



Property Rights: The Key to National Wealth and National Security

Restoring “Morning in America” to Regain Industrial Competitiveness

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Intellectual property is the basis of national economic development, wealth, power, and security. As our Founding Fathers recognized, the ideas represented in a patent form the basis for the advancement of science, technology, and industry. These advances are brought to fruition in the manufacturing process, which in turn provides useful products, including defense articles, as well as jobs, incomes, economic growth, and social stability. Manufacturing based on patents also creates opportunities for further research into and development of even better ideas and products — a continuous feedback loop that encourages more technological and thus societal advances. The loss of manufacturing in particular reduces opportunities for technological progress and economic growth.

Patents have developed historically, and the American system, embodied in the Constitution, is based on centuries of legal and philosophical developments. Perhaps the most central idea to emerge is the grounding of patents in property rights: The owner of the patent, whether the inventor or someone to whom he has sold or licensed the patent, has an exclusive right in the technology or processes or ideas contained in the patent. That right is in essence the ability for a limited time to employ the judicial system to stop others from using the patented matter and to enforce monetary damages for violation of the patent.

The ability to commercialize patents in a manufacturing enterprise requires investors who are willing to put up significant sums of money in the expectation of getting a decent return on their money. If the discovery contained in a patent is not recognized as a property right and protected for a sufficient period to allow the inventor and the investors to recoup their initial expenditures plus a reasonable profit, there will be fewer inventors and no investors, and much less progress.

The technological, economic, and social success of the United States has been built largely on the foundation of patents as property rights. Patent law and case law have evolved over the last two and a quarter centuries, but the concept of a patent as an exclusive right of an inventor for a limited period has remained at the center. However, in recent years, legislation and judicial decisions have moved away from the concept of an issued patent as securing a property right.

This paper analyzes the necessary foundation of private property rights for achieving citizens' thriving, economic prosperity through both individual flourishing and industrial competitiveness, and national security that preserves independence. It considers property rights' cornerstone role in attaining industrial competitiveness through the lens of President Reagan's commission on U.S. industrial competitiveness. This approach provides the benefit of hindsight and several decades of perspective, giving a clearer view of what went right and what went wrong. This framework also gives a longer view for assessing our present challenges.

After an **introduction** comparing the Reagan era to the present time, the **first section examines industrial competitiveness**: What is this concept and what are its purposes? The **second section delves into invention and patents**, developing a **case study** from a pillar of a property rights-based, competitive industrial backbone. The **third section** pulls back the lens from the case study to **apply the lessons** from the previous section to other aspects of property rights, forms of property, and industrial competitiveness more broadly. The **final section** makes concrete **recommendations** for reestablishing private property rights in pursuit of reinvigorated U.S. industrial competitiveness for the 21st century.

The views expressed in this paper do not necessarily reflect the opinions of Conservatives for Property Rights, its member organizations, or individuals associated with the coalition. The opinions here are solely those of the author.

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Property Rights: The Key to National Wealth and National Security ***Restoring “Morning in America” to Regain Industrial Competitiveness***

President Ronald Reagan won election in 1980 as America was reeling from a series of economic shocks in the 1970s. Americans were whipsawed by stagflation — the combination of negative economic growth and double-digit inflation rates — and heavy taxation, leading to high unemployment that left millions of workers and their families on the economic sidelines.

The American industrial base contracted as factories shut down, giving rise to a new term: the Rust Belt. Germany, Japan, the Four Asian Tigers, as well as other countries, were challenging America’s once-dominant industrial companies. American manufacturing shed almost a million jobs from a peak in mid-1979 to January 1981. The nation went from years of trade surpluses to decades of sustained trade deficits, starting in the mid-1970s.

The country faced a crippling oil crisis with gasoline rationing, due to the OPEC oil cartel. America appeared helpless as its diplomats were held hostage in Iran for over a year, inflaming a crisis in national confidence stemming in part from the loss of the Vietnam War. An underfunded, weakened U.S. military made the Soviet Union’s threat loom dauntingly.

Reagan’s message of “A New Beginning” offered a brighter alternative to the status quo “malaise” of Jimmy Carter. With his theme of reawakening, Reagan prevailed with the support of the “forgotten” middle class, including blue-collar Democrats from former industrial powerhouse states. Reagan won again in a 1984 landslide, thanks to tax cuts, an economic turnaround, restored confidence in the rebuilt U.S. military, a rebound in some industrial sectors, and his personal optimism, which made the “Morning in America” message resonate.

Thirty-six years later, another pro-American stance hit the electoral target, as defined by Americans left economically distressed due to globalization. Donald Trump carried a straightforward banner that offered hope and a future to an increasingly displaced silent majority: “Make America Great Again.”

In a way similar to Reagan, Trump diagnosed voter dissatisfaction with the policies and politics of globalization. The country had experienced decades of conventional politicians of both parties pursuing similar policies on economics and trade, with dismal results. Once-thriving manufacturing sectors, such as textiles, apparel, steel, aluminum, autos, machine tools, ceramic packaging, computers, and semiconductors, either disappeared or were greatly damaged by a combination of bad U.S. policymaking and foreign unfair trade practices, including currency manipulation, forced technology transfer, outright theft of intellectual property through reverse engineering and then hacking, and huge subsidies to “national champion” industries.

American businesses were kept out of many important global markets by foreign governments’ mercantilist actions. As a consequence, U.S. factories and manufacturing jobs, with high pay and good benefits, declined precipitously — as did the communities that depended on that income. Thousands of American workers, many nearing retirement, found themselves discarded and effectively blocked from decent future job prospects by lack of mobility, lack of skills, and age.

Wage growth on Main Street was perpetually stuck in “park,” but Wall Street zoomed as political elites consciously switched the country from a manufacturing economy to a services and financial economy. They also imported millions of low- or unskilled workers through changes to immigration law and lack of enforcement, displacing millions of American workers to accommodate business preferences for cheaper, more compliant labor.

The elites ignored whopping trade deficits, reflecting a blind faith in free-trade ideology and legalism. They believed that foreign competitors would abide by rules laid out in trade deals and other international agreements. Congress and the executive branch were talked into pursuing the globalization of the American economy and harmonization with international regulation as a way to peace and prosperity.

Perhaps the biggest casualty was the gold-standard U.S. patent system, which was “har-

monized” downward to match inferior patent regimes. These regimes in turn were employed in the context of international competition by foreign economic powers with quite different objectives. Instead of promoting economic growth through science and technology, as the American patent system was designed to do, the foreign patent systems were used to build national-champion industries with accompanying national wealth and power.

In effect, Trump was asking Reagan’s question, “Are you better off now than you were four years ago?” The 2016 electorate of hurting Americans answered, “No!” But are there lessons to be gleaned from the Reagan-era approach to industrial competitiveness that can be applied to today’s situation?

Both Reagan and Trump promised to place the interests of the United States and the American people above other nations’ and peoples’ interests. Both Reagan and Trump inherited a government bureaucracy whose policies encroached on private property rights and free enterprise, marked by high taxes, heavy regulation, slipping industrial vitality, stagnant wages, and inattention to the “fair” half of “free and fair trade,” among other things.

At the core of both winning visions was the promise to restore fundamental American principles that have enabled individual initiative and self-reliance: property rights, liberty, and economic opportunity. Ronald Reagan observed, “Profit, property, and freedom are inseparable, you can’t have any one of them without the other two.” Donald Trump said in New York in 2016, “This is a wave of globalization that wipes out our middle class and our jobs. We need to reform our economic system so that... we start making our own products again, bringing our once great manufacturing capabilities back to our shores.”

Both visions convey the idea that when individual Americans and American businesses do well, America does well. The basis for American citizens, businesses both large and small, and the nation thriving is private property rights, liberty, and the rule of law.

Reagan's Industrial Competitiveness Commission

President Reagan acted on his vision in a number of ways. He pursued the Kemp-Roth economic growth package, reduced regulations, and embraced property rights-based implementation of the Bayh-Dole Act, to name a few initiatives. Strategically, he created the President's Commission on Industrial Competitiveness, headed by John Young, president of Hewlett-Packard.

Reagan described the purpose of the Young Commission this way: "To sustain high rates of real economic growth, we must continue to create new 'miracles' of high technology — miracles both for innovation and for modernization of the major areas of our economy in manufacturing, agriculture, and services." He cited then-emerging technologies that were made in U.S.A. and that should logically be expected to produce long-term economic advantages: "New developments in information processing, biology, and materials science are spawning sunrise industries." The commission would "look under the hood" and see how the U.S. industrial base could be retuned so that all Americans would benefit.

**"Innovation spurs new industries and revives mature ones."
— Young Commission**

The Young Commission defined industrial competitiveness as "the degree to which a nation can, under free and fair market conditions, produce goods and services that meet the test

of international markets while simultaneously maintaining or expanding the real incomes of its citizens." Notice the critical condition: free and fair markets, which entail, among other things, lack of government interference through subsidies, currency manipulation, forced technology transfer, or regulatory or other interference. Such markets also include reciprocity, equal treatment of foreign and domestic firms, transparent administrative systems, freedom, private property rights, and a functioning legal system to enforce fair, honest dealing and to bring accountability and justice for violators.

The commission identified several trends associated with U.S. industrial decline. Domestically, these included stagnant wages, lagging economic productivity relative to foreign competitors, and low return on assets invested in manufacturing, which discouraged further investment.

Internationally, industrial competitiveness was hampered by a U.S. dollar inappropriately valued in relation to competitors' currencies, which foreign government actions kept artificially undervalued. The overpriced dollar meant American products were more expensive in foreign markets, while imports were cheaper both in overseas markets and in the U.S. market.

Also, such actions as foreign commercial espionage, reverse engineering of American products, outright theft of U.S.

technology, patent infringement, and patent "flooding" meant that critical American industrial technologies were purposely being siphoned from our borders.

Finally, governments throughout East Asia organized their businesses into national cartels composed of banks, trading houses, and manufacturing companies — all based on the German model of business domination by government direction of individual industrial product groups. Foreign competitors, including Germany, Japan, South Korea, Taiwan, Singapore, and others, produced lower-priced, quality goods that challenged American-made products.

The Young Commission recommended firming up our industrial foundation in four ways. First, create, use, and protect our technological advances because "[i]nnovation spurs new industries and revives mature ones." Second, lower the cost American industry bears for access to capital, increase the supply of capital, and ease its flow to productive use. Third, develop the U.S. workforce to meet ever-advancing industrial base requirements. Fourth, make international trade a national priority, including strengthening the rules of the world trading system then governed by the General Agreement on Tariffs and Trade.

INDUSTRIAL COMPETITIVENESS

Although economic historians assign various dates to the Industrial Revolution, the arrival of a newly independent America on the world stage was roughly contemporaneous with industrialization and mass production. By necessity and reinforced by the bitter experience of material deprivation during the Revolutionary War, the young country's leaders, specifically George Washington and Alexander Hamilton, initiated a national business culture that spurred invention, innovation, and a unique "American system of manufactures."

"America's society of smallholders . . . encouraged technical self-sufficiency and the handyman, fix-it mentality." It gave rise to "industrial heartlands" and to "inventing new devices," said economist David Landes. "The 'American system' [eventually] set standards of productivity for the rest of the industrial world. Each technology became a stepping stone to others."

America's industrial base rose rapidly from a largely agrarian society of farm workshops, local furnaces, and mills to factories and manufacturing plants that attracted workers and raised standards of living through higher wages and better products. Much of this growth was dependent on patents, resulting in production systems of precision tools and sophisticated machinery. The commercialization of secure patents created the world's leading industrialized nations, with America and Germany surpassing the previous powerhouse, Great

Britain and its far-flung empire, by the end of the 19th century.

The United States' industrial base has entailed a vast array of products and manufacturing processes: from mechanized farming to iron and steel production to shipbuilding, locomotives, automobiles, and airplanes to household labor-saving appliances to pharmaceuticals and biologics and medical devices to heavy equipment to rockets and satellites to transistors and semiconductors and microprocessors to radios and televisions and desktops and supercomputers to smartphones and wireless communication products and equipment.

"Private property rights and free enterprise — the economic exercise of those rights — foster human flourishing."

The industrial giant that America was by the late 19th century provided mass-scale development of the continental nation and numerous communities prospering through massive job creation. Household names like General Electric, US Steel, and Ford paid good wages with which average working Americans could support a family. The factories turning agricultural products and raw materials, such as wheat, corn, cotton, iron ore, oil, and chemicals, into products sparked other jobs, such as parts and materials suppliers, machine tooling, warehousing, sales, and delivery. As a dynamic, patent-based industrialized nation, the United States enjoyed the highest standard of

living, based on measures like per capita income, calories per day, clean water, and waste disposal. A strong industrial base "provides a rich environment for the creation and full development of new technologies and markets," as the Young Commission reported.

The United States enjoyed a growing competitive advantage in manufactured goods, eventually holding the top spot among industrialized nations. In our heyday of the postwar 1950s and 1960s, American industry produced double that of the other developed countries — aided, of course, by the fact that much of Europe's and Japan's industry was still recovering from World War II. Our competitiveness was seen in domestic production of enough goods in major sectors to supply our own and other countries' needs.

The United States' tight labor market, compared to most of the world, helped create a corporate culture that sought innovation to increase productivity — through capital investment, technological invention, and management improvements. This emphasis produced the economic "virtuous circle," where businesses continually compete for workers by improving compensation and working conditions. Better workers are more productive. Better productivity allows businesses to share the rewards of increased productivity with their more skilled, more efficient workers by increasing wages and benefits. Wage increases in turn improve sales throughout the

economy by putting more money in the pockets of employee-consumers. The virtuous-circle American economy created and sustains a broad middle class, truly the greatest achievement of American manufacturing.

Thus, industrial competitiveness means having thriving, broad-based manufacturing and research-based industries at the heart on the U.S. economy. Industrial competitiveness means producing for domestic and foreign consumption a range of goods that these markets demand, while enhancing our standard of living. A competitive industrial base creates wealth, providing American jobs that sustain and improve real income while funding through tax payments our national security. Further, it aids our national security by having the capacity and capability to meet our own defense and economic needs. We've shown that this can be done.

The Property Rights Foundation

British statesman Edmund Burke said “a law against property is a law against industry.” Like Burke, Reagan pointed to the three inseparable strands of “[p]rofit, property, and freedom.” These statements capture the truth that sustained industrial competitiveness — industriousness, profits, and freedom, on a grand scale — rests upon private property rights.

“A nation whose political and economic system rests upon the principle of property rights typically provides for ordered liberty and the rule of law.”

The premise of ownership of property leads individuals to act differently from those who enjoy no presumption of owning property, as *The Wealth and Poverty of Nations* describes. A nation whose political and economic system rests upon the principle of property rights typically provides for ordered liberty and the rule of law. Its legislative and judicial systems include procedures that afford individuals and businesses due process and equal standing under the law.

Property rights have led to liberty under law and allow individuals to use their land, possessions, labors, and intellects to solve problems, meet needs, and be productive. People with secure property rights exercising their freedom to earn a living are being industrious. Their ownership rights underlie the ability to exchange the fruits of their intellects or labor for those of others, to enter legally enforceable contracts for economic transactions, or to combine with others to start an enterprise such as a manufacturing company. This process is how property rights lead to competitive industrial enterprises.

American television technology illustrates how potent privately owned industry can be in advancing technology, creating a market, and expanding the adoption of innovation. TV sets came on the market in the late 1930s, at the end of the Great Depression and just before World War II broke out. TV began when the United States was a nation of newspapers, radio, and newsreels shown at “picture shows.” The war effort interrupted the diffusion of this innovation, but great American companies like RCA put the black-and-white units in homes once peace was achieved. In 1952, about a third of American homes had a TV set. By 1960, 86 percent of American homes had TVs.

Personal computer adoption tells a similar story, with about 8 percent of American households owning a PC in 1984. By 2000, half of American homes had a PC, expanding to 85 percent by 2014. Smartphones came on the scene in the early 2000s, but took off when Apple introduced the iPhone in 2007. The Pew Research Center reports that U.S. smartphone ownership skyrocketed from 35 percent in 2011 to 77 percent in 2016.

In other words, private property rights and free enterprise — the economic exercise of those rights — foster human flourishing. When one works with mind and body to support oneself and to get ahead, it results in creativity, a sense of fulfillment, and self-confidence — which translate into increased productivity, or making the most of one's time and energies. Multiply human flourishing within a nation and there exists a productive society. Productive use of time (a personal and

societal work ethic) along with the invention of new products and processes creates new wealth, and the exchange of these discoveries combines to raise the standard of living generally.

Second, societies with human flourishing where a person (or company) may benefit from the fruits of his or her labor enables industrial competitiveness, with flourishing people saving, investing, and scaling up to enable free private exchange. The next Thomas Edison may have invented a new technological breakthrough, but he doesn't have the money to manufacture and market it. The inventor can turn to others, whose talents lie in finance and still others gifted in building and managing a corporation that can make, sell, and distribute the new Edison's latest invention, all participating jointly in success by building an industry and developing new markets for the new products. Domestically competitive firms may eventually make enough of the new gizmo not only to meet domestic demand, but also to sell the increased production in other countries.

Third, a nation's industrial competitiveness depends on its making things, growing things, and extracting natural resources domestically. Consider the economic boost from fracking technology in U.S. job creation and gas and oil supply. That sector involves two of the three elements. James Watt noted: "A nation's wealth is determined by its natural resources, agricultural potential and manufacturing capabilities [i.e., a broad industrial base]. All other economic activities are service industries, dependent on those three basic elements." Vibrant manufacturing industries must be the basis of economic activity and development.

“Manufacturing is the heart of an industrial base and the foundation of a strong economy.”

The economic usage of a nation's natural resources, coupled with the unleashing of the country's human resources to productive use and ingenuity, further applies ownership rights to private property in all its forms — physical, personal, intellectual. Private property rights reward the individual or corporate owner for meeting others' needs, such as by making a new cell phone, a life-saving

medicine, a more fuel-efficient car, or supplying a manufacturer with the raw materials or parts needed to keep products on store shelves.

Secure rights of owning or leasing various kinds of property, spread across a nation, stimulate free enterprise and build, sustain, and grow a thriving industrial base. Such a property-rights-centered, industrially based economy can make a nation competitive vis-a-vis other countries, if there is a level playing field. As we shall see, technological advancement can make for a significant comparative advantage — assuming the means exist to enforce property rights and contractual terms against would-be technology thieves, including rogue nations and their favored (sovereign-owned, -controlled or -supported) companies.

A Competitive Industrial Base

The industrial base of the United States did wonders for this country, its citizens, our standard of living, and for consumers of our goods here and around the world. However, by the time of the Young Commission, America was losing her industrial edge. The ramifications of a degraded industrial base affect every American, as well as place strains on our society, our government, and our economy. The Young Commission put much emphasis on manufacturing because it is the heart of an industrial base and the foundation of a strong economy.

“Producers are more important than consumers.”

— The Wealth and Poverty of Nations

John Young, the commission chairman, described how the United States had lost competitive ground to other countries and why it was vital for America to regain its industrial competitiveness. Young cited Japan, which had then overtaken us in productivity in automobiles, steel, precision machinery, and electrical machinery, and was eating into our market share in these areas. Meanwhile, average real return on manufacturing assets had slid from 12 percent in the early 1960s to 4 percent by the early 1980s. This precipitous fall sent investors from the manufacturing to the financial sec-

tors. Young wrote, “The members of the commission were firm in their conviction that we cannot rationalize the poor performance of manufacturing by arguing that we are becoming a service economy, anyway. Our manufacturing sector is the *foundation* on which many services rest” (emphasis in original).

Reagan and the Young Commission faced a Japan that had recovered from its devastation in World War II and jumped into high gear as an economic power (albeit by a mercantilist model). The Japanese philosophy, Landes wrote, is “that the end of economic policy is not low prices and discount distribution. The goal is market share, increased capacity, industrial and military strength. Producers are more important than consumers. Anyone can buy, but not everyone can make. If people spend less now, they save more . . .”

What would help restore an internationally competitive U.S. industrial base? The Young Commission named four factors: technology, access to capital, human resources, and trade.

First, **technology** was considered our greatest competitive advantage. The relatively low level of private-sector research and development caused concern, and encouraging private R&D investment would stimulate the ongoing creation of new technologies. Equally important, we had become inattentive to applying new technologies in manufacturing.

Young cited American-born but Japanese-applied technologies that gave Japan a boost in its manufacturing: robotics and statistical quality controls. The commission added that we must protect our new technologies from “counterfeiting and other forms of misappropriation.” Specifically, the commission said America needed strong patent laws, “better protect[ion of] the scientific information that American business provides to government,” and protection of U.S. technology and intellectual property from foreign nations, “especially the newly industrializing countries.”

Second, the lower Japanese **cost of capital** formation had become a competitive advantage for Japan in the 1980s and our high capital costs a disadvantage for us. The commission urged federal fiscal restraint, because government borrowing (deficit spending) competes with American business for financial resources. Also, the U.S. tax structure imposed on manufacturing — the “sector of our economy most affected by international competition” — the highest effective tax rate.

Third, all Americans need **job opportunity**. A strong, advancing industrial base relies on skilled workers. America needs technical high schools and universities preparing young scientists and engineers for emerging industrial sectors. And we must ensure that our experienced workers renew and expand their skills as technological advancements come about. Profit sharing, em-

ployee stock purchases, and similar incentives keep labor pulling together with management in the same direction toward improving industrial competitiveness.

Fourth, the commission suggested making **trade** a top policy priority. One finding was a lack of active support by our embassies in promoting U.S. exports. As Reagan’s Interior Secretary James Watt decried, “When our . . . State Department officials finally protest [against trade cheating] over tea or cocktails, they are assured it was all a mistake.” Another finding was lack of U.S. trade laws and international agreements that dealt with nontariff barriers, state-owned enterprises, and targeting policies aimed at hurting American businesses, particularly calling out developing countries’ “weakest commitment to the rules, at best.”

**“We cannot rationalize the poor performance of manufacturing by arguing that we are becoming a service economy.”
— Young Commission**

In addition to technological advantage, access to capital, and maximizing human resources, renewing our industrial competitiveness depends fundamentally on robust private property rights. These have been diminished in a range of ways, including harmful court rulings and misguided legislation. Landes explained that “contingency of ownership stifles enterprise and stunts development; for why should anyone invest capital or labor in the creation or acquisition of wealth that he may not be allowed to keep?”

In regard to trade policy, since the 1980s, America has put faith in setting up a system of trade agreements complete with rules and procedures. But many of the countries that sign these agreements have no intention of living up to their paper commitments. Indeed, the most aggressive trade competitors routinely thumb their noses at the rules and proceedings, or abuse the system as a means of denying access to their markets. The United States has been warned many times that we must insist upon reciprocity as the standard in trade. Watt urged, “We should seek free trade, but there must be reciprocity. Regardless of what our foreign competitors say their policy is, we *must* reciprocate with whatever it, in actuality, is” (emphasis in original). This standard is a necessary requirement for free and fair trade.

Achieving Competitiveness With Property Rights

In conclusion, the goals then and now for pursuing U.S. industrial competitiveness rest upon strong property rights. Some of the steps recommended in the 1985 report would not suit the U.S. and global economic situations of the 2010s. What goals delineated at that time should we consider for U.S. industry’s economic competitiveness in the 21st century? Here are three: Broaden the U.S. industrial base. Reward savings and investment. Protect private property and individual rights of ownership.

First, as the Young Commission stated, the United States must “**maintain a broad and diverse industrial base.**” The goal of broadening our industrial base will entail the creation and development of new technologies and new markets as existing domestic industries invent and commercialize new products, processes, materials, and the next leap-frog technologies. It also will involve exploiting our technological advantage, such as American standard-setting-grade wireless communications and data sharing, new biologically based pharmaceutical therapies, and cutting-edge technologies for extracting oil and gas deposits. U.S. firms would do well to foster vertical businesses and alliances that lead from R&D to producing materials and parts at home

to manufacturing finished goods domestically. This goal will ensure achievement of a “virtuous circle” economy, with its benefits of wealth creation and national security.

A second goal is to **reward savings and investment.** The Young Commission rightly voiced concern over a tax system that rewarded borrowing and discouraged savings and investment. Though our challenges to capital formation differ in the 21st century from those of the 1980s, access to private capital remains an obstacle, especially for sophisticated, capital-intensive, R&D-centered sectors. Thus, our nation should encourage U.S. citizens to increase their savings rates and to invest. Investing in America goes way beyond buying government bonds. And the benefits of compound earnings and return on investment should not be understated. Further, such increased allocation of private dollars to savings and investment reduces the cost of capital formation for our manufacturers and R&D companies.

Third, **strengthening the private property rights** of American citizens is a vital goal. Strong and secure private property ownership and the legal rights to defend one’s property underlie the whole system on which an industrial base and industrial competitiveness rest. Certainly, to a degree, an autocrat may strong-arm his population to work the land or exploit other natural resources, but this approach stunts the motivation inherent in private property rights. Landes explained the different futures of the West and the East, “The concept of property rights went back to biblical times and was transmitted and transformed by Christian teaching. ... In China, even when the state did not take, it oversaw, regulated, and repressed.”

In sum, diminished U.S. economic competitiveness has caused the “forgotten middle class” to seek better political and economic alternatives. Private property rights lead to wealth creation and initiative that benefit a nation, especially the forgotten middle class. The Young Commission emphasized achieving a competitive industrial base, based upon secure property rights.

The beauty of the property-rights/technology-creation/manufacturing virtuous circle is that it takes care of creating both producers and consumers, in that order. Our current imbalanced economy emphasizes consumerism while neglecting production, and thus doing too little to put money in the pockets of blue- and white-collar Americans. Unlike Japan in the 1980s and China today, we have gotten our priorities backwards. Production must of necessity come before consumption. The goals set forth here would put America back on track industrially, with the superior model.

The Bayh-Dole Act Success Story

The 1980 Bayh-Dole Act unleashed the commercialization of thousands of inventions discovered in universities and federal labs. Before this law, the government normally retained the rights to federally funded inventions. This law grants universities and researchers exclusive patent rights to their inventions.

Before Bayh-Dole, taxpayers realized nearly no return on investment:

- By 1980, the U.S. government owned 28,000 patents
- Only 5% of government patents were licensed for commercial use
- Some 26 different sets of rules existed for licensing a federal patent at the various agencies
- Generally, only nonexclusive patent licenses were allowed
- No new drugs were developed when the government took inventions away from the discovering university

Since 1996, Bayh-Dole patents and licensing have added:

- \$1.3 trillion increase to U.S. gross industrial output
- \$591 billion increase to U.S. gross domestic product
- 11,000 startup businesses
- 4.3 million jobs supported
- More than 200 FDA-approved drugs and vaccines developed

Additionally, in the past 25 years, university research has disclosed more than 380,000 inventions and been issued more than 80,000 patents.

“One of the major factors in the reported success of the Bayh-Dole Act is the certainty it conveys concerning ownership of intellectual property.”

— Congressional Research Service

(Sources: Association of University Technology Managers, IP Watchdog, Congressional Research Service)

PATENTS AND INVENTION:

A Case Study of Property Rights-Based Industrial Competitiveness

A competitive industrial base is vital to a strong national economy. Industrial competitiveness is best sustained when based on private property rights. Property comes in many forms, such as land, minerals and other raw materials beneath the surface, buildings, automobiles, computers, money, stocks and bonds, gemstones and precious metals, businesses, as well as intellectual property — inventions, books, movies, music, etc.

“Technological innovation is a mainstay of the American economy,” the Young Commission said. “It is the foundation of our economic prosperity, our national security, and our competitiveness in world markets.”

Because much of industrial competitiveness derives from research and development of new discoveries within industries, patents and invention make an apt case study of the prospects and challenges of commercializing new technological innovations and, thus, maintaining a competitive edge. The Young Commission’s Committee on Research, Development, and Manufacturing (RD&M Committee) produced an extensive report on IP protection’s importance to industrial competitiveness. This section draws from that report while examining current matters challenging both IP protection and the derivative industrial competitiveness the United States might otherwise gain from patents and U.S. inven-

tions. We begin with a look at the role patents and invention play in achieving competitiveness goals.

Securing IP Rights

The 1790 Patent Act implemented Article I Section 8 of the U.S. Constitution, which empowers Congress “to promote the progress of science and useful arts” — R&D — “by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries” — what the Young Commission termed “property rights of limited duration.”

The first U.S. Congress combined secure, exclusive rights to one’s creations with the goal of promoting technological progress. America and Europe differed in that the U.S. government issued a patent to whomever could demonstrate that he or she was the actual creator of an invention. That same year, Samuel Hopkins received the first U.S. patent for inventing a process to make an ingredient in fertilizer called potash. American IP was democratized, in contrast to the Old World model, where kings gave patents as instruments of “cronyism.”

“Technological innovation is . . . the foundation of our economic prosperity, our national security, and our competitiveness in world markets.”
— Young Commission

Consider three aspects of how secure IP rights lead to industrial competitiveness: risk and reward, the right to exclude, and the benefits IP produces.

First, companies in industrial sectors typically operate on a business model that involves substantial **risk and reward**. They invest heavily in research and development. Their facilities require huge capital expenditures, and they employ sizable workforces with a large share of engineers and scientists. The nature of the latter’s work entails trial and error, laboratory research and testing, and many dead ends to get to a workable version of the product.

“When intellectual property rights are protected, innovators are able to recover the costs incurred in research, product development, and market development,” the RD&M Committee wrote. “This cost recovery justifies the risks associated with development of new technologies and products today and is essential for stimulating the future R&D that is necessary to maintain America’s competitive edge.”

For example, a 2014 Tufts study found that it now takes an average of \$2.6 billion and 10 years to develop a successful prescription drug. The figure reflects the often multiple attempts that do not succeed. Also, the rise in biologics (drugs based on live organisms), which are less stable

than chemical compounds and thus more difficult to standardize for mass production, as well as regulatory demands such as clinical trial designs, make the financial risks of a single drug project quite high.

Thus, a company, if it is to continue inventing, must of necessity recoup all the associated costs, repay investors, and restock the R&D reserves for the new product pipeline. The same high-risk, high-reward dynamic and the importance of a patent's exclusivity apply throughout the industrial base.

Second, vital to IP is **the right to exclude** others from making, using, or selling one's creation. The exclusive intellectual property right gives the creator a fair first shot at benefitting from the fruits of the labor of invention and from all the subsequent work done to turn an invention into a

good. The patent owner has full right to make, use, and sell the product, process, material, or other good, as well as the right to deny anyone else any of these activities.

The patent owner may select other persons or companies with whom he enters into a business arrangement, including licensing the patent to a manufacturer. The patent owner may decide upon a method of commercialization, the timing of market entry, or not to practice the patent at the time or ever. The owner may also decide whether and how to enforce the patent against an infringer. Exclusivity over the patent is especially important to R&D-based industrial sectors in order to compensate for the inventor's time, costs, and investments spent on the front end. This feature was intentional on the Founders' part.

“Exclusivity over the patent is important in order to compensate for the inventor's time, costs, and investments.”

Patent-intensive industries, such as computers, electronics, communications equipment, chemicals, advanced materials, machinery, pharmaceuticals, and medical devices, directly provided 45.5 million U.S. jobs in 2014. In that year there were more than 12 million U.S. manufacturing jobs and many more up- and down-stream associated jobs. These sectors comprise the core of America's industrial base, where R&D investment carries companies through high risk to high reward, assuming they can exclusively exploit the invention and turn it into a market blockbuster over the life of the patent.

Third, secure **IP rights benefit society**, the nation's economy, and beyond. Bring-

Figure 1: IP's Benefit to U.S. Industrial Competitiveness

IP-intensive industries make an outsized difference in America's economy. In 2014, they:



(Sources: U.S. Department of Commerce, U.S. Patent & Trademark Office)

ing new products to market and achieving industrial competitiveness result from protecting the attendant property rights and invention of new devices, processes, and intellectual property, including copyright, trademarks, and trade secrets. The inventor can work to commercialize the invention. That effort supports the jobs and industrial facilities of those involved with the patent owner to make the product, develop the market for it, and sell it.

Another of the Founders' goals was advancement of knowledge. Once the patent office determines that the invention is original and would work, progress comes from then publicly disclosing the details of the inventor's descriptions, drawings, and specifications. That way, others inventing in the same area can avoid infringing this property and instead invent in another direction. Still others can add to

or improve the invention, possibly patenting the improvements. Scholars can learn from the scientific knowledge associated with the discovery.

Further, commercialization efforts contribute to the growth of the economy. IP-centered industry sectors provide good-paying jobs and have a significant presence in the localities where they build facilities. For example, the bioscience sector is responsible for 1.66 million U.S. jobs in 77,000 businesses, along with a multiplier effect of another 7.53 million jobs. The average biotechnology job pays \$94,543 vs. an average of \$51,148 for other U.S. jobs. Importantly, the biotech sector has brought us advancements in new, genomic medications, chemicals, agriculture, and energy.

Similarly, the U.S. semiconductor industry provides more than a quarter-million jobs and

indirectly accounts for a million more, while paying American workers better than the U.S. average.

IP-centric industries also produce goods that can be traded around the world. These exports positively affect the U.S. balance of trade, offsetting in whole or part the imports American consumers desire. For example, landline phones never penetrated the market in Africa very widely, but cell phones have found large markets throughout the continent, especially in countries such as South Africa and Senegal. American companies such as Qualcomm and InterDigital have played key roles in creating the wireless technology infrastructure and essential components of smartphones and cell phones that benefit African consumers.

Figure 2: The Cost of IP Theft



(Sources: 2017 IP Commission Report)

Challenges to Patent Rights

Several challenges to property-based patent rights have arisen in recent years. They interfere with the ability of patent-centric industrial firms (and other patent owners) to thrive in the high-risk, high-reward business model. Some the Young Commission flagged, others have resulted from harmful court rulings, bad legislation, and other causes, including regulatory agency missteps.

“Public rights”

A patent merely secures certain rights in private property, one’s invention, which otherwise could have remained undisclosed private property and been used commercially as a trade secret. Some have sought to blur the fact that patents are private property rights by claiming patents to be so-called “public rights.” Public rights involve disputes between the government and others, or they relate to statutorily created rights “unknown to the common law,” such as eligibility or benefit levels under a government housing, health, or veterans program. Public rights issues may be settled in administrative settings, whereas property rights may only be constitutionally resolved in an actual courtroom.

The federal government has asserted in the *Oil States Energy Services v. Greene’s Energy Group* case, which centers on hydraulic fracturing oil extraction technology, as well as in other recent patent and IP cases, that patents merely constitute public rights. Indeed, the Acting U.S. So-

licitor General claimed in the *Oil States* certiorari brief that patents are “quintessential public rights,” a theme parroted in the government’s case brief.

The America Invents Act of 2011 created an administrative adjudicatory body at the U.S. Patent and Trademark Office (USPTO) where private parties can challenge patent validity. Its constitutionality has been challenged because of the fundamental nature of validity cases threatening to take away someone’s property, without just compensation. Further, by the time of patent cancellation, the patent’s details have already been disclosed publicly, thus making the invention prior art and, therefore, not patentable. Depending on the degree to which this distorted theory gains traction, inventors and inventive companies in industrial sectors stand to lose secure property rights central to achieving industrial competitiveness. In turn, the basis of invention and industrial pursuits is destroyed.

Patentability

As significant technological advances occur, they may challenge existing notions of applying patent laws to new kinds of patentable subject matter. The RD&M Committee cited uncertainty arising from IP protection questions about biotechnology and software inventions. “Inadequate ownership rights to new technology diminish both the incentive and the ability for the private sector to undertake costly new R&D,” it reported.

Further, these shortcomings place a drag on the pace of innovation, and in turn on America’s enjoyment of the social and economic benefits of these advancements, ultimately diminishing U.S. industrial competitiveness. In the 1980s, the Young Commission sought clarity on whether collection of samples supplementing patent descriptions of microorganisms would always be “necessary and feasible,” as well as the scope of patent claims in regard to biotech patent infringement questions and the issue of consistency in applying settled legal principles of patents as the state of biotechnology quickly changes.

The RD&M Committee also discussed concerns about insufficient IP protection of computer code. At the time, copyright protected software code, though “copyright does not protect against the misappropriator who implements the program’s design by means of a ‘sufficiently different’ sequence of code instructions.” This stratagem makes it difficult to prove infringement because different code sequences can accomplish the same result.

Adam Mossoff noted, “The value in a software program is the functionality of the program” [T]he functionality of binary code in a specific computer program is in principle no different from the functionality achieved in the binary logic hardwired into computer hardware.” Thus, in the 1990s, patents were issued on software programs, what Mossoff called “the digital equivalent of ‘a specific machine.’” Computers

now have become widespread; they are in phones, cars, watches, motors, everything. It only makes sense to protect their software with patents.

Recent Supreme Court rulings have set back U.S. patentability standards, particularly for biotech and software. In biotech, *AMP v. Myriad Genetics* (2013) and *Mayo Collaborative Services v. Prometheus Laboratories* (2012) moved the goal posts. The court made genetic material not occurring in nature no longer patent-eligible, despite the human intervention, because it works just as DNA found in nature. In software, *Alice Corp. v. CLS Bank* (2014) led federal courts and the USPTO, due to “the very lack of a definition [of what constitutes an abstract idea,] to liberally expand the contours of abstract ideas to cover everything.” Courts invalidated two-thirds of challenged patents within a year, with similar spikes at the Patent Office. There

has been a corresponding drop in patents issued on software. *Bilski v. Kappos* (2010) involved a patent on a computer-based business method for managing risk in commodities, opening up the eligibility requirements, or Section 101, test to complication concerning abstract ideas.

These rulings have affected subsequent cases. The effective lack of IP protection and injection of uncertainty from these four cases have surely been impactful upon U.S. industrial competitiveness, especially when much of the no-longer-patent-eligible subject matter remains perfectly patent-eligible in trade competitors’ nations.

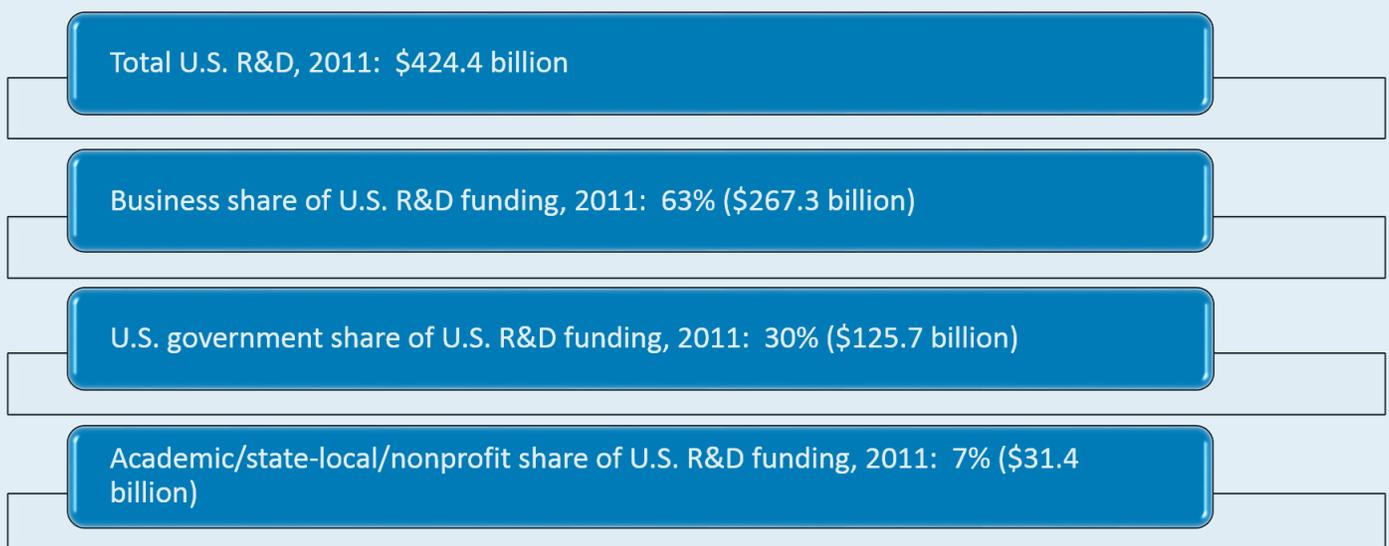
Patent Enforcement

To infringe a patent, someone makes, sells, uses, or imports protected technology without permission or paying for it. The way for a patent owner to exercise patent rights is civil litigation in

federal court. Patent litigation typically runs in the millions of dollars and can stretch out for several years. As was true when the RD&M Committee wrote this, fighting patent infringement is “expensive, protracted, and frequently unpredictable.”

The committee continued further, “Even if the patent holder wins the lawsuit, the monetary damages awarded are unlikely to fully compensate the holder for losses sustained. The patent owner may have lost market share that cannot be recovered or even accurately determined as a basis for monetary compensation. The infringer may not have kept adequate records to show the extent of his or her sales. The infringer may claim he has not cut into the market share of the patent holder because the infringer is selling a low-cost copy to people who could never afford the price of the genuine article.”

Figure 3: U.S. Research & Development Spending



(Source: National Science Board)

Those sued for patent infringement often counter by challenging the patent’s validity. Then, as today, judges rarely issued injunctions to stop the infringer’s market activities, leaving infringers free to make and sell the knockoff product while the lawsuit drags on. The harm to the inventor continues, the market loss deepens, and the right to exclude becomes theoretical. The RD&M Committee also noted potential harm to the patent owner’s reputation and lost funds, which could have been put into R&D.

The situation has only worsened for those defending patent rights. In *eBay v. MercExchange* (2006), the Supreme Court made it immensely tougher to obtain what previously had been the general rule: a permanent injunction when a patent owner wins an infringement case, unless there were a good reason not to issue one. The *eBay* court established a four-part test that further burdens the patent owner, adds costs, and delays the right to exclude.

Since *eBay*, the practice known as “efficient infringement” has become widespread. Patent bloggers Gallagher and Quinn call this “a cold-hearted business

calculation whereby businesses decide it will be cheaper to steal patented technology than to license it and pay a fair royalty to the innovator.” The *eBay* decision knocked down a patent owner’s backstop for forcing patent infringers to the negotiating table or getting justice by shutting down their illegitimate business operations. With such neutered patent rights, there may be the semblance of a right to exclude, but there is no way to kick patent infringers off one’s intellectual property.

Patent Validity and Reexamination

“[C]onfidence in the patent system must be maintained by assuring the validity of issued patents,” the RD&M Committee noted. In order to get a patent, an invention must be novel, useful, nonobvious, and of patentable subject matter, each as defined by statute. The invention must successfully undergo examination of the claims about what the invention does. In theory, the USPTO would only issue valid patents, though patent examination involves art, as well as legal and scientific scrutiny. As with any human endeavor, the patent process is subject to occasional error. The two-century track record of U.S. patents — and

the resulting competitiveness — indicates the overall quality of U.S. issued patents. Nevertheless, legal challenges to a patent’s validity have occurred and, in some instances, resulted in a patent’s invalidation.

The RD&M Committee favored sufficient funding of the Patent Office in order to assure patent quality and expeditious examinations from the very start of the process — thus avoiding the issuance of bad patents. Unfortunately, the committee also sowed the seeds for injecting much more uncertainty about a patent’s validity. Couched in terms of improving reexaminations and harmonizing our patent system with those of other industrialized nations, the committee suggested “permit[ting] an opposer to participate on more equal terms with the patentee” in administrative reexamination of issued patents. Despite what should have been obvious advantages unique to the U.S. patent system — principally its foundation on private property rights inherent in one’s invention — this recommendation optimistically promoted “a fair and convenient adversarial reexamination process” as a cheaper and faster option than litigation.

Figure 4: USPTO Reexaminations

Resolved Petitions	Ex Parte (7/01/1981 – 9/30/2016)	Pre-AIA Inter Partes** (11/29/99 – 9/16/2012)	Post-AIA Inter Partes (9/16/12 – (5/31/17)
Total Certificates Issued	10,979	1,304	1,601
All Claims Confirmed	2,337 (21%)	89 (7%)	286 (18%)
Some Claims Confirmed	7,303 (67%)	792 (61%)	271 (17%)
All Claims Cancelled	1,339 (12%)	423 (32%)	1,044 (65%)

(Source: U.S. Patent & Trademark Office)

Fast-forward three decades and the imprudence of this approach is glaring. In the 1980s and 1990s, Congress set up re-examination proceedings at the PTO, addressing disputes between the office and the inventor. In 2011, the America Invents Act created the Patent Trial and Appeal Board (PTAB) and postgrant proceedings, in which other private parties could challenge a patent's validity during the entire life of the patent. The so-called *inter partes* review (IPR) was intended to substitute for federal courts in considering these cases.

PTAB's procedures have come under intense scrutiny for blatant unfairness. IPRs and PTAB have caused great uncertainty as to the security of property rights in patents — precisely because they may be brought by any party at any time. The U.S. Supreme Court in *Oil States* is considering the question of whether such an administrative proceeding is constitutional, in light of the well-established doctrine that all property rights cases may only be ruled on in a federal jury trial, that is, by a trial in a constitutionally created Article III court.

Instead of fulfilling the RD&M Committee's goals of better, quicker, and cheaper patent reexams and improved patent quality, PTAB adds great cost, wastes patent terms, discourages investment — especially in capital-intensive inventions —, deprives patent owners of their property, and sacrifices gains in U.S. industrial competitiveness. PTAB invalidates 76 percent of the patents challenged before

it, compared with 30 percent in Article III courts, where rules and procedures are more thorough, fairer, and more balanced, as *Oil States* amici Kenneth Blackwell et al. noted.

Under PTAB procedures, multiple IPR petitions can be filed against the same patent, and the same patents may face validity challenges simultaneously in both PTAB and federal court. Four-fifths of IPRs involve the same parties, the owner who is asserting the patent in court and the IPR petitioner, who is the other party in the suit. IPR invalidations wipe out patents in communications, semiconductors, transportation, computers, mechanical engineering, and biochemistry, thanks to frequent PTAB filers, in particular Apple, Samsung, Google, and Microsoft. The RD&M Committee itself warned, "The uncertainty of a patent's validity has long been a factor in discouraging sizable investment in patented innovations."

Patent Licensing

American inventors have been adept at inventing. Many prefer to exploit the fruit of their intellectual labor in other ways than themselves trying to go "soup-to-nuts" to commercialize the invention. Because patents are private property, they may be used as the owner sees fit. In the 19th century, "particularly productive [American] inventors were . . . distinguished by high rates of assignment (selling off) or licensing to firms or other individuals." Two-thirds of the great inventors licensed or sold their patents to get a return on their investment

in inventing, Sokoloff and Khan found, and America developed a "high rate of exchange in patent rights."

By the turn of the century, 60 percent of inventors licensed or sold their patents. That's a lot of intellectual property transactions, making license or sale far more the rule than the exception. Patent licensing is a key component of a free market, with the benefit of maximizing strengths due to the freedom to sell, buy, or license a patent to or from someone else. Such licensing activity benefits the nation, both commercially and in rising standards of living, from the "high rate of exchange in patent rights."

**"The very act of [patent] licensing is procompetitive rather than anticompetitive."
— Young Commission**

Licensors may place conditions or limits on their patent's use, for instance, granting a licensee only a nonexclusive license or confining the patent license to a specific use or territory. This is akin to someone renting out his beach house, but prohibiting renters from smoking indoors. However, the government can get confused on the basic tenets of private ownership rights. The RD&M Committee cited "the nine restrictions on patent licensing enunciated by the Justice Department in 1975 and based on a number of antipatent court decisions."

Recently, "efficient infringers" have invented a hyped-up narrative about so-called "pat-

ent trolls.” Any person or entity that owns a patent but doesn’t manufacture its invention itself (practice a patent) is labeled a “troll” or a nonpracticing entity (NPE). Those NPEs that try to defend their patents or enforce the terms of licensing agreements get labeled “patent assertion entities” (PAEs). Infringers have somewhat successfully given NPEs a bad name in an attempt to cover their own questionable behavior. But licensing-litigating inventors have long populated the patent scene, including household names such as Thomas Edison and the Wright Brothers.

The RD&M Committee noted how licensees can game the system. They can sign a licensing deal, start using the invention commercially, then file a patent validity challenge. “In the meantime, the licensee is free not only to continue marketing the product covered by the license, but also to withhold royalties from the patent holder during the ensuing litigation process.” Apple has employed this underhanded tactic against chipmaker Qualcomm, though the latter’s chips are components of iPhones. In the interest of industrial competitiveness, the RD&M Committee recommended allowing the patent owner to terminate the licensing agreement or continue receiving royalty payments while litigation is underway. This solution is grounded in a proproperty-rights worldview.

IP Rights and Antitrust

Patents secure exclusive property rights for a limited time in a potentially commercialize-

able invention. Antitrust law seeks to dismantle monopolies or other anticompetitive behavior, such as price fixing, to promote competition in the marketplace. There may seem to be conflicting purposes between patent rights and antitrust law, because of a patent’s limited period of exclusivity.

However, the RD&M Committee noted that President Reagan’s Justice Department had moved from applying per se antitrust principles to using the rule of reason where patent licensing is concerned. RD&M pointed out that “the very act of licensing is procompetitive rather than anticompetitive” and justifies “view[ing antitrust] restrictions in light of all the surrounding circumstances, especially the impact on competitiveness.” In other words, broad latitude to exercise one’s patent rights better serves the public interest in the long run than does strangling the patent owner’s efforts to create a market for his or her invention.

“Not only do licenses introduce more competitors into the marketplace, but insofar as they increase the patent holder’s reward, they encourage the patent system itself and therefore the incentive for R&D.” This formulation represents how IP rights actually expand the market through initial exclusivity and result in eventual-competition once the patent expires. It is a commonsense position, with patent exclusivity working the way the Founders intended.

Federal agencies and courts can become misguided and forget that intellectual property is afforded the same rights as other types of property. Antitrust enforcement guidelines from 1995 concerning IP licensing treated IP as a property right no different from other forms of property, didn’t presume IP gave market power in the antitrust meaning, and considered patent licensing as procompetitive. That disposition changed in the Obama administration.

“IP rights actually expand the market through initial exclusivity and result in eventual-competition once the patent expires.”

A 2016 Federal Trade Commission (FTC) report on PAEs was long on anecdote and short on data — a mere 22 PAEs responded to the agency’s request for information, along with about 300 affiliates. The report included a case study of patent licensing and assertion in the wireless technology sector. The figures the FTC study put forth call to mind Mark Twain’s witticism about lies, damned lies, and statistics as they derive from a small, nonrandomized sample and, thus, represent nothing valid or reliable.

The agency admitted that its findings “will not be generalizable to the universe of all PAE activity” and “the case study should be viewed as descriptive and probative for future studies seeking to explore the relationships between organizational form and assertion behavior.” It illustrates the imprudence of an enforcement agency insinuating

it has valid, statistically significant findings, when its flimsy methodology and outright pretext threaten perfectly legitimate patent licensing practices critical to advancing industrial competitiveness.

The report's release preceded by mere weeks the FTC's lawsuit against Qualcomm, one of the country's wireless and mobile technology leaders. Thus, the FTC's PAE "study" seems little more than precursor to a surge of the outgoing Obama administration's parting shots, including one involving a U.S. mobile wireless industry leader. "Competition" agencies' targeting of standard-setting companies in important sectors not only deprives private property rights, but also risks chilling the exercise of patent exclusivity through patent licensing. Such heavy-handed regulation carries serious ramifications for both property rights and industrial competitiveness.

For instance, standard-essential patents (SEPs) such as Qualcomm's face misplaced antitrust scrutiny. SEPs are a complicated subset of the patent world, but basically a SEP is an industry-consensus technological standard whose adoption enables interoperation of devices made by different companies. The owner of a standard-setting patent agrees to license the technology on fair, reasonable, and nondiscriminatory terms.

Acting FTC Chairman Maureen Ohlhausen noted the Obama FTC tilted antitrust enforcement involving SEPs so far that it treats conduct that doesn't harm the competitive process as an antitrust

violation. Ohlhausen recommended resetting the standard to "deception that harms competition in an upstream technology-licensing market." Likewise, her DOJ Antitrust Division counterpart has said SEP "patent owners cannot violate the antitrust laws by properly exercising the rights patents confer, such as seeking an injunction or refusing to license such a patent."

These views represent a decided turn toward patent owners' property rights requiring greater deference in the SEP antitrust context. An important ramification of this shift is that it augurs well for U.S. intellectual property, competition, and trade agencies finally defending U.S. IP owners both at home and abroad. The new stance of reasonable regulatory restraint should breathe new life into the competitiveness of American companies, especially those whose inventions are standard-essential, here and around the world. The tenor and vigor with which U.S. patent, trade, and antitrust bodies insist on and hold competitors accountable to property-rights standards and reciprocity affects the conduct of foreign competitors. Certainly, such a stance has a positive effect on the level of our American competitiveness.

International Competition and IP Rights

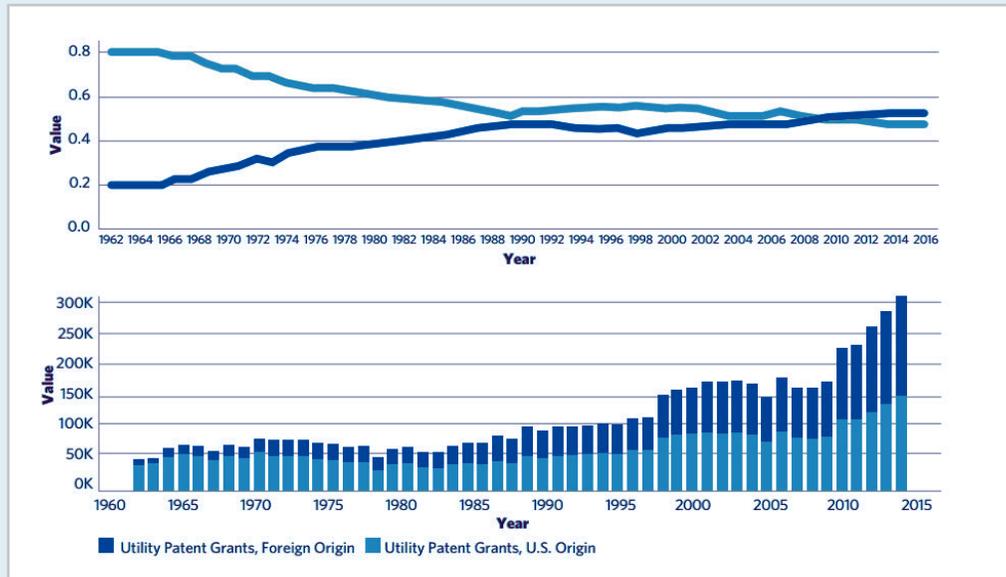
A nation whose industrial competitiveness rests upon technological advantage, founded on the bedrock of private property rights, has a keen stake in the strength of IP rights in the international sphere. The RD&M Commit-

tee reported, "The international protection given to intellectual property rights . . . appear[s] predicated on the view that ownership rights exist, but in their application these rights are not so apparent. Whatever the standards the international agreements appear to incorporate, however, it is clear that the policies of many nations, particularly in the developing world, are structured to acquire foreign technologies as quickly and as cheaply as possible."

The committee was right. It isn't surprising that nations lacking or lagging in industrial capacity might seek to close the gap by infringing the patents of leading companies, whose comparative advantage is technological prowess. The fledgling United States did so itself in the beginning of the 19th century with regard to British technology, economist Pat Choate observed.

The Young Commission identified a tug of war between nations that protect IP rights, which tend to be exporters of technology-based goods, and those countries that don't respect property rights. Nations have differed historically on their approaches and, according to the U.S. Chamber's 2017 IP report, continue to differ, as the RD&M Committee termed it, over "whether 'ownership rights' exist at all, or whether the real principle underlying intellectual property rights is that knowledge is part of the common property of all mankind."

Figure 5: U.S. Patents Granted, Domestic and Foreign Filers



(Source: U.S. Patent & Trademark Office)

What is surprising is that these facts haven't caused the United States to employ the most effective solution: Insistence on reciprocal trade practices and protection of U.S. IP, and consistent, meaningful action to hold IP pirates accountable for their actions. It should be self-evident by now from Japanese, South Korean, and Chinese practices that expropriation of foreign technology can advance a country's domestic industry and R&D capability. It should also be evident that a nation and its private companies that bore the risk and made the investment to achieve technological progress suffer corresponding and compounding losses.

Foreign threats to U.S. IP-based industrial competitiveness come in many forms. The Young Commission discussed several of the "new technological development policies [that] focus on rapid industrialization and rapid growth of internationally compet-

itive domestic industries based on increased access to foreign technologies" and remain weapons today.

They include "inadequate product and process patent protection, inadequate patent terms, unreasonable compulsory licensing laws, inadequate protection of new technologies, expropriation of intellectual property, inadequate anticounterfeiting laws, the absence of the concept of unfair competition, and weak judicial enforcement machinery (e.g., lack of discovery rules, standards of proof, etc.)." Space is lacking to discuss each of these anticompetitiveness weapons in detail; however, here are a few highlights.

Expropriation "takes many forms," but amounts to foreign use of U.S. IP without paying the owner what it is worth. These illegal technology thefts have become means of displacing large swaths of the U.S. industrial base

since the 1980s. Mandatory joint ventures with local firms force U.S. companies to share IP and R&D with the foreign partner. Requiring that R&D or manufacturing facilities be built in-country and staffed with local employees in order to serve the local market is another successful stratagem to acquire technology. Also, requiring that a certain proportion of component parts come from domestic makers or imposing quotas for export of goods from the country are typical expropriatory schemes. China stands among the most notable practitioners of expropriation for granting market access.

Licensing restrictions imposed on U.S. companies in the 1980s were "becoming increasingly . . . onerous and discriminatory," and they continue today. License agreements, for instance, face unreasonably low caps on royalty rates or short periods to collect royalties. Some countries

Foreign Expropriation of IP

Through various schemes, many foreign countries expropriate U.S.-based intellectual property as a means of forcible technology transfer or effectively imposing government price controls. Here are examples from today and from the Young Commission.

- “China imposes requirements that U.S. firms develop their IP in China or transfer their IP to Chinese entities as a condition to accessing the Chinese market. China also requires that mandatory adverse terms be applied to foreign IP licensors, and requires that U.S. firms localize research and development activities.” (USTR, Special 301 Report, 2017)
- Canadian courts apply a higher standard for biopharmaceutical patent “utility” than NAFTA allows; Canada has not invalidated any patent for anything besides pharmaceuticals since 2005 for lack of utility. (Inside U.S. Trade, 2017)
- Mexico provides little-to-no notice when generic medicines enter the market, inconsistent with NAFTA rules, making it difficult for brands to obtain an injunction and hampering patent enforcement. (Inside U.S. Trade, 2017)
- “Costa Rica amended its patent law in 1983 to permit the government to nullify a patent if the technology and know-how it protects are determined to be in the public interest.” (Young Commission, 1985)
- “[T]he Dominican Republic does not allow payment of royalties to an enterprise in which its nationals own less than 51 percent . . .” (Young Commission, 1985)
- “Yugoslavia recently reduced the patent term for pharmaceuticals to only 7 years, extendable for another 7 if the patent holder ‘works’ the invention [i.e., manufactures in country] . . .” (Young Commission, 1985)
- “In Canada, the Philippines, Israel, and India, for example, pharmaceutical patents are subject to compulsory licensing on demand, entirely apart from failure to work the patent.” (Young Commission, 1985)

(Sources: U.S. Trade Representative, Young Commission, Inside U.S. Trade)

have double standards in law or in practice, one for domestic companies and a less favorable one for foreign companies.

U.S. companies confront what the U.S. Chamber calls “a growing number of regulatory and procedural barriers to [patent] licensing in China,” including requiring government approval of agreements, indemnification of Chinese licensees, and signing away product improvements to Chinese licensees. Several nations provide exceedingly short patent terms or limit some products such as chemicals and pharmaceuticals to a process patent. Further, proving infringement in these countries is more difficult.

Compulsory licensing requirements “amount to expropriation of the patentee’s property rights without due compensation,” the RD&M Committee said. Compulsory licensing may force a patent owner to do business with an entity he would not otherwise engage or to accept terms, fees, and conditions otherwise unacceptable. Such demands strip one of the right to exclude and, by political means, reduce the yield of fruits from one’s labor.

Foreign governments employ yet another set of tools to diminish U.S. industrial competitiveness. Many competitor nations have adopted patent and antitrust laws, signed trade agreements having IP provisions, and the like, since the 1980s. Howev-

er, many have weaponized these policies. The guise of “competition” becomes a tool for intensive government intervention in the marketplace, including the regulation of price.

“The most effective solution: Insistence on reciprocal trade practices and protection of U.S. IP.”

Law Professor Richard Epstein wrote that Chinese “antitrust enforcement practices are inconsistent with the rule of law. Its legal system invites arbitrary and differential enforcement of antimonopoly standards . . . [such that] *any* and *all* price movements could be associated with some violation of” China’s antitrust law (emphasis in original). This law

contains special rules for state-owned firms and provides latitude for launching anticompetition investigations against major foreign corporations.

Foreign officials parrot U.S. antitrust regulators' actions and words as a launching pad to attack IP rights. For example, the FTC's Ohlhausen heard a Chinese "presenter [reason] that the FTC's decision in the Google SEPs matter meant that an 'unreasonable' refusal to grant a license for a standard essential patent to a competitor should constitute monopolization under the essential facilities doctrine. The remedy, he implied, should be compulsory licensing (presumably on favorable terms) because that would be the best way to facilitate competition among the licensees."

Further, South Korea has used its competition laws to promote domestic champion

Samsung by attacking American SEP companies' property rights. South Korea, Taiwan, and others deny U.S. firms due process by denying advance notice, access to evidence, and witness cross-examination. They display a profound lack of transparency, appearing to arrive at predetermined outcomes instead of rendering honest rulings. South Korea's "extraterritorial remedies" impose patent license price restrictions not only within its borders but also worldwide — a blatant assault on property rights, property values, and national sovereignty.

What's The Harm?

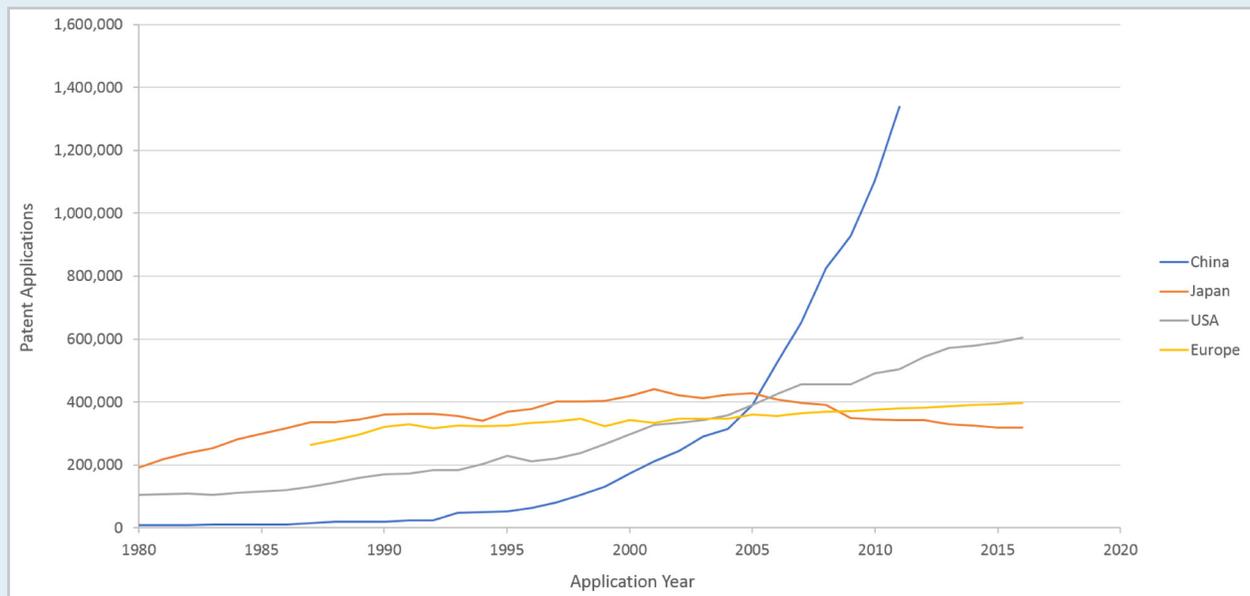
With technological innovation the cornerstone of America's industrial competitiveness, safeguarding the private property rights incentive to endeavor in technological innovation stands

paramount. The conjunction of robust, secure patent rights and a nation's industrial competitiveness is irrefutable. As Stephen Haber put it, "there are no wealthy countries with weak patent rights, and there are no poor countries with strong patent rights." Failing to secure U.S. IP rights leaves the United States at a severe commercial disadvantage and risks its future.

A weakened patent system and diminished property rights adversely affect our industrial competitiveness, thus disincentivizing invention. Less inventing and patenting reduces America's technological edge. Losing one's technological edge reduces industrial competitiveness.

Secure patent rights have produced tremendous benefits for the United States, including economically and industrially. Their loss creates uncertainty over pri-

Figure 6: Number of Patents, U.S., Europe, Japan, China, 1980-2016



(Source: World Intellectual Property Organization)

vate property rights, even beyond intellectual property. Insecure property rights in one’s inventions reduces the ability of the patent owner to exploit the exclusivity a patent is supposed to give.

If an inventor cannot sell or license his patent to a manufacturer without confidence that the IP rights are meaningful and enforceable, it not only diminishes the ability to flourish and enjoy the full fruits of one’s labor, but also reduces the prospects of attracting capital investment. A patent represents an intangible asset, but if the asset can’t be depended on to make a return on investment or provides only a fraction of a return, this situation raises the risk of attempting its commercialization. The higher the risk, the fewer the investment options. Or, for established corporations, the cost of capital

formation — e.g., interest rates — is higher.

Over time, these adverse effects will include losses of U.S. industrial capacity and variety. Lower domestic manufacturing capacity has spillover harms, including the shrinking of service industries that support plants, such as maintenance and repair crews, security services, and restaurants surrounding the plants — in addition to services within plant communities, such as tax preparers and other Main Street small businesses. U.S. manufacturing employment shrunk by a third from 1989 to 2014. A popular myth is that these jobs were replaced by automation. But over 60,000 U.S. manufacturing establishments have gone out of business in the past 20 years. They didn’t go bankrupt because their new robots failed to be productive.

“There are no wealthy countries with weak patent rights, and there are no poor countries with strong patent rights.”
— Stephen Haber

Figure 7: Number and Percent of Patents Granted to Individual Inventors (1970-2015)

Year	U.S. Patent Grants	Granted to Individuals			Percent to Individuals		
		Total	Foreign	U.S.	Total	Foreign	U.S.
1965	66,647	16,062	2,999	13,063	24.1%	4.5%	19.6%
1970	67,964	13,402	3,265	10,137	19.7%	4.8%	14.9%
1975	76,810	15,467	4,286	11,181	20.1%	5.5%	14.6%
1980	66,170	13,811	3,857	9,954	20.8%	5.8%	15.0%
1985	77,245	12,892	3,632	9,260	16.7%	4.7%	12.0%
1990	99,077	17,314	4,774	12,540	17.4%	4.8%	12.6%
1995	113,834	17,423	4,538	12,885	15.3%	4.0%	11.3%
2000	175,979	22,396	6,267	16,129	12.7%	3.5%	9.2%
2005	157,718	14,729	4,371	10,358	9.3%	2.8%	6.5%
2010	244,341	16,605	4,593	12,012	6.8%	1.9%	4.9%
2015	325,979	18,899	5,256	13,643	5.8%	1.6%	4.2%

(Source: U.S. Patent Statistics Chart, Calendar Years 1963 – 2015, USPTO)

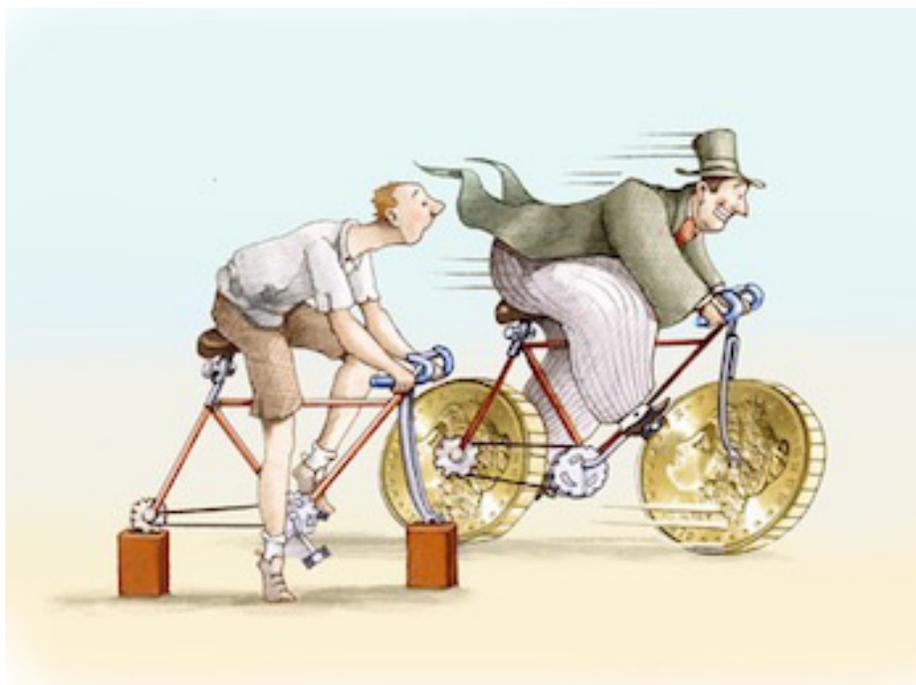
As the Young Commission documented, losing our industrial competitiveness translated into reduced U.S. economic growth, including jobs, real wages, and loss of balance in trade. Landes explained a former industrial leader's decline: "Yet Britain clearly has not declined in a material sense. It is richer today than a hundred years ago. To be sure, entire branches have shriveled." But Britain "has suffered *relative* decline: other countries, once poorer, have passed it by and become richer" (emphasis in original). In terms of industrial competitiveness, this phenomenon represents multiple other teams scoring more points than Britain, though Britain has added points to its score. This is why the Young Commission was empowered — to sound the alarm as the United States experienced the same relative competitive decline.

A final kind of adverse effect from weakened patent rights and values is the threat posed to national security. The RD&M Committee called our technology "our most valuable industrial resource." In security terms, "The security of the United States, both military and strategic, depends on" maintaining the industrial capability domestically to produce critical defense technology and materiel. As well, with the proliferation of computer and software applications, proprietary and sensitive data become subject to espionage and hacking. A 2017 U.S.-China Business Council survey found 94 percent of mem-

bers concerned about Chinese IP protection, 84 percent concerned with China's cybersecurity, data, and information technology policies, and more than half worried about Chinese cross-border data flow restrictions.

Mandatory technology transfer in effect gives foreign firms very favorable rates for use of U.S. IP and greater access to competitively sensitive information, know-how, and trade secrets. Such transfers put the other country in an advantageous position to overtake U.S. industrial progress. In China and other nations with government ownership of or intimate ties with quasiprivate businesses, disclosure of such vital information exposes American companies to lost competitiveness and America to security vulnerabilities. Loss of market dominance through multiple Lilliputian fetters costs these firms profits and the U.S. government tax revenues. Lost competitiveness, reflected in such measures as trade deficits, reduces America's resources to maintain military and security operations.

Such loss of patent rights and the consequences leading to economic and security vulnerabilities present a potential existential threat to the United States. This situation should remind us of Benjamin Franklin's observation about losing the battle and thence the kingdom "all for the want of a horseshoe nail."



CONCLUSION

This paper has examined similar situations of eroding industrial competitiveness that faced President Reagan and now face President Trump. Both sets of circumstances left countless middle-class Americans behind. A vital element of reviving America's industrial competitiveness necessarily is ensuring a private property interest in the output of one's honest work — whether laboring in a research laboratory, on a factory floor, in a business office, or in a garage. Protecting intellectual property promotes competitiveness in cutting-edge technological fields and refines currently produced goods. The critical conditions for restoring U.S. industrial competitiveness are free and fair markets, reciprocity, transparency, and accountability.

The definition of industrial competitiveness that Reagan's competitiveness commission used remains the same today: This nation producing commercially viable, valuable goods and services while preserving our standard of living. The key to industrial success is in the foundation of property rights and the resulting industriousness that bears fruit from which the owner, as well as allied businesses and consumers, benefits. Our country has from time to time lost sight of this formula, which rests upon America's founding principles and core values.

C.S. Lewis said, "Progress means getting nearer to the place you want to be. And if you have taken a wrong turning, then to go forward does not get you any nearer. If you are on the wrong road, progress means doing an about-turn and walking back to the right road; and in that case the man who turns back soonest is the most progressive man."

To make progress on U.S. industrial competitiveness, then, a return to fundamental principles is in order. This path involves commitments domestically and abroad.

Domestically, this country must secure property rights — intellectual property rights in particular — while promoting free enterprise and rewarding savings and investment. Secure, enforceable property rights enable enterprise and ingenuity, which translate into new discoveries, inventions, and creations, and lead to business formation, industrial output, desired products, and wealth creation — all of which results in family- and community-sustaining jobs. Encouraging thrift among the American people empowers them through self-sufficiency and makes more capital available for productive industrial actors.

Abroad, the United States must demand respect for Americans' private property rights, no matter if the owner is an individual, a corporation, a consortium, or a university. To do so, this country must impose a fairness and reciprocity test as a nonnegotiable condition for access to the U.S. market. We must require U.S. officials, including the State Department, the U.S. Trade Representative, the Federal Trade Commission, the Department of Justice Antitrust Division, and the Department of Commerce, to "speak softly and carry a big stick" with vigor on behalf of American companies seeking fair treatment and access to foreign markets — or on behalf of those American companies facing unfair treatment by a foreign government or cartel so as to encumber the U.S. firm's expansion or expropriate its IP.

Governmental advocacy for the principles of renewed industrial competitiveness or for the participants attempting to employ them in international commerce is critical to our country's economic future and is far too important to neglect or let lapse depending on the vagaries of which particular administration is in office. National competitiveness goals are long-term and transcend political parties or individual presidents.

RECOMMENDATIONS

Convene a presidential commission on industrial competitiveness for the 21st century. Leaders from IP sectors key to industrial competitiveness will identify ways to restore the U.S. industrial base, strengthen property rights, and foster U.S. technological/industrial leadership.

Remedy judicial rulings that have weakened patent rights and harmed patent values. Reverse cases that unduly limit patentable subject matter, including *Alice*, *Myriad*, and *Mayo*; reverse *eBay* to restore injunctive relief; remedy *Lexmark* regarding patent exhaustion.

Reform patent reexamination and validity challenges by restoring the right to a jury trial in federal court. Repeal the PTAB and administrative postgrant proceedings.

Amend antitrust laws so as to defer to the exclusivity a patent confers. Bar antitrust treatment when a U.S. patent is being commercialized, including licensing.

Reject “public rights” theory. Affirm that a patent secures private property rights of limited duration, including for licensing as equally practicing a patent.

Ensure that federal departments and agencies do not undermine the Bayh-Dole Act. Restore high-level oversight at the Department of Commerce.

Strengthen and update the “notice and takedown” process of the Digital Millennium Copyright Act to better protect creative works online. Require Internet platforms to keep infringing content from re-appearing on their services once notified of its existence and encourage them to work more collaboratively with creative rights holders to reduce massive online IP infringement.

Require reciprocal trade practices. Set unilateral sanctions and deny access to U.S. markets by a foreign nation that restricts U.S. firms’ access to its markets, subsidizes or otherwise favors its “national champions,” manipulates currency, expropriates or infringes American IP.

Require U.S. agencies closely to monitor, intervene, warn against, and sanction foreign abuse of “competition” laws and proceedings, and other unfair trade practices. Have U.S. officials present at regulatory, judicial, and other proceedings against U.S. firms; intervene in proceedings when unfair or biased treatment is perpetrated against a U.S. company.

Establish emergency expedited procedures at the U.S. International Trade Commission to enable individual U.S. companies to block foreign firms or goods from entering the United States. Presume economic harm to the American company; if goods have already entered the U.S. stream of commerce, impose treble damages against the foreign firm, to be paid to the harmed U.S. firm before restoring the foreign firm’s access to U.S. markets.

Streamline regulations and reform regulatory processes. Require adherence to the Administrative Procedure Act; allow property owners to continue operations while regulatory legal matters are proceeding; end *Chevron* deference.

Provide a simple, inexpensive means for the private acquisition or licensing of public lands or rights to develop or extract natural resources.

Reward personal and corporate savings and investment through the tax code.

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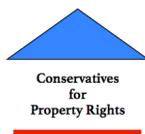
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NOTES



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