics of Standards Setting”, https://www.transatlantic-dialogue-on-china.rusi.org/article/the-critical-geopolitics-of-standards-setting)

However, this previously ‘western’ domain is challenged by a Chinese bloc of private industry actors with centrally directed, strategic motivations for their efforts who have managed to leverage the flaws of this system for political and economic advantage.  The market-driven self-regulation model of technical standards has proven itself unsustainable given the geopolitical power achievable through the control of these standards. The marketised approach is easily abusable by a technologically developed nation-state with geopolitical intentions firmly in mind.

Obscurity Through Complexity

Technical standards have the immediate appearance of being both apolitical and ethically neutral. This seems to set them apart from the debate over standards of state behaviour in [cyber space concerning espionage and actions below the threshold of armed conflict](https://www.cfr.org/blog/unexpectedly-all-un-countries-agreed-cybersecurity-report-so-what). Yet, technological standards are unequivocally connected to normative practices of international behaviour and ethics. The extremely complex nature of the standards under consideration in bodies such as the International Organization for Standardization, the International Electrotechnical Commission (IEC), the International Telecommunications Union (ITU), and the Third Generation Partnership Project (3GPP) obscures the very tangible real-world impact that the standards they set have. The 3GPP is responsible for standards setting for mobile telecommunications. It covers everything from 5G through to autonomous vehicles and the Internet of Things. These are the bodies defining how the modern world is constructed.

On the one hand they appear quite benign, responsible for such banalities as the use of Universal Serial Bus (USB) connectors versus proprietary standards. This hardly seems a matter of national security importance. But the same process is responsible for what ultimately shape the basic operating parameters of facial recognition technology in closed circuit television systems, the level of centralised state control at the technical foundations of the internet, and the protections of personally identifiable data. These generate profound implications for international policy and ethics.

Internal Competition vs Strategic Direction

Technical standards setting processes have, historically, been dominated by private sector actors who have had both the capacity to develop a particular technology to the point of holding a significant market share, and the ability to use that market share to advocate for the standardisation of the technology in line with their own production. The market led approach has continued to be the prevailing model by which American companies have globalised the technical standards behind US dominated technological innovation. This privatised form of self-regulation for technology companies is only partially influenced by the approach taken within the EU where [some licensing of standards are controlled by state or EU led institutions.](https://www.ui.se/globalassets/ui.se-eng/publications/ui-publications/2019/ui-brief-no.-2-2019.pdf)

In contrast to this approach the Chinese model has involved a high level of state-oriented direction, oversight, and direct engagement on the creation and signing off technical standards. Efforts to harmonise and centralise technical standards domestically have become increasingly internationalised as the CCP takes this centralised, strategic approach to technical standards setting bodies such as the ITU, 3GPP, and IEC. Technical standards have also become an increasingly central component of the Digital Silk Road with the openly expressed goal of increasing uptake of Chinese technical standards in partner countries.

The implications of this clash between a system of technical standardisation that is driven by the market versus one driven by an authoritarian government subsidised model are a direct challenge to the development of free, open, and ethical technology. Standardisation mechanisms have become political, or rather there has been a gradual realisation of the political power to be gained from the control of technical standards. While the PRC might have come to this awareness first, the US and Europe have since had a rude awakening about the missed opportunity. The privatised model of technical standards setting favoured by European and US markets relies upon the dynamics of financial competition to regulate behaviour. This is in stark contrast to the statist Chinese model.

#### Causes global backsliding.

Kendall-Taylor et. al 20 \*Andrea Kendall-Taylor, senior fellow and director of the Transatlantic Security Program at the Center for a New American Security, co-author of Democracies and Authoritarian Regimes; Erica Frantz is Assistant Professor of Political Science at Michigan State University; Joseph Wright is Professor of Political Science at Pennsylvania State University; (March/April 2020, “The Digital Dictators,” Foreign Affairs, <https://www.foreignaffairs.com/articles/china/2020-02-06/digital-dictators>)

The risk that technology will usher in a wave of authoritarianism is all the more concerning because our own empirical research has indicated that beyond buttressing autocracies, digital tools are associated with an increased risk of democratic backsliding in fragile democracies. New technologies are particularly dangerous for weak democracies because many of these digital tools are dual use: technology can enhance government efficiency and provide the capacity to address challenges such as crime and terrorism, but no matter the intentions with which governments initially acquire such technology, they can also use these tools to muzzle and restrict the activities of their opponents.

#### Democracy caps a litany of converging existential threats.

Diamond 19, Professor of Political Science and Sociology at Stanford University, Senior Fellow at the Hoover Institution, Senior Fellow at the Freeman Spogli Institute for International Studies, PhD in Sociology from Stanford University, (Dr. Larry, Ill Winds: Saving Democracy from Russian Rage, Chinese Ambition, and American Complacency, p. 199-202)

The most obvious response to the ill winds blowing from the world’s autocracies is to help the winds of freedom blowing in the other direction. The democracies of the West cannot save themselves if they do not stand with democrats around the world. This is truer now than ever, for several reasons. We live in a globalized world, one in which models, trends, and ideas cascade across borders. Any wind of change may gather quickly and blow with gale force. People everywhere form ideas about how to govern—or simply about which forms of government and sources of power may be irresistible—based on what they see happening elsewhere. We are now immersed in a fierce global contest of ideas, information, and norms. In the digital age, that contest is moving at lightning speed, shaping how people think about their political systems and the way the world runs. As doubts about and threats to democracy are mounting in the West, this is not a contest that the democracies can afford to lose. Globalization, with its flows of trade and information, raises the stakes for us in another way. Authoritarian and badly governed regimes increasingly pose a direct threat to popular sovereignty and the rule of law in our own democracies. Covert flows of money and influence are subverting and corrupting our democratic processes and institutions. They will not stop just because Americans and others pretend that we have no stake in the future of freedom in the world. If we want to defend the core principles of self-government, transparency, and accountability in our own democracies, we have no choice but to promote them globally. It is not enough to say that dictatorship is bad and that democracy, however flawed, is still better. Popular enthusiasm for a lesser evil cannot be sustained indefinitely. People need the inspiration of a positive vision. Democracy must demonstrate that it is a just and fair political system that advances humane values and the common good. To make our republics more perfect, established democracies must not only adopt reforms to more fully include and empower their own citizens. They must also support people, groups, and institutions struggling to achieve democratic values elsewhere. The best way to counter Russian rage and Chinese ambition is to show that Moscow and Beijing are on the wrong side of history; that people everywhere yearn to be free; and that they can make freedom work to achieve a more just, sustainable, and prosperous society. In our networked age, both idealism and the harder imperatives of global power and security argue for more democracy, not less. For one thing, if we do not worry about the quality of governance in lower-income countries, we will face more and more troubled and failing states. Famine and genocide are the curse of authoritarian states, not democratic ones. Outright state collapse is the ultimate, bitter fruit of tyranny. When countries like Syria, Libya, and Afghanistan descend into civil war; when poor states in Africa cannot generate jobs and improve their citizens’ lives due to rule by corrupt and callous strongmen; when Central American societies are held hostage by brutal gangs and kleptocratic rulers, people flee—and wash up on the shores of the democracies. Europe and the United States cannot withstand the rising pressures of immigration unless they work to support better, more stable and accountable government in troubled countries. The world has simply grown too small, too flat, and too fast to wall off rotten states and pretend they are on some other planet. Hard security interests are at stake. As even the Trump administration’s 2017 National Security Strategy makes clear, the main threats to U.S. national security all stem from authoritarianism, whether in the form of tyrannies from Russia and China to Iran and North Korea or in the guise of antidemocratic terrorist movements such as ISIS.1 By supporting the development of democracy around the world, we can deny these authoritarian adversaries the geopolitical running room they seek. Just as Russia, China, and Iran are trying to undermine democracies to bend other countries to their will, so too can we contain these autocrats’ ambitions by helping other countries build effective, resilient democracies that can withstand the dictators’ malevolence. Of course, democratically elected governments with open societies will not support the American line on every issue. But no free society wants to mortgage its future to another country. The American national interest would best be secured by a pluralistic world of free countries—one in which autocrats can no longer use corruption and coercion to gobble up resources, alliances, and territory. If you look back over our history to see who has posed a threat to the United States and our allies, it has always been authoritarian regimes and empires. As political scientists have long noted, no two democracies have ever gone to war with each other—ever. It is not the democracies of the world that are supporting international terrorism, proliferating weapons of mass destruction, or threatening the territory of their neighbors.

#### Emergence of smart cities depends on IoT applications of 5G interoperability standards---absent FRAND, excessive royalties will undermine sustainable development.

Schwartz 18, \*Matt Schwartz, Privacy Fellowship Coordinator at ACT, App Association; (March 2nd, 2018, “It’s Smart to be FRANDly: How the FRAND Commitment Will Determine the Future of Smart Cities”, https://actonline.org/2018/03/02/its-smart-to-be-frandly-how-the-frand-commitment-will-determine-the-future-of-smart-cities/)

In December, we [outlined](https://actonline.org/2017/12/18/smart-cities-connecting-your-community-through-technology/%5d) the emergence of Smart Cities – cities that harness technological innovations like internet of things (IoT) devices and data analytics to improve essential infrastructure in growing urban centers. The technological foundation of Smart Cities aims to improve public safety, better allocate resources, and meet the needs of citizens more quickly.

A central element to Smart Cities is the comprehensive network of sensors and devices implemented within buildings, roads, traffic signs, and parking meters that allows them to interact with public, and potentially private-owned, infrastructure. These sensors will “speak” to one another, communicating information about energy usage, traffic density, or other elements of city management that have traditionally either been analyzed separately or not tracked at all. The potential of Smart Cities allows data to flow from previously disconnected branches of the city and be processed in real-time, unlocking previously unknown insights.

The powerful interoperability of Smart Cities will rely heavily on standardized technologies developed in organizations like the IEEE, which is responsible for standardizing the wi-fi technology we use every day. Standardized technologies often include standard-essential patents (SEPs), which, like their name suggests, are patents declared essential to an industry standard by a standards-setting organization. In simple terms, one cannot implement the standardized technology without using the patent.

Like regular patents, the users of SEPs must pay royalties or licensing fees to the patent owner before they may use it. For example, if a manufacturing company wants to make an IoT device interoperable with a 5G network, the manufacturer must pay a licensing fee to the owner of the SEP that is essential to the 5G standard. SEPs play a vital role in the new innovations we enjoy and have come to expect, and because of the value of these patents, SEP holders have the ability to demand high license fees from those who wish to implement the standard. To offset this competition issue, many SEP holders voluntarily agree to license their SEPs to any willing licensee under fair, reasonable, and non-discriminatory (FRAND) terms.

While wi-fi and LTE are standards that will be vital to Smart City deployment, countless new standardized technologies are being developed that will be integral to any fully-operational Smart City. With reasonable access to SEPs, assured by the FRAND commitment, innovators can enjoy the legal and business certainty they need to compete. While the meaning of the FRAND commitment continues to be refined – as evidenced by the development of SEP best practices recently launched by the App Association in Europe – its foundations are well-established.

But what happens when SEP holders do not abide by the FRAND licensing commitment, or simply refuse to license at all? Sadly, small and medium-sized companies would be forced to accept untenable licensing terms, but more realistically, they would be priced out of using the standard altogether. As a result, it would impose a barrier to innovation that would result in fewer products offered to consumers or cities eager to implement IoT technologies. For example, many hope the rise of autonomous vehicles will be seamlessly integrated into the Smart City network. But how beneficial would it be if only some autonomous vehicle brands are able to license the technology needed to communicate with traffic lights, simply because of the market power of a chipmaker? The FRAND commitment is an important backstop to that unfortunate possibility.

It is vital for SEP holders to honor FRAND licensing terms, if not for small and medium-sized innovators, then for the sustainability of future Smart Cities. FRAND creates a platform for innovation, providing a floor on which companies can stand, innovate, and compete. If the foundation of the FRAND commitment is reneged, American innovators pay a steep price – not only do they lose a key component of product development and market entry, but they are also left with years of expensive negotiations and litigation if they choose to challenge the licensing practice. What’s more, the confidence developed in the open standards development system is shaken, and Smart Cities have fewer choices in IoT solutions for their future.

To achieve the promise of Smart Cities, a balanced standards ecosystem is essential. We must allow small and medium-sized developers to leverage industry standards for innovation and prevent cost-prohibitive royalty structures and negotiating practices that are detrimental to competition, while also ensuring that SEP owners can protect their intellectual property and be fairly compensated for its use. The FRAND commitment continues to be the best framework to achieve this balance, and adherence to its principles will determine the future and success of Smart Cities.

#### Climate change is anthropogenic and existential---5G-enabled smart cities are critical for mitigation and adaptation.

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Currently, the entire planet is at risk due to continual climate change [1–3]. The recorded increase in average temperature across the world in the past hundred years, and the associated changes attributed to this, are known as global warming. Many scientists are convinced by the published evidence that this change is anthropogenic and resulted from the elevated emission levels of global greenhouse gases (GHGs) [4,5]. Gases such as water vapor, carbon dioxide, methane, nitrous oxide, and ozone are responsible for the absorption and emission of thermal radiation. These changes in the relative quantities of the GHGs induce a proportional change in the amount of preserved solar energy. Presently, the accepted indicator for global warming is the sustained rise in the mean temperature worldwide. This definition is designed to account for the fact that there may be some localized exceptions to this rise. For example, there may be cooling experienced in a region while the global temperature may increase altogether, hence the need for average temperature. A key concern with the GHGs trapping of more heat in the atmosphere is that it affects both climate and short scale weather patterns. Consequently, it results in greater numbers of adverse weather events such as storms, heat waves, cold snaps, droughts, and fires [6]. Climate-related risks to health, livelihoods, food security, water supply, human safety, and economic growth are projected to increase with global warming of 1.5 ◦C [7] and further increase further at 2 ◦C, as shown in Figure 1. In addition, the risks to global aggregated economic growth due to the climate change impacts are projected to be lower at 1.5 ◦C than at 2 ◦C by the end of this century.

Carbon dioxide has the most substantial effect on global warming [8]. Although it was once assumed to have an ~100 year lifespan in the atmosphere, careful studies revealed that the situation is far worse, with three-quarters of the gas expected to remain for a time in the region of up to ~1000 years, with the remainder lasting for an indefinite period of time [9]. It was indicated that the present impacts of humanity on the atmosphere can certainly cause a long term problem [10]. Carbon dioxide is released when oil, coal, and other fossil fuels are burnt for the energy we use to power our homes, cars, and smartphones. By lessening its usage, we can curb our own contribution to climate change while saving money. The first challenge is eliminating the burning of coal, oil, and, eventually, natural gas. Oil is the lubricant of the global economy as it is hidden inside such ubiquitous items as plastic and corn, fundamental to the transportation of both consumers and goods. Coal is the substrate, supplying roughly half of the electricity worldwide, a percentage that is likely to grow according to the International Energy Agency (IEA). In fact, buildings contribute up to 43% of all the greenhouse gas emissions worldwide [11], even though investing in thicker insulation and other cost-effective as well as temperature-regulating strategies can save money in the long run. Investment in new infrastructures, or radical upgradation of the existing highways and transmission lines, may help to reduce greenhouse gas emissions, yielding economic growth in the developing countries.

Nations across the globe have kept very high targets to reducing their GHG discharges [12,13]. In order to meet these goals, considerable reductions in city energy usage is required. At a global scale, urban communities represent over half (55%) of the population, which is predicted to reach 68% by the middle of this century [14]. Urban areas claim ownership of the highest levels of energy use, gas emission, and also the largest local economy. As such, it is crucial for urban areas to reduce their consumption and utilize renewable sources wherever available to reduce their gas discharge levels. Smart cities often utilize digital sensors to measure and transmit data about the levels of GHGs in the city at that moment, as a means of tackling them [15]. The efficacy of such a system is thus reliant on the network used to collate and analyze the data collected as an extant network. The mobile telecommunications networks offer a convenient solution to this desire, as their pre-existence has the clear benefit of reducing costs compared to the design and implementation of a novel system. It is recognized that smart cities will certainly act as the key players meeting these ambitious targets [16,17]. In this study, we focused primarily on the potential applications of 5G network technology to control climate change in Singapore. In addition, a clear overview of the sustainability benefits of introducing 5G technology compatible smart cities, buildings, and farms in all aspects of urbanization is provided. Herein, the main purpose is to tackle the negative outcomes associated with anthropogenic climate change, with a particular focus on the contributions that are best made by the telecoms network operators.

Climate change is one of the most challenging problems that humanity has ever faced. Presently, hundreds of millions of lives, innumerable species, entire ecosystems, health, economy, and the future habitability of this planet are at risk. Fortunately, climate change is solvable, we just need to wisely exploit the existing technologies and sciences. Climate change mitigation is a pressing international need in which many management actions are required. The development of 5G technology has been largely driven by smart mobile devices and advanced communication technologies. It may thus serve as a technical enabler for a whole new range of business opportunities, energy, and facilities management, together with industrial applications. Moreover, it may enable different devices to work together seamlessly. Definitely, the 5G cellular network technology is expected to revolutionize the global industries with profound effects on the savings of energy, waste generation and recycling, and water resources management, thus reducing the climate change impacts.

#### Indicts of systemic holdup are wrong.

Shapiro & Lemley 20, \*Carl Shapiro is the Transamerica Professor of Business Strategy Emeritus at the Haas School of Business, University of California at Berkeley; \*Lemley is the William H. Neukom Professor at Stanford Law School and a partner at Durie Tangri LLP; (2020, “THE ROLE OF ANTITRUST IN PREVENTING PATENT HOLDUP”, https://faculty.haas.berkeley.edu/shapiro/patentholdup.pdf)

C. Actual Patent Holdups Are Very Difficult to Measure

As with holdup in general, quantifying the frequency and magnitude of actual patent holdups is very difficult as a practical matter and not a useful way of assessing the importance of the patent holdup problem. Rarely can researchers observe the ex post price, because patent licensing terms are normally confidential. Even when researchers can observe the license fees, they are often embedded in a complex agreement. And even in those rare cases where researchers can accurately observe the ex post price, they are unlikely to observe the ex ante price, making it difficult if not impossible to measure the magnitude of the holdup.

Litigated cases also are problematic as a source of data to quantify the magnitude of actual patent holdups. A litigated case resulting in an award of reasonable royalties may well involve attempted holdup, but by definition it cannot provide smoking-gun evidence of actual holdup, at least if one accepts that the royalties awarded by the court are reasonable.64 Rather, at least since the Supreme Court eliminated the automatic entitlement to an injunction, litigation to judgment (which is rare) often reflects a refusal to give in to holdup by a defendant willing to take its chances in court. And the vast majority of patent cases settle. The terms of a settlement are rarely observable, so it is impossible to know whether those settlements reflected the value of holdup.

Notwithstanding these points, a number of authors have pointed to a lack of empirical evidence to argue that patent holdup either does not exist or is not a significant problem.65 Even taken on their own terms, many of these papers are deeply flawed. One such paper, which has often been cited by those who downplay the importance of patent holdup, purports to offer empirical evidence inconsistent with the hypothesis that SEP holdup has slowed innovation or harmed consumers.66 The conclusion to this Qualcomm-funded paper states, “[w]e cannot reject the hypothesis of no SEP holdup.”67 How do these authors reach this conclusion? They compare rates of change of quality-adjusted prices in “SEP- reliant” industries with “similar” non-SEP-reliant industries, primarily over the 1997-2013 period.68 For example, they show that quality-adjusted prices of cellular phones have fallen faster than the quality-adjusted prices of automobiles.69 This exercise does not address the relevant hypothesis: whether SEP holdup increased the price of cellular phones from what it otherwise would have been.70 The quality- adjusted prices of pharmaceuticals have risen much faster than automobiles over the same period of time, but that similarly is not proof that pharmaceuticals are subject to a patent holdup problem.

Beyond the obvious and fatal flaws in this empirical work,71 the whole line of inquiry is of limited relevance for the purpose of measuring the social costs of holdup or designing institutions to limit patent holdup, because it only looks for instances of actual patent holdup. As explained above, these instances are very difficult to detect and are only the tip of the iceberg in terms of the social costs of patent holdup.72 So far as we can tell, the vast majority of these papers have been funded by Qualcomm and other patent holders seeking to weaken the institutions designed to control patent holdup, increase their leverage in licensing negotiations, and thus increase their ability to monetize their patents.73

Despite the difficulties of observing the incidence and magnitude of actual patent holdups, we are able to observe the telltale signs of actual patent holdup. Transaction cost economics, and simple bargaining theory for that matter, tell us that actual patent holdup can be expected to occur when three conditions are present: (1) a firm has developed a new product independently; (2) that firm has made significant investments that are specific to one or more patents asserted against that product; and (3) the firm is not protected from patent holdup.74 As discussed above, conditions (1) and (2) are common in the high-tech sector, placing considerable weight on the institutions that protect firms from patent holdup.

The presence of those institutions is itself evidence that the patent holdup problem is real and significant. As we noted in Part I, companies try to structure their transactions to avoid holdup, developing institutions for that purpose. As we have seen, the traditional market solutions do not work well for patents. In most industries, the central mechanisms limiting patent holdup come from patent law, namely the rules governing injunctions and patent damages. In the high-tech sector, companies have overwhelmingly turned to SSOs in an effort to obtain global commitments to an ex ante royalty, which appear in the form of FRAND commitments. The near-universal recognition in the industry of the need for such a mechanism is strong evidence that companies view holdup as a problem they must build institutions to avoid.

#### Countervailing studies sidestep relevant hypothesis.

Melamed & Shapiro 18, \*A. Douglas Melamed is Professor of the Practice of Law at Stanford Law School; \*Carl Shapiro is the Transamerica Professor of Business Strategy at the Haas School of Business at the University of California at Berkeley; (May 2018, “How Antitrust Law Can Make FRAND Commitments More Effective”, https://www-cdn.law.stanford.edu/wp-content/uploads/2018/05/How-Antitrust-Law-Can-Make-FRAND-Commitments-More-Effective.pdf)

B. Addressing the Patent Holdup Skeptics

Several arguments have been advanced in support of imposing less stringent or no restraints on SEP holders. These arguments are deeply flawed, both empirically and theoretically.

First, some who oppose rigorous enforcement of effective FRAND commitments rely on studies that purport to show that concerns about ex post opportunism leading to excessive royalties are unfounded.20 However, those studies lack proper controls and therefore do not show what they purport to show— namely, that aggregate royalty costs have not hindered innovation or commercialization. The basic shortcoming of these studies is that they do not offer a sensible but-for world in the absence of opportunism as a comparator by which to assess observed behavior. For example, noting that cell phone technology has advanced rapidly in recent years does not prove a lack of costly opportunism by the owners of SEPs for the thousands of technologies included in cell phones.21

Nor do the studies even purport to show that individual holders of asserted patents are not excessively compensated, or rebut the hypothesis that the prospect of such excessive compensation has created perverse incentives for over-patenting and other welfare-reducing strategies.

### 1AC---Cybersecurity Advantage

#### Advantage two is Cybersecurity:

#### Exclusionary patent strategies create structural flaws in 5G standardization that imperil cybersecurity---competition reduces vulnerability and severity of attacks.

Duan 20, \*Charles Duan is a senior fellow and associate director of tech & innovation policy at the R Street Institute, where he focuses his research on intellectual property issues; (2020, “OF MONOPOLIES AND MONOCULTURES: THE INTERSECTION OF PATENTS AND NATIONAL SECURITY”, Santa Clara High Technology Law Journal, 36(4), 369-405. Retrieved from <https://www2.lib.ku.edu/login?url=https://www.proquest.com/scholarly-journals/monopolies-monocultures-intersection-patents/docview/2442966690/se-2?accountid=14556>)

III. COMPETITION AND CYBERSECURITY

In addition to the historical review done so far, another approach to understanding the relationship among patents, competition, and national security is to consider the role of cybersecurity. There is little doubt that computer system vulnerabilities that enable hacking and spread of computer exploits are a threat to the nation’s defenses, so better cybersecurity is a key part of national security strategy.155

Strong competition can thus complement national security by enhancing domestic cybersecurity, and patent assertion that unduly weakens competition detracts from cybersecurity.156 Competition promotes better cybersecurity in at least two ways. First, multiple studies show that competition encourages firms to improve their products on multiple vectors including cybersecurity. Second, competition avoids a situation that security experts call a “monoculture,” which increases vulnerability to severe cyberattacks. As former Secretary of Homeland Security Michael Chertoff wrote recently, “We need competition and multiple providers, not a potentially vulnerable technological monoculture,” to guarantee national security.157 Thus, cybersecurity provides a useful lens for understanding how unfettered patent assertion and licensing can detract from national security.

A. Cybersecurity as Competitive Value-Add

Competition enhances national security by reducing the incidence of technical vulnerabilities. That effect is especially important for security sensitive systems such as mobile telecommunications.

Intuitively, a causal chain from competition to cybersecurity makes logical sense. Computer security is a value-added benefit to consumers, so firms in competitive markets are likely to use security to gain an edge over their competitors.158 In monopolized markets, though, there may be less external impetus to test products for flaws, and the monopolist may choose to focus less on security and more on new product features or increased product quality.

Economic research confirms these hypotheses about competition leading to better cybersecurity. A 2009 empirical study of web browsers considered the impact of market concentration on the amount of time that vendors took to fix security vulnerabilities as they were discovered.159 The study found that the presence of more competitors correlated with faster cybersecurity response—a reduction of 8–10 days in response time per additional market rival.160 Similarly, business researchers in 2005 modeled incentives for firms to engage in sharing of cybersecurity information, and concluded that the “inclination to share information and invest in security technologies increases as the degree of competitiveness in an industry increases.”161 Another study found that, where two software firms are in competition, at least one will be willing to take on some degree of risk and responsibility for cybersecurity, whereas a monopoly software firm will consistently fail to accept such responsibility.162 To be sure, an unpublished study from 2017 found that some market concentration can make firms more responsive to cybersecurity issues, but only to a point: “being in a dominant position reduces the positive effect of having less competitors on the responsiveness of the vendor,” and indeed the “more dominant the firm is, the less rapid it is in releasing security patches.”163 This research confirms that competition is more conducive to cybersecurity.

It is not hard to see how this applies to emerging communication technologies markets. In the absence of competition, the above research suggests that device manufacturers, chip makers, and software developers will lack incentives to respond to vulnerabilities, to share information about cybersecurity practices and issues, and to take responsibility for security matters. Mobile phone chips have had their share of cybersecurity failures already.164 The best way to flush out ongoing and future cybersecurity issues is to maintain competitive pressure at all levels of the supply chain.

B. Vulnerabilities of “Monocultures”

A second reason why monopoly undermines cybersecurity is that monopoly leads to a “monoculture” of single-vendor products, opening the door to massive systemic failure in the case of a cyberattack. Computer researchers developed the theory of software monocultures in the early 2000s, in response to the regular phenomenon of computer viruses and other attacks spreading rapidly by exploiting flaws in the dominant operating system at the time, Microsoft Windows.165 Where a computer system such as Windows has a commanding share of users, a virus that exploits a flaw in that system can quickly spread to infect a whole interconnected ecosystem. An operating system monopoly thus enables fast and easy spread of cyberattacks, and better cybersecurity would be achieved through greater diversity in online systems.166 As one research group posited, “a network architecture that supports a collection of heterogeneous network elements for the same functional capability offers a greater possibility of surviving security attacks as compared to homogeneous networks.”167

There has been considerable study of the theory that computer monocultures are naturally more vulnerable to attacks.168 In one study, computer science researchers reviewed a catalog of 6,340 software vulnerabilities recorded in 2007, to compare whether comparable software would share the same flaws.169 Of the 2,627 vulnerabilities applicable to application software (as opposed to operating systems, web scripts, and other software components), only 29 (1.1%) applied to substitute products from different vendors but providing the same functionality.170 By contrast, different versions of a single software product were found to share vulnerabilities 84.7% of the time.171 Thus, software monocultures share exploitable flaws even when there is some variation in versions across the monoculture; by contrast, diversity in software is almost guaranteed to prevent a single flaw from affecting all users.

In the case of 5G and wireless mobile communications, a monoculture is an especially concerning possibility. To the extent that systems such as smart city sensors or communication networks are widely deployed in a monoculture fashion, a widespread attack could have devastating consequences, potentially blacking out a region and affecting essential services such as 911.172 A monoculture that is vulnerable to so-called “rootkits” or “backdoors”—maliciously installed software that enable bad actors to commandeer systems—could also enable mass surveillance or spying by private hackers or foreign governments.173 The presence of systems from multiple vendors would mitigate these possibilities.

#### Actors have means and motivations to strike critical infrastructure.

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Among critical infrastructure sectors in the U.S., energy is perhaps the most crucial of the 16 sectors defined by the Department of Homeland Security. This sector is so vital because it provides the energy necessary to run every other critical infrastructure sector. However, the U.S. power grid, the backbone of the energy sector, is built upon an aging skeleton that is becoming increasingly vulnerable every day. Whether from terrorists or nation-states like Russia and China, the power grid is susceptible to not just physical attacks, but also to cyber intrusion as well. However, much of this threat can be mitigated if the U.S. takes the appropriate steps to safeguard the power grid and avoid a potential catastrophe in the future.

Since Sept. 11, 2001, terrorism on U.S. soil has been at the forefront of American consciousness. Critical infrastructure provides an appealing target because of the disproportionally large impact even a small attack can have on the sectors. In particular, the power grid represents a particularly lucrative target, both in terms of the ease of access and the large impact it can make. The National Research Council stated that the U.S. power grid is “vulnerable to intelligent multi-site attacks by knowledgeable attackers intent on causing maximum physical damage to key components on a wide geographical scale.”[[1]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn1) Additionally, the physical security of transmission and distribution systems is difficult due to the dispersed nature of these key components, which in turn is advantageous to attackers as it reduces the likelihood of their capture.[[2]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn2) From 2002-2012, approximately 2,500 physical attacks occurred against transmission lines and towers worldwide and approximately 500 attacks against transformer substations.[[3]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn3) Terrorists have the motivation to attack the U.S. power grid but the very nature of the grid makes it highly vulnerable. The power grid is not only at risk from physical attacks, but also nation-state cyberattacks.

One nation that has shown both the capability and intent to use attacks against critical energy infrastructure is Russia, as demonstrated in their 2015 annexation of Crimea from Ukraine. A Russian cyber threat group known as Sandworm, which used its BlackEnergy malware, attacked Ukrainian computer systems that provide remote control of the Ukraine power grid.[[4]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn4) This attack, and another in 2016, each left the capital Kiev without power, prompting cyber experts to raise concern about the same malware already existing in NATO and the U.S. power grids.[[5]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn5) In any conflict between Russia and NATO, not only would similar cyberattacks pose a threat, but so would potential physical attacks severing fuel oil and natural gas lines to Western Europe. Russia has both the capability and intent to attack critical infrastructure, particularly power grids, during future conflicts in their “hybrid warfare” approach.

Another nation that has the capability to attack critical energy infrastructure is China, representing a threat to not just the U.S. energy infrastructure but also that of our allies whose support would be vital in a major conflict. A recent NATO report highlighted this threat from China’s Belt and Road Initiative, stating that “[China’s] foreign direct investment in strategic sectors [such as energy generation and distribution] …raises questions about whether access and control over such infrastructure can be maintained, particularly in crisis when it would be required to support the military.”[[6]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn6) Like Russia, China has been active with cyber intrusions in U.S. energy infrastructure. The Mission Support Center at Idaho National Laboratory characterized these as attacks as “multiple intrusions into US ICS/SCADA [Industrial Control Systems/Supervisory Control and Data Acquisition] and smart grid tools [that] may be aimed more at intellectual property theft and gathering intelligence to bolster their own infrastructure, but it is likely that they are also using these intrusions to develop capabilities to attack the [bulk electric system], as well.”[[7]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn7) China, therefore, has both the capability and intent to conduct cyber intrusions and attacks for myriad reasons.

Another arm of this threat is the reliance the U.S. energy industry has on imports from China, especially transformers. In early 2020, federal officials seized a transformer in the port of Houston that had been imported by the Jiangsu Huapeng Transformer Company before sending it to Sandia National Laboratory in Albuquerque. Sandia is contracted by the U.S. Department of Energy for mitigating national security threats.[[8]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn8) The Wall Street Journal reported that “Mike Howard, chief executive of the Electric Power Research Institute, a utility-funded technical organization, said that the diversion of a huge, expensive transformer is so unusual – in his experience, unprecedented – that it suggests officials had significant security concerns.”[[9]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn9) Previously destined for the Washington Area Power Administration’s Ault, Colo., substation, the transformer is believed to have been seized due to “backdoor” exploitable hardware emplaced by the Chinese prior to shipment.[[10]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn10) Shortly after these events, President Trump issued Executive Order 13920, “[Securing the United States Bulk-Power System](https://trumpwhitehouse.archives.gov/presidential-actions/executive-order-securing-united-states-bulk-power-system/),” essentially limiting the import of Chinese-built critical energy infrastructure components due to concerns about cybersecurity.[[11]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn11) Interestingly, Jiangsu Huapeng “boasted that it supported 10 percent of New York City’s electricity load.”[[12]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn12)

Franklin Kramer, the former Assistant Secretary of Defense for International Security Affairs, testified before a U.S. House of Representatives Energy and Commerce subcommittee during an energy and power hearing in 2011 and said that a “highly-coordinated and structured cyber, physical, or blended attack on the bulk power system, however, could result in long-term (irreparable) damage to key system components in multiple simultaneous or near-simultaneous strikes.” He added that “an outage could result with the potential to affect a wide geographic area and cause large population centers to lose power for extended periods.”[[13]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn13) Even the inclusion of features such as smart grids to the overall grid structure poses new vulnerabilities through their connectivity. Kramer stated that “such connectivity means that the distribution system could be a key vector for a national security attack on the grid.”[[14]](https://www.hstoday.us/subject-matter-areas/infrastructure-security/perspective-cyber-and-physical-threats-to-the-u-s-power-grid-and-keeping-the-lights-on/" \l "_ftn14)

#### Those attacks cause accidental nuclear escalation.

Klare 19, \*Michael T. Klare is a professor emeritus of peace and world security studies at Hampshire College and senior visiting fellow at the Arms Control Association; (November 19th, “Cyber Battles, Nuclear Outcomes? Dangerous New Pathways to Escalation”, https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation)

Yet another pathway to escalation could arise from a cascading series of cyberstrikes and counterstrikes against vital national infrastructure rather than on military targets. All major powers, along with Iran and North Korea, have developed and deployed cyberweapons designed to disrupt and destroy major elements of an adversary’s key economic systems, such as power grids, financial systems, and transportation networks. As noted, Russia has infiltrated the U.S. electrical grid, and it is widely believed that the United States has done the same in Russia.[12](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote12) The Pentagon has also devised a plan known as “Nitro Zeus,” intended to immobilize the entire Iranian economy and so force it to capitulate to U.S. demands or, if that approach failed, to pave the way for a crippling air and missile attack.[13](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote12)

The danger here is that economic attacks of this sort, if undertaken during a period of tension and crisis, could lead to an escalating series of tit-for-tat attacks against ever more vital elements of an adversary’s critical infrastructure, producing widespread chaos and harm and eventually leading one side to initiate kinetic attacks on critical military targets, risking the slippery slope to nuclear conflict. For example, a Russian cyberattack on the U.S. power grid could trigger U.S. attacks on Russian energy and financial systems, causing widespread disorder in both countries and generating an impulse for even more devastating attacks. At some point, such attacks “could lead to major conflict and possibly nuclear war.”[14](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote14)

These are by no means the only pathways to escalation resulting from the offensive use of cyberweapons. Others include efforts by third parties, such as proxy states or terrorist organizations, to provoke a global nuclear crisis by causing early-warning systems to generate false readings (“spoofing”) of missile launches. Yet, they do provide a clear indication of the severity of the threat. As states’ reliance on cyberspace grows and cyberweapons become more powerful, the dangers of unintended or accidental escalation can only grow more severe.

#### Cyber-compromised NC3 causes nuclear war.

Klare 19, \*Michael T. Klare is a professor emeritus of peace and world security studies at Hampshire College and senior visiting fellow at the Arms Control Association; (November 19th, “Cyber Battles, Nuclear Outcomes? Dangerous New Pathways to Escalation”, <https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation>)

The Nuclear-Cyber Connection

These links exist because the NC3 systems of the United States and other nuclear-armed states are heavily dependent on computers and other digital processors for virtually every aspect of their operation and because those systems are highly vulnerable to cyberattack. Every nuclear force is composed, most basically, of weapons, early-warning radars, launch facilities, and the top officials, usually presidents or prime ministers, empowered to initiate a nuclear exchange. Connecting them all, however, is an extended network of communications and data-processing systems, all reliant on cyberspace. Warning systems, ground- and space-based, must constantly watch for and analyze possible enemy missile launches. Data on actual threats must rapidly be communicated to decision-makers, who must then weigh possible responses and communicate chosen outcomes to launch facilities, which in turn must provide attack vectors to delivery systems. All of this involves operations in cyberspace, and it is in this domain that great power rivals seek vulnerabilities to exploit in a constant struggle for advantage.

The use of cyberspace to gain an advantage over adversaries takes many forms and is not always aimed at nuclear systems. China has been accused of engaging in widespread cyberespionage to steal technical secrets from U.S. firms for economic and military advantages. Russia has been accused, most extensively in the Robert Mueller report, of exploiting cyberspace to interfere in the 2016 U.S. presidential election. Nonstate actors, including terrorist groups such as al Qaeda and the Islamic State group, have used the internet for recruiting combatants and spreading fear. Criminal groups, including some thought to be allied with state actors, such as North Korea, have used cyberspace to extort money from banks, municipalities, and individuals.[4](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote04) Attacks such as these occupy most of the time and attention of civilian and military cybersecurity organizations that attempt to thwart such attacks. Yet for those who worry about strategic stability and the risks of nuclear escalation, it is the threat of cyberattacks on NC3 systems that provokes the greatest concern.

This concern stems from the fact that, despite the immense effort devoted to protecting NC3 systems from cyberattack, no enterprise that relies so extensively on computers and cyberspace can be made 100 percent invulnerable to attack. This is so because such systems employ many devices and operating systems of various origins and vintages, most incorporating numerous software updates and “patches” over time, offering multiple vectors for attack. Electronic components can also be modified by hostile actors during production, transit, or insertion; and the whole system itself is dependent to a considerable degree on the electrical grid, which itself is vulnerable to cyberattack and is far less protected. Experienced “cyberwarriors” of every major power have been working for years to probe for weaknesses in these systems and in many cases have devised cyberweapons, typically, malicious software (malware) and computer viruses, to exploit those weaknesses for military advantage.[5](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote05)

Although activity in cyberspace is much more difficult to detect and track than conventional military operations, enough information has become public to indicate that the major nuclear powers, notably China, Russia, and the United States, along with such secondary powers as Iran and North Korea, have established extensive cyberwarfare capabilities and engage in offensive cyberoperations on a regular basis, often aimed at critical military infrastructure. “Cyberspace is a contested environment where we are in constant contact with adversaries,” General Paul M. Nakasone, commander of the U.S. Cyber Command (Cybercom), told the Senate Armed Services Committee in February 2019. “We see near-peer competitors [China and Russia] conducting sustained campaigns below the level of armed conflict to erode American strength and gain strategic advantage.”

Although eager to speak of adversary threats to U.S. interests, Nakasone was noticeably but not surprisingly reluctant to say much about U.S. offensive operations in cyberspace. He acknowledged, however, that Cybercom took such action to disrupt possible Russian interference in the 2018 midterm elections. “We created a persistent presence in cyberspace to monitor adversary actions and crafted tools and tactics to frustrate their efforts,” he testified in February. According to press accounts, this included a cyberattack aimed at paralyzing the Internet Research Agency, a “troll farm” in St. Petersburg said to have been deeply involved in generating disruptive propaganda during the 2016 presidential elections.[6](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote06)

Other press investigations have disclosed two other offensive operations undertaken by the United States. One called “Olympic Games” was intended to disrupt Iran’s drive to increase its uranium-enrichment capacity by sabotaging the centrifuges used in the process by infecting them with the so-called Stuxnet virus. Another left of launch effort was intended to cause malfunctions in North Korean missile tests.[7](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote07) Although not aimed at either of the U.S. principal nuclear adversaries, those two attacks demonstrated a willingness and capacity to conduct cyberattacks on the nuclear infrastructure of other states.

Efforts by strategic rivals of the United States to infiltrate and eventually degrade U.S. nuclear infrastructure are far less documented but thought to be no less prevalent. Russia, for example, is believed to have planted malware in the U.S. electrical utility grid, possibly with the intent of cutting off the flow of electricity to critical NC3 facilities in the event of a major crisis.[8](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote08) Indeed, every major power, including the United States, is believed to have crafted cyberweapons aimed at critical NC3 components and to have implanted malware in enemy systems for potential use in some future confrontation.

Pathways to Escalation

Knowing that the NC3 systems of the major powers are constantly being probed for weaknesses and probably infested with malware designed to be activated in a crisis, what does this say about the risks of escalation from a nonkinetic battle, that is, one fought without traditional weaponry, to a kinetic one, at first using conventional weapons and then, potentially, nuclear ones? None of this can be predicted in advance, but those analysts who have studied the subject worry about the emergence of dangerous new pathways for escalation. Indeed, several such scenarios have been identified.[9](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote09)

The first and possibly most dangerous path to escalation would arise from the early use of cyberweapons in a great power crisis to ~~paralyze~~ undermine the vital command, control, and communications capabilities of an adversary, many of which serve nuclear and conventional forces. In the “fog of war” that would naturally ensue from such an encounter, the recipient of such an attack might fear more punishing follow-up kinetic attacks, possibly including the use of nuclear weapons, and, fearing the loss of its own arsenal, launch its weapons immediately. This might occur, for example, in a confrontation between NATO and Russian forces in east and central Europe or between U.S. and Chinese forces in the Asia-Pacific region.

Speaking of a possible confrontation in Europe, for example, James N. Miller Jr. and Richard Fontaine wrote that “both sides would have overwhelming incentives to go early with offensive cyber and counter-space capabilities to negate the other side’s military capabilities or advantages.” If these early attacks succeeded, “it could result in huge military and coercive advantage for the attacker.” This might induce the recipient of such attacks to back down, affording its rival a major victory at very low cost. Alternatively, however, the recipient might view the attacks on its critical command, control, and communications infrastructure as the prelude to a full-scale attack aimed at neutralizing its nuclear capabilities and choose to strike first. “It is worth considering,” Miller and Fontaine concluded, “how even a very limited attack or incident could set both sides on a slippery slope to rapid escalation.”[10](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote10)

What makes the insertion of latent malware in an adversary’s NC3 systems so dangerous is that it may not even need to be activated to increase the risk of nuclear escalation. If a nuclear-armed state comes to believe that its critical systems are infested with enemy malware, its leaders might not trust the information provided by its early-warning systems in a crisis and might misconstrue the nature of an enemy attack, leading them to overreact and possibly launch their nuclear weapons out of fear they are at risk of a preemptive strike.

“The uncertainty caused by the unique character of a cyber threat could jeopardize the credibility of the nuclear deterrent and undermine strategic stability in ways that advances in nuclear and conventional weapons do not,” Page O. Stoutland and Samantha Pitts-Kiefer wrote in 2018 paper for the Nuclear Threat Initiative. “[T]he introduction of a flaw or malicious code into nuclear weapons through the supply chain that compromises the effectiveness of those weapons could lead to a lack of confidence in the nuclear deterrent,” undermining strategic stability.[11](https://www.armscontrol.org/act/2019-11/features/cyber-battles-nuclear-outcomes-dangerous-new-pathways-escalation#endnote11) Without confidence in the reliability of its nuclear weapons infrastructure, a nuclear-armed state may misinterpret confusing signals from its early-warning systems and, fearing the worst, launch its own nuclear weapons rather than lose them to an enemy’s first strike. This makes the scenario proffered in the 2018 NPR report, of a nuclear response to an enemy cyberattack, that much more alarming.

#### Cracking down on anticompetitive patent licensing reintroduces cybersecurity enhancing competition.

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IV. LESSONS AND POLICY DIRECTIONS

The above discussion shows that patent protection can have mixed effects on national security: On the one hand, patents can encourage innovation that ensures domestic technological leadership and produces useful security-protective technologies; on the other hand, patents can stifle innovation-producing and cybersecurity-enhancing competition and can stymie the government’s own ability to achieve national security goals. To navigate the complex effects of patent policy on national security, policymakers may consider the following recommendations as guideposts.

A. Anticompetitive Patent Licensing

An area of particular concern should be the use of patents and patent licensing strategies to diminish competition or put up roadblocks to new entrants. Policymakers should certainly not support these abuses of the patent system, and indeed should take steps to prevent them.

In the mobile communications space, patent licensing already plays an outsized role. There are reportedly between 250,000 and 314,000 patents on the smartphone alone, and litigation over cell phone technologies has lasted decades by now. Patents will thus inevitably have an impact on technologies like 5G or the Internet of Things, so the question is what that impact will be.

Patents are supposed to encourage innovation, but research finds that patents alone will not do so; competition is another requirement. A 2015 study considered the impact of competition policy and patent strength on innovation among European firms, measured in terms of research and development spending.183 Initially, the study compared firms in countries with strong patent laws against those in countries with weaker patent laws, and found that patent protection has “no effect on R&D intensity,” a conclusion consistent with multiple other studies.184 However, the study found that when a major competition reform went into effect, strong-patent countries enjoyed a boost in innovation greater than that experienced in weak-patent countries.185 In other words, strong patent protection is complementary to strong competition; the former does not promote innovation without the latter. The practical import of this research is that patent protection is beneficial up to a point, but to the extent that patents—or, more commonly, legal strategies involving patents—overreach to suppress competition, that overreach should be cause for concern.

Yet today, strategic patent behavior contrary to competition is prevalent. The Federal Trade Commission’s ongoing lawsuit against mobile phone chip manufacturer Qualcomm, for example, challenges Qualcomm’s practice of refusing to sell chips to any phone manufacturer who does not first pay a hefty sum for patent licenses—even if the manufacturer does not actually have need for all those licenses.186 To the extent that Qualcomm’s “no license, no chips” practice is in fact anticompetitive—that is what the courts overseeing the case will decide—monopolization of that market could substantially harm cybersecurity for the reasons noted above.187 The company’s about-50% market share in the advanced mobile chip market 188 means that there is a virtual monoculture of Qualcomm chips already, and there are ongoing concerns about security vulnerabilities in those chips.189 It is thus puzzling that some have opposed the FTC litigation on the grounds that it is making the United States “less competitive in the global 5G arms race.”190 As one scholar explains, this rhetoric “smacks of ‘national champion’ thinking” and ultimately fails to ensure that “national security warnings are being balanced against competitive imperatives.”191

With respect to emerging information technologies, policymakers should be concerned that a leading firm could undertake similar patent licensing strategies to control the market. Indeed, the district court in the Qualcomm litigation found that Nokia and Ericsson already “have imitated Qualcomm’s practice” because it is “more lucrative.”192

### 1AC---Plan

#### Plan: The United States federal judiciary should substantially increase prohibitions on private sector conduct that is more restrictive of competition than reasonably necessary to enable creation of information technology standards.

### 1AC---Solvency

#### Solvency.

#### The plan solves.

Melamed & Shapiro 18, \*A. Douglas Melamed is Professor of the Practice of Law at Stanford Law School; \*Carl Shapiro is the Transamerica Professor of Business Strategy at the Haas School of Business at the University of California at Berkeley; (May 2018, “How Antitrust Law Can Make FRAND Commitments More Effective”, https://www-cdn.law.stanford.edu/wp-content/uploads/2018/05/How-Antitrust-Law-Can-Make-FRAND-Commitments-More-Effective.pdf)

3. Application of the Basic Legal Principles

The antitrust principle is straightforward: industry-wide collaboration through SSOs to establish procompetitive standards is permitted only if it is no more restrictive of competition than reasonably necessary to enable creation of the standards. When standard setting predictably creates technology monopolies that, if unrestrained, will enable anticompetitive ex post opportunism that would otherwise not occur, an SSO that does not take effective measures to prevent or minimize such ex post opportunism engages in conduct that is more restrictive of competition than necessary. In that case, the SSO and, in appropriate cases, its members, may well violate Section 1 of the Sherman Act.

Under this principle, SSO procedures and FRAND rules should be evaluated based on whether they lead to reasonable SEP royalties, using the competitive ex ante licensing standard discussed above, which has been adopted by the courts in patent law. Put differently, FRAND rules should be evaluated based on their ability to prevent SEP holders from obtaining more than the ex ante value of their technology from implementers.

This limitation would not prevent a SEP holder from proﬁting, perhaps greatly, from participating in the SSO and having its patented technology included in the standard. The SEP holder continues to be rewarded for its technology because the inclusion of its technology in the standard can still greatly increase the volume of licensing opportunities available to the SEP holder.

Whether a particular set of FRAND rules are sufficiently effective in preventing ex post opportunism will depend on the particular circumstances. The procedural unfolding of the case will also depend upon the circumstances. As a general matter, the case would probably be structured as an ordinary Rule of Reason case.82

First, the plaintiff would have to demonstrate harm to competition as a result of the collaboration of the SSO’s members, many of which compete with one another. In this case, the harm to competition would stem from the ability of the SEP holder to exercise monopoly power by obtaining royalties in excess of the competitive, ex ante level. The decision to include patented technologies in the standard would be the allegedly unlawful agreement. Notably, the court need not determine what a FRAND royalty is; it would suffice to determine that market power has been created or exercised, and that existing SSO rules and policies were not adequate to prevent the competitive harm. The defendant, which could be the SSO or perhaps one or more SSO members, would win at this point if the plaintiff failed to show harm to competition. If might fail if the standard faces substantial competition and the court concludes that the SEP holder therefore does not have market power or if the SSO’s rules and policies are found to be effective in preventing ex post opportunism, even if the plaintiff or even the court thinks that other rules and policies would be preferable.

Second, if the plaintiff makes the requisite showing of harm to competition, the defendant(s) would then have to show some procompetitive justiﬁcation— in this case, the beneﬁts of the standard. These two initial steps should be straightforward.

Third, if as is likely the defendant is able to show a procompetitive justiﬁcation, the plaintiff would have to show that the SSO could have used available, reasonable alternatives to realize the efficiency beneﬁts with less or none of the competitive harms. The plaintiff might identify reasonable alternatives that would have led to a different standard, based on including unpatented technology in the standard or perhaps involving fewer SEPs or fewer owners of SEPs, which would be less subject to patent holdup. More likely, the plaintiff could suggest alternative SSO rules that would not change the standard, but would reduce the likelihood or extent of ex post opportunism. For example, the plaintiff might suggest more rigorous FRAND-type rules, such as rules that set forth more precise principles on which FRAND royalties are to be determined and the circumstances under which SEP holders might seek injunctions.

Fourth, the burden would then shift to the defendant(s) to show that the beneﬁts of the standard could not have been realized if the SSO had adopted any of the proffered alternatives or that those alternatives were unrealistic.83 The plaintiff would be entitled to judgment if the court concludes that those beneﬁts could have been realized with less competitive harm if the SSO had adopted the standard with different IPR rules or policies.

Our overall sense, based on experience and the empirical literature, is that the extant FRAND rules are generally useful, but tend to be inadequate because they are imprecise and leave unresolved such critical issues as (a) the meaning of a reasonable royalty, even conceptually; (b) the meaning of “non-discriminatory;” (c) to whom licenses must be offered; and (d) under what circumstances may a SEP holder obtain an injunction.84 These imprecise FRAND commitments are therefore not sufficient to adequately prevent ex post opportunism. The recent revisions to IEEE’s FRAND policy represent a signiﬁcant step in the right direction, but even this advance leaves important questions unanswered.85 If FRAND rules are inadequate in these ways, litigation involving extant FRAND rules would likely be resolved only at the ﬁnal, fourth step. The defendant would be able to demonstrate the beneﬁts created by the standard; the plaintiff would be able to demonstrate the creation of market power and that other reasonable and practical rules or policies would ameliorate the problem. The case would thus turn on whether the defendant is able to demonstrate that signiﬁcant beneﬁts associated with standardization could not have been realized if the SSO had adopted those other rules or policies.

The court would have available a variety of possible remedies if the plaintiff prevails. Implementers that paid supracompetitive royalties or were unlawfully excluded in whole or in part from product markets as a result of the inadequate FRAND policies would be entitled to damages and, in some cases, to treble damages.86 If the unlawful SSO conduct is regarded as the collective action of the SSO and its members, which is likely to be the case in most instances, SSO members would be jointly and severally liable for the damages. Forward-looking injunctive relief aimed at restoring competition would need to be fashioned to the requirements of the individual case. For example, a court could order the SSO to adopt a new rule or policy proposed by the plaintiff. If the court is reluctant to take on that governance role, it might give the SSO a period of time—maybe ninety days—to develop a rule, subject to the court’s ultimate approval, which would adequately ameliorate the competitive problem created by the SSO. Alternatively or in addition, the court might order the parties to attempt to negotiate a rule or policy on which they can agree. And, depending on the circumstances, the court might order SEP holders, including at least those that were defendants in the case, to comply with the new SSO rules and policies.

#### Threatening antitrust liability lures SSO’s into adopting best practices.

Lemley & Shapiro 13, \*Mark Lemley is the William H. Neukom Professor at Stanford Law School and a partner at Durie Tangri LLP; \*Carl Shapiro is the Transamerica Professor of Business Strategy at the Haas School of Business, University of California at Berkeley and a Senior Consultant at Charles River Associates; (2013, “A SIMPLE APPROACH TO SETTING REASONABLE ROYALTIES FOR STANDARD-ESSENTIAL PATENTS”, (https://faculty.haas.berkeley.edu/shapiro/frand.pdf)

Under our approach, many of these issues should become moot, since the patentee cannot obtain an injunction (or transfer the patent to someone who can) against a willing licensee, and since competitors are not involved in jointly setting the reasonable royalty rate. If SSOs set clear, reasonable rules following the best practices we recommend, and parties follow those rules, there should be little or no need for antitrust to intervene. Indeed, even the risk of non-disclosure of a patent is lessened, since the patentee has committed to license its essential patents whether or not it discloses them. For the most part, the rules we have described are self-executing, meaning that even if a party tries to break the rules set by the SSO there still may be no need for antitrust to intervene. Thus, we suggest that parties who abide by these procedures—patentees, implementers, and the SSOs themselves—should be immune from antitrust liability for activities that merely follow those rules.107 They have entered into an arrangement that is on balance good for competition, one that allows patentees to receive reasonable royalties but prevents holdup and reduces the risk of monopolization by trickery.

The fact that antitrust remains a last resort available when SSOs don’t follow best practices may have two practical benefits, however. First, under our approach the promise of avoiding the risk of antitrust liability will be a powerful incentive for both SSOs and patent owners to adopt the best practices we propose. Second, the risk of antitrust liability may be relevant when an individual patentee wants to adopt best practices but the SSO governing the standard has not yet done so. We propose that a patentee that unilaterally commits to the FRAND procedures we describe here should be immune from antitrust liability for following these procedures.108 A patentee’s unilateral binding commitment to arbitration could be enforced whether or not it was elicited by an SSO. Thus, just as the prospect of antitrust immunity might lure SSOs to adopt best practices, it might also lure patentees to implement those practices even if the SSO has not done so. Given the large number of standard-essential patents based on preexisting standards,109 and given that SSOs tend to update their IP rules rather slowly,110 this is not a small matter.

#### Only antitrust enforcement creates a consumer-action feature that challenges SSO misconduct.

Melamed & Shapiro 18, \*A. Douglas Melamed is Professor of the Practice of Law at Stanford Law School; \*Carl Shapiro is the Transamerica Professor of Business Strategy at the Haas School of Business at the University of California at Berkeley; (May 2018, “How Antitrust Law Can Make FRAND Commitments More Effective”, <https://www-cdn.law.stanford.edu/wp-content/uploads/2018/05/How-Antitrust-Law-Can-Make-FRAND-Commitments-More-Effective.pdf>)

2. Why Antitrust Enforcement Is Necessary

Some SSO members have an interest in ensuring that the SSO takes steps to minimize the potential harms from the SEP holders’ monopoly power, and this undoubtedly explains in part why most SSOs have adopted FRAND policies or similar requirements. But, as shown in the economic model in the Appendix,73 SSOs cannot in general be counted on to adopt effective FRAND policies. The bases for this conclusion, which is central to our argument for the applicability of Section 1 to SSO FRAND rules, can be summarized as follows.74

First, the SSO members collectively have an interest in permitting SEP holders to charge supracompetitive royalties that elevate the downstream price of compliant devices to the monopoly level. Doing so will enable the members in aggregate to collect increased revenues from consumers, and thus to generate increased profits that in theory could be shared by all the members. In other words, supracompetitive royalties can enrich industry participants as a group at the expense of final consumers. This fact alone should serve as a clear and strong signal regarding the dangers of counting on SSOs to implement effective FRAND policies: if the SSO members negotiate efficiently, the outcome will be just as bad for consumers as if the members agreed to fix downstream prices.75 The fundamental problem is that final consumers are not at the table when the SSO rules are negotiated.

Second, SSO members that own SEPs but earn little or no profits as implementers have a powerful self-interest in being able to exercise the ex post monopoly power associated with their SEPs. Because SSO policies are usually determined by a consensus process, these members will likely be able to block the adoption of fully effective FRAND policies. Moreover, these SSO members often have the greatest interest in SSO patent policies. Since much of their income may be attributable to patent licensing, they can be expected to devote substantial resources to block the adoption of FRAND policies that effectively prevent patent holdup.

Third, even SSO members that earn significant profits as implementers may have mixed incentives if they also own SEPs, which can also lead to weak or in-effective FRAND rules. In the Appendix, we show that, if the requisite share of votes in the SSO are cast by firms whose share of SEP royalties is at least as large as their share of downstream profits, and if these firms can coordinate their voting over the FRAND rules, then an SSO unconstrained by antitrust laws will establish FRAND rules leading to an outcome no better for consumers than would result from an integrated monopolist controlling all SEPs and all downstream sales.76

Fourth, even SSO members that are downstream implementers and own few, if any, SEPs may have only a modest interest in promoting effective policies to restrict ex post opportunism. Because all implementers will be subject to the opportunism, all of them will face increased licensing costs, and therefore will likely be able to pass on most or all of the increased costs to their customers.77 Furthermore, these implementers might not be especially active or effective in the standard-setting process for free-riding or public-good reasons, especially if SEP royalties constitute only a relatively small portion of the costs of their standard-implementing products. Public choice theory predicts that the highly motivated SEP holders are likely to have the greatest influence over patent policies.

Empirical evidence bears out these concerns. As a starting point, we find it striking that SSO FRAND rules are almost always quite vague.78 Notably, SSOs in which SEP holders are more prevalent tend to have weaker FRAND rules.79 Further, to our knowledge, SSOs have made almost no effort to enforce their FRAND rules and have, instead, left enforcement efforts to others.80 This evidence raises serious doubts about the effectiveness of the existing FRAND rules in preventing ex post opportunism.

# 2AC

## Ad1

### 2AC---AT: Innovation DA---TL

#### *Every single* neg innovation claim is false---overdeterrence and “false positives” are wrong, FRAND rates sufficiently motivate innovation, and holdup outweighs.

Leslie 20, \*Christopher R. Leslie, Chancellor’s Professor of Law, University of California Irvine School of Law; (2020,“The DOJ’s Defense of Deception:   
Antitrust Law’s Role in Protecting the Standard-Setting Process”, https://scholarsbank.uoregon.edu/xmlui/bitstream/handle/1794/25382/1\_Leslie\_FNL.pdf?sequence=1&isAllowed=y)

1. Innovation

In his speeches, Delrahim tries to create the specter of antitrust liability destroying innovation incentives if FRAND violations are treated as anticompetitive conduct.152 In particular, Delrahim argues that, even in the presence of FRAND commitments, courts should grant injunctions against alleged infringers in order to “optimize[] the incentive[s] to innovate for the benefit of the public.”153 At times, he asserts that allowing owners of FRAND-encumbered SEPs to enjoin manufacturers from making products is necessary to reward inventors.154 This is counterintuitive. Allowing patentholders to evade their contractual commitments made to SSOs does not “reward[] successful inventors,” as Delrahim argues.155 Rather, it distorts the competitive process through which the standard was initially adopted, which was based on the patentholders’ representations that they would charge FRAND royalties.156 Moreover, there is nothing in patent law that suggests—let alone mandates—that patentholders should be able to maximize their profits by any means they choose.157

Delrahim repeatedly describes FRAND violators as “innovators” and suggests that this characterization alone warrants antitrust immunity, lest liability deter or discourage inventors from inventing.158 But this is a red herring, a distraction. If a patentholder monopolizes a market solely through its innovation, and nothing else, the monopoly is legal. But no one is suggesting that monopolization through innovation should trigger antitrust liability. Rather, it is a patentholder’s deception and/or breach of relied-upon commitments that leads to antitrust scrutiny, because neither of these bad acts represents competition on the merits.159 Delrahim asserts that acquiring market power “as a result of a patent holder’s so-called ‘deception’ about its licensing obligations . . . is not the sort of market-power-enhancing conduct that Section 2 should reach because a cause of action for treble damages would impede the policies underlying the Sherman Act.”160 Delrahim never really explains why monopolization-through-deception is not conduct that violates Section 2. Instead, he expresses concern that patentholders may be liable for treble damages.161 But treble damages are easy to avoid: if the monopolist patentholder does not engage in deception and honors its FRAND commitments, then it will not be on the hook for any damages. In a similar vein, Delrahim notes that “the Supreme Court has cautioned against antitrust standards that would create an unacceptable risk of ‘false positives’ or condemnations of lawful pro-competitive conduct.”162 Invoking that concern, Delrahim asserts that holding innovators liable for their misconduct could deter innovation.163 That is absurd. Liability for misconduct deters misconduct. It does not deter any lawful behavior that is not the basis for liability in the first place. Delrahim offers no explanation for why holding patentees liable for breaking their FRAND commitments after having deceived an SSO into incorporating their patented invention into a standard would be likely to produce “false positives” against patentholders who have not engaged in such behavior.164

Delrahim consistently fails to appreciate how easy it is for an SEP owner to avoid antitrust liability: license the patent on FRAND terms. If there is a dispute about what constitutes a FRAND royalty, the patentholder can go to court and get a ruling on the FRAND rate, instead of suing for an injunction and threatening to drive a manufacturer from the market. Seeking and following judicial guidance on the FRAND rate immunizes the SEP owner against both antitrust liability and a breach of contract lawsuit. Some of Delrahim’s innovation arguments read like a defense of patent holdup writ large. For example, he asserts, “An antitrust duty to license on FRAND terms would also contravene the patent laws’ policy of promoting innovation by offering incentives for holders of valid patents to seek the greatest rewards possible for their inventions.”165 Taken at face value, this approach would eliminate antitrust liability for any patentholders’ anticompetitive conduct (tying, sham litigation, etc.) because such liability would reduce the maximum possible return they could earn on their patent.166 Delrahim’s statement ignores the fact that the patentholder acquired its monopoly power by legally promising not “to seek the greatest rewards possible for [its] invention[].”167

Furthermore, Delrahim is wrong to assert that antitrust liability for willful misconduct weakens incentives for innovation. The patentee is receiving just compensation under the FRAND regime.168 By bargaining to have its patent included in the industry standard, the SEP owner is locking in a steady stream of profits. Delrahim provides no evidence that these FRAND royalties are insufficient to reward and encourage innovation. And, in any event, the patentholder chose to pursue FRAND royalties rather than maintaining its patent outside the standard and retaining the right to set its own royalty rate for its patented technology. To make his innovation-based arguments, Delrahim describes a binary world in which firms are either innovators or implementers, and the “dueling interests of innovators and implementers always are in tension.”169 If this were a tug-of-war match, Delrahim would be loudly rooting for the innovators. Delrahim does not merely champion innovators; he affirmatively disparages implementers and the work of standard-setting organizations, which he accuses of having been “given too little scrutiny when they have acted as a forum to slow down, rather than to facilitate, the adoption of disruptive innovations.”170

The development of advanced technological goods, however, is not a zero-sum game in which one team wins and the other team loses. Delrahim’s description of the relationship between innovators and implementers is deeply flawed because no clear line separates these groups. In response to his first deception-forgiving speech, a group of leaders in the high-tech industry wrote to Delrahim, “We are not mere implementers of standards. Rather, we contribute technologies to standards and drive research, development, investment and innovation throughout the value chain.”171 Signatories to the letter included Apple, Audi, Cisco Systems, Dell, Hewlett Packard, Intel, Microsoft, and Samsung—all major players in the innovation game. In short, Delrahim is wrong to suggest that implementers are not innovators and that recognizing their legal rights would somehow hurt innovation.172

Moreover, Delrahim ignores an entire class of (undisputed) innovators—those inventors who own patented technology that was not included in the adopted standard. Unchosen standards are often rife with innovations. When a patent owner engages in deception to secure a particular standard, the innovators who own patents that would have been SEPs for an alternative standard that was not selected due to another patentee’s deceptive conduct suffer a loss of revenue that could constitute a form of antitrust injury.

Not only is Delrahim’s innovation analysis incorrect, it is counterproductive to its stated goals. The industry letter in response to Delrahim’s first speech explained that the Trump appointee’s approach would “instead threaten US industry and consumer interests, harm US innovation, and interfere with parties’ right to contract.”173 The Department of Justice used to recognize this, noting in its prior joint statement with the PTO that “F/RAND commitments may also contribute to increased follow-on innovation by allowing nondiscriminatory access to networks both to new entrants and to established market participants to introduce new generations of network-operable devices.”174 Patent holdup harms innovation by discouraging firms from participating in SSOs because “[w]here the danger of abuse undermines the collaborative process by threatening to extract supracompetitive prices from competitors, industry members are less likely to participate in SSOs in the future and, as a result, consumers are less likely to benefit from these organizations.”175 Douglas Melamed and Carl Shapiro have explained that “supracompetitive pricing by SEP holders increases the cost of follow-on inventions that build on or improve the technologies claimed by the SEPs. This cost acts as a tax on follow-on innovation, reducing such innovations and impairing the very process of invention that the patent laws are intended to promote.”176 Moreover, because Delrahim looks at the issue only through the eyes of the SEP owner that seeks to evade its FRAND obligation, he overlooks the fact that by delaying the implementation of the standard, the holdout who commits holdup hurts all the other innovators who have SEPs.177 Ultimately, because SSOs facilitate and reward innovation and because patent holdup can chill industry members from participating in the standard-setting process, the failure to deter and remedy patent holdup harms innovation.178 Former FTC Commissioner Terrell McSweeny explained that “[b]y protecting the integrity of the standard-setting process itself, sound antitrust enforcement actually strengthens market opportunities for new technologies, thus improving the incentive for valuable innovation.”179 Thus, while Delrahim is right to praise innovation, he is wrong to argue that permitting deception and FRAND violations is the correct way to encourage innovation.

## 2AC—Regulation

### 2AC---AT: Contract Law CP

#### Permutation do the counterplan.

#### Permutation do both---solves by using antitrust as a backstop.

#### Three deficits:

#### 1---Targeting---faulting the entire SSO is key to curtail monopolization---targeting individual SEP holders fails.

Melamed & Shapiro 18, \*A. Douglas Melamed is Professor of the Practice of Law at Stanford Law School; \*Carl Shapiro is the Transamerica Professor of Business Strategy at the Haas School of Business at the University of California at Berkeley; (May 2018, “How Antitrust Law Can Make FRAND Commitments More Effective”, https://www-cdn.law.stanford.edu/wp-content/uploads/2018/05/How-Antitrust-Law-Can-Make-FRAND-Commitments-More-Effective.pdf)

Antitrust enforcement aimed only at SEP holders is not sufficient to prevent or remedy ex post opportunism. First, as described in Part I, that kind of enforcement must be implemented separately for each patent holder, and for many standards, there are hundreds or even thousands of SEP holders. Second, some of the most common kinds of opportunism are arguably beyond the reach of antitrust claims against SEP holders. 61 Moreover, enforcement aimed at SEP holders is not directed at the basic problem: the failure of the SSOs to take adequate steps to prevent the ex post opportunism that the SSOs’ conduct enabled.

#### 2---Private rights of action beneath antitrust are key---beneath contract law, only implementers have standing---which categorically excludes consumers as plaintiffs.

Cary et al. 11, \*Messrs. George Cary and Alex Sistla are members of the California and District of Columbia Bars. Mr. Mark Nelson is a member of the New York and District of Columbia Bars. Mr. Steven Kaiser is a member of the New Jersey and District of Columbia Bars; (2011, “THE CASE FOR ANTITRUST LAW TO POLICE THE PATENT HOLDUP PROBLEM INSTANDARD SETTING”, <https://www.clearygottlieb.com/~/media/organize-archive/cgsh/files/publication-pdfs/the-case-for-antitrust-law-to-police-the-patent-holdup-problem-in-the-standard-setting.pdf>)

2. Contract Law

The argument that antitrust should step aside because contract law “out-perform[s] antitrust when it comes to the successful identification and regulation of ex post opportunism associated with patent hold-up”127 fails for much the same reasons. A contract can only be enforced by its parties and by other to whom the parties clearly and explicitly intended to give enforcement rights.128 The victims of anticompetitive patent holdup, however, are also consumers and potential competitors who may not have been part of the SSO. Moreover, contracts can be modified and third parties generally have no enforcement rights as to the original contract. In implementing an industry-wide standard, the parties to the contract may actually prefer high royalty levels that hurt consumers. For example, if participants in the standard-setting process, who agreed collectively to support one technology over all others, mutually agree to license on FRAND terms but then, after the standard is adopted, each independently chooses to increase its royalty significantly, no party to the FRAND “contract” may have incentive to bring a breach of contract action, while implementers of the standard and users of standard-compliant products ultimately pay the bill. Antitrust should be available in such circumstances as a remedy for the parties harmed by the anticompetitive agreement.

#### Consumer-action is key---implementers have attenuated interests in paying supracompetitive royalties---they will decline to enforce their rights as a licensee beneath the CP---that’s 1AC Melamed and Shapiro and…

Farrell et al. 07, \*Joseph Farrell is Professor of Economics, University of California at Berkeley and a Senior Consultant at CRA International; \*John Hayes is a Vice President at CRA International; \*Carl Shapiro is the Transamerica Professor of Business Strategy at the Haas School of Business at the University of California at Berkeley and a Senior Consultant at CRA International; Theresa Sullivan is a Senior Vice President at Competition Policy Associates. (2007, “STANDARD SETTING, PATENTS, AND HOLD-UP”, https://faculty.haas.berkeley.edu/shapiro/standards2007.pdf)

IV. INCIDENCE, SSO INCENTIVES, AND THE PROTECTION OF FINAL CONSUMERS: STANDARDS HOLD-UP AS A COMPETITION PROBLEM

SSO rules on patent disclosure and licensing have sometimes been judged too vague or too weak to create a serious disclosure or licensing obligation.151 We now discuss internal incentives of the SSO and its members in crafting and enforcing effective rules. As we explain, holdup is apt to harm final consumers even more than the technology-buying members of an SSO. This can make hold-up of a standard a marketwide competition problem in a way that hold-up of a single buyer tends not to be. It also weakens an SSO’s incentive to avert the hold-up problem.

When a single firm over-pays for an input, downstream consumers are harmed only to the extent that the firm increases its output price in response to its cost increase. Even if the firm’s marginal or incremental costs, and not just its fixed costs, rise, this pass-through rate will often be small if the firm has little market power. Thus, final consumers may not gain substantially if antitrust protects a single firm in a competitive industry against hold-up.

If the firm has significant market power, its pass-through rate may be substantial, and then downstream buyers are hurt if the firm is held up. However, the firm (direct buyer) bears the full brunt of an input cost increase that applies only to itself, as well as passing some on to its customers.152 Thus, although consumers can be harmed, they are significantly protected by the direct buyer’s self-interest in avoiding hold-up.

In contrast, when a standard used in a fairly competitive industry is subject to uniform hold-up, direct buyers may bear little of the cost, which falls primarily on final consumers. If each direct buyer knows that its rivals are paying as high a royalty as it is, pass-through can largely immunize it against economic loss from high running royalties. Thus, the direct buyers, who might otherwise be the best guardians against gratuitous insertion of patents in standards, or against excessive royalties from such patents, may bear very little of the harm.153 For instance, in a Cournot oligopoly with N equal firms, each with constant unit cost c, and facing a market demand elasticity of e, a small increase in all firms’ c actually increases their profits if e <1, and reduces profits only slightly if e is modestly above 1. Similar effects arise in imperfect competition more generally, since cost increases borne uniformly by all oligopolists are generally passed through to a considerable degree. Thus, consumers are not, in general, well protected by the self-interest of direct technology buyers.

Technology users participating in an SSO will be likely to expect uniform hold-up in this sense if each user would be put into a comparably weak position in negotiation with the patent holder, as will tend to be true if most or all of the producers competing downstream are subject to the hold-up. Clearly, this is less likely if (as is common in the microelectronics industry) the patent holder and a substantial set of users have royalty-free cross-licenses that would cover the patents in question. It also depends on whether the patent holder demands running royalties or fixed fees, and on the economics of industry passthrough rates, which vary from case to case.154 However, uniformity in exposure to hold-up seems more likely in the standards context than in most procurement settings. Indeed, uniform hold-up might also stem from the FRAND policies of SSOs.155

Even if an SSO is dominated by (direct) buyer interests rather than by patent holders, it has only weak incentives to craft rules to stop hold-up.

Furthermore, SSOs often represent patent holders as well as technology users, and the rules can be expected to reflect the interests of both.156 Put another way, if each member thinks it will some of the time be the patent holder that could profitably hold up others, then the SSO’s rules cannot be expected fully to protect competition and consumers. In particular, it could actually be counter-productive if non-discrimination policies are more effectively enforced than are fair and reasonable policies.157

One important caveat is that, if liability is linked to membership in the SSO, strengthening the SSO’s anti-hold-up policies might discourage patent holders from joining, at least ones that are confident that their technology will be incorporated into the standard even in their absence.158 Likewise, some patent holders might not participate if enforcement policies are unclear. On the other hand, stronger anti-holdup policies may encourage participation because reducing the danger of hold-up can speed the standards process enough that even patent holders gain.159 Moreover, participation by patent holders, while important, is only part of the goal.

A more philosophical argument against intervention is that hold-up is a well-known problem and that if SSO members knew they might be held up, and chose to participate anyway, public policy need not step in to protect them. However, public antitrust enforcement is largely concerned about effects on downstream consumers, who were not a party to that bargain. And, as we stressed above, SSO members may lose little from hold-up, and may benefit as often as they suffer, so their private interests do not in general fully reflect consumers’ interests. A more consequentialist response is that surprise hold-up may be largely a transfer, but anticipation of hold-up encourages a range of inefficient forms of self-protection, such as postponing or minimizing investment, or ensuring that standards use only antique technology.

#### Deterrence deficit---antitrust law trebles private damages, which creates a legitimate cost to misconduct---but the loss of a patent lawsuit wouldn’t change an SEP holder’s calculus.

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Antitrust could play a meaningful role.165 The most important contribution of antitrust enforcement against abuses of SEPs is its deterrent effect.166 Although patent law reforms or contractual binding of subsequent SEPs-holders to FRAND licensing would provide to victims of hold-up useful defences in court, they do not sufficiently deter abusive assertion of SEPs in the first place. For instance, the contractual binding to FRAND could raise counterclaims of breach of contract or/and contractual performance; however, the opportunistic SEP-holder will, in case it loses on such grounds, be left no worse than with a licence on FRAND terms. In the end, a patent hold-up is indeed precluded, but contractual constraints can do little to prevent opportunistic assertion of SEPs in the first place. The victims still suffer the costs of uncertain and resource-draining litigation; most importantly, the reliability of the standards-setting process might still be at risk.

Antitrust enforcement on the other hand, in imposing tortfeasors positive monetary losses in the form of fines, alters the profit-cost calculus of opportunistic behaviour in the first place; opportunistic assertion of SEPs will come at a cost. Of course, a too-heavy-handed approach could have a chilling effect on legitimate patent assertions against implementers that are reluctant to pay FRAND royalties, thus leading to false positives. Antitrust enforcement should carefully examine the specificities of each case, such as the particular PAE conduct, the relationship between PAEs and practicing entities, the structure of downstream markets.167 More importantly, an economically informed antitrust analysis focusing on the actual and potential anticompetitive effects of opportunistic SEPs assertion should prohibit behaviour that is truly harmful to consumers. Safeguarding the inclusive and efficient character of the standards-setting process is a competition law problem. Informed antitrust analysis could provide adequate responses to opportunistic PAE behaviour and privateering.

#### Contract deficit---enforcing FRAND via contract is a nightmare.

Contreras 14, \*Jorge L. Contreras teaches in the areas of intellectual property law, property law and genetics and the law at the University of Utah. He has recently been named one of the University of Utah's Presidential Scholars, and won the 2018-19 Faculty Scholarship Award from the S.J. Quinney College of Law. Professor Contreras has previously served on the law faculties of American University Washington College of Law and Washington University in St. Louis, and was a partner at the international law firm Wilmer Cutler Pickering Hale and Dorr LLP, where he practiced transactional and intellectual property law in Boston, London and Washington DC; (September 14th, 2014, “Why FRAND Commitments are Not (usually) Contracts”, https://patentlyo.com/patent/2014/09/commitments-usually-contracts.html)

Nevertheless, as I discuss in [a forthcoming article](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2309023), common law contract is a poor fit for the enforcement of most FRAND commitments, and relying too heavily on it is likely to have unwelcome results.  Contract law fails as a general-purpose FRAND enforcement theory on several grounds.  First, the simplified offer-acceptance-consideration model laid out above does not reflect the actual manner in which most FRAND commitments are made.  Most of these commitments are not set forth in an agreement between the patent holder and the SDO.  Rather, they are contained in SDO policies, bylaws and other types of statements.  In addition, many of these policies (including those adopted by leading SDOs such as IEEE) do not actually require the patent holder to commit to license its patents on FRAND terms, but only to disclose to the SDO the terms on which it will, or on which it intends to, license its essential patents.  Moreover, FRAND commitments are typically a sentence or two in length, and fail to set forth any of the relevant details of the promised license agreement, whether they be royalty rates, grant-back requirements, terms on which the license may be suspended or terminated, and the like.  As such, whatever “contract” is formed is likely void for want of detail, a mere “agreement to agree”.  Finally, the attempt to extend third party beneficiary rights to every product vendor in the world, whether or not it competed in the relevant business, or even existed, when the promise was made, stretches this venerable doctrine beyond any sensible boundaries.  As a result, except perhaps in a few cases in which standards are developed by small groups of firms that have actual contractual arrangements amongst themselves, common law contract is a poor choice as a general enforcement mechanism for FRAND commitments.

At least one Administrative Law Judge at the International Trade Commission has recently come to the same conclusion in the ITC’s case against Interdigital (337-TA-868, June 18, 2014), expressly ruling that the FRAND policy adopted by the European telecom SDO ETSI “is not a contract”, and merely “contains rules to guide the parties in their interactions with the organization, other members and third parties.”  I couldn’t agree more.

### 2AC---AT: NB---BizCon

#### The counterplan crushes business confidence across the whole economy.

Bylund 16 – PhD, Assistant Professor of Entrepreneurship and Records-Johnston Professor of Free Enterprise in the School of Entrepreneurship at Oklahoma State University. (Per, "How Government Regulation Makes Us Poorer," Mises Institute, 12/26/16, https://mises.org/blog/how-government-regulation-makes-us-poorer)

This year, Mises Institute Associated Scholar Per Bylund released The Seen, the Unseen, and The Unrealized: How Regulations Affect Our Everyday Lives. We recently spoke with Professor Bylund about his book and how the effects of government regulation are more far-reaching and more damaging than many people realize. MISES INSTITUTE: Why is the concept of the “unseen” so important to understanding the effects of regulation? PER BYLUND: It is essential for understanding regulation, but the “unseen” is actually fundamental for economic understanding and analysis in general. What’s “unseen” is the proper benchmark. We need to consider both what didn’t happen but would have happened. Oftentimes people, including so-called experts, compare apples and oranges by looking at data “before” and “after” an event, for instance, when discussing the effects of raising the minimum wage. So they might say that employment before was similar to after the hike, and then conclude that the change had no effect. But this is wrong, because there are plenty of changes in the economy that took place between the before and after — not only the minimum wage. So in order to figure out the effect of the minimum wage specifically, we must compare the “after” situation with what would have been had there been no minimum wage hike — the unseen. This of course applies to any change in the economy, and not only regulation. Bastiat, in his classic essay on the broken window fallacy, discusses the effects as a boy smashes a window. But in modern state-planned economies, regulation is by far the most common and most destructive change, so that’s where we also find most analysis. As economic analysis is used to assess the effects of regulations before they’re implemented, it’s important to use the proper comparisons — the seen and the unseen, not the seen at different times (before and after). MI: You also employ the concept of “the unrealized.” PB: The unrealized is really my own extension to Bastiat’s famous analysis, and it is intended to redirect our attention from the macro level of the economy to how changes affect individuals — and especially what options they’re presented with. The point of the book is to show that regulating one part of the economy will have effects throughout the economic system, and that this type of artificial restriction will lead to some people being stripped of the choices they otherwise would have. I exemplify this with the sweatshop, which is often argued against using only “the seen.” The working conditions are terrible in a sweatshop, especially compared to our cushy jobs in the West. Ben Powell and others have done great work pointing out that there’s also the unseen in the sense that without the sweatshop those workers would be in even worse shape. In fact, they are very eager to get jobs in the sweatshop because they’re so much better than all other options they have. With the “unrealized,” however, I think we get a more nuanced picture. I argue that the reason the sweatshop workers make a choice between the hard work in a sweatshop, and something that is much worse, is regulation. Had this been a free market, then there would likely have been many businesses offering jobs in sweatshops, and they would probably compete with each other by offering higher pay, better work conditions, and so on. There’s obviously money to be made from running sweatshops, so why don’t more businesses do this? The existence of a sweatshop shows that the market is sufficiently developed to support it: the technology and capital structure, including transportation and supply chains, are obviously there. The economic conditions also speak in favor of sweatshops over toiling in the fields and the other much worse options sweatshop workers are presented with. The workers are more productive in sweatshops. So there’s really no reason why there wouldn’t be competition for their labor by several sweatshops. But, the many options that should be there aren’t. So it’s likely that something is restricting the creation of these other options. Those other businesses that never came to be are the unrealized alternatives, and the argument in the book is that these options would have been available had it not been for regulation. Moreover, those regulations can really be very distant from these workers, since a restriction redirects economic actors to other, and comparatively less valuable, actions. In turn, the regulations have ripple effects — a type of Cantillon effect, you might say — throughout the economy as seen actions replace the unseen, or what should have been. These other things happen instead of what should have happened, if actors had not been arbitrarily restricted by regulations. But, these “other things” are suboptimal and harm people since they’re not what people would have chosen to do in the absence of the regulations. In this sense, a regulation anywhere in the economy causes harm, and this harm primarily affects those with little or no influence over policy or the means to avoid it. So the major harm is on poor people in poor countries, even where regulations appear to be limited to relatively rich people in rich countries.

## AT: CP---STATE ANTITRUST

### 2AC---Perms

#### Permutation do both---solves politics, concurrent action lets the fed deflect blame on the states.

#### Permutation do the counterplan---it also prohibits anticompetitive conduct.

### 2AC---Theory---Fifty State Fiat

#### Fifty-state fiat destroys equity and fairness---it’s a stacked deck that allows multi-actor fiat in unrealistic ways and makes generating solvency deficits impossible absent a stable lit base.

### 2AC---Preemption

#### State efforts to impose greater antitrust liability than established by federal courts will be preempted to protect that balance.

Samp 14, \*Richard A. Samp is the chief counsel for Washington Legal Foundation (WLF), a non-profit, public interest law firm in Washington, D.C. WLF filed an amicus brief in support of Love Terminal Partners. (2014, “The Role of State Antitrust Law in the Aftermath of Actavis”, https://scholarship.law.umn.edu/cgi/viewcontent.cgi?article=1062&context=mjlst)

V. ACTAVIS’S PREEMPTIVE EFFECT

Application of state antitrust law to reverse payment settlements is not merely a hypothetical possibility. There are a fair number of pending lawsuits that challenge reverse payment settlements on state-law grounds. The California Supreme Court has agreed to review one such suit.74 In seeking affirmance of the appeals court’s dismissal of the suit, the defendants argue inter alia that the suit is preempted by federal law.75

As noted above, there is precedent for a finding that state antitrust law is preempted to the extent that it conflicts with the policy underlying a federal statute.76 Moreover, in the context of patent law, federal courts have not hesitated to preempt state laws that the courts deem to stand as an obstacle to accomplishing Congress’s objectives (i.e., encouraging efforts to develop new and useful products).77 To the extent that any portions of Actavis’s holding can be deemed to reflect the Court’s perception of Congress’s new-product-development objectives, a state law is preempted if it is inconsistent with that holding and seeks to impose a greater degree of antitrust liability on the parties to a reverse payment settlement.

Actavis’s treatment of settlements involving a compromise entry date appears to meet that description. Actavis held that federal antitrust liability could not arise from a settlement in which the generic manufacturer agrees not compete for a number of years and in return is rewarded with an exclusive license to market its product several years in advance of the patent’s expiration date.78 Accordingly, states are not permitted to impose antitrust liability under similar circumstances because doing so would upset the balance that, according to Actavis, Congress sought to achieve between antitrust and patent law.

Other issues left open by Actavis are likely to be answered in the years ahead. For example, the Supreme Court did not specify whether noncash benefits received by a generic manufacturer in connection with a patent settlement can ever serve as the basis for federal antitrust liability. If the Supreme Court eventually answers that question by stating: “No, federal antitrust law will not examine settlement benefits other than cash that flow to the infringing party,” then it is likely that state antitrust law would be required to conform to that rule. The potential grounds for such a ruling (a desire both to promote settlement of patent disputes and to uphold reliance interests in existing patents) are based largely on values embedded in federal patent law.

There is little reason to believe, however, that the Court would prevent application of state antitrust law to patent settlement agreements where state law is fully consistent with federal antitrust law. Even in areas subject to extensive federal regulation, the Supreme Court has upheld the authority of states to engage in parallel regulation that is not inconsistent with the federal regulation.79 Unless the Court were to determine, as in Connell,80 that states could not be trusted to properly accommodate the objectives of the federal statute at issue (here, federal patent law), there is no reason to conclude that Congress would not have wanted states to be permitted to police the same sorts of anticompetitive conduct that is policed by federal antitrust law. Moreover, states are likely free to impose greater penalties on the proscribed conduct than is available under federal law. As the Court explained in California v. ARC America Corp., state antitrust law is not required to adhere to the same set of sanctions imposed by federal antitrust law.81

It seems reasonably clear, however, that Actavis prohibits states from adopting the procedural devices rejected by the U.S. Supreme Court—either a per se condemnation of reverse payment settlements or a presumption of illegality accompanied by “quick look” review. The Supreme Court rejected those approaches because it determined that in many cases there might well be pro-competitive economic justifications for reverse payment settlements and that presuming their illegality could result in the suppression of economically useful conduct.82 State antitrust laws that adopted the FTC’s proposed presumption of illegality would be subject to similar criticism, and thus would likely be impliedly preempted as inconsistent with the careful balance between antitrust and patent law established by Actavis.

CONCLUSION

Because Actavis left so many questions unanswered regarding the application of federal antitrust law to patent settlement agreements, the extent to which federal law preempts the application of state antitrust law to such agreements remains similarly unsettled. One can be reasonably confident that if private plaintiffs become dissatisfied with the results of pending litigation under federal antitrust law, they will turn with increasing frequency to state antitrust law as an alternative remedy. Even if state law ends up doing no more than “parallel” federal antitrust law, defendants are likely to incur substantial litigation costs fending off such state claims in the years to come.

#### The Ninth Circuit imposed court-order limitations on antitrust law to preserve its balance with patent law.

Martino et al. 20, \*[Matthew M. Martino](https://www.skadden.com/professionals/m/martino-matthew-m) [Tara L. Reinhart](https://www.skadden.com/professionals/r/reinhart-tara-l) [Steven C. Sunshine](https://www.skadden.com/professionals/s/sunshine-steven-c) [Julia K. York](https://www.skadden.com/professionals/y/york-julia-k), works with clients at Skadden, Arps, Slate, Meagher & Flom LLP; (August 14th, 2020, “Ninth Circuit Strikes Down Sweeping Injunction Against Qualcomm and Reins In Expansive Interpretation of Sherman Act”, https://www.skadden.com/insights/publications/2020/08/ninth-circuit-strikes-down-sweeping-injunction)

In its highly anticipated decision, the Ninth Circuit panel unanimously rejected the lower court’s reasoning, vacating the judgment and reversing the worldwide injunction against Qualcomm. The panel concluded that the district court had erroneously imposed the antitrust duty to deal on Qualcomm, had impermissibly looked outside the relevant antitrust market in order to infer an anticompetitive act and had relied on outdated evidence of agreements that were terminated before the suit was filed to justify a broad, forward-looking global injunction. The Ninth Circuit further rejected the argument that a SEP holder’s violation of FRAND commitments could independently create antitrust liability, instead pointing to patent and contract law as sources for potential remedies. The decision reflects a considered effort to rei

n in the district court’s expansive interpretation of general antitrust principles and their specific application to SEP holders, as well as recognition that the antitrust laws aim to preserve companies’ incentives to innovate and compete. Recognizing that while “[a]nticompetitive behavior is illegal under federal antitrust law[,]” the panel was adamant that “[h]ypercompetitive behavior is not.”[7](https://www.skadden.com/insights/publications/2020/08/ninth-circuit-strikes-down-sweeping-injunction" \l "ftn7)

Rejection of District Court’s Expansive Interpretation of Antitrust Laws

The Ninth Circuit decision contains several notable conclusions regarding the scope of Section 2 of the Sherman Act and what constitutes cognizable antitrust harm.

## Ad CP

### 2AC---AT: Federal Assistance CP---TL

#### Permutation do both.

#### Permutation do the counterplan.

#### The counterplan doesn’t solve advantage 1:

#### 1---monopoly pricing:

#### A---lower product output and taxes on follow-on innovation negate the benefits of federal assistance.

#### B---patent overclaiming means assistance would be wasted on suboptimal inventions---that’s Melamed and Shapiro.

#### 2---licensing discrimination---absent FRAND, the best 5G technologies will be driven out of the market through refusals to license---that’s Actonline.

#### And, doesn’t solve advantage 2---market competition is key to cybersecurity---motivates responsible investment and diversifies suppliers---that’s Duan.

### 2AC---AT: Plank---Federal Incentives

#### Positive incentives fail and rely on federal monitoring for implementation.

Haber et al. 17, \*Eldar Haber, Senior Lecturer, University of Haifa, Faculty of Law; Haifa Center for Law and Technology, University of Haifa, Faculty of Law; Faculty Associate, Berkman-Klein Center for Internet & Society, Harvard University; \*\*Tal Zarsky, Vice Dean and Professor, University of Haifa, Faculty of Law; Haifa Center for Law and Technology, University of Haifa, Faculty of Law. (Winter 2017, “Cybersecurity for Infrastructure: A Critical Analysis”, https://ir.law.fsu.edu/cgi/viewcontent.cgi?article=2578&context=lr)

The ideas we discuss directly above focus on measures to internalize negative externalities, which have proven to be ineffective. We can approach the issue from a different avenue: by providing direct and indirect incentives to CI operators who sufficiently adapt to cyber challenges.198 Incentives can take the form of direct payments for meeting cybersecurity standards,199 a right to participate in government tenders,200 or tax benefits based on criteria related to cybersecurity measures. In addition to incentivizing their implementation, the state could provide cybersecurity tools and assistance to CI operators without charge.

However, such direct incentives also insufficiently incentivize implementing adequate CI cybersecurity measures. Even with such incentives in place, some CI operators might decide that their implementation is not worthwhile after considering the potential costs of applying such protective measures and their interference with CI operations. Furthermore, this type of policy may face political opposition. The public, who in many cases is dissatisfied with public utilities/private CIs, may oppose the redirection of its taxpayer money to these firms’ pockets for services the CIs are expected to provide and that are already paid for. And again, the success of the model relies on the state’s ability to set cybersecurity standards and monitor their implementation—a practice that, as we shall see shortly, generates substantial problems.

#### Federal oversight fails---litany of warrants.

Haber et al. 17, \*Eldar Haber, Senior Lecturer, University of Haifa, Faculty of Law; Haifa Center for Law and Technology, University of Haifa, Faculty of Law; Faculty Associate, Berkman-Klein Center for Internet & Society, Harvard University; \*\*Tal Zarsky, Vice Dean and Professor, University of Haifa, Faculty of Law; Haifa Center for Law and Technology, University of Haifa, Faculty of Law. (Winter 2017, “Cybersecurity for Infrastructure: A Critical Analysis”, https://ir.law.fsu.edu/cgi/viewcontent.cgi?article=2578&context=lr)

Ex-Ante Regulation and Optimizing Knowledge

The noted advantages of direct regulation of CI cyber risks seem to resolve many of the concerns noted in previous Sections. Yet, with these advantages come other problems. And while the global trend may be toward state-centric protection of CIs, many scholars and policymakers argue that this regulatory trajectory is unwise. Some find the claim that a single government entity “can micro-manage every aspect of cybersecurity and dictate best practice[s] is hubris.”210

One powerful set of critiques points to the inefficiency of the government-led regulatory scheme. These critiques state that government entities are not the optimal custodian and aggregator of knowledge in a cyber context.211 Quite to the contrary, it is more likely that knowledge generated and held by the state will prove to be subpar.212 Intuitively, in technological contexts, expertise lies mainly with external and diverse experts rather than the central government. The state can hire experts and learn from them, but so can private companies. There are no guarantees that the state will know which experts to listen to. Indeed, the state might be highly motivated to objectively choose the best solutions (we reconsider this notion below),213 but its lack of expertise could affect its choice and lead it to select a suboptimal strategy.

Beyond this general concern with the government’s inability to obtain relevant knowledge, we critically assess five specific shortcomings that pertain to various technological aspects of the cyber protection con- text. First, scholars opine that the negative impact of a government-led regulatory model could extend well beyond the level of CI protection re- quired, and affect aspects of cyber research. When the state, rather than the market, dictates conduct, this might affect overall innovation in the field.214 Innovation will be steered toward the specific issues government deems interesting, rather than naturally developing in an optimal direction. But an important caveat is due. Cyberspace is developing rap- idly; state influence may be minor and narrowly focused. Thus, innovation could proceed without substantial interference.

Second, even if the state were capable of establishing a reasonable blueprint to respond to cyber threats, it would have more difficulty in updating and amending this blueprint due to the fast pace of the constant, overall changes in the cyber field.215 The realm of cyber risks is highly volatile, and quick responses are necessary. In other fields, the fact that policy changes take time might not lead to devastating outcomes. It might even enable better policymaking, as it allows for re- sponsible decision making after in-depth consultation. This is not true for the cyber realm, which is arguably unique in that it is constantly undergoing change.216 For example, a powerful critique of the FERC standard-setting process in the energy market featured a slow-moving process, in which an updated standard was retracted at the time of its approval because it was already outdated.217

Third, state monitoring and enforcement could lead to an undesirable practice of ‘box checking’ or ‘box ticking.’218 When responsibility rests on the shoulders of the state to set standards for cyber defense, some corporations will simply comply without further examining whether such protection is optimal. Therefore, greater involvement of relevant players in the process is necessary. Note that this critique also pertains to other instances in which the defense standard is set by external (even commercial) parties.

Fourth, recent trends in the technological practices of private companies tend to further minimize the benefits of governmental regulation. In the past, such companies, including private CIs, relied upon proprietary software—computer code written specifically for them. However, financial and compatibility concerns pressured many companies to switch to Commercial, Off-The-Shelf (COTS) software.219 This transition offers advantages and disadvantages for cybersecurity that are beyond the scope of our analysis.220 However, this change has clear implications for our current discussion; with COTS, specific governments have less of an advantage in identifying and resolving cyber threats. Here, the global commercial market is faced with similar challenges, and it is likely that expertise lies there.

Finally, and perhaps most importantly, the state-driven and mandated mechanism of CI cyber defense is only meaningful when coupled with effective enforcement. Arguably, the state could impose various sanctions against companies that fail to comply, including requiring that they cease operations (note the authority vested with the DHS in the chemical sector), or terminating their CI license.221 However, enforcement is not easily achieved since it requires substantial resources. The FERC’s experiences in enforcing cyber defense standards illuminate the difficulties in enforcing such standards with government- budgeted manpower and resources.222 Furthermore, in many cases, private CIs that are subject to regulation are powerful entities that are not easily penalized by the regulator (certainly not severely—after all, they control a critical infrastructure). Notably, even without enforcement, a government-based approach could increase knowledge and im- prove information sharing in real time, but such goals could be achieved while applying more lenient, and even optimal, measures.

### 2AC---AT: Public R&D

#### Public R&D causes crowd-out and impedes private investment.

Marino et al. 16, \*Marianna Marino and Stephane Lhuillery, ICN Business School, Department of Strategy and Entrepreneurship; \*Pierpaolo Parrotta and [Davide Sala](https://www.sciencedirect.com/science/article/pii/S0048733316300555#!), Aarhus University, Tuborg Research Centre for Globalization and Firms; (June 17th, 2016, “Additionality or crowding-out? An overall evaluation of public R&D subsidy on private R&D expenditure”, https://www.sciencedirect.com/science/article/pii/S0048733316300555)

6. Discussion and conclusions

This paper is an overall evaluation of the public subsidies to R&D, which proposes an assessment of this policy in absence or combination with the R&D tax credit, an equally important policy instrument used to stimulate private R&D investments. Using a dataset of French companies that covers the period 1993–2009, we perform both inter-group and intra-group assessment of the outcome of this policy. The former analysis is directed to investigate a differentiated impact of R&D grants across differently funded firms, and is presented alongside utilization of the categorical matching method. The latter analysis investigates the implications of the current modulation of public intervention for similarly funded firms. Implemented by means of a continuous treatment evaluation method, the intra-group assessment allows us to investigate the likelihood of crowding-in and crowding-out effects within each tercile along the distribution of the public R&D support grant. Both methods are coupled with the DID approach to account for unobserved heterogeneity and results strengthened by a rich dataset featuring comprehensive information on the pre-treatment variables. In addition, exploiting the exogenous variation due to the sharp change in R&D tax [credit policy](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/credit-policy) that occurred in 2004, we compare [treatment effects](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/causality-analysis) on growth of R&D private expenditure between before- and after-reform periods, and therefore we identify the effects of such a policy change introduced by the government.

Our results show that substitution between private and public funds may occur, especially for medium-high levels of public subsidies, and under the regime of R&D tax credit. Recipients of larger doses appear not to outperform or to perform worse than recipients of lower doses or non-recipient firms. Crowding-out seems stronger and more significant in the after-reform period as reported in both the propensity score and exact matching analysis performed by year. In addition, we find evidence of more extensive negative effects for firms employing fewer than 100 employees or operating in low R&D intensive industries. When analyzing the intra-tercile distribution of public funds under R&D tax credit regime, we highlight a considerable reduction in the growth of private R&D expenditure among medium-high subsidy recipients, whereas additionality effects are found for a few top beneficiary companies (above EUR 10 million). In the sample of fully supported recipients, it seems to emerge – on average – that firms receiving subsidies between EUR 145 thousand and 1.8 million exhibit significant lower private contribution with respect to their counterfactual units. Subsidy-only recipients instead show significant substitution of private with public R&D resources for subsidy doses between EUR 20–55 thousand. Interestingly, when dividing the sample in before- and after-reform periods, we find that crowding-out effects seem to persist solely for recipients of subsidies under tax credit incentives after the 2004 reform.

Overall, our findings appear to suggest a substantial re-design of both the modulation and targeting of the public R&D subsidy policy, especially under R&D tax credit regime. Indeed, the substitution effects emerging from the inter-tercile and funded versus unfunded comparisons would motivate a better targeting of the recipient firms, especially among [small and medium size firms](https://www.sciencedirect.com/topics/economics-econometrics-and-finance/sme) and in low R&D intense industries. Concerning the modulation of the public R&D subsidy provision, it appears opportune to move resources from medium-high to top beneficiary recipients to boost the growth of private R&D expenditure and rise the private contribution to R&D in the economy. Furthermore, the distinction between fully funded from subsidy-only recipient firms underlines the importance of accounting for “hidden treatments” that may otherwise affect the policy evaluation and favor misleading implications. In addition, the 2004 reform of R&D tax credit appears to have lowered the effectiveness of public R&D funding. Although this result shed some lights on the effects of the 2004 reform, it also asks for further research to investigate the opportune mix of such R&D policy tools. Finally, it is worth underlining that a potential limitation of our study is due to the fact that we do not observe companies with fewer than 20 employees in the manufacturing industries, a significant proportion of the French firm population.

This overall assessment indicates that an ex-post evaluation of the targets of an R&D policy is desirable, if not necessary in a time of downturns or economic stagnation. In fact, if R&D funding is seen as a valid policy instrument to support companies hit hard by a crisis and facing financial restrictions, it is inevitable that public resources should not be re-directed away from risky and promising research projects toward companies that would likely perform equally well without this funding.

#### Public R&D investment isn’t enough and can’t compensate for a lack of private industry competitiveness.

Clark 21, \*Laurie Clark is a senior reporter at Tech Monitor. Before this, she held reporting positions at NS Tech, Wired UK and IDG. She holds an undergraduate degree in psychology from UCL and a masters in media and journalism from the University of Glasgow; (June 10th, 2021, “Massive US tech bill needs to aim for more than countering China”, https://techmonitor.ai/policy/massive-us-tech-bill-needs-aim-more-than-countering-china)

One of the meatiest industrial policy bills in US history, the Innovation and Competition Act (ICA) would commit around $250bn in funding for scientific research, earmarking $52bn to shore up the US’s domestic semiconductor industry, and $120bn for investment in technologies such as AI and quantum computing, as well as overseeing an overhaul of the National Science Foundation (NSF). “The ICA will dramatically increase R&D for basic and applied research in the US,” says Sarah Bauerle Danzman, assistant professor of International Studies at Indiana University Bloomington, pointing out that at present, R&D spending in the US is [about .5% of GDP](https://www.aei.org/economics/us-federal-research-spending-is-at-a-60-year-low-should-we-be-concerned/) with the private sector contributing around 70% of that. “If passed, this bill will increase federal R&D spending by about 30% over the next five years.” How will the Innovation and Competition Act impact chip supply? Although the US is the world leader in semiconductor technologies, most of its manufacturing is outsourced to fabrication plants in Asia. A global chip shortage has highlighted the weakness in its supply chains, and China’s plans to [bolster its own domestic production](https://techmonitor.ai/silicon/silicon-cold-war-china-tech-self-sufficiency) abilities have increased calls for the US to bring chip manufacturing back within its borders. While the signposted federal funding was [applauded](https://www.semiconductors.org/senate-passage-of-usica-marks-major-step-toward-enacting-needed-semiconductor-investments/) by the Semiconductor Industry Association – which noted that the share of global semiconductor manufacturing capacity in the US has decreased from 37% in 1990 to 12% today – some remain sceptical that it will be sufficient. “Even a couple of hundred billion US dollars is not enough to bring about a rapid turnaround of the situation as the US sees it,” says Jonathan Liebenau, associate professor in Technology Management at the London School of Economics. “Semiconductor fabrication plants are hugely expensive and the rest of the supply chain that China built up over the past 30 plus years cannot simply be bought off-the-shelf.” He points out that the US doesn’t have the state-owned enterprises or the complex private-public business ecosystem that China does. “We can ramp up spending on research but under current legal, and treaty, conditions we cannot pick national technology champions anymore, we cannot boost chosen tech companies against their direct competitors, even foreign ones.” The US still narrowly leads in AI, but there are forecasts that China could soon take the edge. China itself has set the goal of becoming the world leader in AI [by 2030](https://multimedia.scmp.com/news/china/article/2166148/china-2025-artificial-intelligence/index.html). In quantum computing, an area considered to have important national security implications, China is said to be [slightly ahead](https://asia.nikkei.com/Spotlight/Datawatch/China-emerges-as-quantum-tech-leader-while-Biden-vows-to-catch-up) of the US. It has funnelled money into the sector, [spending $10bn](https://www.bloomberg.com/news/articles/2018-04-08/forget-the-trade-war-china-wants-to-win-the-computing-arms-race) on setting up the world’s largest quantum research facility.

## Bizcon DA

### 2AC---AT: Business Confidence DA---TL

#### Business confidence is non-unique. FRAND will collapse now---absence of FRAND creates uncertainty and lack of trust that destroys sustainable network innovation---that’s Bauer. Growth outweighs—squo rots economy long term

#### Turn---antitrust intervention strengthens business confidence---no evidence supports the DA.

Cary et al. 11, \*Messrs. George Cary and Alex Sistla are members of the California and District of Columbia Bars. Mr. Mark Nelson is a member of the New York and District of Columbia Bars. Mr. Steven Kaiser is a member of the New Jersey and District of Columbia Bars; (2011, “THE CASE FOR ANTITRUST LAW TO POLICE THE PATENT HOLDUP PROBLEM INSTANDARD SETTING”, <https://www.clearygottlieb.com/~/media/organize-archive/cgsh/files/publication-pdfs/the-case-for-antitrust-law-to-police-the-patent-holdup-problem-in-the-standard-setting.pdf>)

Other commentators believe that there are strong policy arguments against employing antitrust law to police the conduct of SSOs because it will undermine the incentives of SSO participants to innovate. For example, David Teece and Edward Sherry have argued that “antitrust intervention” could “re-duce the clarity of [SSO] rules thereby making participation in SSOs more risky and reducing the willingness of firms with valuable IP (and which there-fore presumably have much to contribute to selecting the appropriate standard) to participate.”44 As a result, they contend that there is a “significant risk of slowing down the standards-setting process, thus delaying the adoption of new standards and new products made in accordance with those standards, to the detriment of consumers and of society generally.”45 In effect, Teece and Sherry’s concern is one of delay—antitrust enforcement could delay innovation. In a commentary accompanying Teece and Sherry’s article, Michael Carrier found their claims to be overstated because they failed to engage in any serious antitrust analysis.46 We agree. But more importantly, Teece and Sherry make empirical claims without any evidence. In particular, they do not even offer anecdotal evidence that firms are discouraged from participating in SSOs because of the prospect of antitrust enforcement. Indeed, the opposite could be equally argued: participation in SSOs would be discouraged to the extent that participants could not rely on the commitments of their fellow participants to disclose and abide by other commitments intended to preclude opportunism. Teece and Sherry’s argument sounds a familiar refrain against antitrust: antitrust enforcement discourages procompetitive behavior and therefore should be limited. The conclusion rings hollow without facts.

#### Monopoly pricing and selective licensing undermines investor certainty.

Actonline 20, the App Association represents more than 5,000 app companies and information technology firms across the mobile economy; (August 26th, 2020, “Save Our Standards: The Ninth Circuit Court of Appeals Reverses Decision in FTC v. Qualcomm”, <https://actonline.org/2020/08/26/save-our-standards-the-ninth-circuit-court-of-appeals-reverses-decision-in-ftc-v-qualcomm/>), ability edited

Moreover, the FRAND agreement is a critical tool used by standard setting organizations to ensure the process enhances competition and does not run afoul of antitrust laws. Generally, a collaboration between competitors to choose market winners or set prices raises significant questions for competition regulators. Royalty free and FRAND licensing requirements were created by standards bodies to avoid potential antitrust scrutiny by limiting the market power and the potential for abuse by those involved in developing a standard. This is why the American National Standards Institute (ANSI) will not accredit any standards developing organization (SDO) that does not require standard-essential patent holders to provide licensing terms at least as favorable as FRAND.

The most important beneficiary of open interoperability standards and FRAND licensing requirements are the entrepreneurs and small businesses that have long fueled America’s innovation engine. They don’t have giant patent portfolios, market power, or the resources to hire legions of lawyers and spend years battling SEP abusers in civil court. Without some level of certainty about their ability to obtain licenses—let alone what they may cost—entrepreneurs will have trouble justifying the pursuit of any innovation that uses a standard and will certainly struggle to raise money from investors for such innovation. And Qualcomm’s vague and toothless promise simply “not to sue” smaller companies and component makers is no substitute for a license.

The adoption of 5G technology is expected to open unprecedented opportunities for innovation and economic growth as we move toward a world where everything from cars to tractors to buildings will connect to wireless networks. At every stage of the information technology revolution, America has been the undisputed leader because of the unparalleled entrepreneurial innovation ecosystem that we have built. If 5G SEP holders are able to arbitrarily refuse licenses to smaller firms, it would ~~cripple~~ undermine America’s innovation ecosystem at the start of the next big wave of innovation. As economic tensions continue to rise with China, Chinese-based companies could use their 5G SEPs as international economic weapons to thwart U.S. competitors.

The 5G standard is supposed to be a platform for competition, innovation, and entrepreneurship, but if the Ninth Circuit decision is allowed to stand, it will become a chokepoint for snuffing out competitors and demanding monopoly rents. Open standards and FRAND licensing commitments are fundamental to competition in the modern economy, and the idea that they aren’t a subject for antitrust enforcement is patently absurd.

### 2AC---DOJ Thumper

#### The DOJ is already prepared to engage in more antitrust litigation over SEP’s.

Love 21, \*Bruce Love, writer at the National Law Journal; (June 15th, 2021, “As DOJ Confirms a Change in Antitrust Patent   
Policy, Lawyers Prepare for Shifting Demand”, https://www.mckoolsmith.com/assets/htmldocuments/2021%2006%2016%20As%20DOJ%20Confirms%20a%20Change%20in%20Anittrust%20Patent%20Policyk%20Lawyers%20Prepare%20for%20Shifting%20Demand%20-%20The%20National%20Law%20Journal.pdf)

The Justice Department has confirmed it is looking to develop new policies surrounding how standard-essential patents might be used as tools for anticompetitive practices. The change in policy will mean big business for law firms that can combine highly technical IP advice with their antitrust and litigation practices, with one lawyer likening the demanding skill set to “three-dimensional chess.” Standard-essential patents, or SEPs, are a fundamental piece of intellectual property for business and innovation because they are used under license so frequently by manufacturing companies other than the patent owners. The policy change was hinted at during an online event in late May, when Richard Powers, the acting attorney general of DOJ’s antitrust division, gave an indication that the government might be walking back the relaxed approach implemented by the DOJ under the Trump administration. A DOJ spokesperson confirmed in an email Tuesday to Law.com that it will change its policy on SEPs and antitrust behavior, with the agency still working out the details. The new administration, said the DOJ spokesperson, is rethinking what policies at the intersection of IP and anti- trust will best serve competition and consumers. “New Department leadership is working with career staff on developing a more balanced approach,” said the DOJ spokesperson. “The department wants to develop neutral and balanced policies in this area that recognize the importance of both antitrust enforcement and JUNE 15, 2021 As DOJ Confirms a Change in Antitrust Patent Policy, Lawyers Prepare for Shifting Demand BY BRUCE LOVE U.S. law has often shied away from enforcing essential patent obligations. That’s set to change. The result could be “a significant change in the volume and nature of business for IP trial lawyers and their clients,” one lawyer said. Office of the Attorney General at the U.S. Department of Justice in Washington, D.C. June 6, 2020. THE NATIONAL LAW JOURNAL JUNE 15, 2021 intellectual property protection to our economy and that do not favor one set of interests over others.” Such policy changes could result in a swell of business for law firms with deep, technical IP benches and strong experience representing the industry in enforcement actions, lawyers said. Trump’s DOJ had “taken its foot off the gas” when it came to SEPs as the focus of anti-competitive behavior, said one Washington-based lawyer, speaking on the condition of anonym- ity because he currently has active cases that involve both SEP enforcement and defense. “It didn’t mean we weren’t busy as litigators. There was a lot of work enforcing SEPs against infringers and defending against infringement allegations,” he said. “But we weren’t busy in the antitrust arena. A greater focus on SEPs—not just by the DOJ but also other agencies—might mean more litigation, but it will also mean a more transparent field of play. It doesn’t do companies any good for there to be unfettered SEP enforcement.”

#### Prior approval thumps— creates confusion and timing uncertainty.

Schwarts et. al 10-28-2021, Akin Gump Strauss Hauer & Feld LLP. (Haidee Schwartz , Corey W. Roush , Ed Pagano and Taylor Daly, “FTC Makes Major Changes To Expand Prior Approval In Merger Consents, Creating Greater Risk For Merging Parties Subject To FTC Merger Review,” https://www.mondaq.com/unitedstates/antitrust-eu-competition-/1125562/ftc-makes-major-changes-to-expand-prior-approval-in-merger-consents-creating-greater-risk-for-merging-parties-subject-to-ftc-merger-review)

On Monday, October 25, the Federal Trade Commission (FTC or "Commission") issued a policy statement announcing that the Commission will require all parties that enter into a merger consent agreement to agree that the parties will for at least ten years seek and obtain prior approval from the FTC before closing any future transaction affecting each relevant market for which a violation was alleged. Unlike reviews under the Hart-Scott-Rodino Antitrust Improvements Act of 1976 ("HSR Act") that provide a statutory timeline for U.S. antitrust agency review of proposed transactions and thus some timing certainty for merging parties, the prior approval provisions anticipated by the FTC will have no statutory or other timeline for transactions to receive prior approval. Thus, any company with a transaction subject to prior approval will face much greater timing uncertainty. The FTC policy statement also states that the FTC may require companies entering into merger consent orders to agree to a prior approval provision that covers product and geographic markets beyond those impacted by the merger. When making such determinations of additional relief in the future, the Commission's policy statement indicates that the agency will consider several factors, including (1) the nature of the transaction; (2) the level of market concentration; (3) the degree to which the transaction increases concentration; (4) the degree to which one of the parties had market power pre-acquisition; (5) the parties' history of acquisitiveness; and (6) evidence of anticompetitive market dynamics. Further, in the policy statement, the FTC announced it will require buyers of divested assets subject to a merger consent order to agree to seek prior approval of any future sale of those assets for a minimum of ten years. This will discourage some divestiture buyers and likely will decrease the value of divested assets. Finally, the Commission policy statement stated that in cases in which the Commission issues a complaint and the parties subsequently abandon the transaction, the agency will make a case-specific determination as to whether it will pursue a prior approval order. This would require a court order or party agreement. The Antitrust Division of the Department of Justice (DOJ) did not join the FTC's announcement on its prior approval policy, creating an additional area of divergence between the DOJ's and FTC's merger review policies and practices—a divergence that could have a significant impact on transactions.

## Politics

### 2AC---NL---Courts

#### Aff outweighs— infrastructure is a one-time injection that picks winners—market solves warming better

#### The plan is court action, which doesn’t link:

#### 1---it doesn’t require Biden to invest PC for passage.

#### 2---court action flies under the radar.

Lohier 16 - judge on the United States Court of Appeals for the Second Circuit and formerly an Assistant United States Attorney for the Southern District of New York (Raymond, “THE COURT OF APPEALS AS THE MIDDLE CHILD,” *Fordham Law Review*, Lexis)

In the meantime, almost all of the work of our circuit courts is off the congressional radar. Circuit opinions, with or without the intercession of the Supreme Court, so rarely prompt a ripple in Congress that it becomes memorable when they do. The few ripples more often arise in cases involving issues of national security. A recent example was our decision in ACLU v. Clapper,25 which stirred a vigorous debate in Congress in 2015 when we held that the text of section 215 of the USA PATRIOT Act did not plainly authorize the systematic bulk collection of domestic phone records by the National Security Agency.26 Even more recently, Senator Orrin Hatch of Utah cited our court’s decision in Microsoft Corp. v. United States,27 in which we held that the Electronic Communications Privacy Act (ECPA) did not authorize the government to obtain electronic communications stored outside the United States.28 Senator Hatch and other members of Congress pointed to both the majority opinion and a concurring opinion in that case to ask the Department of Justice to work with Congress on fixing the ECPA.29 On extremely rare occasions, specific congressional involvement arises in the context of a discrete case, as when individual Senators or Representatives seek to influence how we decide important legal issues, such as the indefinite detention provisions of the National Defense Authorization Act for Fiscal Year 2012, by submitting amicus briefs pressing their points of view.30 There also are continuing efforts to get Congress’s attention on broader issues of statutory language. Fairly recently, for example, the Judicial Conference of the United States sought to revitalize and readvertise an excellent project to promote communications between federal courts of appeals and Congress.31 Under the project, “courts of appeals identify opinions that point out possible technical problems in statutes [such as ambiguities and gaps] and send those opinions to Congress for its information and whatever action it wishes to take.”32 Yet, for whatever reason, only three opinions were submitted to Congress under this project in 2015 and only fifty-two altogether have been submitted since 2007.33 Of course, other ways to solicit legislative attention exist short of using this formal mechanism. An opinion that cries for congressional action or decries congressional inaction is one example. But, as I explain later, that opinion is apt to be ignored by Congress if it comes from a circuit court, rather than even a lone dissenter on the Supreme Court.

### 2AC---Thumpers

#### Thumpers---agenda failure, slow growth, gas prices.

Collinson 10-29 (Stephen, CNN analyst, “Democrats fight one another in Washington as Americans struggle,” 10-29-2021, <https://www.cnn.com/2021/10/29/politics/congress-spending-bill-president-joe-biden-italy-g20-democrats/index.html>, DOA: 10-29-2021) //Snowball

(CNN) As Democrats battle one another in Washington, cost-of-living spikes and a slowing economy are putting growing pressures on Americans and worsening the political environment that will decide the party's fate in the midterm elections.

Another day of busted deadlines, political malpractice and drained presidential authority on Capitol Hill ended with Joe Biden's one-two-punch on infrastructure and social spending stalled yet again. Even after Biden said his presidency was on the line and House Speaker Nancy Pelosi warned lawmakers not to "embarrass" him as he left on a big foreign trip, progressives still refused to back a bipartisan infrastructure bill they are using as leverage to secure the best possible terms in a watered down but still huge social spending plan.

While the President whom Americans elected to fix their problems struggles to squeeze a massive agenda through minuscule governing majorities, the challenging situation out in the country -- which contributed to a drop in his approval ratings over the summer -- continues to deteriorate.

New official data released Thursday showed that the recovery has hit a major roadblock, with growth stuck at an annualized rate of only 2% in the third quarter. The pandemic surge fueled by the Delta variant, along with supply chain crunches, worker shortages, slow job growth and rising inflation hampered an economy that Biden had hoped would now be roaring in a post-Covid-19 boom.

Gasoline prices, one of the most visceral indicators of prosperity for Americans, hit an average of $3.40 a gallon, according to the American Automobile Association, and are much higher in some states. Not all of these problems are Biden's fault and some are brought on by unique factors germane to the pandemic and its impact on the global economy. But there are few signs the President has quick answers for these chronic economic problems as he struggles to enact a more fundamental overhaul of the economy to help working people.

At a CNN town hall last week, for instance, Biden admitted that high gas prices wouldn't start easing off until next year. Transportation Secretary Pete Buttigieg recently told CNN the supply chain problems that could spoil Christmas shopping and are prodding prices higher will also linger into 2022.

This split screen moment threatens to give Republicans an opening -- and an opportunity to shape a political message that can get them off the defensive over ex-President Donald's Trump's bellyaching about the 2020 election.

"You'd think the President and congressional Democrats would avoid sabotaging America's economy further. But that's exactly what this proposal does," GOP Rep. Kevin Brady of Texas said Thursday, lashing out at a spending bill that he styles as a huge Democratic tax and spending spree.

### 2AC---Won’t Pass

#### Reconciliation bill won’t pass---huge impasse between Sinemanchin and progressive democrats.

Pitt 10-26 (William, senior editor and lead columnist at Truthout, “Social Infrastructure Bill Has Been Gutted. Progressives May Not Let It Pass,” 10-26-2021, <https://truthout.org/articles/social-infrastructure-bill-has-been-gutted-progressives-may-not-let-it-pass/>, DOA: 10-29-2021) //Snowball

For those still playing along at home, still chasing the details of this long and ugly slog toward passage of a standard infrastructure bill and a second bill called the Build Back Better Act, this latest update brings grim tidings.

Due almost entirely to their own self-interest and devoted service to those who fund their campaigns, Democratic Senators Joe Manchin and Kyrsten Sinema have managed to either kill or mortally wound multiple elements of the social infrastructure bill that would have dramatically improved the lives of millions. Many of those items had already been removed from the standard infrastructure bill, on the promise they would be included in the second bill. This was a lie.

Gone, or almost gone from the bill are vital new climate provisions that would force utilities to move to clean energy; a Medicare expansion that includes dental, vision and hearing coverage; prescription drug pricing reform that is vital to funding the bill itself; free community college; new taxes on the ultra-wealthy; and 12 weeks of paid family and medical leave.

Manchin and Sinema did this, with some backstopping from a few House Democrats deep in the pockets of the pharmaceutical industry. The Republicans barely had to get out of bed. “We’re still ‘no’ on everything,” they’ve occasionally reminded us as they sit back and watch the shit show unfold.

After days of relative silence as these provisions were stripped from the bill, Bernie Sanders and the Congressional Progressive Caucus (CPC) — by far and away the most constructive and fair-handed players in this process — sounded a warning alarm: If the Medicare expansion and climate provisions are removed from the bill, despite numerous promises they would be included, there is no promise the 96-strong Caucus will vote to approve it.

Without their votes, the bill is almost certainly doomed in the House, as less than 10 Republican House members have indicated they will support it. The Congressional Progressive Caucus votes are the margin, and at present, that margin is in peril.

“Bottom line is that any reconciliation bill must include serious negotiations on the part of Medicare with the pharmaceutical industry, lower the cost of prescription drugs. That’s what the American people want,” Sanders said forcefully on Tuesday, adding that a “serious reconciliation bill must include expanding Medicare to cover dental, hearing aids and eyeglasses.”

“Progressives are fighting to tackle the climate crisis, expand Medicare to cover dental, vision and hearing, and guarantee family leave in America,” tweeted progressive Rep. Ilhan Omar. “These are the investments major countries make in their communities and we can too.”

“Medicare treats your eyes, teeth, and ears like they’re not part of your body,” tweeted progressive Rep. Cori Bush. “It makes no sense. The Build Back Better Act currently expands Medicare to cover vision, dental, and hearing. We need to make sure that happens.”

The Democratic senator from West Virginia coal was unmoved.

“Sen. Joe Manchin on Monday shut down one of Senate Budget Committee Chairman Bernie Sanders’s biggest priorities, expanding Medicare, which Manchin warned would undermine the solvency of the broader program,” reports The Hill. “Sanders insisted in a tweet Saturday that his proposal to expand Medicare to cover dental, hearing and vision must be included in a budget reconciliation package that is likely to come in well below the $3.5 trillion price tag Democratic leaders initially envisioned. But Manchin on Monday threw cold water on Sanders’s push to expand Medicare, warning the program faces insolvency in 2026.”

Manchin is also insisting the price tag for the social infrastructure bill be no higher than $1.5 trillion, a full $2 trillion less than the amount Sanders and the Congressional Progressive Caucus settled on after much compromise.

Because these are Democrats we are talking about, we are now required to cross the ever-treacherous span between the nauseating and the utterly surreal. On the far side of that chasm stand House Speaker Nancy Pelosi and House Majority Leader Steny Hoyer, who have spent this entire endeavor watching Pelosi’s precious “moderate” Democrats gnaw through these bills like beavers.

At a historic crossroads that is nothing less than a genuine existential crisis, the speaker and the majority leader have watched as life-and-death provisions of these bills are chopped away by fellow Democrats chasing dollar signs around the building. Their advice to every Democrat in the face of this? Don’t worry, be happy!

“If we don’t act like we are winning, the American people won’t believe it either,” Hoyer reportedly told Democrats during a recent private meeting. Pelosi, for her part, has been telling her caucus that the contest is over, and the corporations have won again. “Embrace this,” she reportedly told the room during that same private meeting, “and have a narrative of success.”

Yes, of course, pretend to lead and have a “narrative of success” so people “believe we’re winning.” This is the politics of fiction, of cowardly lions with gavels and titles, all roar and no bite. That should have been the Democratic Party slogan since right about when Pelosi and Hoyer got involved in big-time politics. “Democrats: Pretending to Lead Since 1981, Because Reagan Was Scary and Republicans Say Mean Things.”

This is not entirely true, of course. The Congressional Progressive Caucus has from top to bottom fought the good fight since the beginning. If they could be criticized for anything, it is that they were credulous enough to believe the promise that those vital provisions stripped from the infrastructure bill would be revived in the Build Back Better Act.

Perhaps they should have chosen the infrastructure bill as their hill to die on, an immediate signal that compromising on such life-or-death provisions was unacceptable. That’s all hindsight, and besides, how much can the CPC do when the party’s leadership folds like a hotel laundromat?

Another twinkle of a bright spot: Sen. Elizabeth Warren’s wildly popular “two cents” campaign platform to tax the ultra-wealthy may become part of the Build Back Better Act, a replacement for the other taxation vehicles that were gutted from the bill. The idea being proposed is not exactly the same as hers, but it is a close cousin, and would do much to claw back some of the money Donald Trump gave away to his rich pals in December of 2017. Whether it survives the denuding process remains to be seen.

Soon, soon, Pelosi and company keep telling us. The bills will be ready for passage soon… but the Congressional Progressive Caucus may have something to say about that before the deal goes down. It’s a dirty business, and it’s not finished yet.

# 1AR

#### Ex post royalties are not necessary to motivate innovation.

Bosworth et al. 17, \*D. Scott Bosworth is a Principal Economist at Nathan Associates; \*Russell W. Mangum is Executive Vice President at the American Antitrust Institute and Associate Professor of Economics in the School of Business and Economics at Concordia University Irvine; \* Eric Matolo is the Vice President of Cirque Analytics; (October 28th, 2017, “FRAND Commitments and Royalties for Standard Essential Patents”, https://link.springer.com/chapter/10.1007/978-981-10-6011-3\_2#Sec10)

The common justification for intellectual property law is that inventions must be properly protected to allow inventors to be rewarded for inventions, thereby stimulating innovation. However, promoting inventions and innovation does not justify, nor does it require, rewarding patent owners beyond the value of the technology the intellectual property is meant to protect. Allowing patent holders to extract the value of the network effect created from a standard rewards the patentees based on value beyond the patented technology. Without FRAND terms the network effects value will flow to SEP holders. Proper FRAND terms that keep SEP holders from extracting the value of network effects can still leave the efficient level of return for innovators—that based on the technology itself. In other words, extracting the value of network effects by SEP holders is not necessary to appropriately motivate innovation. Any value of the standardization resulting from collaborative efforts during the SSO process may ultimately be available in the public domain.

#### The impact is underenforcement---that’s Melamed, Shapiro, and Farrell.

#### Finishing.

Melamed & Shapiro 18, \*A. Douglas Melamed is Professor of the Practice of Law at Stanford Law School; \*Carl Shapiro is the Transamerica Professor of Business Strategy at the Haas School of Business at the University of California at Berkeley; (May 2018, “How Antitrust Law Can Make FRAND Commitments More Effective”, <https://www-cdn.law.stanford.edu/wp-content/uploads/2018/05/How-Antitrust-Law-Can-Make-FRAND-Commitments-More-Effective.pdf>)

2. Why Antitrust Enforcement Is Necessary

Some SSO members have an interest in ensuring that the SSO takes steps to minimize the potential harms from the SEP holders’ monopoly power, and this undoubtedly explains in part why most SSOs have adopted FRAND policies or similar requirements. But, as shown in the economic model in the Appendix,73 SSOs cannot in general be counted on to adopt effective FRAND policies. The bases for this conclusion, which is central our to argument for the applicability of Section 1 to SSO FRAND rules, can be summarized as follows.74

First, the SSO members collectively have an interest in permitting SEP holders to charge supracompetitive royalties that elevate the downstream price of compliant devices to the monopoly level. Doing so will enable the members in aggregate to collect

increased revenues from consumers, and thus to generate increased profits that in theory could be shared by all the members. In other words, supracompetitive royalties can enrich industry participants as a group at the expense of final consumers. This fact alone should serve as a clear and strong signal regarding the dangers of counting on SSOs to implement effective FRAND policies: if the SSO members negotiate efficiently, the outcome will be just as bad for consumers as if the members agreed to fix downstream prices.75 The fundamental problem is that final consumers are not at the table when the SSO rules are negotiated.

Second, SSO members that own SEPs but earn little or no profits as implementers have a powerful self-interest in being able to exercise the ex post monopoly power associated with their SEPs. Because SSO policies are usually determined by a consensus process, these members will likely be able to block the adoption of fully effective FRAND policies. Moreover, these SSO members often have the greatest interest in SSO patent policies. Since much of their income may be attributable to patent licensing, they can be expected to devote substantial resources to block the adoption of FRAND policies that effectively prevent patent holdup.

Third, even SSO members that earn significant profits as implementers may have mixed incentives if they also own SEPs, which can also lead to weak or in-effective FRAND rules. In the Appendix, we show that, if the requisite share of votes in the SSO are cast by firms whose share of SEP royalties is at least as large as their share of downstream profits, and if these firms can coordinate their voting over the FRAND rules, then an SSO unconstrained by antitrust laws will establish FRAND rules leading to an outcome no better for consumers than would result from an integrated monopolist controlling all SEPs and all downstream sales.76

Fourth, even SSO members that are downstream implementers and own few, if any, SEPs may have only a modest interest in promoting effective policies to restrict ex post opportunism. Because all implementers will be subject to the opportunism, all of them will face increased licensing costs, and therefore will likely be able to pass on most or all of the increased costs to their customers.77 Furthermore, these implementers might not be especially active or effective in the standard-setting process for free-riding or public-good reasons, especially if SEP royalties constitute only a relatively small portion of the costs of their standard-implementing products. Public choice theory predicts that the highly motivated SEP holders are likely to have the greatest influence over patent policies.

Empirical evidence bears out these concerns. As a starting point, we find it striking that SSO FRAND rules are almost always quite vague.78 Notably, SSOs in which SEP holders are more prevalent tend to have weaker FRAND rules.79 Further, to our knowledge, SSOs have made almost no effort to enforce their FRAND rules and have, instead, left enforcement efforts to others.80 This evidence raises serious doubts about the effectiveness of the existing FRAND rules in preventing ex post opportunism.

#### No trebling sinks the counterplan---SEP holders would engage in holdup even if they could be held liable because they only give back the money they made.

Farrell et al. 07, \*Joseph Farrell is Professor of Economics, University of California at Berkeley and a Senior Consultant at CRA International; \*John Hayes is a Vice President at CRA International; \*Carl Shapiro is the Transamerica Professor of Business Strategy at the Haas School of Business at the University of California at Berkeley and a Senior Consultant at CRA International; Theresa Sullivan is a Senior Vice President at Competition Policy Associates. (2007, “STANDARD SETTING, PATENTS, AND HOLD-UP”, https://faculty.haas.berkeley.edu/shapiro/standards2007.pdf)

Proper enforcement of FRAND terms may restore the competitive outcome but is unlikely to deter attempts at hold-up. Worse, a remedy that allowed the patent holder to charge its ex ante ianherent advantage VA would typically be inadequate even to restore the competitive outcome (since this is an upper bound on what that the patent holder might have achieved ex ante), and encourages patent holders to engage in deception even if they were sure to be caught.

#### Impacts all markets.

Litvack and Vooris 10-26-2021, (Douglas E Litvack is co-chair of the firm’s Antitrust and Competition Law Practice. He represents both plaintiffs and defendants in complex antitrust litigation and appeals, Lee K Van Vooris is co-chair of the firm’s Antitrust and Competition Law Practice and a member of the Corporate and Private Equity Practices, “Client Alert: FTC Reverses Quarter-Century of Enforcement Policy,” https://www.jdsupra.com/legalnews/client-alert-ftc-reverses-quarter-8487547)

In a move widely expected after the Federal Trade Commission’s Democratic majority rescinded a 1995 policy in July, the FTC issued a policy statement yesterday requiring prior approval provisions for settlements in future transactions affecting any relevant market for which they alleged a violation. The 1995 policy was not to require prior approval provisions as part of a consent decree, settlement, or enforcement order absent extraordinary circumstances (typically where one of the parties to the decree had a history of doing anticompetitive transactions below the HSR threshold). Now, the FTC will require a prior approval provision for all merging parties that resolve antitrust issues subject to a Commission Order. The FTC also appears likely to pursue a prior approval order even when the parties abandon a transaction after substantially complying with a Second Request. Under a prior approval provision, the party must obtain the FTC’s permission before consummating any transaction subject to the provision. As the statement suggests, the FTC could simply reject the transaction without having to provide a court with sufficient evidence to show the transaction violates the law. Styled as a measure to “preserve Commission resources,” the overall effect of the policy on transactions may not be that clear. However, this new policy will certainly add additional risk to any transaction that could be resolved with a divestiture because the parties will need to give the FTC veto power over future deals in that relevant market – and perhaps even beyond that market, as the FTC bragged about in a consent decree also released yesterday. The new Commission policy states that in certain cases where “stronger relief is needed,” the prior approval order may include geographic and product markets beyond those in the instant transaction. Because of the veto power and the threat of an expansive prior approval provision, parties may be more likely to litigate a transaction’s legality rather than settle with the FTC and accept a provision that will hamstring their ability to do future deals. It therefore appears that this policy may inadvertently incentivize more costly merger litigation for both the FTC and defendants, opening the question of whether the policy change might actually cost more in Commission resources than the former policy, which did not penalize companies in this way for settling antitrust disputes with the FTC.