

## An Open Letter: Innovation Is Thriving



The High Tech Inventors Alliance (HTIA<sup>1</sup>), comprised of highly innovative companies that collectively spent \$63 billion last year in research and development (R&D), promotes technological advances and innovation that are so essential to our economy. We also are significant patent holders, collectively owning hundreds of thousands of patents. For these reasons, we felt the need to respond to recent claims from some commentators that the patent reforms spurred by the U.S.

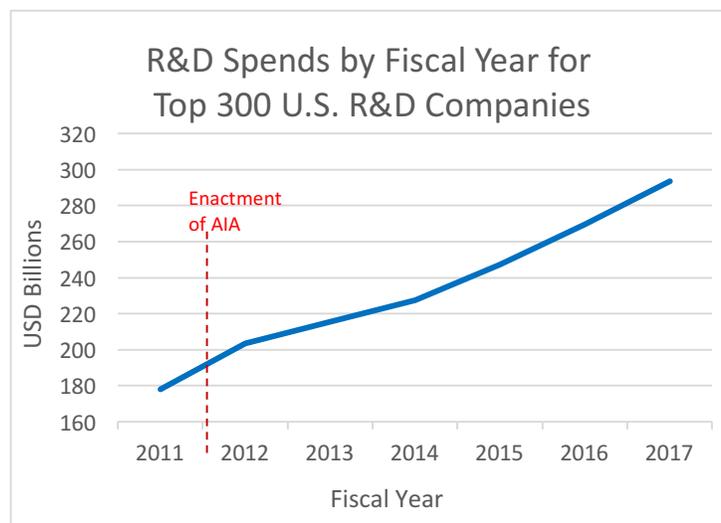
Congress and the U.S. Supreme Court over the last decade supposedly have harmed American innovation. These criticisms of our nation's highest court and our elected representatives simply are devoid of evidentiary support. Hyperbolic hand waving is no substitute for empirical data, and the data shows that innovation is thriving in the U.S.

Congress enacted the America Invents Act (AIA) in late 2011. The AIA's inter partes review (IPR) process, which became effective in 2012, provides a vital means to challenge the thicket of erroneously granted patents that slow progress by stifling the inventors creating new technologies. And in 2014, the Supreme Court issued its *Alice Corp. v. CLS Bank Int'l* decision to confirm that patents can be issued only for actual inventions and not for abstract ideas. These changes are helping clear out the invalid patents that have hampered America's innovation engine for far too long. America's inventors now are being freed up to do what they do best—invent.

Some critics claim, however, that the recent patent reforms have brought about a parade of horrors ranging from decreased innovation,<sup>2</sup> to depressed values of patents, to lower rates of R&D and venture capital investment, to fewer startups,<sup>3</sup> and to increased uncertainty in the patent system.<sup>4</sup> They argue, for example, that the *Alice* decision has undercut innovation in the software and internet industries<sup>5</sup> and is “sending a destructive message” that “[t]he United States is no longer a hospitable place to invest in heavy-weight software innovation.”<sup>6</sup>

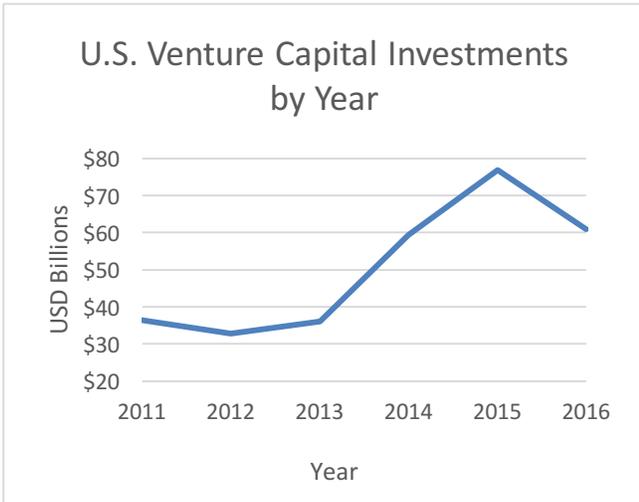
But the facts tell a completely different story. Innovation has thrived—indeed exploded—as measured by every significant metric. Research and development spending, venture capital investment, startup activity, and patent applications each have increased dramatically, while the United States Gross Domestic Product (GDP) has grown by a healthy 9% to the highest level in history. In the past five years, the United States climbed from 10<sup>th</sup> to 4<sup>th</sup> in the rankings of the *Global Innovation Index*, which measures the innovation performance of 127 countries.<sup>7</sup> The U.S. Chamber of Commerce ranks the United States first as the overall most innovative nation.<sup>8</sup> Consider the following statistics:

First, *R&D spending in the United States has risen significantly* since 2012. The 300 U.S. companies with the highest R&D



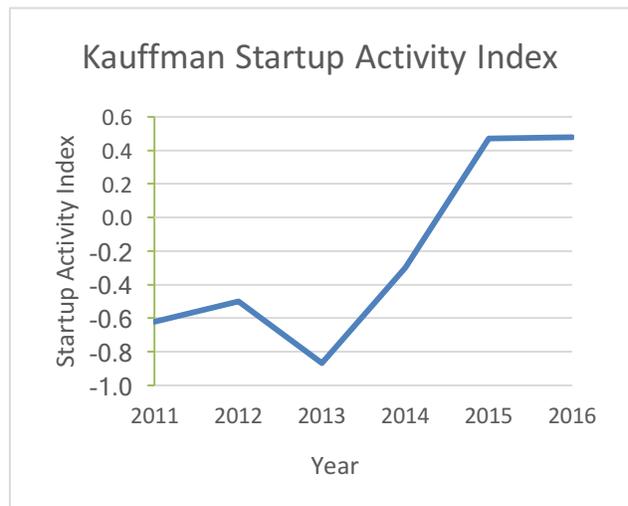
spends—which includes companies in high tech, pharmaceutical, automobile, and aerospace industries—collectively invested \$293.4 billion in R&D in FY 2017<sup>9</sup>—a **44% increase** from 2012 levels.<sup>10</sup>

High tech companies spend significantly on R&D, comprising four of the top five spots. In the year following the *Alice* decision, R&D investments in the software and internet industry **grew faster than any other industry**.<sup>11</sup>

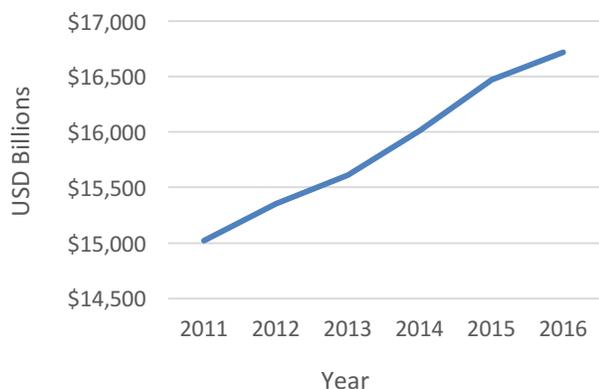


Second, **venture capital funding in the United States increased dramatically** since 2012. The amount of venture capital investments has risen consistently over the last 15 years and nearly doubled from 2012 to 2016, from \$32.8 billion to \$61 billion—an **86% increase**.<sup>12</sup> Venture capital funding for software and internet companies in the three years following the *Alice* decision increased by 88% compared to the three years prior.<sup>13</sup>

Third, **startup activity also has accelerated sharply**. The Kauffman Index of Startup Activity shows a **194% increase** in overall startup activity from 2012 through 2016.<sup>14</sup>

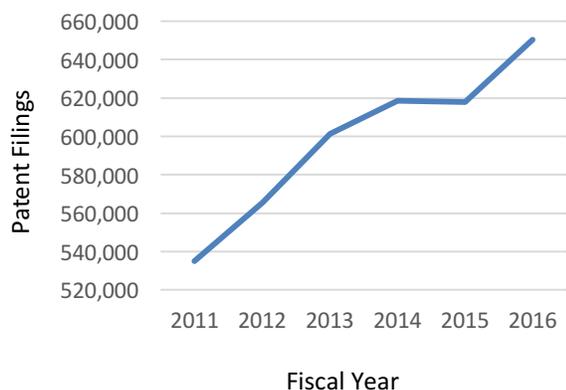


U.S. Real GDP by Year



Fourth, U.S. economic output as measured by the *Gross Domestic Product has climbed sharply* since 2012.<sup>15</sup> From 2012 to 2016, the real GDP for the U.S. *grew approximately 9%*.<sup>16</sup>

U.S. Patent Filings by Fiscal Year



Fifth, the *number of U.S. patent filings continues to rise*. From FY 2012 to 2016, filings increased 15%. In 2016, more than 650,000 applications were filed, and over 334,000 patents were issued—the highest number ever on both counts.<sup>17</sup> While levels of patenting do not necessarily provide a measure of meaningful innovation, this data nonetheless shows that many inventors perceive the U.S. patent system as effective because they continue to invest in patenting at record levels.

As a result of a steady increase in innovation in the U.S., there has been an explosion in revolutionary technologies. Over the past few years, we have seen the development of cloud computing, self-driving cars, drones, virtual and augmented reality, 3D printing, cryptocurrency, biometric security, Internet-of-Things, artificial intelligence, natural language processing, genomics, robotics, blockchain, and much more. In the past, these emerging technologies could have been more easily blocked by antiquated claims of patents from different fields, whose claims were stretched to abstractness in an attempt to portray relevance to these new industries. But the IPR procedure and the *Alice* decision have paved the path for these revolutionary technologies by providing inventors with a streamlined mechanism to challenge the weak patents that all too frequently stifled their innovation. Such examples include patents that cover a system for selecting a TV channel<sup>18</sup> or a system for looking up a name associated with a phone number,<sup>19</sup> which are the types of patents that have previously been used to chill innovation through long and costly litigation.

In sum, the data clearly contradicts any claim that patent reform has harmed innovation. On the contrary, innovation in the U.S. is flourishing more than ever following the introduction of the IPR

procedure and the Supreme Court's *Alice* decision. We are only now just beginning to realize the substantial benefits of our new focus on patent quality.

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<sup>1</sup> See [www.hightechinventors.com](http://www.hightechinventors.com).

<sup>2</sup> July 13, 2017 Statement of Judge Paul R. Michel Before the Subcommittee on Courts, Intellectual Property, and the Internet.

<sup>3</sup> *Id.*; see also Charles Fain Lehman, Federal Panel Destroys U.S. Inventors' Property Rights, Oct. 28, 2017 (available at [freebeacon.com/issues/federal-panel-destroys-u-s-inventors-property-right](http://freebeacon.com/issues/federal-panel-destroys-u-s-inventors-property-right)).

<sup>4</sup> July 13, 2017 Statement of Judge Paul R. Michel Before the Subcommittee on Courts, Intellectual Property, and the Internet; see also Sept. 12, 2017 Supplemental Statement of Judge Paul R. Michel Before the Subcommittee on Courts, Intellectual Property, and the Internet; see also Alden Abbott, Key Patent Reforms Needed to Spur U.S. Innovation, Sept. 29, 2017 (available at <http://www.heritage.org/courts/report/key-patent-reforms-needed-spur-us-innovation>); see also Richard Epstein, The Supreme Court Tackles Patent Reform, Oct. 28 2017 (available at <https://fedsoc-cms-public.s3.amazonaws.com/Blog/The%20Supreme%20Court%20Tackles%20Patent%20Reform%20-%20The%20Federalist%20Society.pdf>).

<sup>5</sup> Kappos, The Terrible Twos: The State of Innovation Two Years After *Alice v. CLS Bank*, Aug. 25, 2016.

<sup>6</sup> *Id.*

<sup>7</sup> The Global Innovation Index 2011-2017 Reports (available at <https://www.globalinnovationindex.org/about-gii#framework>).

<sup>8</sup> "The Roots of Innovation," U.S. Chamber International IP Index, February 2017 (available at [http://www.theglobalipcenter.com/wp-content/uploads/2017/02/GIPC\\_IP\\_Index\\_2017\\_Report.pdf](http://www.theglobalipcenter.com/wp-content/uploads/2017/02/GIPC_IP_Index_2017_Report.pdf)). This U.S. Chamber of Commerce ranking undercuts its recent downgrade of the U.S. patent system.

<sup>9</sup> Annual R&D spends are reported for fiscal years ending June 30. See PwC Global Innovation 1000 Methodology (available at <https://www.strategyand.pwc.com/innovation1000#Methodology>).

<sup>10</sup> PwC 2017 Global Innovation 1000 Study.

<sup>11</sup> PwC 2015 Global Innovation 1000 Fact Pack at 14 (available at <https://www.strategyand.pwc.com/media/file/2015-Global-Innovation-1000-Fact-Pack.pdf>); see also Software-as-a-Catalyst, Oct. 25 2016 (available at: <https://www.strategy-business.com/feature/Software-as-a-Catalyst?gko=7a1a>).

<sup>12</sup> PwC / CBInsights MoneyTree™ data explorer (available at <http://www.pwc.com/moneytree>).

<sup>13</sup> PwC / CBInsights MoneyTree™ data explorer (available at <http://www.pwc.com/moneytree>). U.S. VC funding for internet and software companies totaled \$55.13B for Q2 2011-Q2 2014. Funding for Q3 2014-Q3 2017 totaled \$104.22B.

<sup>14</sup> Kauffman Index of Startup Activity: National Trends (available at <http://www.kauffman.org/kauffman-index/reporting/startup-activity>).

<sup>15</sup> Bureau of Economic Analysis data (available at <https://www.bea.gov/national/xls/gdplev.xls>).

<sup>16</sup> *Id.*

<sup>17</sup> U.S. Patent and Trademark Office, Performance and Accountability Report for Fiscal Year 2016, 178-79, <https://www.uspto.gov/sites/default/files/documents/USPTOFY16PAR.pdf>.

<sup>18</sup> *Technology Development and Licensing, LLC v. Gen. Instrument Corp.*, 2016 WL 7104253, No. 07-cv-4512 (N.D. Ill. Dec. 6, 2016).

<sup>19</sup> *Whitepages, Inc. v. Isaacs*, 2016 WL 3971270, No. 16-cv-00175 (N.D. Cal. July 25, 2016).