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8 Practical Steps for China to Become an Innovation-Led Economy

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*Economic Globalization and Asia's Choice—Interconnectivity, Integration and Innovation:
Building a Community of Common Destiny in Asia*

Keynote Speech

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I. Introduction

When Joseph Schumpeter coined the term “innovation economy” in 1942,¹ the famed economist could not possibly have imagined precisely what the state of technological innovation and global connectedness would look like another century into the future. Today, however, we have additional visibility into what 2042 might look like. Schumpeter’s insight was that a concentration on institutional evolution, investment in human capital, entrepreneurship and technological progress could lead to faster and further economic growth than could a pure focus on increasing capital and labor inputs.²

The modern world has grown into Schumpeter’s insight—and China is no exception. We now stand on the precipice of an era of potentially tremendous economic growth. This new era promises to integrate useful technology into every aspect of modern life. The breathtakingly successful efforts of innovators to both create vastly improved technology, and agree across a broad range of commercial interests to standards making such new technology available to so many people at such widely affordable levels, should be and is cause for celebration for consumers, industry participants, and the governments charged with fostering environments that increase innovation output and public welfare.

As an important stakeholder in the international community, China has achieved considerable progress in crafting policies that have fostered the development of new and promising technologies and innovations—many of which have redounded to the benefit of consumers in China and abroad. And yet, impediments to China’s continued development remain. China’s path to become an “innovation-led” economy will be rocky and steep without proper policies that favor greater levels of innovation for a new standards-based era. Will China choose the path of developing China-only standards based on “indigenous” technology as has been pursued in the past? Will China adopt global standards such as the standards that led to 4G and 802.11? China’s policymakers will continue to grapple with these questions. I’m delighted to have the opportunity to speak today about these important issues of innovation, interconnectivity and the choices that face China as a key participant in a globalized economy.

Today, I’d like to offer eight practical steps that China should consider taking in order to become an innovation-led economy.

1) Don't Follow the United States in Standards-Setting Rules

China should avoid following the United States in standards-setting rules. To that end, China's leaders should dispel a common myth regarding the U.S. standard-setting process. A myth pervades that the historical standard-setting process employed by the Institute of Electrical and Electronics Engineers Standards Association ("IEEE-SA") was so broken that the seminal SSO was mandated to change their approach. IEEE's SSO is one of the largest and most impactful SSOs, having standardized both Wi-Fi and Bluetooth.³ IEEE-SA determined that their patent policy required an overhaul and made significant changes in 2015. These changes included specifically mandating the consideration of SSPPU theory in reasonable royalty rate determinations. They also prohibited holders of standard-essential patents ("SEPs") from seeking an injunction against those who infringe SEPs until after negotiations have been attempted, an adjudication has been issued by a court and first-level appellate review has been concluded.⁴

The truth is that the IEEE system was not broken at all, and that there is no evidence these controversial policy changes were necessary or even prudent. Immediately prior to the implementation of the new guidelines, IEEE-SA had created 802.11—which we have all come to know as "Wi-Fi." Perhaps the most successful standard in the history of mankind, 802.11 has driven an explosion of connectedness and broadband access on a global scale. Wi-Fi was present in 25% of homes worldwide by 2012—and by 2013, approximately 2 billion Wi-Fi-enabled devices had shipped.⁵ It is unclear why IEEE felt that its next act after what even IEEE itself has deservedly heralded as a seminal accomplishment, should be to discard the policies that drove their most successful creation in favor of new rules that appear to endorse implementers over innovators.

The Electronic Intellectual Property Center ("EIPC") of China's Ministry of Industry and Information Technology also issued a new draft template for intellectual property policies in the SSO context in 2015, which attracted fervent comments from global stakeholders. EIPC's template demonstrated similarities to the new IEEE policy with respect to injunctive relief and SSPPUs;⁶ however, the EIPC ultimately, wisely, withdrew the proposal. It is often difficult to predict the full impact of a proposed policy change, and the full effect becomes apparent only later, often after major damage has been done. While the EIPC averted the imbalance that their proposed template may have effected, IEEE's change quite affirmatively favors the interests of implementers of standards over the interests of innovators.

Will this cause less investment in innovation, and therefore give IEEE weaker technology to work with in its standardization efforts going forward, and thus less innovative standards and a slowdown in product improvements? Will it cause innovators to seek other venues in which to standardize their technology—venues more friendly to innovator interests or at least more balanced as between innovators and implementers? In light of these risks, there is much to be said for the ageless sage advice: if it ain't broken, don't fix it. It is imperative that China's SSOs consider their policy moves carefully, so as to avoid ill-advised "updates" that cater to partisan interests that run the risk of doing more harm than good.

A well-intentioned rule, designed to encourage negotiated agreements by reducing the prevalence of injunctions, might instead embolden infringers to employ delay tactics in their negotiations with innovators. Delays can be far more disruptive than regulators might initially realize, due to the ever-shortening half-life of new technologies. Policymakers in China should take pause before moving forward with these types of proposals and guidelines, lest a misstep create a ripple effect that cannibalizes China's future advancements.

2) When Theory Conflicts with Reality, Choose Reality

China should discard the misguided theory of "royalty stacking" and instead ground its innovation policy in market-based empirical evidence. The plausible-sounding theory of "royalty stacking" claims that the proliferation of SEPs will necessarily mean that royalties sought by each SEP holder will "stack" on top of one another. The theory portends that these royalties will grow to unaffordable levels for implementers, threatening profits, progress and competition. The contention is that products embodying those patents would be priced in the market at such a high cumulative cost that their manufacture would become commercially untenable. For example, the stacking feared by adherents would have resulted in a cumulative SEP royalty of 130% on devices using the 3G wireless protocol.⁷ Clearly, this did not occur, as billions of 3G devices exist today at very affordable prices.⁸

The truth is that the royalty stacking theory is nonsense. From 1994 to 2013, the global average selling price of mobile devices fell 8.1% per year, the number of devices sold rose 20.1% per year, the number of device manufacturers grew from one to forty-three and market concentration fell as the number of major manufacturers rose from six to nine.⁹ Yet, while all of this was happening, the average gross margin of SEP holders remained constant.¹⁰ So despite the dire warnings of stacking theorists, there has been absolutely no sign of royalty stacking in the mobile telecommunications industry for 20 years. Like the theory that the world is flat, the theory of royalty stacking has been disproven by empirical evidence.

What the stacking hypothesis fails to take into account is that there are a great many fair and workable royalty arrangements. The appropriate royalty metric for the subcomponents of a larger technology is the true technical contribution that each individual invention makes to the final standard. If a technology is accurately valued, the sum of these ingredient royalties is a valid fraction of the market price of any product practicing the standard. In a market economy, the market price of any such product will be the amount of value ultimately created by combining that particular set of ingredient inventions into a single product.¹¹ Simply put, the market works, and it prevents royalty stacking.

Furthermore, not all patents implicated by a standard relate to core operations—some provide for ancillary or incremental functions. Similarly, not all licensors are alike: some are non-practicing entities holding weak patent portfolios while others are serious research and development shops making huge technology investments and producing many breakthrough innovations.¹² Some operating companies with strong patent portfolios enter into cross-licenses that govern substantial bidirectional streams of value while exhibiting deceptively low royalty rates. Further still, not all royalties are derived from product price formulas; some are fixed dollar-per-unit rates and others are up-front lump sums.¹³ All of this works against stacking.

In crafting new policy to guide China on the path of greater innovation and more robust interconnectivity, policymakers in China would be wise to reject the baseless theory of “royalty stacking”. Sound empirical evidence and actual market practice are far sturdier guideposts than hypothetical theories. Put simply, when theory conflicts with reality . . . choose reality.

3) You Get What You Incent

China should adopt a robust innovation policy that creates real incentives for innovation and avoids artificial, non-market undervaluation of innovation which serves only to discourage innovation and exacerbate misappropriation. Importantly, in charting a path towards greater domestic innovation, policymakers in China would be wise to steer clear of myths about the role of the “Smallest Salable Patent Practicing Unit”—or SSPPU.

One of the worst legal acronyms, SSPPU is the smallest component that practices a given patent within a larger multi-component device. Some mistakenly contend that the SSPPU provides the definitive measure for determining patent license royalty bases in all cases and contexts. Marketplace participants espousing this view are invariably implementers who would prefer to pay low or no royalties for the technologies that others have labored to create. Proponents of this myth have taken an evidentiary rule created for the specific context of jury trials and attempted to extend it to all patent infringement damage determinations, including in the SEP licensing context. In doing so, they are attempting to free ride on the toil of others.

Court-determined infringement damages are intended to approximate the royalty that would have been agreed to had the parties negotiated in good faith, prior to the infringement.¹⁴ In reality, licenses are typically issued on entire patent portfolios, with royalties calculated based on whole devices, because various patents read on various parts of those devices, leading to efficiency and simple practicality in the approach. It would be impossible for negotiating parties to map every patent in a portfolio to a single SSPPU. Large portfolios typically include hundreds or thousands of patents covering multiple device components, with many patents spanning multiple components, including patents practiced by multiple standards.¹⁵

Furthermore, the end result of the laborious process of measuring the value that thousands of individual patents convey to each device in which they are installed would ultimately be an exercise of aggregating each sub-royalty to determine a portfolio-level royalty scheme. This is precisely the exercise performed today without the unnecessary futility.¹⁶ Device-level portfolio licensing is used because it is a fair and efficient way for licensees to obtain freedom to operate while allowing licensors and licensees both to enjoy ease of administration. However, the SSPPU myth holds that genuine market evidence should be set aside in favor of the legal fiction of the SSPPU and its counter-factual system of correlating specific components to particular patents.¹⁷ Since real world negotiations are based on complete products and not SSPPUs, courts attempting to approximate real world negotiated licenses must focus on whole devices and entire portfolios—not SSPPUs.¹⁸

The truth is that a U.S. District Court developed the SSPPU concept in 2009 to navigate a specific one-off circumstance. Patent holder Cornell University sought to present an entire Hewlett-Packard computing system as the relevant royalty base in their infringement litigation, even though their patent was only practiced by a subcomponent.¹⁹ The patent in the case

increased the speed and efficiency of the instruction reorder buffer of Hewlett-Packard's processors.²⁰ The processors could either be sold on their own or installed in CPU modules, which could either be sold or installed in CPU bricks, which could then either be sold or installed in servers.²¹ Properly recognizing that this single-patent circumstance fell outside of sensible parameters for damages computations, the Court prevented Cornell from attempting to mislead the jury by presenting large and inapposite server sales revenues.

In the *Cornell* case, the more efficient processors may have increased the market value of Hewlett-Packard's servers, but they were plainly only responsible for a subset of each server's value. The Court thus invented the SSPPU theory to deal with this specific context: a jury dealing with a single patent, the patented feature within a modular product used in a nested series of increasingly larger products, each having a discrete market value. The SSPPU rule is that in this particular circumstance, juries should be instructed that sales of the first-order product provide the proper royalty base.

The artificial extension of this theory is not only unworkable, but also economically unsound. Demonstrating the inappropriateness of such extension, some courts have attempted to use the SSPPU rule to apportion damages for an accused multi-component product that is itself the SSPPU. This occurs whenever the applicable subcomponent is not offered by itself in the relevant market, making the entire product the smallest salable unit. The SSPPU theory is plainly illogical in this circumstance because a product typically possesses many features that are not related to the litigated patent. An iPad camera's autofocus feature provides an example. The iPad itself is the SSPPU, turning the theory in on itself.

SSPPU theory also ignores the value of synergies and downstream complementary effects that are created by pairing the patented technology with the other components of the final product. The chips that allow tablets and laptops to utilize the IEEE 802.11 Wi-Fi standard cost only a few dollars, but the value that access to the Wi-Fi technology standard contributes to these final products is quite substantial.²² It is absurd to contend the value of a laptop with wireless Internet access only exceeds the value of a laptop without Wi-Fi by the few dollars manufacturers charge for Wi-Fi chips.

The value of the patents implemented by the Wi-Fi standard cannot be measured in isolation. Value is contextual. The true economic value of an SEP is the amount the patented technology increases the usefulness of the end product in which it is included.²³ The true value of a Wi-Fi chip is a product of its interaction with and usage by any additional technology with which it is paired, as well as the network effects triggered as the technology standard proliferates. Newer tablets continually boast larger, higher resolution screens and faster processors, requiring faster wireless data transmission speeds to enjoy the benefits of new browsing, gaming and video watching capabilities.²⁴ Accordingly, the value of Wi-Fi connectivity within tablets increases with each wave of new devices. With each additional feature, Wi-Fi delivers additional consumer value.

Policymakers in China should reject the SSPPU myth because it is nothing more than an attempt by implementers to obtain technology developed by the innovative efforts of others at improperly low royalty rates, below the rates that would be obtained through legitimate licensing arrangements. Accepting this myth leads to a perverse innovation policy that rewards

misappropriation while reducing innovation incentives. The truth is that applying the SSPPU theory beyond its original purpose imprudently tips the critical balance of interests between implementers and inventors, encouraging free riding and discouraging innovation.

4) Reward Trademark Innovators and Discourage Squatting

China should move away from its current system of rewarding trademark squatting to a more market-oriented system that creates incentives for Chinese innovators to develop new and differentiated brands and trademarks. The importance of innovation-oriented (rather than squatting-oriented) trademark policy cannot be overstated. In this age of globalization and interconnectivity among businesses and consumers, thousands of companies have entered the Chinese market to conduct business because China is viewed as a market with significant growth potential. Naturally, in promoting their goods and services in China, companies rely heavily on branding, and trademarks often constitute indispensable assets to a company's branding initiatives and corporate strategy in China. All of this applies equally for domestic Chinese companies as well as foreign-based companies.

Regrettably, with greater penetration of brands in China, trademark infringement has proliferated in recent years. Chinese infringers—including both enterprises and individuals—have sought to profit from the goodwill of others' marks, and occurrences of “trademark squatting” have surfaced with increasing frequency. Many firms seeking to do business in China have found that their trademarks have already been registered by local businesses or squatters who are willing to release the marks only if they are compensated by the actual owners. Companies are then forced to acquire their own brand rights from a squatter in China because the squatter simply happens to be the “first to register” the mark in China.

In addition, many infringers have been able to solicit major investments by developing and marketing products that bear marks nearly identical to the marks of well-known brands. Major companies, including Pfizer, Facebook and Apple (and more recently, Under Armour), have become targets of this problematic form of trademark infringement in China. Backed by sizeable investments and with sufficient access to capital markets, infringers are able to sell products and services, scale their businesses, generate greater revenues, increase market share and attain recognition among consumers. Because of the lack of any meaningful differentiation between an infringer's marks and the marks of a well-known brand, Chinese consumers are left with the mistaken impression that they are buying high-quality, well-known brands, when in reality they are purchasing low-quality “knock-offs”.

Compounding this problem, China's regulators and courts have been reluctant to hold liable these domestic infringers. A common rationale for this reluctance (as articulated by China's trademark authorities and several courts) is that prosecuting the infringers would be “disruptive” to those companies, since the companies have incurred sunk costs in order to sell widely in the marketplace. Moreover, notwithstanding bad-faith registrations of marks and other squatting tactics carried out prior to (or upon) the launch of a new enterprise in China, the longer the Chinese enterprise holds a position in the market, the better its argument becomes in front of Chinese regulators and courts when defending against trademark infringement suits filed by the companies whose brands have been purloined—“Look at how successful we've become in the marketplace. We are too big to be prosecuted.” The fact that such bad-faith enterprises gained

their market positions in the first place by misappropriating a famous brand built through the efforts of another party, and by misleading Chinese consumers, seems to get lost in the debate. And so a familiar cycle is established and repeats, where parties learn it is easier to take from others, and mislead Chinese consumers, rather than innovate themselves.

Chinese regulators and courts should discontinue the practice of shielding from liability those enterprises and individuals that flagrantly copy, and profit from, the marks of well-known brands. Importantly, in handling trademark infringement cases filed against alleged infringers, China's trademark authorities and courts should move away from the practice of protecting infringers based on the infringer's purported commercial "success in the market" when such success was achieved through bad-faith registrations and brazen acts to profit from the goodwill of well-known marks. An infringer's bad-faith registration and related squatting tactics should factor more significantly in determinations by China's regulators and courts in administering trademark infringement cases.

Establishing a more market-oriented trademark system in China would yield important benefits on China's path to becoming an innovation-led economy. It would encourage greater innovation in brand development in China. Higher levels of investment in the development of "unique" Chinese marks will drive greater awareness of Chinese brands both in China and abroad. Further, as foreign companies become more confident that China's trademark authorities and courts will respect the integrity of well-known marks, this will attract greater levels of investment in China generally; and the current widespread perception of China as a "haven" for trademark infringement and brand piracy would be reduced. Most importantly, it would benefit Chinese consumers, who would be able to more readily differentiate among products and services and make better-informed decisions in the marketplace.

5) Embrace Patent Linkage and Drive Healthcare Innovation

Turning to the life sciences area, China should adopt an effective patent linkage system—a legal framework that enables innovative life-sciences research companies to effectively enforce patent rights, while simultaneously enabling generic companies to effectively challenge patent rights and achieve reasonable market entry. With no patent linkage system currently in place, China's status quo framework unfortunately has invited low-quality imitation and has stifled innovation. One result has been that China's pharmaceutical industry is lagging behind modern, international standards. For example, China has fallen behind Korea in pharmaceutical innovation despite having a much larger market, better funding and more research talent. While the status quo of pharmaceutical IP protection provides assistance to the generic drug industry in the short-term, pharmaceutical innovation in China has suffered and will continue to suffer over the long-term. And recently, innovators have become concerned that the CFDA will revise China's Drug Registration Regulation ("DRR") to remove or dilute important patent protection language. Innovators are also worried that the government will come out with a program to encourage compulsory licensing as a means to force price reduction of patented drugs.

Unlike the above innovation-discouraging moves, a patent linkage system can incent both new drugs and treatments, and reduce the prices of existing drugs and treatments. A patent linkage system serves as an effective early dispute resolution mechanism, reducing the social cost of enforcing IP rights in China. By adopting a patent linkage system, China would

contribute greatly to the success of its nascent innovators and high-quality generic drug companies. Importantly, Chinese patients would benefit because innovators would be able to bring new drugs to China earlier. It would encourage generic drug companies to challenge existing drug patents, increasing patients' access to drugs. In addition, the CFDA would benefit because it would avoid being named as a defendant in patent infringement actions. Furthermore, a patent linkage system would encourage pharmaceutical businesses to invest in R&D of new drugs or first-to-market generic drugs, rather than wastefully imitating existing drugs. Finally, innovative drug researchers and developers would benefit by having a clearer understanding of what rights the grant of a patent will entail. Infringement could be detected and prevented earlier. When confronting infringement by another party, a patentee would instantly be able to determine the identity of the adverse party, and would not be required to scour the market to discover his identity.

China has already laid preliminary groundwork for the establishment of a patent linkage system. For example, the newly formed Beijing IP Court is uniquely qualified to adjudicate both patent infringement and validity disputes. In addition, the new Reference Listed Drug proposal by the CFDA has smoothed the way for compiling a Chinese drug patent list similar to the U.S. "Orange Book". These are positive developments. Taking the logical and prudent next step of formally establishing a patent linkage system would be a sound policy decision on the part of China's leaders, and it would further contribute to China's development into an innovation-led economy.

6) You Get What You Incent—Part II: It Is Time to Move Away From Incentives That Drive Excessive Patent Filings

China should move away from its system of patenting incentives that drive excessive patent filings. China's government has historically provided a vast array of subsidies to support patent applications by Chinese entities. In recent years, what has resulted is nothing short of explosive growth of patent applications into China's State Intellectual Property Office ("SIPO"). In 2015, for example, SIPO had a total of 2,798,500 patent applications, including invention, utility model and design applications. This means SIPO had more patent applications in 2015 than the total number of applications into the next nine patent offices *combined*. (This includes the patent offices of major economies such as the United States, Japan, Korea and the European Union).

While this extraordinary surge in the number of patent applications in China is self-evident, the quality of many of those patents is far less clear. Notably, it appears that aggregate licensing activity of Chinese patents is extremely low relative to the astonishing number of patent applications filed. In fact, recent data places China on par with Singapore in licensing of patents. This means the marketplace is speaking, and it is saying there is no marketplace interest in the technology China is patenting. This strongly suggests that patent policy in China has created non-market incentives that are driving Chinese companies to file excessive numbers of patent applications but without regard to the *value* of the inventions being patented. In other words, government subsidies for Chinese companies have induced the production of great numbers of patents but with little focus given to *innovation quality*. Innovation quality is the real measure of a patent's value; and yet, China is spending incredible resources on huge levels of patenting that is producing negligible value in the marketplace.

The market is speaking—and it is saying that China is creating a “patent bubble” for itself. To deflate this bubble before it bursts, policymakers in China should fundamentally rethink the government subsidies and incentive systems that have caused this surge in low-value patenting activity.

7) Don't Mix Administration of Law with Enforcement of Law

China should shift the focus of patent rights enforcement away from administrative enforcement in order to better encourage market-based growth and development.

The proposed 4th Amendment to China's Patent Law gives authority to SIPO or agencies vertically responsible to it, to enforce patents on its own instance, investigate and produce evidence against alleged infringers, and adjudicate infringement. Because of the vertical relationship of local patent offices with SIPO, including various cooperative agreements supporting patent filing, provision of patent early warning systems, setting of patent-related metrics, patent subsidies etc., there is an inherent and severe conflict of interest in such agencies making patent infringement determinations. This is the fundamental problem. Such a system calls into question the independence and fairness of patent enforcement processes and could also call into question patent examination procedures. The resulting conflict of interest would be unprecedented on a global scale in view of the direct relationship between patent prosecution and patent enforcement, and the opportunity for initiation of cases ex-officio by the patent administrative enforcement agency itself. Any outside observer would find highly problematic the obvious implications of patent enforcement on patent grant, and vice versa.

Under SIPO's proposed Patent Administrative Enforcement Rules (2015)²⁵ and Patent Administrative Enforcement Guidelines (2016)²⁶, the service of process, evidentiary gathering process, and time periods are all significantly different than China's Civil Procedure Law followed by the courts. In particular, the rules place evidentiary investigation duties not on the litigants, but on the patent enforcement agencies themselves²⁷. SIPO and local patent agencies also have significantly shorter time to complete administrative investigations and determinations compared to China's civil litigation system and U.S. Administrative litigation—1 to 3 months from institution to completion depending on the type of action and patent involved²⁸ versus 6 months under China's civil litigation system²⁹ and 15 or more months at the USITC³⁰. While China's administrative enforcement mechanism can deliver remedies that are similar to civil court injunctions, the administrative enforcement mechanism is also quite different from administrative enforcement mechanisms of the type envisaged by the TRIPS Agreement, which provides in Art. 49 that “to the extent that any civil remedy can be ordered as a result of administrative procedures on the merits of a case, such procedures shall conform to principles equivalent in substance to those set forth in this Section.” SIPO's proposed rules and guidelines would engender inherent conflicts of interest and cause a perception that China's patent enforcement regime lacks independence and fairness.

One practical step for China to take to address this problem is to more effectively integrate China's courts into the process of administering patent enforcement proceedings. China's courts, especially the newly established judicial IP courts, are best suited to resolve technologically complex patent issues. What is key here is that these courts function independently of China's patent offices. Recent signals from China's judiciary are encouraging.

For example, Madame Tao Kaiyuan, Vice President of the Supreme People’s Court, recently published an article on “Giving Full Play to the Leading Role of Judicial Protection of IP Rights” in the influential bimonthly *Qiushi Journal*³¹. Madame Tao highlighted key benefits of judicial protection versus administrative protection, including judicial enforcement’s role to guide administrative enforcement in investigation, review of evidence, and determination of infringement. In her view, judicial enforcement has clear rules, is transparent, and can provide guidance for businesses by establishing clear standards for similar disputes. Moreover, civil enforcement comports with notions of private ownership, and the development of markets and creation of a fair competitive environment in China. Madame Tao also called for specific policy initiatives, including greater civil damages to deter infringement, promotion of specialized national IP courts, and the unification of technical appellate cases. These remarks suggest that important observers in China recognize the value of an independent civil-judicial enforcement system in administering patent proceedings. The challenge for China’s policymakers is to translate words into action through concrete reforms that will ensure the independence and fairness of patent enforcement proceedings in the years ahead.

8) You Get What You Incent—Part III: Strengthen Patent Value to Tangibly Incent Innovation

China should promote and adopt legislation that affords greater value for patents as a means to incent innovation. In keeping with this recommendation, policymakers in China should reject the contention that patents are primarily preemptive in nature and that innovation can flourish where patents have low value.

But China must recognize that higher value attached to patents will come with costs -- disputes. There is no policy that can thwart all aggressive litigation tactics without also handicapping a country’s patent system and impeding growth. It is unavoidable that entities considering themselves to be valiantly engaged in the defense of lawful rights will be characterized by opposing parties as abusive pugilists. This age-old “two sides to every story” dilemma is the very reason that each nation has a justice system able to conduct trials and declare judgments. To begin any discussion about balanced intellectual property rights that are strong enough to meaningfully incent innovation, we must first accept that any solution deemed complete and airtight by one constituency will almost certainly be perceived as toxic and oppressive by a multitude of others. Balance will always be disparaged as imperfection by interested parties. This is as much the case today as it was in previous centuries—in which a great many inventors endured and prospered.

Another longstanding reality that remains true today is that the principal alternative to a strong patent system is trade secrecy. Unavoidably, a trade secrecy regime results in barriers to innovation of an infinite duration, frustration of collaboration, inefficient allocation of resources and a collective behavioral diversion from exploiting technology to concealing it. Pushing a country into this practice by devaluing patent protection would have a chilling effect on cooperation and advancement for China, as history has proven in other countries.

A narrative advocating low value for patent rights capitalizes on society’s collective short-sightedness. The preemptive aspect of patents garners outsized public attention only because the grant of temporary exclusive rights to patent owners is the feature that is most

readily apparent to the public. The higher prices of today are easily lamented, while the unquantifiable potential of the inventions of tomorrow is less readily appreciated. It is additionally difficult for individuals to conjure the notion of a world in which our currently prized devices, methods and tools were never invented because innovators were not offered sufficient incentives.

While it is true that some inventors profit handsomely from their work, an infinitely larger portion of the value produced by the patent system accrues to the public at large. The inventor's share provides the incentive to invest in innovation, created by the promise of a future patent. It provides the potential to recoup past investments through a time-limited monopoly and the corresponding opportunity for royalties, which can also provide capital to fuel future innovation. In exchange, the public receives a contribution to the general knowledge pool through disclosure of the invention and the right to practice the invention freely once the patent expires. The bargain allows all of society to benefit from the inventor's undertaking of the risk, labor and dedication required to innovate in a manner that advances the world. This system has worked well for centuries. Thomas Edison once proclaimed that his "main purpose in life [was] to make enough money to create ever more inventions."³² In the long term, society gets a great deal. It is far too easy to complain about the appropriate price of research and development once an invention is in the marketplace, but much more difficult to contemplate the lack of advancement in an industry where patent protection is not available. In order to accelerate China's development to become a more innovation-led economy, policymakers in China should strengthen patent value to promote innovation and the long-term well-being of China's citizens.

¹ Hoque, Faisal, *The 3 Pillars of the Innovation Economy*. Fast Company (18 Feb. 2013). Available at: <https://www.fastcompany.com/3005977/3-pillars-innovation-economy>.

² Hoque, *supra*.

³ Berg, Justin, *The IEEE 802.11 Standardization Its History, Specifications, Implementations, and Future*. George Mason University (2011). Available at: http://telecom.gmu.edu/sites/default/files/publications/Berg_802.11_GMU-TCOM-TR-8.pdf.; *Learn About the History of Bluetooth*. The Bluetooth Special Interest Group (2016). Available at: <https://www.bluetooth.com/media/our-history>.

⁴ *Approved Clause 6 of the SASB Bylaws*. IEEE-SA Standards Board Bylaws. Available at: <https://standards.ieee.org/develop/policies/bylaws/approved-changes.pdf>.

⁵ *Infographic-15 Years of Wi-Fi*. Wi-Fi Alliance (2014). Available at: https://www.wi-fi.org/download.php?file=/sites/default/files/private/Infographic_15_Years_of_Wi-Fi_0.pdf.

⁶ *Comments of The American Bar Association's Sections Of Antitrust Law, Intellectual Property Law, Science & Technology Law, and International Law On The Draft Template For IPR Policies In Industry Standards Organizations Issued by The Electronic Intellectual Property Center of The Ministry of Industry and Information Technology*. (29 January 2015). Available at: <https://chinaipr2.files.wordpress.com/2015/02/aba-comments.pdf>.

⁷ Lemley, Mark A., *Ten Things to Do About Patent Holdup of Standards (And One Not To)*, 48 B.C. L. Rev. 149 (2007).

⁸ *The Mobile Economy 2015*. GSMA Intelligence (2015). Available at: http://www.gsamobileeconomy.com/GSMA_Global_Mobile_Economy_Report_2015.pdf.

⁹ Galetovic, Alexander and Kirti Gupta, *Royalty Stacking and Standard Essential Patents: Theory and Evidence from the World Mobile Wireless Industry* (May 2015). Available at: <http://hooverip2.org/working-paper/wp15012/>.

¹⁰ *Id.*

¹¹ Stark, Richard, *The Royalty Stacking Supposition*. CPI Antitrust Chronicle (1) (March 2015).

¹² *Id.*

¹³ *Id.*

¹⁴ Sidak, Gregory J., *The Proper Royalty Base for Patent Damages*. Journal of Competition Law & Economics, 10(4), 989-1037 (26 November 2014).

¹⁵ Stark, Richard, *Debunking the Smallest Salable Unit Theory*. CPI Antitrust Chronicle (2) (July 2015).

¹⁶ *Id.*

¹⁷ *Garretson v. Clark*, 111 U.S. 120, 121 (1884).

¹⁸ Stark (2), *supra*.

¹⁹ *Cornell University v. Hewlett-Packard Co.*, 609 F. Supp. 2d 279 (2009).

²⁰ *Id.*

²¹ *Id.*

²² Stark (2), *supra*.

²³ *Id.*

²⁴ *Id.*

²⁵ Public Draft of the Patent Administrative Enforcement Rules (Administrative Enforcement Rules) (Jan 27, 2015), http://www.sipo.gov.cn/tz/gz/201501/t20150127_1067672.html.

²⁶) The Patent Administrative Enforcement Guidelines (Trial) (Administrative Enforcement Guidelines) (Oct 19, 2015, <http://www.sipo.gov.cn/tz/gz/201602/P020160219329740463107.pdf>).

²⁷ Administrative Enforcement Guidelines at Chapter 2, Section 2 and Chapter 3, Section 1 and 2.

²⁸ Administrative Enforcement Rules at Article 21.

²⁹ Article 135, Civil Procedure Law of the People's Republic of China, http://www.wipo.int/wipolex/en/text.jsp?file_id=181423, accessed on Feb 17, 2016.

³⁰ USITC FAQ, Question 18.

³¹ http://www.qstheory.cn/dukan/qs/2015-12/31/c_1117608326.htm, published on Dec 31, 2015, accessed on Feb 10, 2016.

³² Zofi, Yael Sara and Saro Varjabedian, *Taking a Page From Thomas Edison*. Longer-Term Living (1 December 2006). Available at: <http://www.ftlmagazine.com/article/taking-page-thomas-edison>.