

Intellectual Property and the U.S. Economy: 2016 Update

Economics & Statistics Administration

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Executive Summary

Innovation and creative endeavors are indispensable elements that drive economic growth and sustain the competitive edge of the U.S. economy. The last century recorded unprecedented improvements in the health, economic well-being, and overall quality of life for the entire U.S. population.¹ As the world leader in innovation, U.S. companies have relied on intellectual property (IP) as one of the leading tools with which such advances were promoted and realized. Patents, trademarks, and copyrights are the principal means for establishing ownership rights to the creations, inventions, and brands that can be used to generate tangible economic benefits to their owner.

In 2012, the Department of Commerce issued a report titled *Intellectual Property and the U.S. Economy: Industries in Focus* (hereafter, the 2012 report). The report identified the industries that rely most heavily on patents, trademarks, or copyrights as IP-intensive and estimated their contribution to the U.S. economy. It generated considerable interest and energized other agencies and organizations to produce similar studies investigating the use and impact of IP across countries, industries, and firms.

This report builds on the 2012 version by providing an update on the impact of IP on our economy and a fresh look at the approach used to measure those results. The update continues to focus on measuring the intensity of IP use, and its persistent relationship to economic indicators such as employment, wages, and value added. While our methodology does not permit us to attribute those differences to IP alone, the results provide a useful benchmark. Furthermore, this and other studies together make clear that IP is a major part of a robust and growing economy.

Accordingly, in an effort to provide a more comprehensive analysis, this report also incorporates findings from other studies that target similar research questions but apply different methodologies. Overall, we find that IP-intensive industries continue to be an important and integral part of the U.S. economy and account for more jobs and a larger share of U.S. gross domestic product (GDP) in 2014 compared to what we observed for 2010, the latest figure available for the 2012 report. We discuss these and other results in more detail below.

¹ Gordon 2016.

Principal Findings

- IP-intensive industries continue to be a major, integral and growing part of the U.S. economy.
- This report identifies 81 industries (from among 313 total) as IP-intensive. These IP-intensive industries directly accounted for 27.9 million jobs in 2014, up 0.8 million from 2010.
- Trademark-intensive industries are the largest in number and contribute the most employment with 23.7 million jobs in 2014 (up from 22.6 million in 2010). Copyright-intensive industries supplied 5.6 million jobs (compared to 5.1 million in 2010) followed by patent-intensive industries with 3.9 million jobs (3.8 million in 2010).
- While jobs in IP-intensive industries increased between 2010 and 2014, non-IP-intensive jobs grew at a slightly faster pace. Consequently, the proportion of total employment in IP-intensive industries declined slightly to 18.2 percent (from 18.8 percent in 2010).
- In contrast, the value added by IP-intensive industries increased substantially in both total amount and GDP share between 2010 and 2014. IP-intensive industries accounted for \$6.6 trillion in value added in 2014, up more than \$1.5 trillion (30 percent) from \$5.06 trillion in 2010. Accordingly, the share of total U.S. GDP attributable to IP-intensive industries increased from 34.8 percent in 2010 to 38.2 percent in 2014.
- While IP-intensive industries directly accounted for 27.9 million jobs either on their payrolls or under contract in 2014, they also indirectly supported 17.6 million more supply chain jobs throughout the economy. In total, IP-intensive industries directly and indirectly supported 45.5 million jobs, about 30 percent of all employment.
- Private wage and salary workers in IP-intensive industries continue to earn significantly more than those in non-IP-intensive industries. In 2014, workers in IP-intensive industries earned an average weekly wage of \$1,312, 46 percent higher than the \$896 average weekly wages in non-IP-intensive industries in the private sector. This wage premium has largely grown over time from 22 percent in 1990 to 42 percent in 2010 and 46 percent in 2014. Patent- and copyright-intensive industries have seen particularly fast wage growth in recent years, with the wage premium reaching 74 percent and 90 percent, respectively, in 2014.
- The educational gap between workers in IP-intensive and other industries observed in 2010 virtually disappeared by 2015. The share of workers in IP-intensive industries with a bachelor's degree or higher fell from 42.4 percent in 2010 to 39.8 percent in 2015, whereas that percentage increased from 34.2 percent to 38.9 percent for workers in non-IP-intensive industries.
- Revenue specific to the licensing of IP rights totaled \$115.2 billion in 2012, with 28 industries deriving revenues from licensing.

- Total merchandise exports of IP-intensive industries increased to \$842 billion in 2014 from \$775 billion in 2010. However, because non-IP-intensive industries' exports increased at a faster pace, the share of total merchandise exports from IP-intensive industries declined to 52 percent in 2014 from 60 percent in 2010.
- Exports of service-providing IP-intensive industries totaled about \$81 billion in 2012 and accounted for approximately 12.3 percent of total U.S. private services exported in 2012.

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