

# Covid-19's Impact on the American Economy

## How Has Demand in Sectors Dependent on Specialty Skills Changed

### Due to Covid-19?

## Executive Summary

The Covid-19 pandemic has altered nearly all aspects of our lives, from the way we work, to where we work. While these changes seem obvious at an individual level, what the broader impacts of the pandemic have been and will be as the economy recovers is less clear. Unlike past recessions, the Covid-19 recession hit unevenly. While many businesses were shuttered due to lockdowns, resulting in record job losses, many others continued to operate or even grew.

The latest data on demand for foreign labor, unemployment, and job openings, provides more insight on this situation. It shows that despite the record high unemployment numbers, the impact of the Covid pandemic was overwhelmingly concentrated in several industries, such as food service, hotels, and entertainment. Many workers outside of these sectors were either considered “essential” or were able to work remotely, effectively giving them more job security. As such, these industries’ demand for workers continued relatively unabated. Data from Labor Certification Applications (LCAs) for foreign skilled workers shows that employers of computer-related or professional service workers continued to seek permission to hire foreign workers through the H-1B visa program. Their motivation to do so even during the worst of the pandemic is evidenced by unemployment data showing that the labor market at the top end of the skill spectrum remains extremely tight. This signals that there are not enough appropriately skilled workers in the U.S. to meet the demand of employers. Even more telling, the unemployment rate for computer-related workers is now lower, and the overall number of employed computer-related workers is now higher than at the start of the pandemic in March 2020. Real-time data on online job openings rounds out this picture, showing that hiring for other kinds of workers, such as those in shipping, freight, and healthcare has blossomed as the pandemic has changed consumer demands for home delivery and increased the need for healthcare services.

Overall, our analysis finds that the pandemic has had a limited negative effect on the growth of industries that often rely on high-skilled foreign workers due to chronic labor shortages. However, while many businesses have sought to expand, continued travel restrictions on top of an outdated immigration system may in fact prolong and exacerbate the shortage of high-skilled workers. This ultimately runs counter to the goal of a speedy economic recovery. Failure to enable employers to fill critical workforce gaps hampers their ability to fulfill their economic potential, stymieing economic growth nationwide. These findings support the argument that more responsive employment-based immigration policies may help the U.S. economy bounce back faster and more robustly from the Covid-19 pandemic.

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**“More responsive employment-based immigration policies may help the U.S. economy bounce back faster and more robustly from the Covid-19 pandemic”**

## Key Findings

- **Despite the economic upheaval of the pandemic, there remains a shortage of highly skilled workers to meet the persistent demand of employers.**
- **Demand for computer-related workers is stable, and even growing.** In fact, computer-related jobs made up 69.6% of all foreign labor requests in FY2020, a slight increase from FY2019 despite the Covid-19 pandemic.
- **Demand for computer-related occupations is growing and outpacing supply.** In 2019, the unemployment rate for computer- and mathematics-related occupations was 2.3%. By 2020 that had only increased by 0.7 percentage points, to 3.0%. By March 2021, their unemployment rate was 1.9%, lower than it was before the pandemic.
- **Employers' ability to fill these roles will be critical to America's longer-term economic recovery.** If businesses cannot find enough workers to fill technical and specialized roles that are often critical to their continued growth and innovation, U.S. companies may be hamstrung in their capacity to expand and operate efficiently.

## Introduction

Beyond the health and societal upheaval left in its wake, the repercussions of the Covid-19 pandemic have been acutely felt at every level of the U.S. economy and across the labor market. Yet the impact was not evenly spread. Certain sectors of the economy, such as the food, entertainment, and hospitality industries, were hit especially hard, resulting in millions of layoffs. At the same time, other industries saw increased demand for goods and services, which drove up demand for workers, many of them in logistics, transportation, and remote work-capable fields. This created a paradoxical situation for some industries, including many that are more dependent on foreign workers, in which demand remained relatively stable, continuing to exceed supply through the worst of the pandemic. Meanwhile the rest of the country experienced record high unemployment levels not seen since the Great Depression.

This brief examines data from several sources in order to see how demand for labor—particularly in fields requiring specialty skills—has shifted throughout the pandemic. Using U.S. Department of Labor (DOL) data on the number of Labor Condition Applications (LCAs) filed for H-1B specialty workers, we compare demand for foreign, high-skilled workers between fiscal years 2019 and 2020, and find that it has remained steady, despite the pandemic. Data from Burning Glass Technologies' Labor Insights database, which aggregates and sorts millions of job postings on a real-time basis, provides further insight as to which industries and occupations saw the largest changes in hiring demand. We contrast this with Bureau of Labor Statistics (BLS) and U.S. Census data to show how uneven the increase in unemployment rates have been across the labor market and how the most stable employment sectors are those that include many immigrant workers. What the numbers suggest is that despite the economic upheaval of the pandemic, there remains a shortage of highly skilled workers who can meet the persistent demand of employers. This shortage could have a dampening effect on the country's long-term economic recovery if businesses cannot find enough workers to fill technical and specialized roles that are critical to their continued growth and innovation.

## Tracking Job Demand Through LCA Filings: FY2019 vs. FY2020

Overall, the data from DOL LCA disclosures show that the number of LCAs approved fell from 578,640 in FY2019 to 533,801 in FY2020 (Table 1), the first drop in around a decade. At first glance, this suggests that the coronavirus pandemic and subsequent border closures and other restrictive policies had a large impact on the hiring patterns of these employers in 2020. However, just prior to the onset of the COVID-19 pandemic, the H-1B lottery underwent the largest process change since its inception. For the first time rather than being required to file a full LCA for any worker being submitted into the H-1B lottery, FY2020 was the first year that employers were required only to pay a \$10 registration fee and submit a short electronic form while they waited for the outcomes of the H-1B lottery in early April. As a result, while some companies went ahead and filed their LCAs in advance, many more did not. Instead, these companies waited until the lottery draw was completed and then only filed complete LCAs for the H-1B applicants who had been selected. Comparing FY2019 to FY2020 by month (Table 2), we see that in March—normally a high point for LCAs as employers prepare to file completed H-1B petitions on the first business day in April and prior to any significant COVID related closures—the number of LCAs decreased by almost 65% from 188,375 to 66,479. Similarly, while one-third of LCA approvals for FY2019 were filed in March, only 12% were filed in March for FY2020 (Table 1).

**TABLE 1**

### Number of LCAs Approved

	Number of LCAs Filed in FY2019	Number of LCAs Filed in FY2020	Change, FY19-FY20	Rate of Change, FY19-FY20
All LCAs	<b>578,640</b>	<b>533,801</b>	<b>-44,839</b>	<b>-7.7%</b>

What this change also means is that employers are no longer incentivized to finish and file their applications when the lottery opens in April and we see this play out in the data. In FY2019, there was a 37% increase in applications compared to the previous year, with nearly 275,000 applications registered for only 85,000 spots. Compare that to February and March of FY2020, even before the pandemic had spread across the U.S., when there were around 138,000 fewer registrations made. Instead, the distribution of LCAs is more evenly spread throughout the months that followed after the lottery had been conducted and employers knew which applications would be able to proceed for full submission. In fact, the number of applications processed from April to July 2020, the worst months in terms of economic disruption and unemployment in the U.S. due to the pandemic, actually grew year-over-year compared to FY2019. This suggests that despite the pandemic, demand for high-skilled workers persisted and was not subject to the same shock faced by other segments of the U.S. labor market, and that LCA volume may simply have been reduced by this change to the H-1B application process.

To illustrate how many fewer LCAs this might mean in the future, we can compare past years' LCA application data to H-1B lottery slots. In FY2019, there were approximately 275,000 LCA submissions for only 85,000 H-1B lottery slots. This means that up to 190,000, or 70% of the LCAs filed, would not need to have been filed under the new system since they would not have been associated with a winning H-1B lottery application.

**TABLE 2**

**LCAs by Month, FY2019**

Month	FY2019	Share of FY2019
October 2018	27,275	5.0%
November 2018	24,557	4.0%
December 2018	24,977	4.0%
January 2019	30,134	5.0%
February 2019	63,204	11.0%
March 2019	188,375	33.0%
April 2019	49,691	9.0%
May 2019	39,904	7.0%
June 2019	32,815	6.0%
July 2019	33,598	6.0%
August 2019	33,733	6.0%
September 2019	30,377	5.0%
<b>Total</b>	<b>578,640</b>	

**LCAs by Month, FY2020**

Month	FY2020	Share of FY2020
October 2019	34,990	7.0%
November 2019	32,886	6.0%
December 2019	33,043	6.0%
January 2020	33,998	6.0%
February 2020	46,455	9.0%
March 2020	66,479	12.0%
April 2020	60,315	11.0%
May 2020	60,035	11.0%
June 2020	58,150	11.0%
July 2020	36,303	7.0%
August 2020	31,513	6.0%
September 2020	39,634	7.0%
<b>Total</b>	<b>533,801</b>	

Despite the economic upheaval of the pandemic, the number and share of LCAs in the most popular category—computer-related occupations—actually increased slightly from FY2019 to FY2020. In FY2020, the vast majority (69.6%) of LCAs continued to be for computer-related occupations, compared to 69.3% in FY2019 (Table 3). This increase also points to the continued strength in demand for computer-related workers even as the pandemic spread across the country.

**TABLE 3**

**Computer-Related Occupation LCAs, FY2019 and FY2020**

Year	Total	Share of all LCAs
FY2019	401,163	69.3%
FY2020	371,641	69.6%

However, other LCA occupations saw particularly stark declines between FY2019 and FY2020. For example, the second most popular occupation, computer systems analysts, fell by 26.9%, a decline of more than 18,000 in FY2020. Similarly, computer programmers fell by 21.2%, or 3,178, and management analysts fell by 20.7%, or 1,907 (Table 4). Yet, here too, something else might be going on. While these may seem like significant declines in demand for these occupations, increased scrutiny from immigration officials about the classification of specialty occupations, including rising numbers of requests for evidence (RFEs)<sup>1</sup>, may have encouraged employers to provide more granular detail about the computer-related occupation being requested in order to avoid the more nebular “all other” category.

**TABLE 4**

**Top LCAs in FY2019**

Occupation	FY2019	FY2020	Change, FY19-FY20	Rate of Change, FY19-FY20
Software Developers, Applications	193,756	180,415	-13,341	-6.9%
Computer Systems Analysts	68,558	50,135	-18,423	-26.9%
Computer Occupations, All Other	50,817	8,298	-42,519	-83.7%
Software Developers, Systems Software	28,211	28,246	35	0.1%
Computer Programmers	15,017	11,839	-3,178	-21.2%
Operations Research Analysts	10,629	9,440	-1,189	-11.2%
Mechanical Engineer	10,188	9,332	-856	-8.4%
Accountants and Auditors	9,782	8,353	-1,429	-14.6%
Management Analysts	9,187	7,283	-1,904	-20.7%
Statisticians	8,292	7,767	-525	-6.3%

**“Seven of these 10 occupations by LCAs were computer-related occupations, while all 10 of the top occupations by increase in share of all LCAs in FY2020 are computer-related.”**

The persistent demand for computer-related workers is also clear in the fastest growing (in terms of year-over-year growth) occupations in FY2020. Seven of these 10 occupations by LCAs were computer-related occupations (Table 5), while all 10 of the top occupations by increase in share of all LCAs in FY2020 are computer-related (Table 6).

Despite the discussed administrative changes to the LCA and H-1B process and the associated decrease in LCAs overall in FY2020, the number of healthcare and medical occupations grew as did their share of all LCAs, going from 19,930 to 22,851 in FY2020, or 3.4% in FY2019 to 4.3% in FY2020 (Table 7). Given the need for healthcare workers to help combat Covid-19 across the country, this may not be surprising.

**TABLE 5**

**Top 10 Occupations by Increase in Number of LCAs FY2019-2020**

Occupation	2019	2020	Change, 2019-2020	Rate of Change, 2019-2020
Computer Systems Engineers/Architects	1,634	16,189	14,555	890.8%
Software Quality Assurance Analysts	1,967	13,867	11,900	605.0%
I.T. Project Managers	3,212	11,683	8,471	263.7%
Business Intelligence Analysts	63	7,028	6,965	11055.6%
Computer and Information Systems Manager	8,185	10,613	2,428	29.7%
Financial Quantitative Analysts	26	2,048	2,022	7776.9%
Data Warehousing Specialists	13	1,925	1,912	14707.7%
Database Architects	28	1,421	1,393	4975.0%
Risk Management Specialists	13	1,348	1,335	10269.2%
Hospitalists	3	1,222	1,219	40633.3%

**TABLE 6**

**Top 10 Occupations by Growth in Share of Total LCAs**

Occupation	Share in FY2019	Share in FY2020	Change FY19-FY20
Computer Systems Engineers/Architects	0.3%	3.0%	2.8%
Software Quality Assurance Analysts	0.3%	2.6%	2.3%
I.T. Project Managers	0.6%	2.2%	1.6%
Business Intelligence Analysts	0.0%	1.3%	1.3%
Computer and Information Systems Manager	1.4%	2.0%	0.6%
Software Developers, Systems Software	4.9%	5.3%	0.4%
Financial Quantitative Analysts	0.0%	0.4%	0.4%
Data Warehousing Specialists	0.0%	0.4%	0.4%
Software Developers, Applications	33.5%	33.8%	0.3%
Database Architects	0.0%	0.3%	0.3%

**TABLE 7**

**Healthcare Occupations, FY2019-FY2020**

	FY2019	FY2020	Change, FY19-FY20
Healthcare Occupations	<b>19,930</b>	<b>22,851</b>	<b>2,921</b>

## Examining the Geographic Distribution of LCAs

Looking at geographic distribution of LCAs in FY2020, the top 10 designated market areas (DMAs) by number of LCAs remained the same as the previous year, reflecting relative stability in terms of where H-1B jobs are concentrated (Table 8). This, however, belies some interesting trends. Although the overall number of LCAs decreased in FY2020 nationally, some market areas saw significant increases. The largest increase among all market areas was Seattle-Tacoma, which saw an increase of 3,695 LCAs, or 14.1% (Table 8). Other market areas that saw increases include Charlotte (+438), Savannah (+159), and San Antonio (+129) (Table 9). Some of the top market areas, while declining, also did markedly better than the national average of -7.7%, including San Francisco (-4.2%), Dallas-Fort Worth (-5.5%), Boston and Washington, DC (-5.6%) (Table 8). The great variance between DMAs and the national average also shows the importance of considering supply and demand at a local level. Paying attention only to national numbers risks missing glaring and acute local shortages. This may lead to the false assumption that additional workers, or even foreign workers, are no longer necessary when in fact businesses may be hindered by their inability to adequately fill positions due to inadequate numbers of qualified local workers.

**TABLE 8**

### Top 10 DMAs by Number of LCAs in FY2019 and FY2020 and Unemployment Rates

DMA	FY2019	FY2020	Change, FY19-FY20	Rate of Change, FY19-FY20	Unemployment Rate, December 2020*
San Francisco-Oakland-San Jose	80,462	77,113	-3,349	-4.2%	7.0%
New York	73,466	63,466	-10,000	-13.6%	8.4%
Dallas-Fort Worth	31,607	29,858	-1,749	-5.5%	6.3%
Seattle-Tacoma	26,262	29,957	3,695	+14.1%	7.2%
Chicago	24,849	22,257	-2,592	-10.4%	8.1%
Los Angeles	23,400	19,849	-3,551	-15.2%	9.9%
Boston	23,046	21,744	-1,302	-5.6%	6.6%
Philadelphia	20,191	18,309	-1,882	-9.3%	6.5%
Atlanta	19,312	17,609	-1,703	-8.8%	5.4%
Washington, DC	19,070	18,001	-1,069	-5.6%	5.6%
<b>U.S. Total</b>	<b>578,640</b>	<b>533,801</b>	<b>-44,839</b>	<b>-7.7%</b>	<b>6.5%</b>

\*Unemployment rate is for the corresponding Metropolitan Statistical Area (MSA) and comes from the Local Area Unemployment Statistics (LAUS), released by the Bureau of Labor Statistics (BLS), January 2021.



TABLE 9

**DMA with Increases of More than 100 LCAs in FY2020**

DMA	FY2019	FY2020	Change, FY19-FY20	Rate of Change, FY19-FY20	Unemployment Rate, December 2020*
Seattle-Tacoma	26,262	29,957	3,695	14.1%	7.2%
Charlotte	9,360	9798	438	4.7%	5.8%
Savannah	190	349	159	83.7%	5.6%
San Antonio	2,617	2,746	129	4.9%	6.4%
Albany-Schenectady-Troy	1,787	1,916	129	7.2%	5.3%
Austin	9,571	9,686	115	1.2%	5.1%

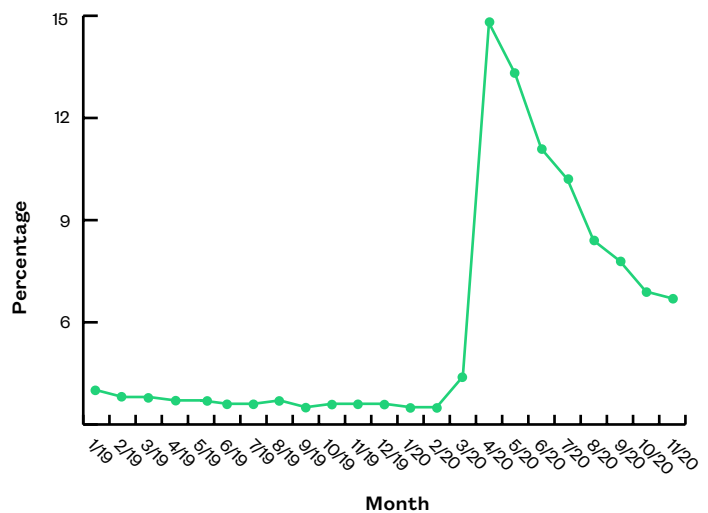
\*Unemployment rate is for the corresponding Metropolitan Statistical Area (MSA) and comes from the Local Area Unemployment Statistics (LAUS), released by the Bureau of Labor Statistics (BLS), January 2021.

**Tracking Unemployment Rates Among In-Demand LCA Occupations**

While the number of LCAs provides an idea of what the demand among employers is for specific occupations and high-skilled workers in general, it does not shed light on the supply side of the labor market for these kinds of positions. To that end, we compared data from the BLS from December 2019 to December 2020. Overall, not surprisingly, the data show that unemployment rates nationally remained much higher in 2020 than they did at the same time in 2019. In December 2019, the unemployment rate was 3.4% while in December 2020, it stood at 6.5%, a significant increase of 3.1 percentage points, though down from a peak unemployment rate of 14.4% in April 2020 (Graph 1).

GRAPH 1

**Overall Unemployment Rate of People 16 Years and Older, Monthly**



Source: Bureau of Labor Statistics, 2021.

Equally concerning, over the same time period, the active labor force shrank by almost 4 million people, indicating that many have given up looking for work due to discouragement, return to schooling, illness, or age (Table 10).

**TABLE 10**

**Employed, Unemployed, and Labor Force by Occupational Category, 2019-2020**

Occupation	Employed, in 000s		Unemployed, in 000s		Labor Force, in 000s	
	2019	2020	2019	2020	2019	2020
<b>Total, 16 years and over</b>	<b>158,504</b>	<b>149,613</b>	<b>5,503</b>	<b>10,404</b>	<b>164,007</b>	<b>160,017</b>
Management occupations	19,577	18,529	335	617	19,912	19,146
Business and financial operations occupations	8,171	8,612	197	399	8,368	9,011
Computer and mathematical occupations	5,262	5,614	123	177	5,385	5,791
Architecture and engineering occupations	3,262	3,176	37	84	3,299	3,260
Life, physical, and social science occupations	1,467	1,644	19	44	1,486	1,688
Community and social service occupations	2,796	2,675	51	72	2,847	2,747
Legal occupations	2,028	1,858	12	43	2,040	1,901
Education, training, and library occupations	9,428	9,189	207	349	9,635	9,538
Arts, design, entertainment, sports, and media occupations	3,499	2,958	84	251	3,583	3,209
Healthcare practitioners and technical occupations	10,192	9,752	106	200	10,298	9,952

Source: Bureau of Labor Statistics, 2021.

## Computer and Mathematics Workers and Healthcare Practitioners Have Fared Well

Yet, computer-related occupations have a different unemployment story between 2019 and 2020. In 2019, the unemployment rate for computer- and mathematics-related occupations was 2.3%. By 2020, this number had only increased by 0.7 percentage points, to 3.0%. The number of employed computer- and mathematics-related workers also increased, contrary to the overall trends seen. This indicates that there were more computer and mathematical occupation jobs created in 2020 during the Covid-19 pandemic than there had been in the year before. Indeed, this job growth has seemingly continued into 2021, with the latest numbers from the BLS showing that unemployment among computer-related occupation workers has begun to fall back down to nearly record low levels, reaching 1.9% in March 2021.<sup>2</sup>

The continued stability and growth of computer- and mathematics-related jobs, and of professional services occupations in general, can be explained by the relative ease of doing these jobs remotely. The BLS estimates that almost two-thirds of professional and related occupations,<sup>3</sup> the category under which computer- and mathematics-related occupations fall, and 86.6% of all management, business, and financial occupations can be done remotely. The BLS found that the negative effects on employment were almost halved for those able to work remotely:

“ In occupations in which telework is not feasible, employment fell by 15% between February and April [2020], and the unemployment rate rose by 9 percentage points. By comparison, in occupations in which telework is feasible, employment fell by 7% over the same period, and the unemployment rate increased by 5 percentage points.<sup>4</sup>

While not able to work remotely, healthcare practitioners remained in high demand given the increased demand for healthcare services across the country due to the pandemic. Overall, healthcare practitioners saw little increase in unemployment rates, going from a nearly negligible 1.0% to 2.0% between December 2019 and December 2020. Even though unemployment rates increased for computer- and mathematics-related workers and for healthcare practitioners, their rates remain well below what is considered to be “full employment” by most economists (Table 11).

TABLE 11

**Unemployment Rate, All Workers and Selected Occupation Groups, 2019-2020**

Occupation	2019	2020	Change, 2019-2020
<b>Total, 16 years and over</b>	<b>3.4</b>	<b>6.5</b>	<b>+3.1</b>
Management occupations	1.7	3.2	+1.5
Business and financial operations occupations	2.4	4.4	+2.0
Computer and mathematical occupations	2.3	3.0	+0.7
Architecture and engineering occupations	1.1	2.6	+1.5
Life, physical, and social science occupations	1.3	2.6	+1.3
Community and social service occupations	1.8	2.6	+0.8
Legal occupations	0.6	2.3	+1.7
Education, training, and library occupations	2.1	3.7	+1.6
Arts, design, entertainment, sports, and media occupations	2.3	7.8	+5.5
Healthcare practitioners and technical occupations	1.0	2.0	+1.0

Source: Bureau of Labor Statistics, 2021.

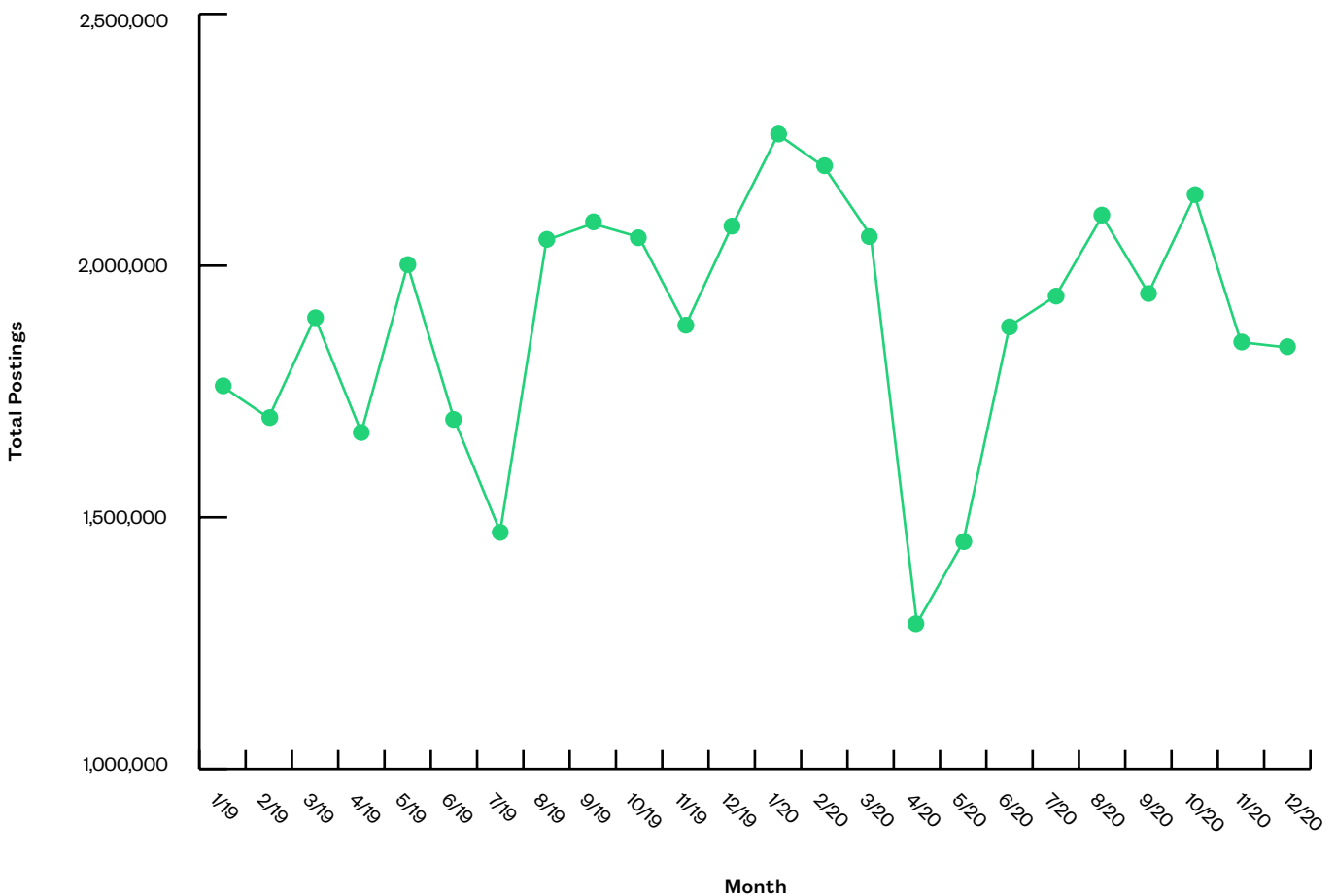
**Tracking Job Demand During the Coronavirus Pandemic Through Online Job Postings**

Zooming out even further, we gain a better understanding of the evolution of demand in the U.S. labor market beyond H-1B occupations, using data collected by Burning Glass Technologies that consists of millions of online job postings that are aggregated and updated daily. These data allow researchers to quantify the number, type, and location of open and new jobs across the U.S. While some industries such as agriculture and construction do not normally recruit on the internet and as such are not well-represented on Burning Glass, the vast majority of hiring is accurately captured in the data.

In 2019, there were more than 22.3 million open job postings online. In 2020, the total number actually increased to 22.9 million, a year-over-year growth rate of 2.7%.<sup>5</sup> Month-over-month, the data shows that April 2020 saw a dramatic drop in the number new open jobs posted. However, demand rebounded back in the months that followed, and by the end of the year, there were slightly more jobs posted in 2020 than there were in 2019, though all while millions of existing jobs were lost due to the economic downturn caused by the Covid-19 pandemic (Graph 2).

**GRAPH 2**

**Monthly Job Postings, January 2019 to December 2020**



Source: Burning Glass Technologies, Labor Insights, 2021.

Despite this overall increase, there was significant variation among different occupations and among different metropolitan areas. Compared to the increase of 3.4% at a national level, several of the largest metropolitan areas saw significantly larger increases in job postings —despite the economic upheaval of the pandemic. These include New York (+6.9%), Los Angeles (+12.3%), and San Francisco (+7.0%) (Table 12).

Some metropolitan areas, however, saw decreases in the number of job postings in 2020, indicating a slowdown in hiring in those areas. These include Chicago (-2.9%), Philadelphia (-4.1%), Phoenix (-6.0%), and Atlanta (-6.3%) (Table 12).

**TABLE 12**

**Top MSAs by Number of Job Postings in 2019**

MSA	2019	2020	Change, 2019-2020	Rate of Change, 2019-2020	Unemployment Rate, December 2020
New York-Newark-Jersey City, NY-NJ-PA	1,053,078	1,125,591	72,513	6.9%	8.4%
Los Angeles-Long Beach-Anaheim, CA	873,752	981,340	107,588	12.3%	9.9%
Chicago-Naperville-Elgin, IL-IN-WI	761,471	739,223	-22,248	-2.9%	8.1%
Dallas-Fort Worth-Arlington, TX	724,690	736,207	11,517	1.6%	6.3%
Washington-Arlington-Alexandria, DC-VA-MD-WV	637,543	661,721	24,178	3.8%	5.6%
Boston-Cambridge-Nashua, MA-NH	549,753	550,775	1,022	0.2%	6.6%
San Francisco-Oakland-Hayward, CA	535,644	573,208	37,564	7.0%	7.0%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD w	521,122	499,773	-21,349	-4.1%	6.5%
Phoenix-Mesa-Scottsdale, AZ	502,895	472,547	-30,348	-6.0%	6.9%
Atlanta-Sandy Springs-Roswell, GA	475,992	445,816	-30,176	-6.3%	5.4%

**TABLE 13**

**Top 10 MSAs by Increase in Job Postings, 2019-2020**

MSA	2019	2020	Change, 2019-2020	Rate of Change, 2019-2020	Unemployment Rate, December 2020
Los Angeles-Long Beach-Anaheim, CA	873,752	981,340	107,588	12.3%	9.9%
New York-Newark-Jersey City, NY-NJ-PA	1,053,078	1,125,591	72,513	6.9%	8.4%
San Francisco-Oakland-Hayward, CA	535,644	573,208	37,564	7.0%	7.0%
San Jose-Sunnyvale-Santa Clara, CA	237,481	274,414	36,933	15.6%	6.0%
Seattle-Tacoma-Bellevue, WA	402,171	438,519	36,348	9.0%	7.2%
Las Vegas-Henderson-Paradise, NV	159,301	192,811	33,510	21.0%	10.4%
Portland-Vancouver-Hillsboro, OR-WA	203,198	232,061	28,863	14.2%	6.1%
San Diego-Carlsbad, CA	281,014	309,501	28,487	10.1%	8.0%
Washington-Arlington-Alexandria, DC-VA-MD-WV	637,543	661,721	24,178	3.8%	5.6%
Houston-The Woodlands-Sugar Land, TX	392,454	415,392	22,938	5.8%	8.0%

Analyzing the data by occupation provides additional nuance beyond the LCA and unemployment data. Similar to the LCA data, we see a decline in the number of computer occupations job postings (by 15.8%). While this appears steep, it does not necessarily mean that the number of computer jobs or workers has declined. We have already discussed how the number of workers in computer occupations has increased while their unemployment rates have remained low and even declined in 2021. Other occupations that saw significant declines in job postings also fit this pattern. For example, engineers, another occupation that has also seen record low rates of unemployment during the pandemic,

paradoxically saw an even greater decrease in the number of job postings<sup>6</sup> (Table 14). This suggests that patterns in online hiring, such as positions being completely remote and based abroad, rather than real labor demands may be driving these swings.

**TABLE 14**

**Top Occupations\* by Decrease in Job Postings, 2019-2020**

Job Postings	2019	2020	Growth Rate	Change in Share	Share of Workforce Foreign-Born
Computer Occupations	1,617,605	1,362,178	-15.8%	-1.4%	25.0%
Business Operations Specialists	778,404	624,313	-19.8%	-0.8%	12.3%
Sales Representatives, Wholesale and Manufacturing	790,315	690,836	-12.6%	-0.6%	10.2%
Other Management Occupations	1,487,928	1,420,366	-4.5%	-0.6%	14.4%
Advertising, Marketing, Promotions, Public Relations, and Sales Managers	460,919	382,907	-16.9%	-0.4%	10.5%
Engineers	338,790	268,234	-20.8%	-0.4%	21.6%
Retail Sales Workers	1,125,946	1,098,704	-2.4%	-0.3%	14.1%
Operations Specialties Managers	420,477	369,493	-12.1%	-0.3%	14.9%
Secretaries and Administrative Assistants	389,157	355,272	-8.7%	-0.2%	9.7%
Information and Record Clerks	885,666	875,122	-1.2%	-0.2%	11.6%

\*Share of job postings with identifiable occupation. For 2019 the total is 21,472,504. For 2020 it is 22,320,359. Source: American Community Survey, 2019.



Meanwhile, the biggest gainers between 2019 and 2020 were in occupations related to shipping, material transport, and healthcare (Table 15). Similar to many H-1B jobs, many of these occupations are fields in which foreign-born workers play an outsized role. The fastest growing occupation by job postings were Motor Vehicle Operators, including truck drivers. The number of job postings for Motor Vehicle Operators increased by more than 53%, or more than 395,000. This is also an occupation that foreign-born workers have already gravitated to, with immigrants making up more than one in five motor vehicle operators.

The number of Health Diagnosing and Treating Practitioners, which includes most primary care physicians, surgeons, and nurse practitioners, increased by more than 301,000. While 7.9% of all job postings in 2019 were for these kinds of workers, by 2020 this had increased by 1.0 percentage points to 8.9%. Other healthcare workers, especially those in healthcare support, such as personal care aides, nursing aides, and health technologists and technicians, saw significant increases between 2019 and 2020. Past NAE research has also shown that demand for these kinds of healthcare and healthcare support workers has long outstripped demand. Immigrant workers, for their part, have helped fill some of these critical gaps—for example, immigrants now make up more than one in four health aides. However, on top of an already rapidly expanding elderly population, the additional healthcare demands from the pandemic, will most likely further exacerbate the need for healthcare workers of all stripes.

**TABLE 15**

**Top Occupations\* by Increase in Job Postings, 2019-2020**

Job Postings	2019	2020	Growth Rate	Change in Share	Share of Workforce Foreign-Born
Motor Vehicle Operators	744,479	1,139,643	53.1%	1.6%	21.5%
Material Moving Workers	291,937	577,682	97.9%	1.2%	18.1%
Health Diagnosing and Treating Practitioners	1,690,860	2,010,276	18.9%	1.1%	16.7%
Material Recording, Scheduling, Dispatching, and Distributing Workers	373,237	582,427	56.0%	0.9%	14.4%
Other Personal Care and Service Workers	249,660	364,571	46.0%	0.5%	17.3%
Nursing, Psychiatric, and Home Health Aides	293,208	405,710	38.4%	0.5%	25.8%
Health Technologists and Technicians	814,510	904,464	11.0%	0.3%	13.4%
Building Cleaning and Pest Control Workers	299,435	365,926	22.2%	0.2%	35.9%
Other Healthcare Support Occupations	268,220	326,304	21.7%	0.2%	16.1%
Other Protective Service Workers	278,445	324,249	16.4%	0.2%	12.2%

\*Share of job postings with identifiable occupation. For 2019 the total is 21,472,504. For 2020 it is 22,320,359.

## Tracking Demand for Skills and Certifications

The detail in the data available from Burning Glass also allows us to look at what specific skills or certifications have increased or decreased in demand. Overall, the number of job postings requiring some form of certification increased by 12%, from 10.5 million to 11.8 million in 2020.

By far, the most common certification needed was a driver's license, commercial or regular. Between 2019 and 2020 the number of new jobs requiring a driver's license increased by more than 562,000 (Table 16). This seems to confirm anecdotal reports of increased demand for delivery drivers, couriers, and other logistics workers needed to facilitate e-commerce and home delivery orders.

In terms of other skills that saw relative increases, certifications in healthcare saw some of the greatest increases after driver's licenses. For example, demand for workers with general nursing certifications increased by more than 254,000 jobs, while demand for workers with emergency medicine certifications grew by more than 122,000 jobs. Meanwhile, demand for workers with specialized nursing certifications grew by more than 79,000 jobs (Table 16).

**TABLE 16**

### Fastest Growing In-Demand Job Certifications in 2020

Type of Certification	2019	2020	Share of Certification-Required Jobs, 2019	Share of Certification-Required Jobs, 2020	Change, 2019-2020	Change in Share, 2019-2020
Vehicle License and Operation	2,922,073	3,484,731	27.8%	29.6%	562,658	1.8%
General Nursing	1,292,461	1,547,171	12.3%	13.1%	254,710	0.8%
Emergency Medicine	300,899	423,175	2.9%	3.6%	122,276	0.7%
Specialized Nursing	82,435	161,532	0.8%	1.4%	79,097	0.6%
Medical Assisting	292,481	377,843	2.8%	3.2%	85,362	0.4%
Caregiving	102,846	154,889	1.0%	1.3%	52,043	0.3%
K-12 Education	99,928	129,400	1.0%	1.1%	29,472	0.1%
Mental Health Counseling	56,949	74,475	0.5%	0.6%	17,526	0.1%
Real Estate	53,511	69,593	0.5%	0.6%	16,082	0.1%
Cardiology	126,401	150,598	1.2%	1.3%	24,197	0.1%

## Conclusion

What the data from LCA filings, the Bureau of Labor Statistics, and Burning Glass Technologies show is that despite the economic disruption caused by the Covid-19 pandemic, high-skilled and specialized workers remain in high demand across the U.S. While some occupations have seen increased demand in response to the changing economic situation, such as freight drivers and healthcare workers, others have seen record layoffs, including restaurant and hospitality workers. Despite this, the data shows that there was relative stability for many of the individuals who work in H-1B-dependent fields. In particular, the unemployment data suggests that there are still not enough appropriately skilled workers to meet the persistent demand of employers, even during the worst of the Covid-19 pandemic. This appears to be especially true for computer-related workers whose levels of unemployment barely increased, even when the overall unemployment rate in the U.S. reached levels not seen since the Great Depression.

Ultimately, what this suggests is perhaps something that seems obvious—that different sectors and different segments of the economy and the labor market respond differently to crises. For many high-skilled industries dependent on foreign workers, the pandemic had a limited effect on growth, and labor shortages continue. However, America's increasingly protectionist immigration system dissuades employers from seeking much-needed labor, even when it cannot source talent domestically. Instead of allowing for easier recruitment and attraction of workers in fields that have chronic labor shortages, such as in technology and healthcare, or in geographic areas where demand for labor outstrips supply, U.S. immigration policy remains largely a one-size-fits-all system. Given that high-skilled workers tend to work in high-tech industries, which tend to be more productive and faster growing, not allowing employers to fill critical gaps in their workforces effectively keeps them from fulfilling their full economic potential for the rest of the U.S. economy. This suggests that more nuanced and responsive policy around employment-based immigration could be one way to help the U.S. more quickly and more robustly bounce back from the Covid-19 and future economic disruptions and crises.

### About Envoy

Founded in 1998, Envoy is a global immigration services provider offering the only immigration management platform that makes it seamless for companies to hire and manage an international workforce. We combine access to top-tier legal representation and proprietary technology to bring efficiency and transparency to the immigration process for employers and employees. Through our platform and services, we empower companies to acquire the best talent regardless of where they live, manage their entire global workforce and enable employees to take advantage of business opportunities around the globe. Envoy serves over 1,000 customers ranging from fast-growth startups to Fortune 50 corporations.

### About New American Economy

New American Economy (NAE) is a bipartisan research and policy organization that has as its mission to better inform the intellectual and political debate around immigration in the United States, with a particular focus on immigrants' role in the U.S. economy. Since its creation in 2010, NAE has published hundreds of reports, white papers, and interactive data visualizations, often in partnership with other leading research and policy institutions and organizations. NAE's research is widely cited by national news outlets including the New York Times, Wall Street Journal, the Washington Post, Vox, NPR, and Reuters among others. The findings from NAE's research also appear often in legal briefs, including in several Supreme Court cases, and in supporting documents to pieces of legislation at federal, state, and local levels of government in the United States.

ENDNOTES

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- 1 Stuart Anderson, "H-1B Denials Remain High, Especially for IT Services Companies," *Forbes*, February 26, 2020.
- 2 Bureau of Labor Statistics, 2021. "A-30. Unemployed persons by occupation and sex." Available at: <https://www.bls.gov/web/empsit/cpseea30.htm>
- 3 This category includes computer and mathematics occupations as well as less remote work-friendly occupations such as healthcare practitioners.
- 4 Matthew Dey, Harley Frazis, Mark A. Loewenstein, and Hugette Sun, "Ability to work from home: evidence from two surveys and implications for the labor market in the COVID-19 pandemic," *Monthly Labor Review*, U.S. Bureau of Labor Statistics, June 2020, <https://doi.org/10.21916/mlr.2020.14>.
- 5 Burning Glass Technology gathers, cleans millions of job postings every day, allowing NAE to use the data to analyze open job trends by occupation, industry, skills desired, and certifications required. While the vast majority of jobs are captured in this data, occupations that typically do not recruit online, such as agricultural, construction, or more personal service-oriented occupations may not be as well represented.
- 6 Bureau of Labor Statistics, 2021. "A-30. Unemployed persons by occupation and sex." Available at: <https://www.bls.gov/web/empsit/cpseea30.htm>