

Health and well-being of highly skilled migrant workers: A new study on H-1B visa holders in the United States

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1 Introduction

The United States admits the largest number of immigrants in the world, many of whom initially arrive as migrant workers using avenues such as the H-1B visa program that has its roots in the H1 program started in the 1950's. Since the 1970s, the United States has seen an increase in the immigration of highly skilled workers from various Asian countries. Immigrants are attracted by high wages, better career opportunities, and a higher living standard. However, it wasn't until the Immigration Act of 1990 that the H-1B visa was launched.

The H-1B program allows American firms to hire highly skilled, foreign-born workers on a temporary basis to work in specialty occupations. H-1B specialty occupations may include fields such as science, engineering and information technology, education and accounting (Department of Labor, 2019 <https://www.dol.gov/whd/immigration/h1b.htm>). Most H-1B workers hold a Bachelor's degree or higher, are from Asian countries and work in computer-related occupations.

Since 1990 about 50% of growth in college-educated STEM workers is attributable to H-1B workers, [Peri et al. \(2015\)](#). They make up 24% of the labor force in occupations directly linked to innovation and technology [Kerr et al. \(2015\)](#), making them at the forefront of policy debates. One in five approved H-1B visa petitions originate in metropolitan areas like New York, San Jose, Washington DC, Boston, Chicago, and Dallas-Forth. Together they account for 60% of such petitions. Two groups that have garnered significant attention are Indian and Chinese born workers who make up more than 70% of the H-1B worker pool. These workers are mainly employed in computer-related occupations (46%) along with administrative specializations (13%); architects and engineers (11.3%); education (9.9%); and medicine and health (6.3%). Annually the US government has allowed 65,000 workers on H1B visas. These caps were raised in the early 2000's to mitigate a shortage of STEM workers in the US. In the last 5 years, this cap has gone back to 65,000 with an additional 20,000 for highly educated H1B workers (see [Figure 10](#)). However, in recent times, there have been 200,000 applications which has led to the USCIS change the procedures of H1B approvals to a lottery system. There have been further impediments to those who already have H1B visas during renewals, job changes, etc.

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Volatile political environments and regulatory changes, which can, without forewarning, trigger major life events such as change in health status, employment and to some extent even relocation and displacement of family members. Failure to address these inequities is detrimental not only to the firms and workers impacted by the H-1B visa program but also to the U.S. economy.

The economic effects of H-1B workers remain a contentious topic. While some authors are more supportive of the narrative that H-1B workers crowd out alternative workers, are paid less than native counterparts whom they crowd out, and thus increase the firm's profits [Matloff \(2014\)](#) without any measurable effect on innovation [Hira \(2017\)](#) there are several others who show large positive contributions to the U.S. economy as well as the domestic labor markets in high skilled occupations [Peri et al. \(2015\)](#). Furthermore, some studies have also argued that H-1B visa holders negatively impact labor market opportunities for native-born workers by depressing wages especially in STEM occupations [Doran et al. \(2014\)](#). [Matloff \(2002\)](#) attributes the displacement of older native workers within firms to the H-1B visa program stating that in light of cost reduction, firms can replace their older workers by foreign labor, as if the two are perfectly interchangeable. [Mayda et al. \(2018\)](#) ask if the program unintentionally favors certain type of firms, workers, or occupations.

Even though the H1B program is intended to maximize economic gain for sponsoring companies or economic gain for the country as a whole, it is obvious that H1B workers end up with less than native worker wages, workplace policies insensitive to their needs as well as immigration policies that make them feel exploited and vulnerable. H1B program fails to address the social needs of immigrant workers. Having relatively high incomes, these workers are expected to look after their needs adequately, yet workforce, immigration and health care policies do not support the social and mental needs of these workers. A thorough analysis of the health and well-being for this increasingly important group is long overdue.

The United States Citizenship and Immigration Services (USCIS) oversee the adjudication process of obtaining a H-1B visa. They collect data on H-1B workers through petitions, known as I-129 forms, filed by sponsoring companies. Several researchers use this administrative data on petitions for H-1B workers for an insight into their contribution to the US economy, however, qualitative information on their lives is often left out.

Furthermore, it is a well-known tradition in Asian communities that parents left behind rely on their children as they get older. Limited research exists on how these workers maintain family ties and provide long-term care for their aging parents. For example, information on benefits packages, workforce policies, reliance on technology to provide care for themselves and their families is not available. Lack of adequate social support and supportive work place policies hinder productivity and impact social and emotional well-being of the H1B workers. Our study strives to offer new insights on lives of this understudied, yet growing and important part of the US population.

We use Amazon's Mechanical Turk to collect nationally representative survey data on H1B workers, their motivations to migrate, costs and challenges faced in their country of work as well as to maintain family ties in their home countries. Since Asians make up the bulk of H-1B workers in the United States, (see [Figure 1](#)), the top four sending countries being China, India, Phillipines and South Korea, we focus on Asian H1B workers from these four countries. This individual-level data on Asian H1B visa workers in the United States is designed to generate information and characteristics that are beyond the scope of the data collected by USCIS. The

use of MTurk in social sciences has seen a rapid incline in the last couple of decades. MTurk provides an effective platform for collecting robust and valid data, specially from a population that is connected to the internet (Buhrmester et al. (2011), Paolacci et al. (2010)).

We hope to shed light on the health inequities caused by asymmetrical wages and benefits policies which prohibit H-1B workers to provide the same quality parental care as their native counterparts. As data suggests, these disparities have negatively affected the emotional, psychological and financial outcomes for H-1B workers.

While the contribution of our broader study are manifold, in this paper, we focus on the data collection design and validity, provide a preliminary description of our findings and our future research plans.

2 Data Collection

We collected online survey data using Qualtrics that was disseminated using Amazon’s Mechanical Turk platform. The survey tool was used to gather detailed information on the demographics, family background, immigration history, parental health status and care-giving challenges of H-1B workers.¹ The survey was built as an extension to a pilot study Lee et al. (2015). In the pilot study, data was collected using an in-depth interview and a snow-ball sampling approach and was geographically limited. In this round, data was collected using a two-step approach. In the first stage, an online quantitative survey consisting of 80 questions on individual level information was collected from eligible participants. To be eligible for the survey, respondents had to answer yes to the qualification criterion questions below:

1. Be of Indian, Chinese, Filipino or Korean descent
2. Ever held an H-1B visa
3. Has at least one parent alive
4. Parents must be above 60 years of age
5. Parents must be living in their country of origin

These qualification questions were carefully chosen based on our main research questions around caregiving challenges faced by H1B workers.

Potential participants saw our study on Mturk’s worker portal. Once potential participants established their eligibility, qualified participants were able to access the actual survey which had 80 questions about their immigration history, workplace benefits and policies, parental health and caregiving challenges. Survey respondents were compensated one dollar for taking the survey. Payments were made through MTurk only if:

1. They provided accurate information and
2. They correctly entered a randomly generated code at the end of the Qualtrics survey into the Mturk space for payments.

¹The data collection methodology and questions were reviewed and approved by the SFSU Institutional Review Board.

Validity and accuracy of information was checked by looking at a few key questions around date of birth, date of entry, educational qualifications, etc. These questions were chosen to check if individuals indeed had the qualifications for H1B visas. For a sample list of the type of questions asked in the survey see Figure 2.

In stage two, a respondent who attempted and completed the survey, provided accurate data in accordance with the H-1B law, properly entered a uniquely generated MTurk code and consented to a phone/online interview was invited for a 45 minute in-depth qualitative interview over a videoconferencing platform (such as zoom) for an honorarium of \$20. Due to privacy requirements of MTurk, respondents had to contact the researchers or provide their contact details and not vice versa. The goal was to collect in-depth interview data from about 10% of the respondents who completed the quantitative survey.

Data collection started in March of 2017 and was completed in June 2018. Qualitative interviews were conducted online during the same time frame.

3 Results

3.1 Response rates and Validity

We have a very high response rate of 75%. Our survey was seen on MTurk by 10,153 individuals, out of which 1525 were qualified to take our survey based on the 5-questions qualification criteria. Of these 1525, 1346 (88%) completed the survey. Looking through the responses and checking for validity and accuracy, we accepted 1007 surveys (75% of those who qualified). Of these 1007 respondents, 36% (360 people) were willing to give us a qualitative interview. Compared to average internet based response rates, we had a very strong response rate using Amazon Mechanical Turk. See Figure 4.

Figure 5 represents a map cluster pinning the location of survey respondents using their zip codes that they provided. The red dots on the map represent the location of the respondents. Respondents in our data set are clustered in the major tech hubs and cities in the US showing the national representation of our dataset.

Our sample is not only nationally representative of the overall distribution of H-1B workers in the U.S. but also is reflective of the distribution by education and occupation [see Figure 3] when compared with data from the USCIS.

A limitation of internet-based surveys is selection bias due to the respondent pool being limited to those who are connected to the internet or are aware of the Mturk tool. Despite this limitation, we were able to collect information from a group who is difficult to find through standard national survey data sets and at the same time were able to collect a sample that is geographically and demographically representative of the H1B workers in the US.

3.2 Other Findings

In this section, we provide a description of the demographic characteristics of our sample.

About 33% of our sample is of Indian origin, 28% from China, 24% from Philippines and 15% from South Korea. The most important reasons for coming to the US were for school or work for the respondents in our sample. Very few arrived for marriage and then got their H1B

visas (See Figure 8)

Age

The average age of individuals in our sample is 35 as most of them were born between 1980 and 1990. A distribution of their birth years is given in Figure 7.

Education

Most respondents in our sample have a Bachelor's degree and above with only about 10% with some school. A third of our sample have post-graduate degrees. See Figure 6

Gender

In our sample, 62.5% are males and the rest 37.5% are females.

Marital Status

48% of our sample is Married and about 45% are Single. While the majority (66%) in our sample do not have children, of those who are married, 88% have children. Of those who are married, about 38% have spouses on their own H1B visas and more than 40% of spouses have dependent visas (H4 visa) that do not allow them to work.

Wages

The median wage for our sample lies between \$50,000 - \$100,000. A distribution of the wages is presented in Figure 9

Occupation

About 52% report that they work in Computer-related occupations. 16% are in Architecture, Engineering and Surveying, about 15% in Education, 14% in Health and 3% in other occupations.

4 Discussion and Conclusion

Our study has produced a rich data set for H-1B visa workers from the top four Asian countries residing and working in the United States. This newly collected data set allows us and future researchers to examine the challenges and barriers faced by H-1B workers in their professional and personal lives.

Our methodology produced robust and valid data at a significantly low cost. To date, the usage of Mturk has been underutilized by researchers and remains a powerful tool for sourcing hard-to-find data, especially for our target group – H-1b visa holders.

Praised by proponents as vital to American innovation, the H-1B visa program has also been criticized for displacing native workers with cheaper foreign labor. It is important to remember that when American technology companies have complained about a shortage of qualified native workers in scientific and programming jobs, H-1B workers have filled in. Immigrants or their children serve as founders for many successful companies like Apple, Google, Intel, WhatsApp and Airbnb. However, recent changes in immigration policy, specially for H1B workers (through the lottery system and routine denials and request for information) has made H1B workers feel even more vulnerable. These are employees in highly specialized and technical jobs who earn reasonably high wages and pay into social security, even without perhaps ever drawing from it.

H-1B visa holders, in particular, deserve this in-depth analysis as their pre-eminence in American culture and politics continues to grow. The frontier for future research is the collection and integration of new sources of information for research purposes. Our methodology seeks to contribute to the existing literature on H-1B workers and to better inform health and immigration policy experts.

5 Tables and Figures

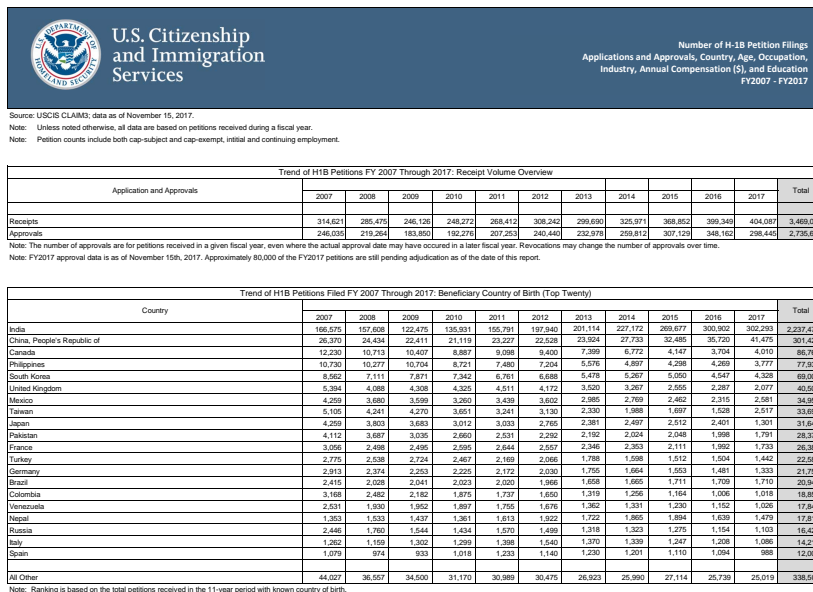


Figure 1: Trend of H-1B Petitions Filed FY 2007 - 2017

Survey Questions

- Demographic and family background
- Immigration and Visa Status
- Workplace benefits
- Levels of acculturation
- Parent health status
- Caregiving
 - Technological use
 - Remittance
 - Visiting habits

Figure 2: Survey Questions

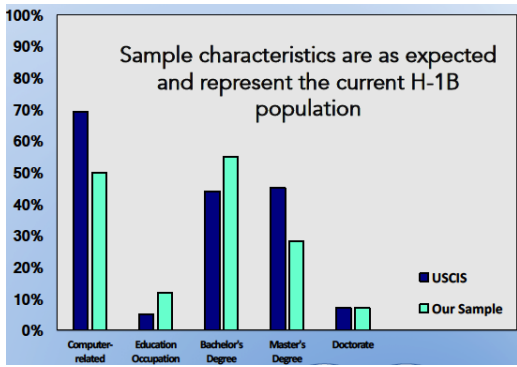


Figure 3: Sample description

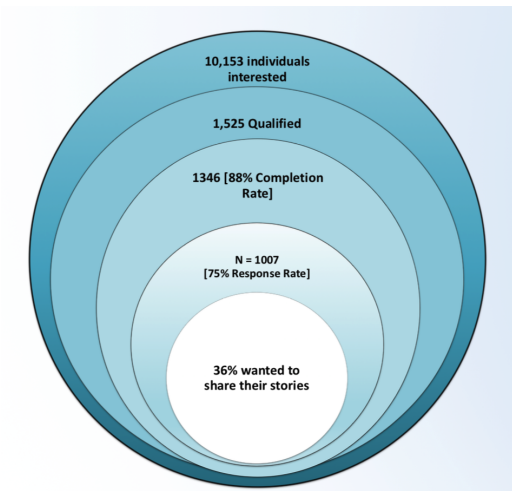


Figure 4: Response Rates

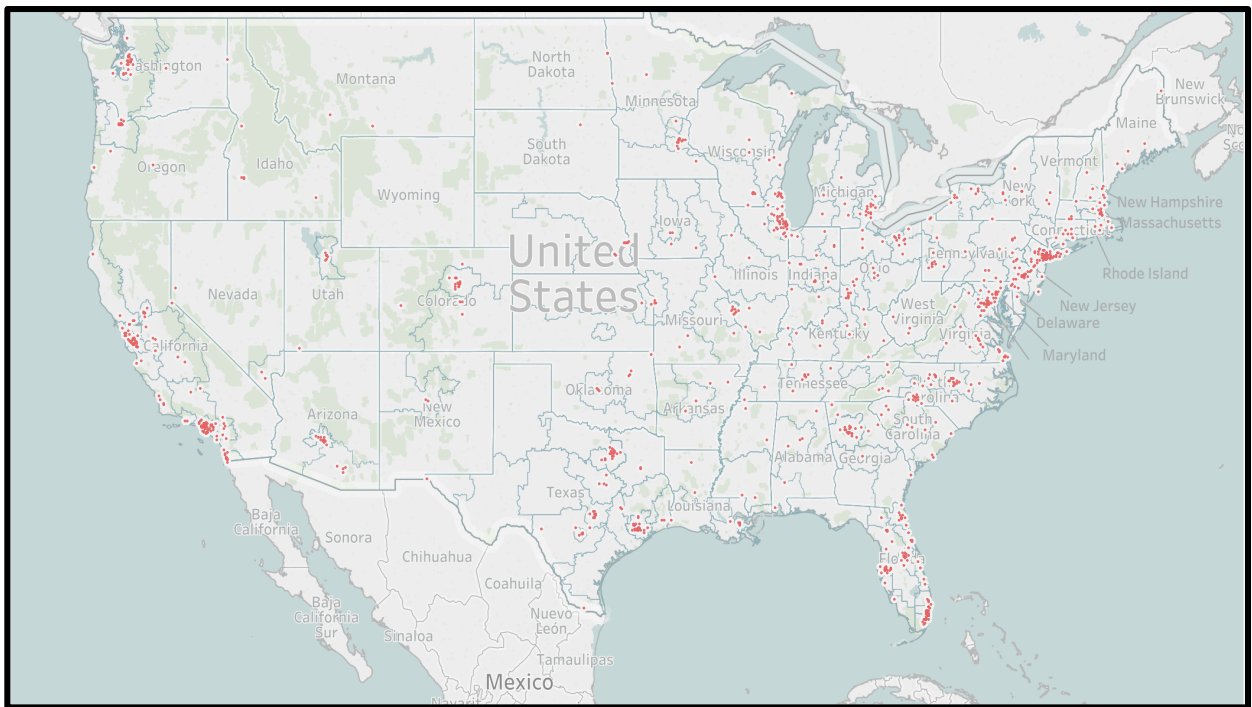


Figure 5: Map Cluster

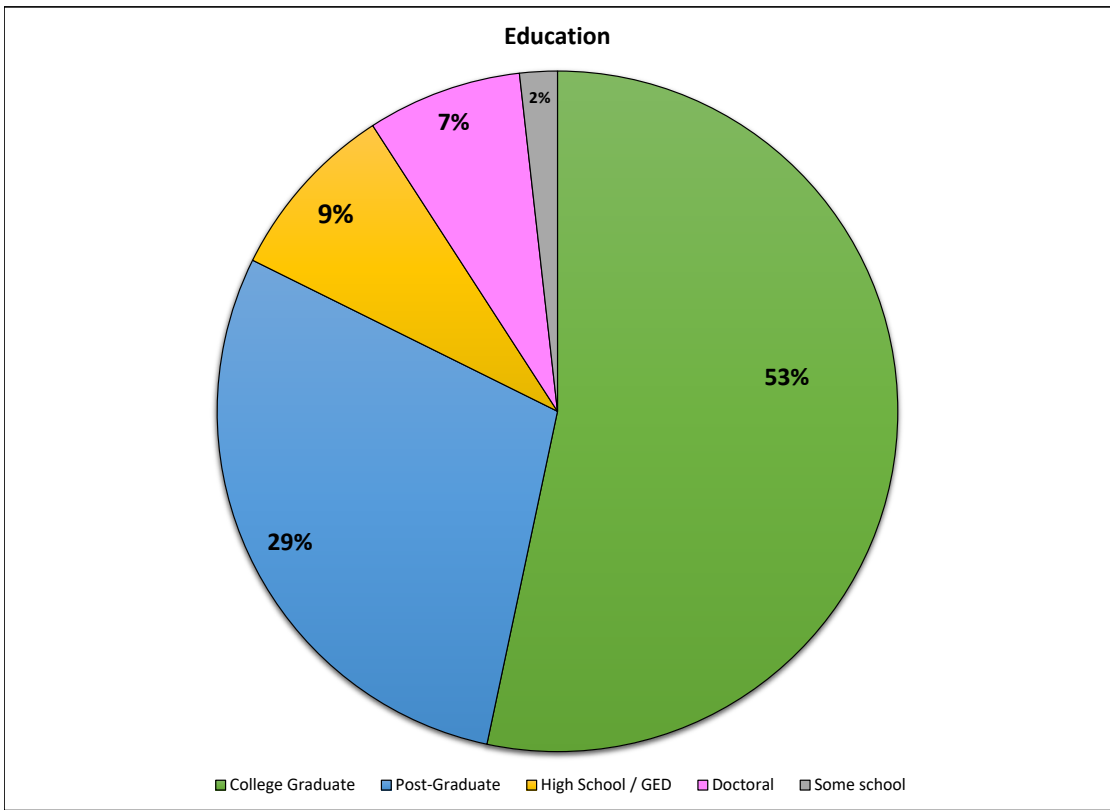


Figure 6: Educational Attainment

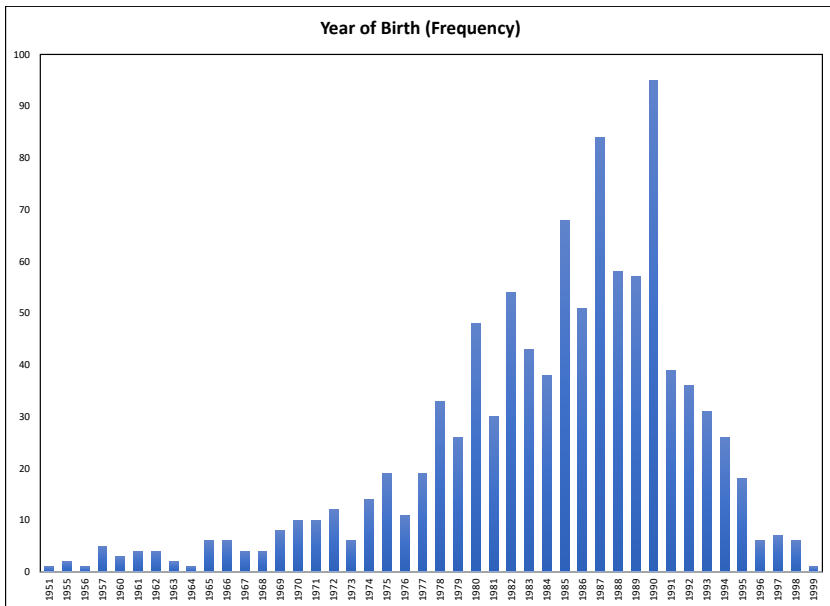


Figure 7: Year of Birth

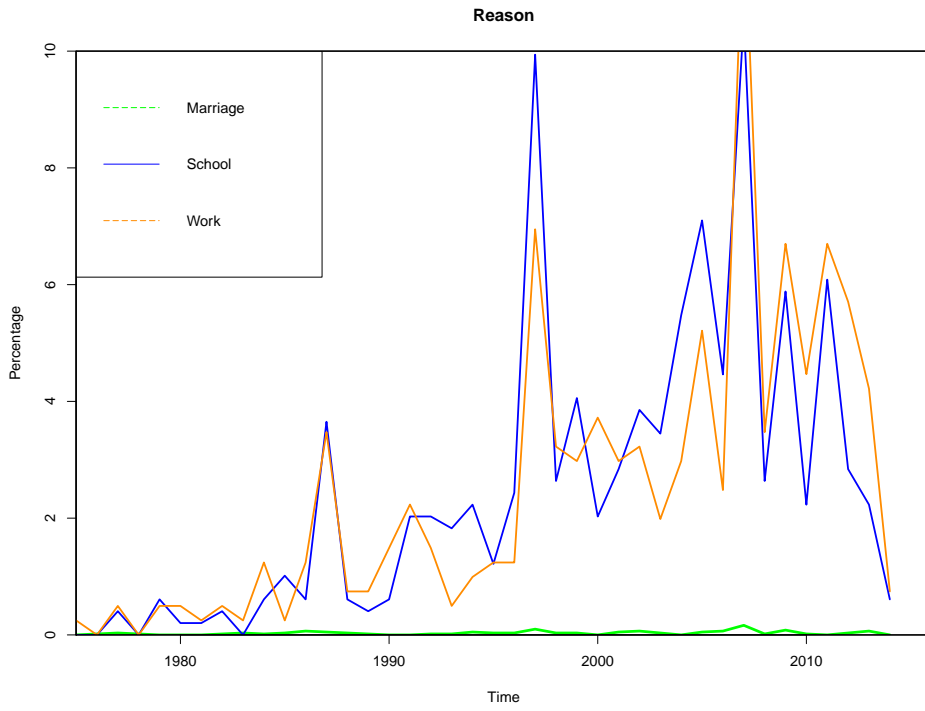


Figure 8: Reason for Immigration

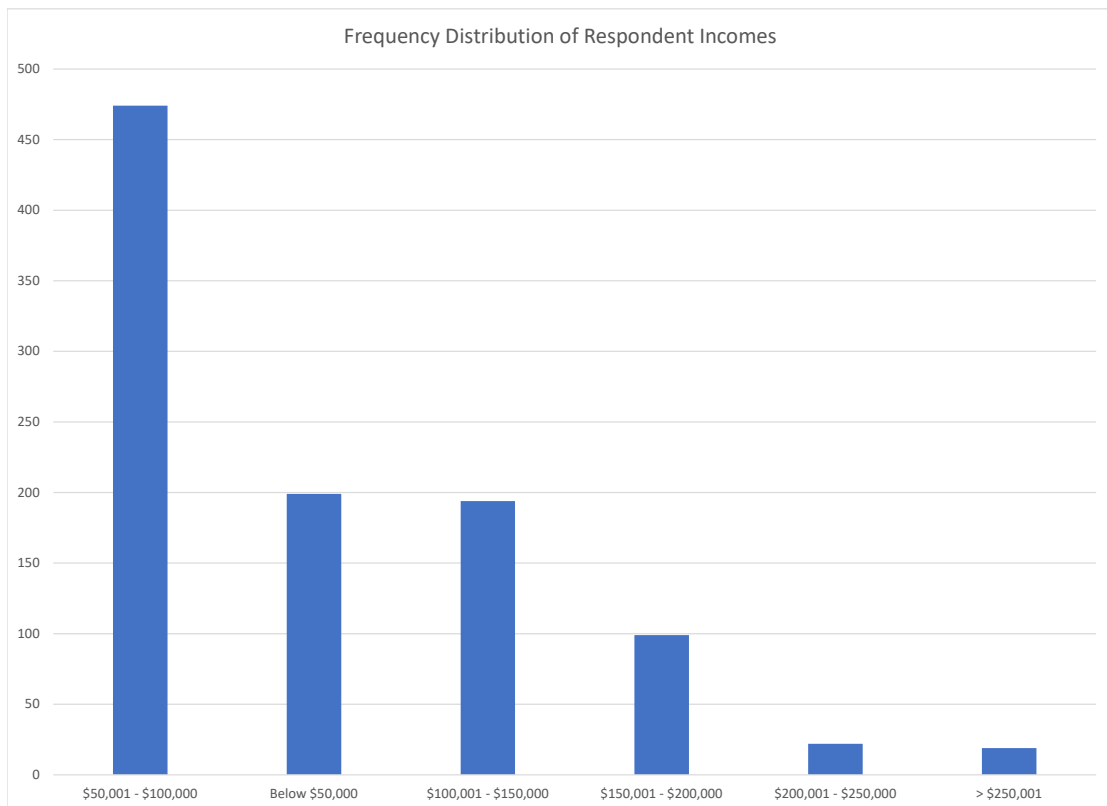
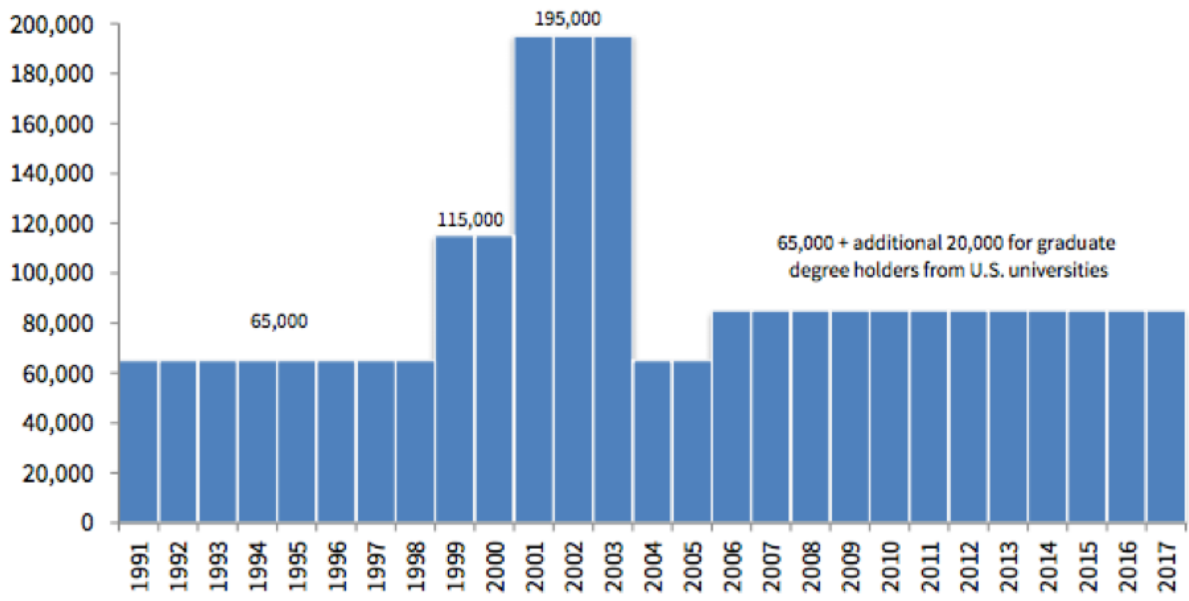


Figure 9: Incomes

Figure 1: Annual Cap on H-1B Visas



Source: U.S. Citizenship and Immigration Services.⁶

Figure 10: Annual Caps

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