



## Opportunities for Indo-US Collaboration in the Face of Skilled Labour Shortage

*The US faces a growing shortage of skilled labour, along with a declining labour force. This is an opportune time to push reforms for facilitating greater mobility of temporary skilled labour from India. Indians presently hold the most number of temporary work visas in the US, and are a prominent source of human capital.*

*This Briefing Paper argues that the flow of skilled labour from India can be increased via two channels: one, strengthening the H-1B visa programme, and two, pursuing an agreement for trade in services. This should be complemented by a Totalisation Agreement between the two countries.*

### Background

With a declining labour force participation rate, an ageing population, and far-reaching changes in the nature of work, the US is set to face an acute shortage of skilled labour over the next two decades. In April 2018, the US Bureau of Labour Statistics [reported](#) a record 6.7 million job openings – the highest since 2000. The openings were in excess of the number of unemployed persons by 352,000, indicating that there were more jobs than people looking for them. While the US job market appears to have rebounded since then, many businesses are still [facing difficulties](#) in finding candidates with the right skills and qualifications.

Experts argue that these shortages can be addressed by encouraging the inflow of foreign workers. Other advanced economies facing similar labour shortages are already taking such steps. Japan [recently passed](#) legislation to allow foreign workers into sectors with labour shortages. The proposed reform includes different provisions for low and high-skill workers. This is an unprecedented step in the light of Japan's historically closed stance towards any kind of immigration. In 2018, Germany [proposed](#) legislation that eases restrictions for foreign workers in occupations with high labour shortages, such as the care sector, IT and electrical engineering.

Indians presently form the largest group of employment-based visa-holders in the US, and a significant proportion of them are highly skilled workers, with many placed in Science, Technology, Engineering and Mathematics (STEM) occupations. Such workers, apart from providing hard-to-find skills, are known to have considerable benefits for the economy, including enhancement of productivity, competitiveness and innovation. There may be significant bilateral gains in encouraging the flow of skilled workers from India and linking it to labour shortages in different occupations and regions in the US.

This Briefing Paper provides an overview of the labour shortage in the US, and outlines possible routes for facilitating greater mobility of skilled labour from India to the US.

### Understanding the US Labour Shortage

#### *Causal Factors*

The labour shortage in the US appears to be driven by two major factors. The first is technological advancement and the ensuing skill gaps. New technologies are rapidly causing obsolescence in most skills and creating the need for new ones. The digital skill gap appears to be quite prominent. A recent survey [reveals](#) that 54 percent of

organisations believe they are losing competitive advantage because of a shortage of digital talent. In a [recent study](#) by Deloitte, most manufacturers report the top cause of talent shortage as ‘shifting skillset due to the introduction of new advanced technology and automation’.

The second factor is a growing contraction in the labour supply itself, which appears to have several causes. To begin with, demographic trends indicate an unfavourable outlook for the working age population. It is [estimated](#) that 10,000 Baby Boomers are retiring every day – and taking their skills with them. It has been [projected](#) that by 2030, one in five US residents will be of retirement age, population growth will slow down, and net international migration will become the primary driver of population growth.

Another factor depleting the labour force is that only [40 percent of students](#) are graduating four-year programmes on time. Further, a reduction of vocational training opportunities in US high schools, and a falling preference for blue collar jobs among students, appear to be fuelling the shortage in blue collar occupations like contractors, electricians and plumbers.

Lastly, there is [evidence to show](#) that an opioid epidemic may be one of the reasons behind the low rate of labour force participation. Opioid abuse deters participation as workers have to pass drug tests to be eligible for many labour-intensive jobs. Moreover, it can fuel permanent exits from the workforce. In 2016, a survey of men not in the labour force, in the age group of 24-65, [found](#) that nearly half were taking pain medication and 40 percent reported that it prevented them from looking for a job.

#### ***Magnitude of labour shortage in different sectors***

This section highlights actual and projected labour shortages in major sectors. In 2017, the job-hunting site Glassdoor [identified](#) the highest number of job openings in the following sectors: healthcare, business services, retail, transportation and logistics, and technology.

#### ***Technology***

The Glassdoor [study](#) found 263,586 unfilled jobs in the technology sector, adding up to a foregone value of US\$20.1bn. The most valued tech occupations and corresponding job openings are listed in Table 1.

**Table 1: Job Openings in Technology Sector**

| Occupation                            | Job openings | Source   |
|---------------------------------------|--------------|--|
| Software Engineer                     | 13198        | <a href="#">Glassdoor Research, 2017 (data from December 09, 2016)</a> |
| Systems Engineer                      | 6769         |  |
| Product Manager                       | 3874         |  |
| Data Scientist                        | 3508         |  |
| Network Engineer                      | 3882         |  |
| Data Engineer                         | 3073         |  |
| Java Developer                        | 3784         |  |
| Software Development Engineer in Test | 3573         |  |
| Front End Engineer                    | 2948         |  |
| Security Engineer                     | 2225         |  |

Another technology sub-sector facing large shortages is cybersecurity, which [reported](#) 313,735 job openings in August 2018. It has been [estimated](#) that there will be a total requirement of 1,200,000 cybersecurity jobs by 2026.

#### ***Manufacturing***

The situation in manufacturing appears to be quite critical, with Deloitte projecting a shortage of 2,400,000

jobs by 2028. The shortage is going to be the highest in digital talent, skilled production and operational managers.

#### ***Healthcare***

Healthcare is a particularly vulnerable sector as it involves work that cannot be offshored or automated. As seen in Table 2, the healthcare sector is facing a major crisis, with a high number of projected vacancies.

### Skilled trades

Beside these sectors, there is also a shortage of skilled labour in construction and skilled trades like plumbing, electrical work and HVAC (Heating, Ventilation and Air conditioning). A survey of the Associated General

Contractors of America reports that up to 70 percent of US construction firms are having a hard time finding qualified labour. There is also a significant shortage of truck drivers.

**Table 2: Projected Labour Shortages in Different Sectors**

| Occupation   | Projected shortage      | Source                                |
|--|-------------------------|---------------------------------------|
| Primary care physicians                            | 14,800 - 49,300 by 2030 | <a href="#">AAMC Report, 2018</a>     |
| Non-primary care physicians (surgical specialties) | 33,800 - 72,700 by 2030 |                                       |
| Home health aides                                  | 446,300 by 2025         | <a href="#">Mercer Analysis, 2017</a> |
| Nursing assistants                                 | 95,000 by 2025          |                                       |
| Medical and lab technologists and technicians      | 98,700 by 2025          |                                       |
| Nurse practitioners                                | 29,400 by 2025          |                                       |
| Truck Drivers                                      | 175,000 by 2024         | <a href="#">ATA Analysis, 2015</a>    |
| Manufacturing                                      | 2,400,000 by 2028       | <a href="#">Deloitte (2018)</a>       |

### Projected Economic Loss from Labour Shortage

The Glassdoor study recorded a total of 5.1 million job openings in December 2016, which add up to an estimated foregone value of US\$272.6bn.

According to [recent research](#) by the Korn Ferry Institute, the US stands to lose US\$1.748tn in unrealised economic output by 2030 because of labour shortage. This amount is equivalent to six percent of its whole economy – the highest projected loss among 20 developed and developing countries surveyed in the study. As per the study, a big chunk of this labour shortage will be in financial and business services, that together account for about a third of the US economy. Significant shortages of skilled labour are also projected in technology, media and telecommunications, and manufacturing. Interestingly, the study predicts that India will have a surplus of 1.1 million highly skilled workers in financial and business services by 2030.

value was found to be greater than the value of US imports of private services and goods from India, demonstrating that temporary labour migration is a significant economic component of the US-India bilateral relationship.

### H-1B Visa Programme

H-1B visas are primarily granted for speciality occupations, which are occupations characterised by the minimum requirement of a bachelor's degree or higher. Under the H1-B visa programme, employers submit petitions to hire a foreign worker for a period of three years. The visa is extendable by another three years, subject to renewal. The visa is allotted by lottery as there are generally more applications than available spots. The programme grants 60,000 work visas every year, along with 20,000 visas for workers with advanced degrees. However, these caps are routinely exceeded by the number of approved visas because of exemptions for certain categories of petitioners. The caps mainly apply to private businesses hiring new foreign workers.

Indians are the largest recipients of this visa, [accounting for 70 percent of H-1B visas](#) granted in recent years. Figure 1 shows the trend in H-1B visas granted to Indians between 2012 to 2017, broken up into the categories of initial and continuing employment. Visas granted for initial employment indicate the entry of new Indian workers, while those for continuing employment indicate the renewal of employment for an existing H-1B

### Trends in Movement of Temporary Labour from India to US

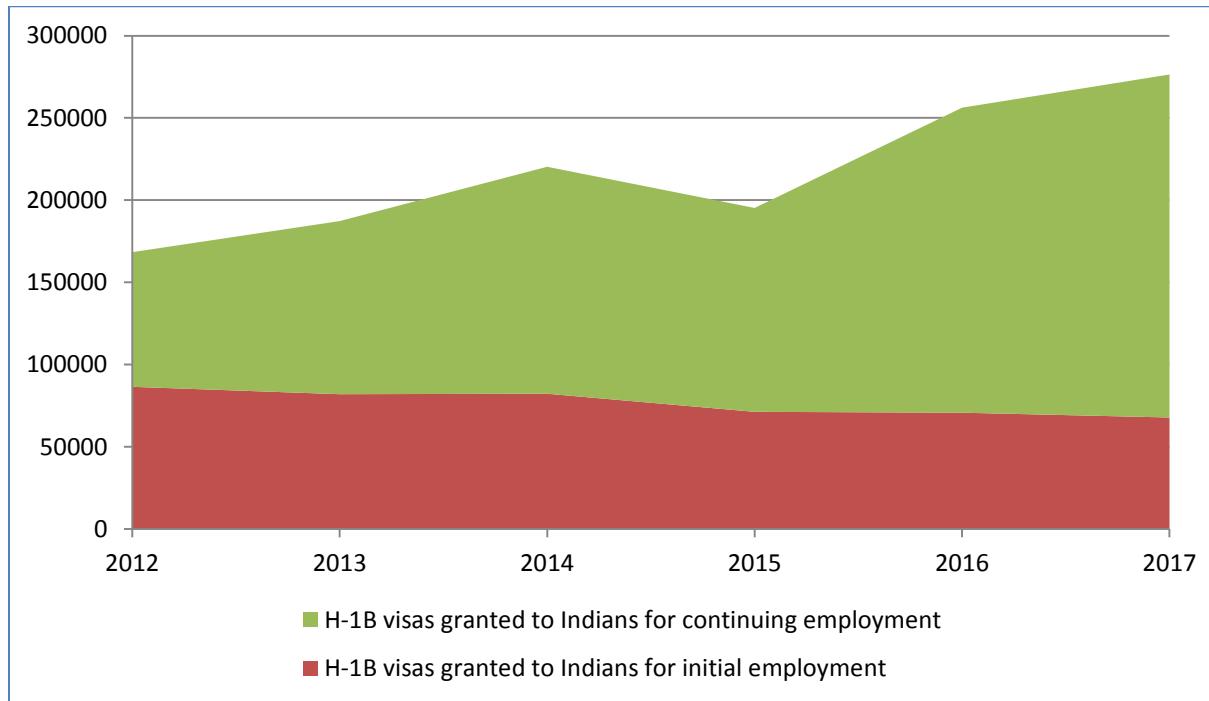
Indian workers enter the US through the channel of temporary employment-based visas. This is primarily done through two visa categories: H-1B and L-1. In both categories, Indians receive the highest share of visas among all nationalities. The economic value of the temporary worker flow from India to the US was [estimated](#) at US\$47-52bn for the period 2008-12. This

worker with the same employer, or a switch to new employer.

The total number of H-1B visas granted to Indians rose from 168,367 to 276,423 over this period. More visas are

granted for continuing employment, and a rising trend can be seen in this category. On the other hand, visas for initial employment or new workers have been declining.

**Figure 1: Trends in H-1B Visas Granted to Indians**



Source: [USCIS data](#)

Most H-1B visas are granted for computer-related occupations, followed by architecture, engineering and surveying, administrative specialisations, education, and medicine and health. The share of H-1B workers in computer-related occupations is as large as 60-70 percent, and on the rise.

This indicates that the H-1B visa programme is an important route for drawing foreign workers into occupations requiring high levels of knowledge and skill. It bears examining how this programme can be leveraged to address the labour shortage in these occupations.

#### **L-1 Visa Programme**

The L-1 visa enables intra-company transfers of employees from other countries to the US. The L-1A visa is for employees in executive or management positions, while the L-1B visa is for employees with specialised knowledge. The visa is valid for three years and can be renewed twice, for two-year periods.

In 2018, Indian workers received [18,473 L-1 visas](#), accounting for almost one-fourth of total L-1 visas issued that year.

#### **Recent Developments**

There has been a rise in protectionist and anti-immigrant sentiments in the last few years, buoyed by US President Donald Trump's 'Hire American' policies. Certain measures to restrict employment-based migration have been a cause of concern for Indians.<sup>i</sup>

In 2018, the overall number of H-1B applicants [declined](#) for the first time in five years. Indian applicants, particularly, have been facing problems, with a [rise](#) in the rate of denials and Requests for Evidence (RFEs). The number of Indian workers in the US looking for jobs in India has also gone up. Indians are also facing challenges with L-1B visas. Between 2012 and 2014, 56 percent of Indian petitions for L-1B visas were [rejected](#), compared to the average rejection rate of 13 percent.

In a situation of labour shortage, these trends reflect a misdirected policy on employment-based visas. There is a

need to ease the entry of skilled foreign workers, and to align these visa programmes with economic conditions.

## Economic Impact of Foreign Workers

Foreign workers, and skilled workers in particular, can contribute to economic growth by raising productivity, innovation and employment. In 2010, it was [found](#) that US workers across sectors were better off by US\$431mn because of the H-1B programme. This amounts to a gain of US\$1,345 per each additional H-1B worker. These gains appeared to result from increased productivity and innovation brought in by H-1B workers, particularly those in the tech sector.

Research also shows that hiring young skilled foreign workers raises the overall employment of skilled workers in a firm. Innovation and the development of new products by foreign workers creates more jobs everywhere – in HR, finance, legal and other departments. Literature [suggests](#) that a single H-1B worker can create anywhere between 1.83 to 5 American jobs. Using this data, it has been estimated that H-1B visas will create 700,000 new jobs for US-born workers by 2020.

The measures to restrict employment-based visas are motivated by arguments that skilled foreign workers displace native workers and bring down wage rates. However, there is [not enough evidence](#) to support this claim. It can be argued that the recruiting costs and legal fees for hiring immigrants do not allow these workers to be too underpaid. It has also been found that in some occupations and age-groups, H-1B workers [earn more](#) than their native counterparts. The higher wages indicate that these workers, rather than displacing native workers, provide hard-to-find skills.

## Conclusion and the Way Forward

The backdrop of the US labour shortage presents an opportune time for India and the US to explore reforms that would facilitate greater labour mobility. As discussed above, skilled foreign workers bring significant economic gains, apart from filling job openings. Labour mobility can be improved through the routes of employment-based visa programmes, or via trade in services. Both routes are detailed below, along with a discussion on the need for a Totalisation Agreement between the two countries.

The reforms discussed below have been on the docket for several years. Labour shortages in key US industries

should be used as impetus for resuming bilateral talks on these subjects.

### ***Reform of Employment-based Visa Programmes***

Many experts argue that the US visa regime has not evolved to keep up with economic conditions. The regime, at present, is mostly oriented towards family unification and only a small proportion is targetted at meeting economic requirements. It may be noted that a ‘Build America’ visa has been [announced recently](#), that will prioritise the entry of high-skill workers for citizenship. It remains to be seen how temporary work visa programmes will be affected.

The caps on H1-B visas, procedural costs associated with employment-based visas, and high rates of rejection of L-1B visa applications [are hampering](#) the ease of doing business for US companies. The burden is particularly high for small and medium-sized enterprises (SMEs).

The caps of 65,000 H1-B visas, and 20,000 additional H-1B visas for holders of advanced degrees, were decided in 1990. It should be noted that 35 percent of US employers have [reported](#) that they lost key talent because of these caps. In the last few years, the number of applications for H-1B visas has been consistently high. For 2019-202, sufficient applications [were received](#) within just five days to meet the 65,000 cap. Seeing this high demand, it needs to be explored if the caps on the number of visas can be increased.

It also needs to be explored if a fast track can be created for workers in occupations experiencing high labour shortage. Another option that can be explored is that of a separate employment-based visa for start-ups. Countries, such as Chile, Singapore and UK [have such a visa](#) in place. There is also a need to streamline the administrative procedures involved in these programmes, and bring down compliance costs.

### ***Trade in Services***

Another route towards facilitating greater mobility of skilled Indian workers is through reform in trade policy. The US has included provisions relating to temporary labour mobility in several of its Free Trade Agreements (FTAs), such as the US-Australia FTA with the attendant E-3 visa, and FTAs with Singapore and Chile that each have an attached carve-out of the H-1B visa. A possible arrangement that can be explored is that of the TN visa under the North American Free Trade Agreement, or NAFTA (to be superceded by the newly signed United States-Mexico-Canada Agreement).

Under current NAFTA provisions, employers in Canada, US and Mexico [can access professionals](#) from 60 categories from all three countries, for a period of three years, that can be renewed an unlimited number of times. They are also allowed to skip a Labour Market Impact Assessment. Employers of H-1B visa workers, on the other hand, have to demonstrate that they could not find an American worker for the same post.

It needs to be examined whether an India-US FTA can be designed in a similar manner, although its political feasibility appears to be limited in light of recent tensions over tariff barriers. It may be noted that in January 2018, Kenneth Juster, US Ambassador to India, [had called](#) for an eventual FTA between two countries.

### **Totalisation Agreement**

A long-standing challenge for Indian workers in the US has been the lack of a Totalisation Agreement (TA), or Social Security Agreement (SSA), between the two countries. This results in Indian workers having to pay social security taxes in the US without receiving any benefits in return. Between 2008-11, the total social security contribution of Indian temporary workers in the US amounted to US\$3bn. However, most US social security benefits, such as old age benefits and disability insurance, [only apply](#) to individuals that have been resident in the US for at least 10 years. This renders temporary Indian workers in the US ineligible.

An effective TA between the US and India can bring several possible benefits. One, it would enable Indian immigrant workers in the US [to continue](#) social security contributions, such as Provident Funds, in India. Two, it will allow portability of social security benefits for a worker who relocates between the two countries. Finally, it will allow for totalisation of benefits, i.e. the worker's eligibility for benefits in either country will be determined based on the aggregate period of employment in both countries.

Politically, the TA has been difficult to negotiate because the discrepancy between contributions of Indian workers in the US and vice-versa, implies that the TA would result in economic loss for the US. However, the economic benefits of bringing in more skilled Indian workers must be factored into this analysis. Additionally, a TA will also serve the larger interest of strengthening bilateral relations.

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<sup>i</sup> In April 2017, US President Donald Trump [signed an executive order](#) to overhaul the H1-B visa programme and make it more selective. The idea was to narrow eligibility to workers with advanced degrees and those at a higher wage level. It has also been speculated that applicants would be subject to intense social media scrutiny.

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