H-1B Visa Trends

For a subset of global IT services companies in the United States

July 2019
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Executive Summary

India-based and India-centric global IT services companies employ a large and rapidly growing number of people in the United States (hereinafter referred to as the subset of global IT services companies). IHS Markit was commissioned by the National Association of Software and Service Companies (NASSCOM) to study the economic impacts of the Indian IT services sector in the United States. This report is the fourth in a series presenting the results of our analysis. In this report, we analyze the employment and wages at the subset of global IT services companies of employees on an H-1B visa – a non-immigrant visa that allows US employers to temporarily employ foreign workers in specialty occupations.

Note in the first two reports, Employment Trends and Wage Trends, we based our analysis on all employees at the subset of global IT services companies. This report specifically looks only at those employees on an H-1B at the subset of companies. The analysis of this report estimates an average wage for employees on H-1B visas at the subset of global IT services companies. The analysis then proceeds to estimate comparable benchmarks for these wages. Furthermore, since most H-1B employees at these companies are in computer occupations, we look only at wages for computer occupations in this analysis.

Principal findings are:

- We estimate that the subset of global IT services companies added approximately 13,600 employees on H-1B visas for initial employment in the most recent year for which we have complete data, FY2017. This was 16% of the 85,000 H-1B visas approved for initial employment that are subject to a cap. The actual number of H-1B visas exceeds 85,000 because there are cap-exempt employers such as universities, certain non-for-profit organizations, and governmental research organizations.

- The number of H-1B visas for initial employment that these companies have received has fallen in recent years – by as much as 40% between 2014 and 2017. As a result, the share of H-1B employees in their total employment in the U.S. has declined, and the share of US-born employees has risen by 5-7%.

- We estimate that the average annual wage of the H-1B employees of the subset of global IT services companies analyzed here is $88,000. This is comparable to, and slightly above, the wages of similar U.S. computer workers.

- Studies of the impact of the H-1B program on the U.S. labor market that have taken into account differences in worker characteristics have generally found little or no impact on the wages of native-born workers.

- Research indicates the H-1B visa program has a neutral to positive impact on the US labor market for computer professionals. The unemployment rate for computer occupations in the U.S. is at 2.2%, only one-third of the unemployed in computer occupations are out of work because of layoff or a lost job, and wages in the sector continue to rise.

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1 The global IT services companies/ NASSCOM member companies covered in this report include a diverse set of technology services and product companies, many of which have global operations and a variety of owners, headquarters, and locations in India, the United States, and around the world. Throughout this report, the authors use the terms “a subset of global IT services companies” and “these companies” to refer to the U.S. presence of these truly global India headquartered and India-centric companies. See Appendix B for the complete list of companies.

2 Consequently, the wages and employment numbers in this report are not directly comparable with those from the Employment Trends and Wage Trends reports.

3 The global IT services companies/ NASSCOM member companies covered in this report include a diverse set of technology services and product companies, many of which have global operations and a variety of owners, headquarters, and locations in India, the United States, and around the world. Throughout this report, the authors use the terms “a subset of global IT services companies” and “these companies” to refer to the U.S. presence of these truly global India headquartered and India-centric companies. See Appendix B for the complete list of companies.
Introduction

IHS Markit developed a survey to gather basic information about the US operations of these companies. In previous reports based on this survey, IHS Markit analyzed the employment, wages and overall economic impact of this subset of global IT services companies. In this report, we examine the employment and earnings of the employees of these companies who are working under the H-1B visa program, focusing primarily on their employment in computer-related occupations. To supplement the analysis based on our survey and data from the government agencies that administer this visa program, we look at the role of foreign-born employment in computer-related occupations economy-wide in the US based on the latest data from the American Community Survey.

The H-1B Visa

The H-1B is a non-immigrant visa that allows US employers to temporarily employ foreign workers in specialty occupations. Employers of H-1B visa holders must observe rules regarding wages paid and the companies covered by this report are also subject to attestation requirements stating that employment of the H-1B worker will not adversely affect the wages and working conditions of similar US workers. Foreign nationals generally must possess at least a B.A. or its foreign equivalent. The H-1B visa is initially granted for up to three years but may then be extended annually to a maximum of six years, or longer if the H-1B beneficiary is sponsored for a green card.

Companies that propose to sponsor a foreigner for a H-1B visa must first submit a Labor Condition Application (LCA) in which, among other things, they must provide information demonstrating that they will pay the employee the greater of the actual compensation paid to other employees in the same job or the prevailing wage for that occupation.

H-1B Employment

Our report on the US employment of this subset of global IT services companies showed that employees on H-1B visas account for a substantial portion of their total US employment. For many of these firms, more than half of their employees are on H-1B visas. However, these ratios have been changed dramatically over the past six years. The number and share of US nationals in their workforce has increased in recent years as they build more local facilities and their local recruitment efforts become more successful. Accordingly, as local hires have increased, the number of new H-1B visas sought by these companies has also decreased significantly.

Data published by the U.S. Citizenship and Immigration Services (USCIS) provide the following summary of H-1B visa activity for cap and cap-exempt visas across all employers in FY2017 (rather than just this subset of companies), the most recent year for which we have complete data:\(^4\)

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<tr>
<th></th>
<th>Submitted</th>
<th>Approved</th>
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<tbody>
<tr>
<td>Total</td>
<td>403,675</td>
<td>365,682</td>
</tr>
<tr>
<td>For initial employment</td>
<td>134,348</td>
<td>108,101</td>
</tr>
<tr>
<td>For continuing employment</td>
<td>269,327</td>
<td>257,581</td>
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There is an annual cap on the number of H-1B visas awarded for initial employment of 65,000 plus an additional 20,000 H-1B visas specifically for foreign nationals with at least a master’s degree from a US university.

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university that are not subject to the cap. The actual number of new H-1B visas approved each year exceeds this cap however, because petitions filed by higher education institutions, non-profit organizations associated with a higher education institution, non-profit research organizations, and government research organizations are “cap exempt”. The number for “continuing employment” includes extensions for H-1B workers to work beyond their initial approved period, transfers of employment including requests due to change of location, and requests for H-1B workers to change sponsors. Thus, the number of visa approvals far exceeds the number of unique individuals involved.

IHS Markit estimates that the subset of global IT services companies, as listed in Appendix 1, accounted for approximately 13,600 visas for initial employment in FY 2017. This is 16% of the 85,000 visas subject to caps.\(^5\) And, as noted above, this number has declined significantly in recent years. For example, the number of H-1B visas for initial employment approved for the top eight India-based and India-centric global IT services companies averaged fewer than 13,000 in 2016 and 2017 – down from 24,000 in 2014.\(^6\) As a result, the share of H-1B employees in their total employment has declined. As the number of new H-1B visas awarded to the subset of global IT services companies has fallen, the number of H-1B visas awarded to U.S. and other non-Indian technology companies has risen.

The first report in this series, Employment Trends, showed that the subset of global IT companies account for about 9% of the professionals in computer occupations in the industry where these companies are classified – the computer systems design and related services industry, NAICS 5415 (hereafter referred to as the computer systems design industry).\(^7\) We focus on employment in computer occupations because over 90% of the H-1B employees of the subset of companies are in computer-related occupations.

There are computer-related jobs economy-wide (237 of the 250 4-digit NAICS industries have employees in computer related occupations). The fact that there are job opportunities for workers with computer training and skills across the entire economy (and H-1B workers outside the computer systems design industry) is a factor to consider in assessing the wages of H-1B workers and the impact of the H-1B visa program on the U.S. labor market. There are 4.1 million computer-related workers economy-wide,\(^8\) and H-1B employees of the subset of global IT services companies represent only 2% of these workers.

**H-1B Wages**

Data published by two government agencies involved in the administration of the H-1B visa program – the Department of Labor’s Office of Foreign Labor Certification (DoL) and the U.S. Citizenship and Immigration

\(^5\) USCIS published tabulations of approved visas by employer are at: [https://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/Immigration%20Forms%20Data/BAHA/Approved_H1B_2017_Employers_3.2.18.pdf](https://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/Immigration%20Forms%20Data/BAHA/Approved_H1B_2017_Employers_3.2.18.pdf)

The data do not include companies with less than 10 visas, and USCIS does not attempt to aggregate data to the company level where companies may have more than one employer ID number. Our estimate is based on counts for all companies listed in Appendix 1 including their subsidiaries.

\(^6\) For 2018, the number is closer to 9000. National Foundation for American Policy, NFAP Policy Brief, April 2018, “H-1B Visas by the Numbers: 2017-18,” p. 4

\(^7\) This industry comprises establishments primarily engaged in providing expertise in the field of information technologies through one or more of the following activities: (1) writing, modifying, testing, and supporting software to meet the needs of a particular customer; (2) planning and designing computer systems that integrate computer hardware, software, and communication technologies; (3) on-site management and operation of clients’ computer systems and/or data processing facilities; and (4) other professional and technical computer related advice and services. It includes activities such as: computer facilities management services, custom computer programming services, computer hardware or software consulting services, software installation services, and computer systems integration design services.

Services (USCIS) – provide some insight into the use of the H-1B program by the subset of global IT services companies analyzed here and the wages of H-1B employees.

DoL publishes data from the Labor Conditions Applications (LCAs). These applications must be submitted and approved before an employer can file an H-1B visa petition with USCIS. However, many more LCAs are submitted and certified by DoL each year than the number of H-1B visa petitions filed with USCIS and given the caps on the program, the number of petitions submitted for new H-1B visas is always much higher than the number of new H-1B visas approved and awarded. Thus, the analysis of these data provides only an approximation of the employment and wages paid to successful H-1B applicants. Moreover, as we show below, the average wages that can be tabulated from DoL data files on LCAs understate the wages actually paid to successful recipients of H-1B visas for several reasons, and, thus, the LCA data cannot be used as a reliable source for estimating the level of H-1B wages or making direct comparisons with official government salary surveys. This is also one of the several reasons why the government reports on H-1B wages are faulty. Still, the LCA data can still provide some useful insights into the characteristics of and wage differentials between different groups of H-1B workers.

DoL received 624,650 LCAs in FY2017 requesting review of 1.15 million positions.9 (Multiple positions may be proposed on a single LCA.) A total of 1.1 million positions were then certified. Of these, 361,000 were for computer-related occupations, covering 720,000 positions. A total of 288,000 were LCAs for initial employment and 432,000 for various categories of continuing employment.10 While 288,000 LCAs were certified for initial employment in computer occupations in FY2017, only 67,000 H-1Bs for initial employment in computer occupations were approved in FY2017 (less than one-fourth the number of certified LCAs).11 We estimate that the subset of global IT services companies analyzed here accounted for 16% of all LCAs for initial employment in computer-related occupations.

The average annual wage proposed on all LCAs for computer occupations certified by DoL in 2017 was approximately $90,000. However, as noted above, the LCA data do not give a reliable measure of the wages actually paid to H-1B employees. First, the wage on many LCAs is stated as a range, not a single amount to be paid. In working with the data, IHS Markit adopted the convention used in the literature, i.e., using the midpoint of the range in such cases. Second, because 20,000 H-1B visas are set aside for workers with master’s degrees each year, the share of visas awarded for positions with master’s degrees (and, thus, higher wages) is higher than the share among LCAs requested. Third, the wage actually paid to H-1B employees could often be higher than that stated on the LCA because of the time lag between LCA and visa award and the need of companies to respond to market conditions that affect their company wage scale. Fourth, skills and wages are like a pyramid and the largest share of LCAs are reportedly filed for individuals at level 2 wages even though this same distribution may not be seen in visa awards. On balance, there is a downward (negative) bias in using LCA data as an indicator of actual wages of H-1B employees.

Therefore, instead of relying on the LCA wage data, IHS Markit based its analysis on the survey of the subset of global IT services companies. This survey was conducted in the summer of 2018 and asked detailed wage and

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9 https://www.foreignlaborcert.doleta.gov/pdf/PerformanceData/2017/H-1B_Selected_Statistics_FY2017.pdf Multiple positions may be requested in a single LCA.

10 Our analysis is based on the disclosure data file published by DoL containing details of the occupation and industry of all LCAs filed. See https://www.foreignlaborcert.doleta.gov/performanceData.cfm We extracted from this file all records for DoL-certified applications for computer-related occupations. We exclude from our analysis LCAs that were withdrawn or denied.

employment data from a sample of the subset of global IT services companies.\textsuperscript{12} IHS Markit estimates that the average annual wage of the subset companies’ H-1B employees, more than 90\% of whom are in computer occupations, is approximately $88,000.

How does this average H-1B wage of $88,000 compare to wages of similar employees in the US labor market? To properly address this question, we must consider the factors that affect wage differences in the labor market. Below we examine several different wage figures that might, correctly or incorrectly, be considered as an appropriate benchmark for the wages of the H-1B employees of the subset of global IT services companies in order to evaluate the competitiveness of this $88,000 annual wage. \textit{It is important to keep in mind that all employers are required by law to pay all H-1B visa holders the higher of the actual market wage or the prevailing wage for their respective positions.}

Determining wage comparisons

How useful are economy-wide averages of wages for all workers in computer occupations or all workers in the computer systems design and related services industry as a basis for comparison? In this section, we present various published wage figures and make additional wage comparisons that show the importance of taking into account differences in the characteristics of workers such as age (as a proxy for job experience), occupation and education when evaluating the competitiveness of the average wages of H-1B employees at the subset of global IT services companies.

The average annual wage for all H-1B visas approved in FY2017 was $94,000.\textsuperscript{13} This average is heavily influenced by higher wages paid to H-1B employees for continuing employment, usually upon renewal of their visas, i.e. after they have accumulated some job experience – in some cases three years or more. The average for approved visas for continuing employment was $98,000, while the average for initial employment was $86,000.

BLS reports that the industry average wage for all employees in the \textit{computer systems design industry} in 2017 was $94,760. The average wage for \textit{computer occupations} across all industries was $89,780 and it was $93,960 in the \textit{computer systems design industry}.\textsuperscript{14} The industry average of $94,760 is not a good basis for comparison since only 56\% of industry employees are in computer occupations, while most H-1B employees are in computer occupations. Thus, the industry average wage is influenced by employees that are in management, sales, support, and other occupations. A person’s occupation is, in most wage comparability analyses, the single most important worker characteristic to be taken into account. The average wage of computer occupations in the computer systems design industry is thus a more relevant benchmark, but it is an average across workers of all ages.

\textsuperscript{12} The sample represented over 80\% of the employment in the subset of global IT services companies. However from the sample surveyed about 25\% of the total employment at these companies is represented by this analysis.

\textsuperscript{13} USCIS, Characteristics..., p. 16.

\textsuperscript{14} These figures are from BLS, Occupational Employment Statistics, for May 2017 at \url{https://www.bls.gov/oes/#data}.
A USCIS report on the characteristics of workers awarded H-1B visas in FY2017 indicates that the median age of all visa recipients was about 31. Using data from the American Community Survey (ACS), we calculate that the median age of workers in computer occupations economy-wide is 40. Using the ACS data, we calculated average wages of U.S. workers in computer occupations in 5-year age categories. If we weight these age-specific wage rates by the shares of H-1B visa recipients by 5-year age group, the resulting (age adjusted) weighted average wage is 9% below the overall U.S. average wage for computer occupations. If we then apply this differential to the average wage for computer occupations in the computer systems design and related services industry from BLS of $93,960, we get an age-adjusted benchmark wage of approximately $87,000. That is, purely due to the fact that H-1B employees are younger, we would expect their wage to be 9% lower than the average wage for all computer workers in the industry for which they are a part. Furthermore, the average wage of H-1B employees in computer occupations at the subset of companies is slightly higher than what we would expect given the age adjusted average wage in the overall industry for which it is a part.

This exercise demonstrates the need to consider differences in worker characteristics in identifying an appropriate benchmark wage for comparison. The USCIS report cited above provides a few measures of the compensation of H-1B workers in 2017. But differences in the characteristics of the H-1B employees of the subset of companies analyzed here compared to the pool of all H-1B workers in 2017 must also be taken into account in making comparisons with these overall H-1B averages.

The USCIS report also provides a somewhat more direct comparison for the H-1B employees of the companies analyzed here, since it reports average H-1B wages for computer-related occupations. The average for all computer occupations in FY2017 was $93,000, including $85,000 for visas for initial employment and $96,000 for continuing employment.

This average H-1B wage for computer occupations of $93,000 includes workers employed in computer occupations across the economy, not just in the computer systems design industry where the global IT services companies analyzed here are classified. The USCIS report provides information on the number of H-1B visas awarded by industry but not on compensation by industry. To get a more relevant basis of comparison for the subset of global IT services companies, we used the 2017 LCA data to estimate wage differentials of computer occupation earnings separately for the computer systems design industry and for all other industries.

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16 The ACS is an on-going survey of the US population conducted by the US Bureau of the Census, which collects data on individual and household demographic characteristics, including employment by industry and occupation. Data are accessible in standard tables on the Census Bureau web site. Specialized tabulations not available on the web site can be produced by tabulating public-use microdata files, which we do here.
What these data show is that the average H-1B wage for computer occupations in the computer systems design industry is about 8% below the economy-wide H-1B average computer occupation wage.

This differential in H-1B wages is not the same picture that is seen in relative wages for computer occupations economy-wide. As described in our Wage Trends report, the computer systems design industry has the second highest average wage for computer occupations among all industries, with an industry average 5% above the economy-wide average. The finding that H-1B employees outside the computer systems design industry have a higher average wage (approximately 15% higher based on our calculations with the LCA data) can be traced to two factors. First, the one industry with a higher overall average computer occupation wage than the computer systems design industry, NAICS 5112, Software Publishers, is a significant user of the H-1B visa program. The share of these high-wage companies in the number of H-1B visas awarded has been rising in recent years as the share of the subset of global IT services companies analyzed here has fallen. Second, companies outside the computer system design industry appear to be hiring an even larger share of H-1B employees with master’s degrees (and more with PhDs and professional degrees) than is the case within the computer systems design industry (more on this below).

If the 8% differential in LCA wages between computer occupations in the computer systems design industry and computer wages economy-wide (across all industries) is also reflected in the wages of H-1B visa recipients, then the average H-1B wage for computer occupations in the computer systems design industry (covering visas for both initial and continuing employment) would be approximately $86,000. This is a more appropriate benchmark for comparison with the H-1B wages of the subset of companies analyzed here than the H-1B computer occupation average.

Wage differences between H-1B employees in the computer systems design industry and all other industries across the economy are also affected by differences in the level of education. USCIS data on approved H-1B applications by employer in FY2017 show that about 36% of the H-1B visas awarded in the computer systems design industry were for workers with a master’s degree, while among visas awarded for employees outside the computer systems design industry, where as noted above wages are higher, 52% had a master’s degree and 16% a PhD or professional degree. Many of those with a professional degree are working for employers in the health care industry and likely have medical degrees.

In sum, we find that the average wage of the H-1B employees of the subset of companies analyzed here (estimated at $88,000) is comparable to the wages of similar U.S. computer workers when differences in education and experience are taken into account.

Previous Studies of the H-1B Visa Program

Ideally, we would like to be able to evaluate the competitiveness of the wages of the H-1B employees based on data on the wages and worker characteristics of individual H-1B employees in combination with the same type of data on similar workers economy-wide. This type of analysis has been done in many academic studies.

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17 As noted above, although there is a downward bias in the wage levels proposed in the LCA data and therefore not reliable for direct wage comparisons, we may still use these data to examine wage differentials between different groups of workers.


19 These tabulations, based on the database cited in footnote 4, are approximate since the data do not include companies with less than 10 H-1B visa awards and counts of employees by degree category are also suppressed in instances with less than 10 employees in a category.
of wages in various parts of the economy using public-use micro-data from the Census Bureau’s Current Population Survey (CPS). But the CPS does not identify the visa status of non-citizen residents.

Below we examine how some studies have approached the task of analyzing the impact of the H-1B program on the U.S. labor market and what they have found. There is a large body of research that has examined the H-1B visa program over the past several decades. This review looks primarily at academic studies published in recent years that address the issues of the impact of the H-1B program on US wages and/or employment, in particular those that take into account differences in worker characteristics. The intent is not to catalog all the many reports that have summarized H-1B data, offered their opinions about H-1B issues, or commented on the work of others on the H-1B program. And, even among academic studies, we are not concerned with all H-1B issues and thus we do not discuss things like impacts on innovation or business formation.

In a 2011 report, the Government Accountability Office (GAO) analyzed CPS data on U.S. workers and information on H-1B salaries from the USCIS to compare H-1B pay by age and occupation with earnings of various computer occupations by age group. They found that H-1B workers generally earn the same or more than their U.S. counterparts. Furthermore, they argue that the administrative, legal and other costs of acquiring an H-1B employee increases the economic cost of hiring an H-1B employee. The GAO survey estimated the legal and administrative costs associated with each H-1B hire to range from $2,300 to $7,500 dollars. From its survey data, IHS Markit estimates that the additional cost of hiring an H-1B worker for the subset of global IT services companies is on the higher end of this range at approximately $6,000 per year. Those that are H-1B dependent have even higher costs. Given this additional cost, companies must expect a productivity advantage (i.e., higher skills all else equal) from sponsoring the H-1B worker.

Another recent study of the effects of the H-1B visa program by Bound, et.al. provides a review of some past studies of the program as well as presenting new results. Sources they cite take a variety of approaches to econometrically assess the impact of the program on US technology employment and wages and broader effects such as impacts on firm productivity and innovation. These studies variously find evidence that the net employment impact of immigration is positive rather than substituting for native employment, or that H-1B flows do not appear to adversely impact native employment and have a small, statistically insignificant, effect on their wages, or are unable to reliably identify the net effects of high-skill labor immigration.

The approach of Bound, et.al. is to try to measure the potential productivity effects of high-skill immigrants within the context of a simple general equilibrium model of the US economy. They find that that while immigration yields significant beneficial consequences and economic gains for the U.S. as a whole, over the period 1994-2001 in the absence of immigration, wages for US computer scientists would have been 2.6% to 5.1% higher, and US workers switched to other occupations, reducing the number of US born computer scientists by 6.1% to 10.8%. However, these findings flow from a highly stylized model of labor inputs that consists of only three types of workers: computer scientists, college-educated non-computer scientists, and non-college-educated workers. All foreign immigrants are hired as computer scientists. One concern is that

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this simplified representation of the labor market for computer occupations may not give a reliable measure of the impact of high-skilled immigrant workers, since there are widespread opportunities for workers with computer skills across the economy (employment in 237 of the 250 4-digit NAICS industries as noted above) and there are multiple paths to gaining the expertise necessary to work in computer-related occupations. For example, tabulations of ACS data for 2017 show:

- Nearly one-third (30%) of all workers in computer occupations have less than a bachelor’s degree. About 15% have some college but no degree, and 10% have an Associate’s degree.
- Only 1.2 million (37%) of the 3.3 million employed persons with computer degrees were working in computer occupations. Many workers with computer degrees are working in non-computer occupations – 18% in management occupations, 9% in business and financial occupations, 7% in education, and others distributed across many other occupational categories.
- Conversely, among those working in computer occupations who have a bachelor’s degree, most (59%) have a degree in something other than computer science or applied mathematics. Many have degrees in engineering, business or economics. Combined with the finding above that many computer-related jobs do not require a college degree, it is evident that many workers in computer occupations have acquired the skills they need in non-degree programs, through study in conjunction with other college majors, or through knowledge gained on the job.

Lofstrom and Hayes combined unique individual level H-1B data they obtained from USCIS and data from the 2009 ACS to analyze earnings between H-1B visa holders and US born workers in STEM occupations. They found no “support for the notion that H-1Bs are paid less than observationally similar US born workers.”

Thus, most studies have found no negative impact of the H-1B program on the wages of native workers in similar skilled occupations.

In a 2013 report for the Brookings Institution, Rothwell and Ruiz combined the data set assembled by Lofstrom and Hayes with microdata from the American Community Survey to compare employment of U.S. native-born workers with a bachelor’s degree to their H-1B counterparts.

They found, like Lofstrom and Hayes, that H-1B workers earn more than Americans in the same occupation and age cohort.

A study by Hanson and Slaughter was also based on data sets that permitted controlling for differences in worker characteristics. They use data from public-use samples of the Census of Population for various years as well as ACS data for 2010-2012 and the March Current Population Survey. In commenting on previous papers by critics of the H-1B program, Ron Hira and Norman Matloff, Hanson and Slaughter state:

“Critics of the H-1B program portray it as allowing Indian firms in business services … to set up low-wage programming shops in the United States. Our results do not support such characterizations. After controlling for observable characteristics, there is little discernible difference in the average earnings of native and

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30 Hanson and Slaughter, p. 4.
foreign-born workers in STEM occupations. Moreover, the pattern of assimilation among foreign-born STEM workers suggests that immigrants end up in higher-wage and not lower-wage positions.

The studies summarized here were conducted based on data for various periods over the past two decades when the U.S. labor market was not as strong as it is currently. In addition to virtually no impact on U.S. wages, there is little evidence of any impact of the H-1B program on employment of the US-born workforce. Given the dynamic nature of the labor market for IT workers, with computer-educated workers shifting into management and finance, and workers with non-computer degrees acquiring computer skills through retraining and certificate programs, the shift over time in the mix of US-born and foreign-born workers in IT jobs that flows from the parameters of the model analyzed by Bound et al. cannot reliably be characterized as job displacement.

As the national unemployment rate has fallen to an 18-year low of 3.7%, the unemployment rate for computer occupations stood at 2.2% in October 2018. And only one-third of those in computer occupations who are currently out of work are unemployed due to layoff or job loss. Most of the rest either left their previous job or are reentering the workforce.

Conclusion

In this report, we analyze the employment and wages at the subset of global IT services companies of employees on an H-1B visa – a non-immigrant visa that allows US employers to temporarily employ foreign workers in specialty occupations. We estimate that the subset of companies added approximately 13,600 new employees on H-1B visas for initial employment in the most recent year for which we have complete data, FY2017. This was 16% of the 85,000 H-1B visas for initial employment approved in FY2017 that were subject to a cap.

The companies have been aggressively increasing their local hiring over at least the past six years. The number of H-1B visas for initial employment that these companies have applied for and received has fallen in recent years – by as much as 40% between 2014 and 2017. As a result, the share of H-1B employees in their total employment in the U.S. has declined, and the share of US-born employees has risen.

We estimate that the average annual wage of the H-1B employees of the subset of global IT services companies analyzed here is $88,000. We analyze the relevant employment characteristics of H-1B employees in order to estimate appropriate benchmarks to compare this average wage. We find the average wage of H-1B employees at the subset of global IT services companies is comparable to, and slightly above, the wages of similar U.S. computer workers.

Lastly, we reviewed studies of the impact of the H-1B program on the U.S. labor market that have taken into account differences in worker characteristics. These studies have generally found there is little or no impact on the wages of native-born workers. With the unemployment rate for computer occupations in the U.S. at 2.2%, and only one-third of the unemployed in computer occupations out of work because of layoff or a lost job, there can be little argument currently for a negative impact of the H-1B visa program on U.S. computer occupational employment.
Appendix A: Subset of global IT services companies

- 3i Infotech
- Aegis
- AxisCades
- Birlasoft
- Cognizant
- CSS Corp
- Cybage Software
- Cyient
- Datamatics
- eClerx
- EXL Service
- Firstsource
- Fractal Analytics
- Genpact
- Global Logic
- Happiest Minds
- HCL
- Hexaware
- Hinduja
- Infinite Computer Solutions
- Infosys
- Intelenet Global Services
- Interglobe Technologies
- ITC Infotech
- iYogi
- KPIT
- LTI – Larsen & Toubro Infotech
- Larsen & Toubro Technologies
- Masteck
- Microland
- Mindtree
- Mphasis
- MuSigma
- NIIT
- Persistent Systems
- Polaris Consulting & Services
- Quattrro Global Services
- Ramco Systems
- Rotta
- Sasken
- Sonata Software
- Subex
- Atos Syntel
- Tata Elxi
- Tata Technologies
- TCS
- Tech Mahindra
- United Lex
- UST Global
- Wipro
- WNS
- Zensar
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