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To Be or Not to Be on H-1B Visas: Engineers from India in the United States

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Abstract

Foreign-born scientists and engineers are increasingly present in technology companies in the United States. Some of them are immigrants, that is, aliens admitted to the US for lawful permanent residence; others are non-immigrants, that is, aliens admitted to the US for a specific period of time for temporary work. Whether immigrant or non-immigrant, an overwhelming majority of foreign-born scientists and engineers enter the US technology sector through one single H-1B visa program. Using a case study of Indian engineers, this article shows different sub-paths of the H-1B visa program, which leads to significant differences in their immigration, work, and socio-economic experiences. The article is based on the secondary sources and 40 in-depth interviews conducted with Indian engineers working in US technology companies.

Keywords

body-shops – foreign-born – H-1B visas – high-tech workers – immigrant engineers – Indian engineers – specialty work visas

1 Introduction

Over the past three decades, the foreign-born population has grown dramatically in the United States. In 2018, there were 28.2 million foreign-born persons in the US labor force, comprising 17.4 percent of the total and 13.3 percent of the US civilian labor force (Bureau of Labor Statistics 2019).

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In 2015, foreign-born accounted for almost 30 percent of college-educated workers employed in science and engineering (S&E) occupations in the US (National Science Board 2018). Though foreign-born scientists and engineers come to the US from all over the world, a large majority of them are from Asian countries. For instance, in 2015, 58 percent of foreign-born scientists and engineers were from Asia, 13 percent from Europe, and three to five percent each from North and Central America, the Caribbean, South America, and Africa (National Science Board 2018). This shows that the US has become dependent on foreign-born scientists and engineers from Asia to meet its scientific and technical needs (Varma 2011).

Beginning in the 1990s, the US developed a temporary contract labor program for the technology industry to maintain its competitiveness in the global economy. Under this program, US companies aggressively began to recruit foreign-born scientists and engineers to work mostly in information and communication companies, but also in electrical machinery, financial services, pharmaceuticals, semiconductors, and testing measuring and control instruments companies. Foreign-born scientists and engineers with at least a bachelor's degree (or equivalent) began to join US technology companies under temporary specialty work visas, commonly known as the H-1B visas.

This article studies foreign-born engineers on H-1B visas in technology companies. It focuses on H-1B visas as they have shown a continuous increase in the last two decades compared to J-1 (exchange visitor non-immigrant visa). Most importantly, the H-1B visa program has been controversial since its inception, but this debate has intensified in recent years, especially after President Donald J. Trump signed the "Buy American and Hire American" Executive Order in 2017. Advocates of H-1B visas argue that it helps the US maintain its competitiveness in the global market by providing a steady flow of highly skilled workers who are currently in a short supply in the country (e.g., industrial leaders of tech giants like Microsoft, Google and Facebook, US Chamber of Commerce, American Competitiveness Alliance). Critics, however, argue that it displaces US-born qualified workers and depresses their wages (e.g., American labor unions, political leaders such as Chuck Grassley and Jeff Sessions, and academics, namely Norman Matloff and Ron Hira).

This article focuses on engineers from India because of their overwhelming presence in the US. Over half of H-1B petitions originate in India, with the next share (approximately ten percent) being from China (National Science Board 2018). Of the H-1B petitions approved in 2017, 75.6 percent were born in India and 9.4 percent in China (USCIS 2018). This number comprises those who came to the US for education, subsequently joining the workforce after

acquiring their degrees, and those who came directly from India to work in the US. There are likely to be variations on the extent to which Indian engineers are professionally successful and/or face barriers with respect to how they enter the US technical workforce.

The article is based on secondary sources, namely scholarly literature, government documents and news reports on the subject, and an empirical study conducted in 2017-2018. The article presents findings from in-depth interviews conducted with 40 Indian engineers employed in the US technology sector. Details of the methodology employed as well as demographic details of subjects interviewed are also outlined.

2 Characteristics of H-1B Visas

After World War II, the US changed its immigration policy from the color of skin to skills needed (Varma 2007). Prior to World War II, migration from Asian countries to the US was restricted with a series of acts such as the Chinese Exclusion Act of 1882, the Gentlemen's Agreement with Japan in 1907, the Barred Zone Act in 1917, and the Oriental Exclusion Act in 1924; in contrast, migration from European countries was open (Gjelten 2015). In 1952, the US Congress passed the Immigration and Nationality Act which, among other things, gave preference to the US growing economic needs. Section 101(a)(15)(H)(1) established H-1 visas for workers who reside in a foreign country, have distinguished merit and ability, and come to the US temporarily to perform services urgently needed in the country (Chishti and Yale-Loehr 2016). Foreign-born nurses constituted a large portion of H-1 visa recipients. In 1990, Congress separated nurses into a new H-1A visa category, and other specialty occupations in the H-1B visa category under section 101(a)(15)(H)(i)(b). A specialty occupation required highly specialized knowledge and skills, and a bachelor's or higher degree in the specific specialty (or its equivalent).

In the 1980s, the US faced international competition in the technology sector from Western European countries and Japan. As these countries reconstructed their industries destroyed during World War II, they were able to manufacture an increasing amount of technologically based products needed for their domestic markets. This resulted in a declining reliance on US based technological products. By the mid-1980s, Western European countries and Japan were in competition with the US in the exportation of technological products (Varma 1995). The US was seen as facing a shortage of workers in the technology industry, that is, a shortage of qualified workers to fill marketplace

demands for employment (US Department of Commerce 1997). The US technology industry rigorously lobbied for temporary skilled workers from foreign countries (see, Information Technology Association of America 1997, 1998). The H-1B visa program was implemented to temporarily hire skilled workers from abroad to fulfil specialty jobs for which domestic labor was seen in short supply (Gjelten 2015). Implementation of the H-1B visa program was a government response to support the US technological advantages and economic superiority in the global economy.

On November 29, 1990, President George H.W. Bush signed the Immigration Act of 1990, which created a cap of 65,000 temporary foreign workers on H-1B visas based on specialized education and technical skills in demand. They were allowed to work for up to six years, with eligibility for renewal in three years. This cap only applied to the US industrial sector; those on H-1B visas working for academic institutions and government research laboratories were excluded from this cap. On October 21, 1998, President William J. Clinton signed the American Competitiveness and Workforce Improvement Act, which increased H-1B visas to 115,000 for the 1999 and 2000 fiscal years. On October 17, 2000, President Clinton again signed the American Competitiveness in the Twenty-first Century Act, in which H-1B visas expanded to 195,000 for 2001, 2002 and 2003 fiscal years. Since 2005, under the H-1B Visa Reform Act of 2004 signed by President George W. Bush, H-1B visas have reverted back to 65,000 per year, with an additional 20,000 visas for foreign-born scientists and engineers with a master's degree or a doctorate degree from a US educational institution (see, Aronson and Schneider 2018; Chishti and Yale-Loehr 2016; Hahm 2000; Sabharwal and Varma 2017 for the details of H-1B visas).

Details for the H-1B visa process are posted on the US Citizenship and Immigration Services' (USCIS) website, which are regularly updated. The H-1B visas are strictly limited to employment by the sponsoring employer, who must file a Labor Condition Application (LCA) with the US Department of Labor for the employee. On the LCA form, the employer attests the job opening in a specialty occupation, the foreign worker will be paid the prevailing wage and benefits for the position in the geographic location of work, and the LCA will be disclosed to the foreign worker. Once the LCA application is approved, the employer then files a Form I-129 with the USCIS for a non-immigrant worker for an H-1B visa. With the approval of I-129, if the foreign specialty worker is already in the US, he/she may acquire an H-1B visa to begin to work; however, if outside the US, he/she has to get an H-1B visa to enter the country. There is a fee that every employer has to pay to file an H-1B petition, which varies by the company size and some other factors. It can range from approximately $1,700 to almost $8,000, without including attorney fees. According to US law, this is

an employer's business expense and the foreign-born scientists and engineers being hired should not pay for it.

If H-1B visa holders are married and/or have children under 21, they can bring them to the US on an H-4 visa as dependents. Until 2015, this H-4 visa only allowed family members to stay in the US as dependents of H-1B visa holders; they could attend school, get a driver's license, and open a bank account, but were not allowed to work for wages in the US. Under President Barack H. Obama in 2015, the USCIS allowed some spouses on H-4 visas to work, if they could get an employment authorization document approved. However, President Trump is seeking to ban spouses of H-1B visa holders from working in the US; thus, the future of this work authorization to eligible H-4 visa holders remains uncertain.

3 Conditions of Specialty Labor Under H-1B

H-1B visa recipients tend to possess a bachelor's or a higher-level degree. Nearly half of new recipients have a bachelor's degree (44 percent in 2016) while the rest have an advanced degree (National Science Board 2018). Those holding a master's or a doctorate as their terminal degree are likely to have acquired an H-1B visa after graduate studies in the US; whereas, those with a bachelor's as their highest degree are likely to be temporary workers from abroad.

A large majority of foreign-born students come to the US for graduate education in S&E fields. The US is home to many top universities in the world such as the California Institute of Technology (Cal-Tech), Colombia University, Harvard University, Massachusetts Institute of Technology (MIT), Princeton University, Stanford University, and Yale University. Most American universities are adequately funded and have high academic standards. Moreover, they take pride in increasing cultural diversity through their admission process. They attract the best foreign students from every nationality all over the world, and often provide financial support for their graduate studies. In 2015, about 240,000 foreign-born students on temporary visas were enrolled in S&E graduate programs, representing 36 percent of total US graduate enrollment (National Science Board 2018). After acquiring their degrees, some foreign graduates return to their home country; whereas, others seek employment in the US.

Under Optional Practical Training (OPT), foreign graduates are allowed to work for one year; in 2008, OPT was extended to 17 months in qualifying S&E fields. In 2016, changes were made to allow foreign graduates in qualified S&E fields to stay for an additional 24 months instead of 17 months

to get work experience. This way, foreign graduates in qualified S&E fields have multiple years (a total of 36 months) to find employment in a company of their choice. Since foreign graduates are trained in American graduate schools, they are unlikely to differ significantly from Americans in routine S&E activities, socialization, and communication; thus, their work experiences and wages may not differ significantly from the mainstream S&E culture in the US. With sponsorship from their employing company, they secure H-1B visas, with a strong possibility of leading to permanent immigration or green card. Securing an H-1B after graduation from US educational institutions is an "Ideal H-1B" type.

Foreign-born scientists and engineers entering the US workforce directly from their birth country may be less Americanized, may not be able to command reasonable salaries, and may have different work experiences. Further, employers' expectations of foreign-born scientists and engineers may be different from those with degrees from American institutions. Ontiveros (2017) has separated three types of H-1B visas for those coming directly from their birth country to work: Pure H-1B, Outsourcing H-1B, and Body Shop H-1B types.

Under the "Pure H-1B" type, US technology companies pay agencies to recruit first-class, foreign-born scientists and engineers with needed skills, most of whom tend to be in India. Often, these recruiting agencies charge the scientists and engineers for their services of finding employment in the US and processing visa-related paperwork, which are illegal under US laws. Upon their arrival in the US, the scientists and engineers are immediately put to work for the US companies, and often paid the salaries established on visa applications. Of the newly approved H-1B petitions for the 2019 fiscal year, the top American companies were Google with 2,111 H-1B visas, followed by Amazon with 1,612, Facebook with 1,132, Apple with 991, Microsoft with 917, and IBM with 749. If the company likes the work performed, they sponsor H-1B visa holders for permanent immigration.

Other than paying recruiting agencies and having limited mobility and choice of work, Pure H-1B visa has many features of the Ideal H-1B type. Yet, there are companies which exploit H-1B visa holders. For instance, a civil settlement of $27.5 million on behalf of 800 software engineers mostly on H-1B visas was reached with Siebel Systems in 2006. It seems between January 2000 and October 2005, these employees were asked to complete extremely difficult tasks in a very short time period, which resulted in employees being overworked, having sleep deprivation, and suffering health problems (Hogarth 2006).

Increasingly, most US technology companies are subcontracting work to other companies, rather than employing scientists and engineers on H-1B visas

to perform the required work. US technology companies prefer subcontracting as it reduces operating costs, minimizes risks, and hires a firm that has needed expertise. When subcontracting work, US technology companies tend not to micro-manage hiring, wages, and work conditions; instead, they inform sub-contractors about the desired work, and let them select its completion. The use of subcontractors, however, makes it difficult to identify who is responsible if H-1B visa holders are underpaid, work long hours without pay, or do not have any health benefits (Estruth 2017). It shifts responsibility from the US technology companies to subcontractors.

Since the late 1990s, many companies mostly from India such as Infosys, Tata Consulting Services, Tech Mahindra, and Wipro Limited have emerged to produce contracted work on US soil by employing H-1B visa holders. Ontiveros (2017) calls this the "Outsourcing H-1B" type. Of newly approved H-1B petitions for the 2019 fiscal year, the top outsourcing companies were Tata Consulting Services with 1367 visas, followed by Cognizant with 920, and Tech Mahindra with 499. Such sub-contracting companies tend to have their own affiliated recruiting agencies to supply scientists and engineers who could work in the US.

As mentioned earlier, recruiting agencies tend to charge money for finding jobs in the US and visa-related expenditures, even though such charges are against US laws. Moreover, foreign-born scientists and engineers are given incomplete, if not inaccurate, information on the pay, work, work conditions, and immigration sponsorship. Once they arrive to join sub-contracting companies, they learn that they are under-paid, under-employed, expected to work long hours, and are not going to be sponsored for permanent residence in the US. In 2013, Tata Consulting Services entered into an agreement with the US government to settle for $29.5 million for failing to pay H-1B visa employees mostly from India gross wages promised on applications, and forcing them to sign over their US federal and state tax refund cheques to the company from February 2002 to June 2005 (Economic Times Bureau 2013). The same year, Infosys agreed to a $34 million civil settlement with the US government of allegations of systematic H-1B visa fraud and abuse of immigration process in its Texas location (US Department of Justice 2013). Among other things, Infosys had used workers with low qualifications and low salaries to perform high-qualified jobs.

Finally, there are small body-shopping firms mostly headed by Indians in the US who recruit foreign-born scientists and engineers for a wide-ranging clientele base. Ontiveros (2017) calls this the "Body Shop H-1B" type. These body-shopping firms maintain a sizeable pool of foreign-born scientists and engineers with various skills that they believe are in demand. They bring

foreign-born scientists and engineers on H-1B visas to the US by making them sign a contract to work for a given time period; if H-1B visa holders leave before the end of the contract term, they are to pay body shopping firms money specified in the contract. Upon arrival in the US, these H-1B visa holders are put in a small apartment to wait for the work. Typically, such an apartment is shared with eight to ten others in a similar situation. These visa holders come to the US after paying a significant sum to recruiting firms for pre-established employment and visa processing fees. Soon, they learn that they do not have a proper job; instead, they will be performing a series of short-term jobs when they become available. In other words, they have to sit on a "bench" and wait for a job to arrive. US law requires employers to pay full wages noted in visa applications to H-1B visa holders during benching; however, they are paid minimally. Once a job arrives, the body-shopping firms deduct 20 to 30 percent of salaries earned to cover living and business expenses. They are able to make such deductions since companies for whom work is performed issue paychecks to the body-shopping firms who are the official employers for H-1B visa holders.

It is common to find cases where body-shopping firms have given made-up information about pay, start the day, the nature of jobs, working hours, location of work, and so forth to H-1B visa holders (see, Griffith and North 2017; Stock et al. 2014). For instance, Computech frequently benched H-1B visa holders without wages and failed to pay them the prevailing wage rate in their geographic areas of employment. In 2005, the US Department of Labor ordered Computech to pay its employees $2.25 million in back wages (Thibodeau 2005). Similarly, the Lambents Group was not paying the prevailing wages to its H-1B visas employees. An investigation by the US Department of Labor (2011) revealed that in 2011 the company owed its ten employees on H-1B visas a total of $185,241.81 in back wages. In 2018, the US Department of Labor found Cloudwick Technologies guilty of severely underpaying its employees hired on H-1B visas. Some of the H-1B employees were promised salaries of up to $8,300 per month; instead, they received as little as $800 net per month. The US government ordered the company to pay $173,044 in back wages to 12 of its H-1B employees (Bhattacharya 2018). Divensi and Azimetry companies were charged with H-1B visa fraud from 2012 to 2015. These two companies got H-1B visas approved for projects that did not exist, and charged its H-1B employees' substantial fees for visa applications (Lerman 2018). In 2019, Anjaneyulu Katam was sentenced to a year in prison for H-1B visa fraud. He had falsified visa applications, work experience documents, and work contracts in order to secure H-1B visas for Indians (Baron 2019).

Irrespective of variations on the four types of H-1B visas, the overall H-1B visa program has been criticized for bringing in cheap foreign labor. Even though companies are required to pay H-1B visa holders the same wage as similarly employed US workers, many have argued that H-1B visa holders are underpaid (Banerjee 2006; Bhattacharjee 2007; Chakravartty 2006; Hira 2011; Miano 2007; Ontiveros 2017; Palmer 2018; Rudrappa 2009; Trimbach 2017; Varma and Rogers 2004). It seems employers determine prevailing wages for given jobs based on multiple factors such as title, job description, experience, education level, and location. A combination of these terms brings wages down without violating any laws. It should also be noted that foreign-born scientists and engineers on H-1B visas generally tend to be young. For instance, 66 percent of those granted H-1B status during the fiscal year 2017 were between 25 and 34 years of age (USCIS 2018). Young H-1B visa holders are more likely to accept a low pay rate in exchange for an opportunity to build their careers in the US.

A large majority of H-1B visa holders are young males. If they are married and/or have children under age 21, they come to the US on H-4 visas as dependents. Until 2015, wives on H-4 visas were not allowed to work in the US. The USCIS made an exception in 2015 if certain conditions were met. The exception provided by the USCIS in 2015 applies mostly to wives whose spouses are holding what has been deemed as Ideal and Pure H-1B visa types. Those whose spouses are on Outsourcing H-1B or Body Shop H-1B types are unlikely to be granted eligibility to work. These wives, what Radhika (2016) calls "visa wives," are frustrated with their inability to use their education and training to work or start a business in the US. Further, they remain under complete control of their spouses, as they cannot stay in the US in the absence of the primary H-1B applicant. If divorced on an H-4 visa, women are immediately considered deportable. When visa wives are physically and emotionally abused by their husbands, they are unable to leave their spouses because current visa rules do not allow the dependents of H-1B holders to work in the US.

4 Methodology: a Qualitative Approach

Data for this article came from a large National Science Foundation-funded study on the return migration of engineers from the US to India that was conducted from 2017 to 2019. Given that there is little information on the subject, qualitative methodology—focusing on why and how a certain phenomenon occurs by understanding attitudes, behavior, beliefs, characteristics, concepts, definitions, experiences, meanings, metaphors, and symbols—was employed.

We interviewed 50 engineers who returned to India after work and study in the US; for a comparative group, we interviewed 40 Indian engineers in 2017-18 who were working in technology companies in the US. The latter group is the foundation of this article.

These participants were recruited from major cities in four states, namely California, New York, New Jersey, and Texas, which have the concentration of both technology companies and an Indian population. They came from two industries—information communication technology and biotechnology—since these industries employ the largest number of Indian engineers in the US. Participants were selected through a snowball sampling method as a list of Indian engineers and unrestricted access to companies were not available. The main criterion to select participants was that they must be working in US technology companies for a minimum of three years.

A semi-structured interview guide was used to conduct in-depth interviews with them, which averaged about an hour. Most interviews were conducted face-to-face, though some were via telephone. All interviews were audio-recorded and later transcribed verbatim. The transcriptions were processed in NVivo software for data analysis. To ensure the trustworthiness of data, two coders coded the data. The codes were categorized by themes that allowed us to identify patterns within the entire text. A phenomenological approach—the lived experiences of a concept or a phenomenon for several individuals—was employed to understand the H-1B visa system. The following two out of 35 questions asked along with demographic questions formed the basis for this article:

1. What is your immigration status in the United States?
2. If on the H-1B visa, do you feel comfortable with your immigration status? Please explain why or why not?

Findings were reported with interview excerpts to highlight the complexity of concepts and by frequency to show their strength. Typically, interviewees provided more than one response to the second question asked. In this article, frequency in each category shows how many times it was mentioned. To protect the privacy and to comply with the Institutional Review Board (IRB) requirements, names of the participants, location, and information about their employers are not disclosed.

The 40 participants comprised of 28 males (70 percent) and 12 females (30 percent). The age group of the participants varied; the majority were between the ages of 30 and 39 (67.5 percent). A little over 15 percent of the participants were between the ages of 20 and 29 and about ten percent ranged between the ages of 40 and 49. In addition, there was one participant each belonging to age groups 50 to 59 and above 60. Most of these participants

(83 percent) were married with almost half of them having at least one child (n=21). About 40 percent of the participants who were married had a working spouse at the time of their interview. The majority of the participants (83 percent) held a graduate degree with remaining (17 percent) holding an undergraduate degree; out of graduate degrees, 63 percent held a master's degree and 20 percent a doctorate. A majority of them (65 percent) had completed their terminal degrees in the US and the remaining (35 percent) were completed in India. These degrees were in engineering and related fields (66 percent) and science (34 percent). The majority (67 percent) of these participants have held their current employment for less than five years, while 23 percent had been employed at their current position for five to ten years, and ten percent had been employed for over ten years. Based on their education and employment, they are considered engineers in this study.

This article does have some limitations. The majority of participants in this study had their terminal degrees from US institutions of higher education and worked for medium or big companies. Thus, the article does not have a balanced representation of participants on four types of H-1B visas. It was mostly because data for this study came from a larger study on the return migration of Indian engineers. A study needs to be undertaken which will center on Indian engineers on H-1B visas, working for different-sized US and Indian outsourcing companies in the US. Such a study should acquire detailed information pertaining to their status as H-1B visa holders, instead of just two questions, which is the case here.

5 Findings

Indian engineers working in the US technology sector were asked about their immigration status. If they responded positively to be on H-1B visas, they were further asked to describe their comfort level with the H-1B visas. If they responded negatively to be on H-1B, they were still asked to recall their experiences with H-1B visas (a benefit of in-depth interviews). Twenty-five out of 40 respondents were on an H-1B visa at the time of interviews; whereas eight were US citizens and seven had acquired permanent residency. These 15 respondents belonged to what has been classified as the ideal H-1B visa type in this article.

Based on multiple characteristics noted on four types of H-1B visas, out of 25 H-1B respondents, 12 percent belonged to the ideal type, 48 percent fitted a combination of the ideal and pure type, 16 percent were of outsourcing type, and 24 percent amounted to body-shopping type. Irrespective of H-1B

type, a large majority of them (76 percent) showed their discomfort with their status as H-1B visa holders; the remaining (24 percent) felt somewhat comfortable. Most respondents gave multiple reasons for their comfort and discomfort with the H-1B visas. Interestingly, there were no significant variations along the gender line with regards to those holding H-1B visas.

The main factors respondents cited that led to some comfort with H-1B visas were the company's support, a commitment to change their immigration status from H-1B to the green card, a belief in the US merit-based system, and alternative plans. The leading reason attributed to comfort in regards to the H-1B visas was the support that respondents and their spouses had received from their employers. Respondents reported that employers had either assisted in filing paperwork to renew H-1B visas, taken responsibility for filing, or had already sponsored them to the permanent immigration process. As one respondent said, "It will change soon [from H-1B to green card] because my manager does not want to do so much unnecessary paperwork, every time I have to go outside on a business trip." Another said, "My company has filed for a green card. So, I am just waiting for it to come."

Some respondents held a strong belief in the US merit system of hiring based on the ability to perform a job. According to them, Indians hold a higher place in regards to immigration policy. This is based on the belief that Indians pursue higher education, are hardworking, and do not demand much from the US society. As one respondent said, "I am almost confident that it will work in our favour and again solely because we have proved that we are not the one who will bring the economy down."

Finally, a few respondents claimed that they did not worry about their H-1B status. They had not planned on permanent residency in the US and thus had developed alternative plans in case of a sudden change. This respondent narrated, "I have been hearing from my friends how hard is the U.S. immigration system, the kind of pressure it puts on people, [and] the kind of tension they go through. So, I have made up my mind that I am not staying here permanently, going through different stages of the immigration process."

A large majority of respondents (76 percent), however, showed their discomfort with their status as H-1B visa holders. Their discomfort was categorized into four broad categories, namely limited employment opportunities, low salaries or wages, job insecurity, and restricted social mobility, which are explained below.

5.1 *Limited Employment Opportunities*

Respondents were told to study hard since elementary school, get good marks in science and mathematics subjects, have little fun social life as students, pursue college education in S&E, which have better job prospects and higher

returns on sacrifices made by parents, and a degree in S&E will have better career opportunities inside and outside India. They learned everything about their field so they could have a career along with a desired professional lifestyle. They hoped that by coming to the US, they will be making progress related to their occupations. In the long run, they will have more than one job, earn different titles with time, and will have some accomplishments to show as they move from one rank to another in the same company or to a different job in another company. They hoped a job in a technology company in the US would provide the resources, skills, experiences, and connections that would lead to a better career. They considered themselves hardworking, doing more for the company than is asked from them so they could set themselves valuable and apart from others.

Most of these respondents, however, found themselves connected to positions through both employment and/or immigration process that created difficulties for them to find desired work. Difficulties with finding quality positions of employment were cited as the main cause of discomfort with the H-1B visa system. They described how their temporary immigration status was used as a filtering mechanism in the hiring process and systems of exploitation established by difficulties with the hiring process.

Respondents who graduated in the US found some companies placed immigration status within the requirements for hiring new employees, which limited access to quality employment opportunities. Other companies remained hesitant to hire them because of cost and administrative work associated with immigration. As this respondent noted, "Even with a Master's from here [US], it was very difficult to get a job. No matter how good you are … Questions come. Do you have citizenship? Do you have a green card? End of story." Another said, "It is hard to find a job without the green card. Not many options." This respondent recalled, "When I was looking for jobs, they told me, they did not want to take on the visa work."

Respondents who came from India on H-1B visas cited difficulties with finding desired employment directly as they had to go through recruiting agencies, including body shops. They believed recruiting agencies and body shops exploited their situation. In practice, body shops who sponsored the visas effectively controlled the labor of respondents. It is they who dictated where and for whom respondents could work. One respondent generalized, "A lot of people in fact I know of came via body shops. They are really good people, I mean, good programmers. But they work when projects become available. They do not have proper employment." This respondent managed to get out of a body shop company had this advice, "I would say, get out of the body shop company as soon as possible because I found that most of them are pretty bad, they exploit us, they take advantage of Indians who come there." It should be

noted that once respondents did find a job, they could not change the company as they were not able to remain in the country without the company's sponsorship. This respondent said that "when you are on the H-1B visa, you cannot change companies at will … If you are in a job where there is no satisfaction, you are stuck with it. This is the biggest hurdle." Another said, "I do not want H-1B restrictions on me. I am not as independent as a person with the green card or citizenship … I cannot just leave a job and start another job." This respondent narrated, "This is a small company. We do not have one specific job responsibility. We keep on changing … I wear different hats while doing different things. If you want to become a specialist, it is not possible in this company. But, without the green card, I cannot find another job." According to these respondents, their temporary immigration status limited job availability, professional growth and created a dependence on their current positions.

5.2 *Low Salaries/Wages*

These respondents believed that in the US they can improve their economic and social well-being. The US was viewed as a land of opportunity, where people without money but with talent could make a good life. They seldom considered the costs associated with their move as they thought future financial gains in the US would offset the initial cost. They believed that with financial gain, they could provide for their families. It is, therefore, no surprise that these respondents expected decent salaries/wages in the US. For them, the salary was a very important variable for them to take a job in the US. Also, high salaries were used by the recruiting agencies and body shops in India to motivate respondents to seek employment in the US. Most importantly, high salaries/wages were seen as a stronger sense of self-worth and self-esteem. Most of the respondents believed that after a lot of challenges when they did get a job, they are paid less than what they expected.

Respondents who graduated from US universities or worked for a big company received a salary agreed upon hiring based on respondents' qualifications. It was a fixed amount calculated on an annual basis, divided monthly or bi-weekly. In addition, they were offered benefits, leaves, and other perks. Most of these respondents believed that they were "paid less than their green card holding counterparts." At the same time, they adjusted with since they were interested in permanent residency with sponsorship from the US companies.

Respondents who came directly from India to work in the US believed that they settled for low-paying positions or depended on paying a portion of their wages to contract agencies that exploited their positions. They were paid wages, which were calculated on the basis of time devoted to finishing the work. If they did not have projects to work on, they would not be paid even though they were employed. As one respondent said, "These contracting

agencies give pay on an hourly basis after they are paid from their clients … They keep almost 20 percent-30 percent of that.… Their clients know nothing about it." Another said, "They pay us much less than what is really paid for our work." This respondent who managed to get out of a body shop said, "When I was working for [X], I found that my pay rate was like $15 an hour … Actual company [for whom work was done] paid the standard $25 an hour."

5.3 *Job Insecurity*

Job insecurity was another reason attributed to discomfort in relation to respondents' immigration status as H-1B visa holders. The job insecurity category included statements that characterized uncertainty, the temporary nature of the H-1B visa status, inability to plan a future, and helplessness. Since all respondents interviewed were employed, this category appeared as their subjective perception about the duration of employment and lack of assurance whether they would be able to continue to work for the full term of their visa. Depending on the companies where they were employed, respondents differed on the severity of job insecurity. Some perceived it as a clear threat of losing their jobs and going back to India, whereas others viewed themselves vulnerable due to the H-1B visas. A possibility of not having a steady job was seen as having serious economic consequences. A few were not sure if they could fulfil demands placed on them, or whether they have skills to meet new projects undertaken in the company. Short terms of residence by the H-1B status affected respondents' ability to plan for a future. As one respondent said, "You are constantly worried that you can be sent back any day." Another said, "A lot of frustration for me. I feel like being in some kind of shackle." This one narrated, "I feel if I do something wrong, I might just have to leave the company. I might have to go back tomorrow." Similarly, another believed, "You are so scared of doing anything wrong like making mistakes on the job or breaking the law by not driving properly, you will lose your job … I constantly worry about small things as they will have severe consequences for me." Altogether, these respondents were under constant underlying stress and worry due to job insecurity.

Another factor that influenced feelings of job insecurity was the political environment as illustrated by the media in which stricter immigration policies were proposed by President Trump. This political environment added an additional unknown variable into what can affect the respondents' economic and social future. Respondents indicated that there has been a shift in cultural attitudes towards migrants, which has raised feelings of uncertainty in relation to their jobs and immigration status. As one respondent said, "With the current immigration things that are happening, I feel stressed. I do not know if I go back to my home country or vacate, I do not know whether I would be

working here or not. That is the stress I am facing right now." Job insecurity was a constant subconscious worry that at any time their lives can be changed due to their immigration status of change in policy.

5.4 *Restricted Social Mobility*

These respondents earned a college degree and came to the US for education and work so they can improve their social status. They became engineers due to economic and social necessities rather than personal interests. To go to the US and be employed in US technology companies was not only a route to economic betterment, but also to make parents proud and gain prestige in the Indian community. Limited employment opportunities, low salaries/wages, and factors leading to job insecurity were seen as lowering their social standing compared to Indians with green cards or citizenship. In addition, some respondents reported their discomfort with H-1B what can be best characterized as restricted social mobility. They believed this further lowered their social standing within the Indian community. Restricted social mobility was characterized by the reluctance of travel to avoid possible complications with the immigration system.

It should be noted that these respondents came with their spouses and young children to the US. Their parents and other family members remained in India. They spoke with them regularly on the phone and did videotelephony; however, it was not the same as periodically visiting them and assuring them in person they would take care of their parents. So, travel to India was rather important to them. It was this desire which was restricted due to the H-1B visas. As one respondent said, "Imagine there is a family emergency back in India, and you want to go there. But you cannot because you may not be able to enter the United States again." Another said, "You do the paperwork and you get stamped so you can visit [India]… But, there is a feeling when you are walking in through [the U.S.] immigration, there is always a chance that they might not let you into the country." This one explained, "Lawyers do not recommend you going out of the country as it is a risky business."

6 Discussion and Conclusion

US competitiveness in the global economy has become the nation's top debate among government officials, policymakers, and industrial leaders. Since the 1990s, the US economy has transformed from a manufacturing economy driven by the mass production of products to a service-based economy based

on knowledge-intensive industries. In the era of information and communication technology, service-based work can be carried out anywhere in the world by anyone. Whereas the US has been limited to build its workforce needed for this economy, developing countries are producing scientists and engineers in the increasing numbers who can fulfil the need of the US economy.

The H-1B visa program is sought by the United States to maintain its economic and technological edge in the global economy. It allows US technology companies to hire temporary workers from abroad with special skills or knowledge to work in the US in a position that requires such skills or knowledge. This program is to keep US technology companies productive and competitive. It should be pointed out that many countries are competing for highly skilled labor from developing countries by implementing similar high-skill guest worker programs. For instance, the European Union (EU) has begun to issue the "Blue Card," which allows high-skilled, non-EU citizens to work and live in 25 out of 28 countries within the EU. Blue Card holders are allowed to work for three years with the possibility of renewal. They are offered various social benefits including family reunification. Similarly, Canada has revised its "Temporary Foreign Worker Program" to bring highly skilled workers for four years to fill skill shortages. These workers are offered compensation benefits and medical coverage, which is available to Canadian workers. Australia has a "Work Visa" system, which is primarily focused on workers with various skills, education, and occupations. Japan has implemented the "Highly Skilled Foreign Professional" visa based on points awarded according to the applicant's educational and professional background, academic achievements and income. The National Science Board (2008:3-48) has noted that "[g]lobal competition for S&E talent is intensifying, such that the United States may not be able to rely on the international S&E labor market to fill unmet skill needs."

The main goal of the H-1B visa program in the US (and similar programs elsewhere) has been to bridge the labor gap without displacing and adversely hurting US-born workers. The H-1B visa program has been controversial since it began; however, this controversy has intensified in recent years. On March 17, 2017, CBS 60 Minutes aired a documentary titled "You're Fired," which investigated how some businesses have fired American workers and replaced them with cheaper labor: temporary, foreign workers with H-1B visas. Similarly, on March 23, 2017, PBS aired "The Controversy over H-1B Visas." In this documentary, the To the Contrary series interviewed American workers who lost their jobs, and who have been replaced by H-1B visa workers. It was all over the news in October 2015 that Walt Disney had laid off almost 250 of its workers, most of whom were replaced with workers on H-1B visas. Some of the laid-off workers

were entitled to a severance package if they trained one of these H-1B visa workers to do their job (Preston 2015). In other words, the H-1B visa program is bringing cheap foreign labor that hurts US-born workers' employment and income prospects.

In the intense debate over H-1B visas, working and living conditions of specialty workers tend to be overlooked. India's comparative advantage in the global economy has been the supply of qualified scientists and engineers who are willing to move across the Atlantic and Pacific oceans. This article has shown that Indian engineers on H-1B visas join the US technology sector either coming directly from India to work, or coming as graduate students and accepting jobs after graduation. Those who come directly from India to work either use recruiting agencies or body shopping firms. Their experiences reveal just how severe economic, political, and social forces shape their working and social lives. As one removes each layer of skills and knowledge, and how they join the US technology companies, the impact of socio-economic factors becomes increasingly apparent.

Indian engineers who have a degree from the US tend to be slightly at the high-end; as a result, they are able to apply to various companies and are able to enjoy decent salaries, job security, and social mobility. They have a high chance to be sponsored by their companies for permanent immigration, as was the case with some of the respondents in this study. In contrast, those who come directly from India must subject themselves to recruiting agencies or body shopping firms who often charge a fee for themselves even though the US technology companies which hire them already pay this fee to the agencies. If Indian engineers manage to join a big technology company, they enjoy better working conditions than those coming through body-shops and working for small companies. These H-1B visa holders do not get the prevailing wage for their occupation and earn significantly less. Often, they are placed in non-productive status without any pay or with reduced pay during the period of no project. Since they are unable to switch jobs, they remain tied to a company. Indian engineers remain alienated because their situations do not allow them to become full members of the S&E community or American society since most of them are not long-term employees and cannot become permanent residents.

Despite such conditions, American Labor Organizations have overlooked those on H-1B visas; these labor organizations do not see the exploitation of H-1B visa workers as a reason to reach out to them. Essentially, the US immigration system allows companies to employ Indian engineers temporarily in the United States, but keeps them powerless. As a result, Indian engineers on

H-1B visas are not organized and have no power of collective bargaining. It seems if H-1B visa holders can remain in the country for the length of the visa, even though they do not have a job, are fired or quit, they are likely to have some control over their own labor.

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