

IP and the US Economy: Some economic highlights

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What's ahead

- The Office of the Chief Economist (OCE) research areas
- IP-intensive industries
- Women's participation
- Standards of evidence (causal analysis)

OCE research areas: patents

1. Impact of patents on innovation and performance
2. Implications of laws and policies related to patents
3. Evidence building for USPTO initiatives

Studies of IP-intensive industries

IP POLICY AND INTERNATIONAL AFFAIRS
OFFICE OF THE CHIEF ECONOMIST
Economic Note

March 2023 No. 103

Employment in IP-intensive industries during the COVID-19 pandemic and beyond

Introduction
Recent evidence suggests that innovation in the United States was surprisingly resilient to the historic downturn in economic activity that took place when the COVID-19 pandemic began in March 2020. This resilience was particularly evident in industries that used intellectual property (IP) intensively. For instance, companies in pharmaceutical industries suffered a smaller output loss following the initial COVID-19 shock than did those in non-IP-intensive industries. This Economic Note documents whether employment in IP-intensive industries was also resilient to the COVID-19 pandemic, and explores differences based on the type of IP, such as patent-intensive versus copyright-intensive industries.

IP-intensive industries experienced fewer job losses
Monthly data from January 2020 through December 2021 show that U.S. employment was hit hardest in the months immediately following the beginning of the pandemic. By April 2020, overall employment levels were 5% lower than in January. However, jobs returned relatively quickly—the initial

employment deficit shrank to 2% by the end of 2020. By the end of 2021, private sector employment increased slightly over its January 2020 level.

However, the overall private sector employment numbers hide interesting differences between industries. Figure 1 shows that IP-intensive industries generally suffered fewer job losses (as a share of employment) than non-IP-intensive industries. Due in part to the relatively high share of skilled workers employed in utility systems and drug-patent-intensive industries, these groups experienced relatively first-year-of-the-pandemic trademark-intensive industries but still less than non-IP-intensive industries.

The pandemic employment industries was notably different from the pandemic, copyright-intensive industries that were highly IP-intensive industries, but less

Figure 1: Monthly employment levels for IP- and non-IP-intensive industries (percent change compared to January 2020)

Source: USPTO calculations using data from U.S. Bureau of Labor Statistics, Quarterly Census of Employment and Wages.

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IP POLICY AND INTERNATIONAL AFFAIRS
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June 2022

Exports and imports by U.S. IP-intensive industries

Introduction
The USPTO recently released intellectual property and the U.S. economy. Third edition, which assessed the use of intellectual property (IP) across U.S. industries through 2009. The report focused on the contributions to output and employment by industries that most intensively used IP (IP-intensive industries). It also highlighted the characteristics of jobs and workers in these industries. In this Economic Note, we complement those results with a look at these industries' foreign trade activities.

Commodity exports and imports
In 2019, the 103 industries exporting industries, 76 were industries accounted for \$1.3 U.S. commodity exports in 20 top exporting industries were intellectual property. By IP-intensive industries that intensively used IP for 78% of total commodity IP-intensive industries were

Figure 1: Import and export values of the top commodity exporters among IP-intensive industries

Source: USPTO calculations using data from the U.S. Census Bureau's Foreign Trade Division.

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Intellectual property and the U.S. economy: Third edition

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INTELLECTUAL PROPERTY AND THE U.S. ECONOMY: INDUSTRIES IN FOCUS

PREPARED BY
ECONOMICS AND STATISTICS ADMINISTRATION
AND
UNITED STATES PATENT AND TRADEMARK OFFICE

MARCH 2012

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

Economics & Statistics Administration
Under Secretary
Doris of the Under Secretary
for Economic Affairs

U.S. Patent and Trademark Office
Michelle K. Lee
Under Secretary of Commerce for Intellectual Property and Director, U.S. Patent and Trademark Office

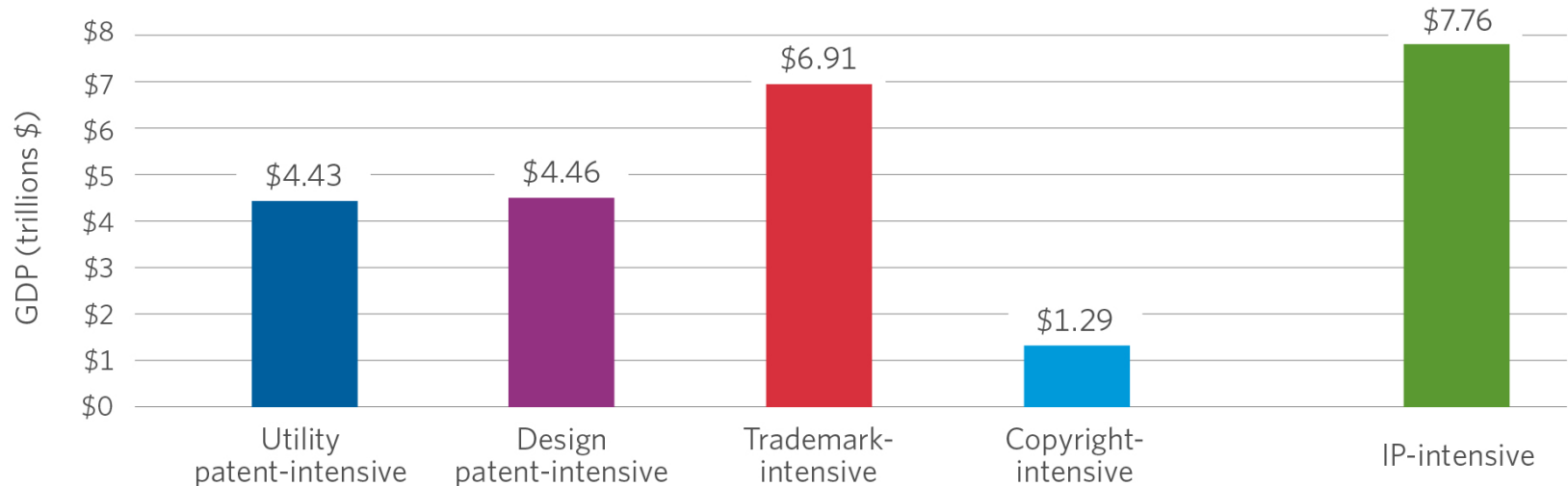
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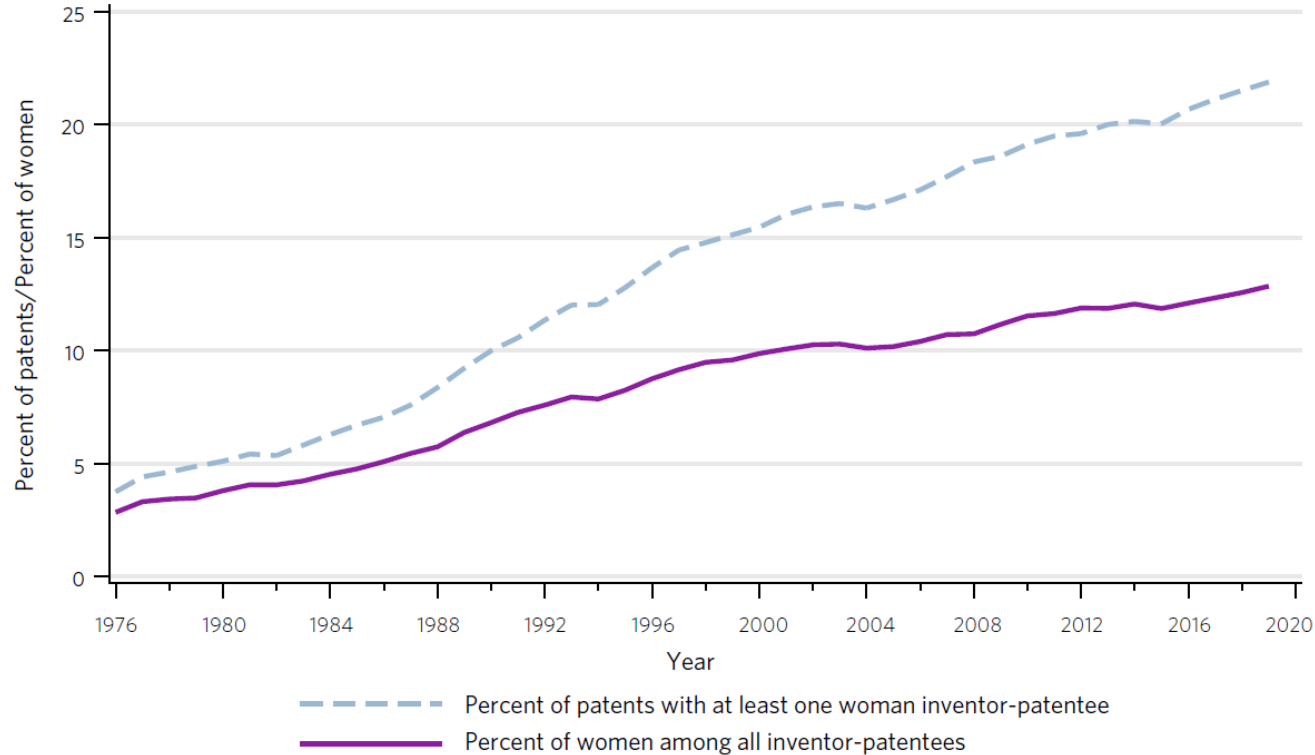
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IP-intensive industries accounted for significant economic output in 2019



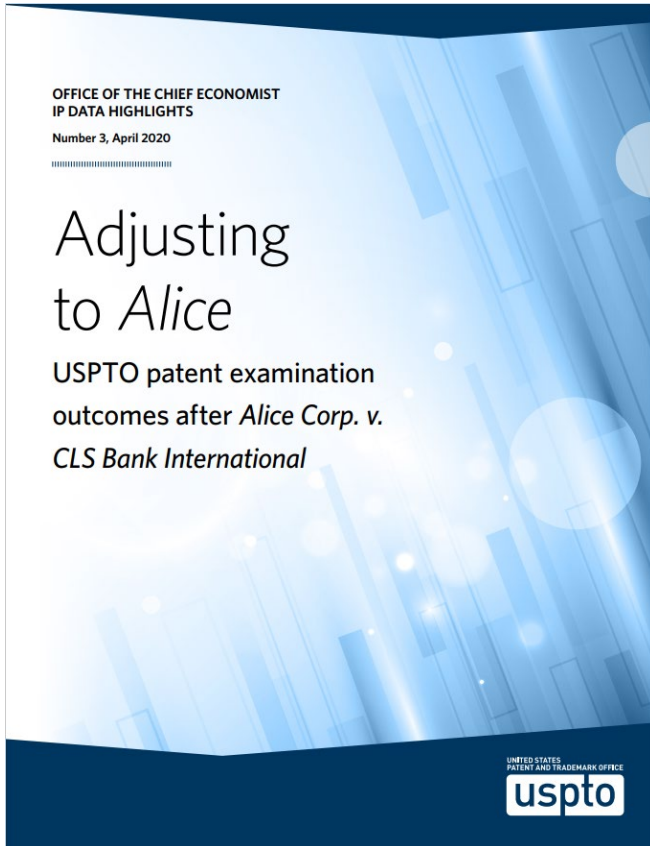
Women patent and invent more over time

Figure 1: Patenting and participation by U.S.-based women inventor-patentees, 1976-2019



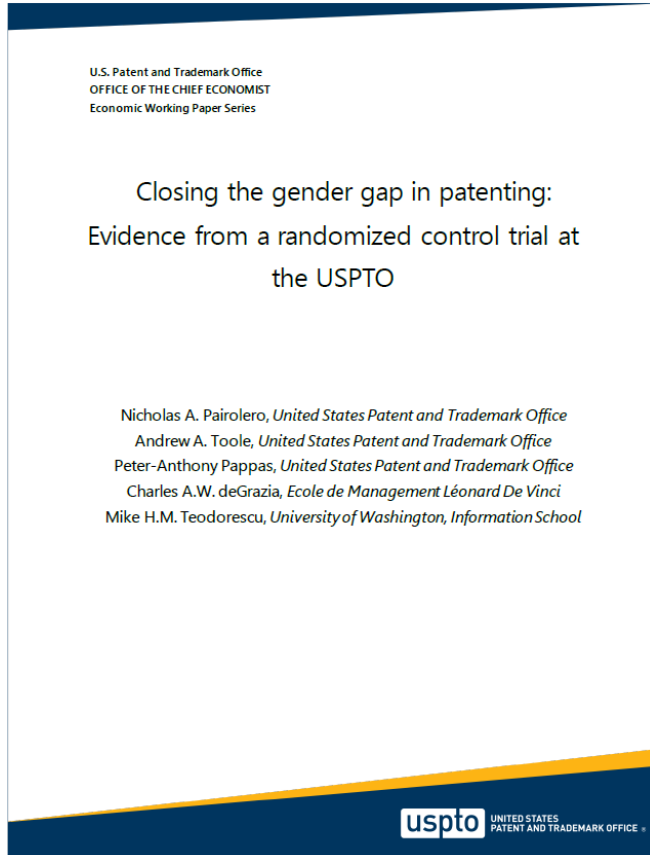
Source: Authors' analysis of PatentsView data, 1976-2019

Patent law: Alice vs CLS Bank



- A 31% increase in the likelihood of receiving a first action rejection in first 18 months.
- A 26% increase in uncertainty in patent examination in first 18 months.

The push for causal analysis



- Additional guidance and information improved the chances of receiving a patent for all pro se applicants, particularly for women inventors.
 - Men applicants had a 6.1 percentage point increase in their likelihood of receiving a patent.
 - For women, the chances of receiving a patent went up by 16.8 percentage points, nearly 11 percentage points more than for men.



Thank you!

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