NFAP POLICY BRIEF » MAY 2020

ANALYSIS OF EMPLOYMENT DATA FOR COMPUTER OCCUPATIONS

The unemployment rate for individuals in computer occupations declined from 3% in January 2020 to 2.8% in April 2020, according to an analysis of the Bureau of Labor Statistics' Current Population Survey by the National Foundation for American Policy (NFAP). The data raise questions about the Trump administration's ability to use the unemployment rate for computer professionals to justify the new restrictions being considered for H-1B visa holders and international students working on Optional Practical Training (OPT). There is another indicator that the demand for high-tech skills remains strong among employers in the U.S. labor market: During the 30-day period ending May 13, 2020, there were over 625,000 active job vacancy postings advertised online for jobs in common computer occupations, including those most common to H-1B visa holders, according to Emsi Job Posting Analytics.

Table 1
U.S. Unemployment Rate in Computer Occupations

OCCUPATIONS	JANUARY 2020	APRIL 2020
Computer Occupations	3.0%	2.8%
All Other Occupations	4.1%	15.0%

Source: National Foundation for American Policy estimates using Bureau of Labor Statistics' Current Population Survey, January 2020 and April 2020. Not seasonally adjusted. Computer occupations include Computer and information research scientist, Computer and information systems manager, Computer hardware engineer, Computer network architect, Computer programmer, Computer support specialist, Computer systems analyst, Database administrator and architect, Information security analyst, Electrical and electronics engineer, Network and computer systems administrator, Software developer, Software quality assurance analyst and tester, Web and digital interface designer and Web developer.

An April 22, 2020, presidential proclamation suspended the entry of most new immigrants for at least 60 days, although it is expected to last indefinitely, and asserted the reason for the proclamation was that "we must be mindful of the impact of foreign workers on the United States labor market, particularly in an environment of high domestic unemployment and depressed demand for labor."

The proclamation ordered a 30-day review to recommend additional measures on temporary visas: "Within 30 days of the effective date of this proclamation, the Secretary of Labor and the Secretary of Homeland Security, in consultation with the Secretary of State, shall review nonimmigrant programs and shall recommend to me other measures appropriate to stimulate the United States economy and ensure the prioritization, hiring, and employment of United States workers."

The National Foundation for American Policy analysis of the Bureau of Labor Statistics' Current Population Survey found U.S. professionals in computer occupations – in the same occupations as most H-1B visa holders – had a lower unemployment rate in April 2020 than in January 2020, a decline of about 7% or 0.2 percentage points. There are often fluctuations from month-to-month in employment numbers but the big picture is how individuals in computer occupations have fared compared to individuals in other occupations, reflecting the continued demand in the U.S. labor market for their technical skills and knowledge.

While the unemployment rate for professionals in computer occupations declined to 2.8% in April 2020, the unemployment rate for individuals in all other occupations increased to 15% in April 2020 (from 4.1% in January 2020).[1]

In the NFAP analysis of government unemployment rate data, the computer occupations track those listed in the H-1B "characteristics report" for FY 2019 published by U.S. Citizenship and Immigration Services (USCIS). According to the USCIS report, 66% of H-1B beneficiaries in FY 2019 were in computer-related occupations.[2] The computer occupations included in the NFAP analysis of Bureau of Labor Statistics data were Computer and information research scientists, Computer and information systems manager, Computer hardware engineer, Computer network architect, Computer programmer, Computer support specialist, Computer systems analyst, Database administrator and architect, Information security analyst, Electrical and electronics engineer, Network and computer systems administrator, Software developer, Software quality assurance analyst and tester, Web and digital interface designer and Web developer.

There are several likely explanations for why professionals in computer occupations fared much better in April 2020 than workers in other occupations. The skills in computer occupations are those that generally can be performed remotely, an important characteristic during the coronavirus pandemic, according to labor economist and NFAP Senior Fellow Mark Regets. He notes the skills in computer occupations remain in demand today and are going to be in even higher demand in the future as work continues to move online.

As of May 13, 2020, there were 625,702 active job vacancy postings advertised online in the previous 30-day period for jobs in the most common computer occupations that typically require at least a bachelor's degree, according to Emsi Job Posting Analytics, a company focused on economic and workforce development. (See Table 2.) This includes 258,607 active job vacancy postings for software developer (applications), 86,953 for network and computer system administrator, 81,460 for computer systems analyst, 54,570 for information security analyst, 33,507 for electrical engineer and 26,740 for software developer, systems software. "All job posting counts reflect unique postings that were active during the indicated time frame," which was April 14 to May 13, 2020.[3] These occupations track those eligible for H-1B visas, according to attorneys and Bureau of Labor Statistics data.

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[1] The unemployment rate was lower for both computer occupations and individuals in other occupations in April 2019 compared to January 2020.
[2] Table 8B, *Characteristics of H-1B Specialty Occupation Workers Fiscal Year 2019 Annual Report to Congress October 1, 2018 – September 30, 2019*, USCIS, March 5, 2020. NFAP included electrical and electronics engineers in the analysis of government unemployment rate data. Other occupations eligible for H-1Bs, such as accountants, appear in much lower numbers in the USCIS report.
[3] See https://www.economicmodeling.com/job-posting-dashboard/.

Table 2
Active Job Vacancy Postings in Computer Occupations (April 14 to May 13, 2020)

OCCUPATIONS	ACTIVE JOB VACANCY POSTINGS
Software Developer, Applications	258,607
Network and Computer System Administrator	86,953
Computer Systems Analyst	81,460
Information Security Analyst	54,570
Electrical Engineer	33,507
Software Developer, Systems Software	26,740
Computer Programmer	23,464
Database Administrator	17,447
Computer and Information Research Scientist	16,882
Electronics Engineer (except computer)	12,945
Computer Hardware Engineer	7,153
Computer Network Architect	5,974
TOTAL	**625,702**

Source: Emsi Job Posting Analytics; National Foundation for American Policy. According to Emsi, "All job posting counts reflect unique postings that were active during the indicated time frame," which was April 14 to May 13, 2020.

This does not mean everything is going well in the job market, even for those in high-tech occupations. According to Emsi, the active job vacancy postings for "all occupations" declined by 24% from 12 months ago (April 14 to May 13, 2019 vs. April 14 to May 13, 2020), and fell in computer occupations as well, though generally by much less. (See Table 3.) However, if the Trump administration is correct that the U.S. economy will improve in the coming months, then those figures also will get better. Technology companies most affected, such as Uber and Airbnb, offer services now less in demand due to consumer concerns and government policies related to the pandemic.

White House National Economic Council Director Larry Kudlow has supported the president's prediction of a quick recovery. "Let's use a free enterprise system, let's use incentives, let's reward success; that's the president's philosophy and I think that's going to be his policies," said Kudlow in a May 8, 2020, interview on Fox News. "And that's why the second half of this year should grow by 20 percent."[4] In a May 14, 2020, interview on Fox Business, the president "went on to predict that the third quarter of the fiscal year would be a 'transition quarter' for the economy. He then predicted that the U.S. would do well in the fourth quarter."[5]

[4] "Larry Kudlow: 2021 can be 'fabulous' economic recovery if Trump policies continue," *Fox News*, May 8, 2020.
[5] Emily Jacobs, "Trump says Democrats want economy to stay closed going into 2020 election," *New York Post*, May 14, 2020.

Economic research shows foreign-born individuals do not harm the labor market prospects of Americans. "H-1B visa holders do not adversely affect U.S. workers," according to a May 2020 National Foundation for American Policy study by Madeline Zavodny, formerly an economist at the Federal Reserve Bank of Atlanta (and Dallas) and a professor of economics at the University of North Florida (UNF) in Jacksonville. "On the contrary, the evidence points to the presence of H-1B visa holders being associated with lower unemployment rates and faster earnings growth among college graduates, including recent college graduates. Further, the results suggest that, if anything, being in a field with more H-1B visa holders makes it more likely that U.S.-born young college graduates work in a job closely related to their college major. The results here should give pause to policymakers considering imposing additional restrictions on the H-1B program. There is little reason to think doing so will help American workers."[6]

Table 3
Change in Active Job Vacancy Postings in Computer Occupations From Prior 12 Months

OCCUPATION	CHANGE IN ACTIVE JOB VACANCY POSTINGS FROM APRIL 14 to MAY 13, 2019 to APRIL 14 to MAY 13, 2020
Database Administrator	-9%
Computer and Information Research Scientist	-10%
Software Developer, Applications	-14%
Network and Computer System Administrator	-14%
Computer Hardware Engineer	-15%
Information Security Analyst	-16%
Software Developer, Systems Software	-16%
Electronics Engineer (except computer)	-17%
Computer Systems Analyst	-20%
Computer Programmer	-22%
Computer Network Architect	-22%
Electrical Engineer	-25%
ALL OCCUPATIONS	**-24%**

Source: Emsi Job Posting Analytics; National Foundation for American Policy.

A study by economists Giovanni Peri, Kevin Shih, Chad Sparber and Angie Marek Zeitlin examined the last recession and found that denying the entry of H-1B visa holders due to the annual limits harmed job growth for

[6] Madeline Zavodny, *The Impact of H-1B Visa Holders on the U.S. Workforce*, NFAP Policy Brief, National Foundation for American Policy, May 2020.

U.S.-born professionals. "The number of jobs for U.S.-born workers in computer-related industries would have grown at least 55% faster between 2005-2006 and 2009-2010, if not for the denial of so many applications in the recent H-1B visa lotteries," concluded the economists.[7]

Research by Britta Glennon, an assistant professor at the Wharton School of Business at the University of Pennsylvania, found new restrictions on H-1B visas are likely to push jobs out of the United States, concluding, "[A]ny policies that are motivated by concerns about the loss of native jobs should consider that policies aimed at reducing immigration have the unintended consequence of encouraging firms to offshore jobs abroad." [8]

A study by Madeline Zavodny concluded, "There is no evidence that foreign students participating in the OPT [Optional Practical Training] program reduce job opportunities for U.S. workers. Instead, the evidence suggests that U.S. employers are more likely to turn to foreign student workers when U.S. workers are scarcer." The study also found, "The relative number of foreign students approved for OPT is negatively related to various measures of the unemployment rate among U.S. STEM workers. A larger number of foreign students approved for OPT, relative to the number of U.S. workers, is associated with a lower unemployment rate among those U.S. workers."[9]

In March 2020, using a new electronic registration system, H-1B cap selection took place for FY 2021. Individuals selected cannot begin working in H-1B status in the U.S. until October 1, 2020 or later. The next set of new H-1B visa holders (for initial employment) will not be selected until March 2021 and cannot begin working in the United States on an H-1B until October 1, 2021. The annual H-1B limit for employers is, in effect, 85,000, which equals approximately 0.05% of the U.S. labor force.

It is not sensible to make long-term immigration policy by citing short-term employment situations affected by an unprecedented health crisis, particularly since numerous academic studies show foreign-born individuals do not adversely affect U.S. workers and the president has promised the unemployment picture will improve this year. Ironically, the latest Bureau of Labor Statistics data show the U.S. unemployment rate in occupations most common for H-1B visa holders has declined, which makes citing unemployment in these occupations as a reason for new restrictions on H-1B visas and international students on OPT more dubious.

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[7] Giovanni Peri, Kevin Shih, Chad Sparber and Angie Marek Zeitlin (June 2014), *Closing Economic Windows: How H-1B Visa Denials Cost U.S.-Born Tech Workers Jobs and Wages During the Great Recession*, Partnership for a New American Economy.
[8] Britta Glennon, *How Do Restrictions on High-Skilled Immigration Affect Offshoring? Evidence from the H-1B Program*, Carnegie Mellon University, May 2019.
[9] Madeline Zavodny, *International Students, STEM OPT and the U.S. Workforce*, NFAP Policy Brief, National Foundation for American Policy, March 2019.

ABOUT THE NATIONAL FOUNDATION FOR AMERICAN POLICY

Established in 2003, the National Foundation for American Policy (NFAP) is a 501(c)(3) non-profit, non-partisan public policy research organization based in Arlington, Virginia, focusing on trade, immigration and related issues. Advisory Board members include Columbia University economist Jagdish Bhagwati, Cornell Law School professor Stephen W. Yale-Loehr, Ohio University economist Richard Vedder and former INS Commissioner James Ziglar. Over the past 24 months, NFAP's research has been written about in the *Wall Street Journal*, the *New York Times*, the *Washington Post*, and other major media outlets. The organization's reports can be found at www.nfap.com. Twitter: **@NFAPResearch**