Senator Chuck Grassley
Questions for the Record
U.S. Senate Committee on the Judiciary
"Immigration Reforms Needed to Protect Skilled American Workers"

Responses by Ronil Hira

TO PROFESSOR RON HIRA

- Do you believe that the replacement of Southern California Edison workers by H-1B workers discussed at the hearing is allowed under the H-1B laws, and if so, do you believe it should continue to be legal?

The Secretary of Labor has the authority to investigate whether the employers in the SCE case violated any of the H-1B regulations. Until and unless the Secretary of Labor completes an investigation we will not know whether the employers are willful violators or have committed fraud.

I believe that the employers in this case, and in many other cases where Americans have trained their H-1B replacements, have clearly and willfully violated the attestations they made on the Labor Condition Application submitted to the Department of Labor. Those employers have clearly adversely affected the wages and working conditions of similarly employed U.S. workers. This is also a violation of DOL's interpretation of the INA. DOL states the following on its website, "The Immigration & Nationality Act (INA) requires that the hiring of a foreign worker will not adversely affect the wages and working conditions of U.S. workers comparably employed."

- Should the law give priority for visas to any specific categories of H-1B workers, and if so, which categories?

The law should give priority to foreign workers with truly specialized skills. Those skills should be measured by wages that are significantly higher than the average wages of Americans who are in similar positions.

Right now, H-1B workers can, and are, paid below the average wages. Most H-1B workers have no more than ordinary skills at best. This is exemplified by the Southern California Edison case, where the H-1B workers were being paid between 40%-50% than the American workers they replaced. The SCE case is large, impacting 500 American workers, and it is not unique. The typical H-1B worker has no more than ordinary skills.

- We frequently hear that the majority of the students in graduate schools in engineering and computer sciences are international, and their education is often subsidized by the US government. Mr. Billhardt provided one such example in his testimony. Is the H-1B program being used primarily to retain these students?

The surprising answer is no. Employer demand for foreign workers with advanced degrees from U.S. universities is low. In FY2012, only 25,746 of the H-1B employers hired workers who held Masters or higher degrees from U.S. universities. This is surprisingly low considering that the 20,000 visas are *set-aside* for these workers. That means the overwhelming number of workers hired under the 65,000 base cap do not hold advanced degrees from U.S. universities. This would indicate that H-1B employers are not primarily seeking international students who trained here.

These hiring preferences are true of many of the top H-1B employers. We know, for example, that almost none of the H-1B hires made by outsourcing firms like Tata and Infosys are graduates of U.S. universities. Only 1-in-206 of Infosys' H-1B workers held an advanced degree from a U.S. university, and even less of Tata's H-1B workers did, just 1-in-222.

Many might be surprised to know that many major U.S. based technology firms also demonstrate these hiring preferences. The example Mr. Billhardt provided is far less common than what is widely believed. Google, Microsoft, and Facebook - firms that have lobbied heavily for more H-1Bs, often armed with examples such as Mr. Billhardt's - only fill about one-fifth of their H-1B positions with foreign workers holding advanced degrees from U.S. universities. Mr. Billhardt, who was representing FWD.US at the hearing, holds an advanced degree from a U.S. university, yet he himself is not representative of the hiring practices of Facebook, Microsoft and Google, all backers of FWD.US.

Table: Approximately One-Fifth of Google, Microsoft, and Facebook's H-1B Workers Hold Advanced Degrees from American Universities

Company	FY13 New H-1Bs	H-1Bs With US Advanced Degrees	% With US Advanced Degrees
Google	744	164	22%
Microsoft	1039	212	20%
Facebook	320	62	19%

Brad Smith, chief counsel of Microsoft, told Congress that his firm had little interest in expanding the cap for advanced degree holders from the U.S. in testimony about S.744, the comprehensive immigration reform bill that passed the U.S. Senate. In the excerpt below, you see that the Microsoft's primary legislative goal with the H-1B program is to target increases in the base cap, not the cap for the advanced degree holders from US universities. In S.744 the base cap increased by 45,000 immediately while the cap for the advanced degree holders only increased by 5,000. And the base cap was set to increase an addition 70,000 in subsequent years.

Why was Microsoft interested in expanding the base cap rather than the advanced degree cap? Approximately 62% of Microsoft's H-1B workers hold no more than a Bachelor's degree.

http://www.judiciary.senate.gov/imo/media/doc/04-22-13BradSmithTestimony.pdf

> ***The Base Cap and the STEM Exemption***
> The bill's sponsors wisely included an increase to the base H-1B cap to 110,000 per year, with a new exemption for an additional 25,000 U.S. advanced STEM degree holders. Even these increases could be quickly exhausted in a strong economy, but it is a healthy increase and a very positive step. We also commend the focus on addressing our serious skills gap in STEM fields.
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> While advanced degree workers are particularly critical, those with Bachelor's degrees in highly technical fields for which there are acute shortages are also the type of crucial high skilled talent that can drive forward our country's economy and capacity for innovation. H-1B visas are reserved for "specialty occupation" jobs that require the theoretical and practical application of a body of highly specialized knowledge, requiring completion of a specific course of higher education—typically at least a bachelor's degree. These jobs—whether for biophysicists, geneticists, artificial intelligence researchers or software engineers—require highly educated and skilled workers at all career stages and levels of experience.

If it is desirable to prioritize those foreign graduates of U.S. universities, the law doesn't need to be changed. A simple fix to the ways in which DHS counts its H-1B petitions would accomplish this.

Simple Administrative Fix Would Prioritize Foreign Graduates of American Universities

Some have argued that foreign students with advanced degrees from American universities should have a priority with the H-1B program but DHS could easily do more to fulfill this goal. The quota for new H-1B workers is 85,000 per year with 20,000 of those set aside for advanced degree graduates of U.S. universities. The 20,000 additional visas were created specifically to provide prioritization for advanced degree graduates of U.S. universities. But the way in which DHS counts advanced degree holders towards the cap severely hampers its effectiveness. DHS fills the 20,000 cap with applications from advanced degree graduates before counting them against the 65,000. If DHS instead counted them against base cap of 65,000 first it would free up more than enough spaces for advanced degree holders.

- Could you explain the ways by which you understand firms use the H-1B and L-1 programs to facilitate the offshoring of US jobs and describe the impacts on the US workforce and economy of such offshoring?

The top H-1b employers are offshore outsourcing firms. Their principal business goal is to offshore as much work as possible to their workforces in low-cost countries like India and the Philippines. The reason is simple. The net profit margins of the work done overseas is much larger than even the large margins for their "onsite" H-1B and L-1 workforces.

The Southern California Edison case provides a window into this process. The goal of the SCE and the outsourcers was to offshore the majority of the IT work currently being done in the U.S. The H-1B workers were brought in to be trained by the incumbent American workers. The training process could take up to 18 months or even longer in some cases. The nature of the tasks and work varies, though. The work that is geographically sticky (i.e., requiring someone with physical presence in the U.S.) require H-1B workers will stay on to continue this work. Other work, which isn't so geographically sticky, is offshored to workers who had never been in the U.S. Some work and tasks are completed H-1B workers staying on to act as the liaison between customer and the offshore team. And still other H-1Bs would return offshore to do the work from the low cost country, at home country wages. Please note that I refer to all of the workers as H-1Bs for brevity sake. In many cases an L-1 visa is used by the employer to conduct the exact same offshoring process.

The upshot of all of this is that the loopholes in the H-1B and L-1 visa programs are aiding and abetting to the offshoring and destruction of hundreds of thousands of high-wage middle class American jobs.

- During the hearing we heard about an American Enterprise Institute study (Madeline Zovodny, "Immigration and American Jobs") that concludes that each H-1B creates 1.83 additional jobs for Americans. There was also reference to a 2008 National Foundation for American Policy study that concluded that each H-1B worker creates 5 new jobs (see http://www.nfap.com/pdf/080311h1b.pdf). Are you familiar with the studies in question? Do you agree with the studies' conclusions?

The Zavodny study does not find that H-1B workers "create" jobs for Americans because it is impossible for her to come to such a conclusion. The study claims that there are 1.83 additional jobs "associated" with each H-1B visa. Dr. Zavodny is identifying a correlation, not causation. This is a significant difference and distinction. So, those who are making claims about job "creation" are misreading the study.

Further, the study's conclusions about data "association" are questionable because of methodological flaws. First, Dr. Zavodny principally relies on the Labor Condition Application (LCA) data to identify the number of H-1B workers and their work location. The LCA data is wholly unreliable and very noisy. The reason is simple. While employers must have an LCA certified before they file an I-129 petition for an H-1B worker, most LCAs go completely unused. And there is no way for Dr. Zavodny to know which LCAs are actually used and those that are unused.

The LCA costs employers nothing and is very simple to fill out. No worker needs to be identified for an LCA. Further, employers can apply for many workers on a single LCA. Given these lax constraints on the LCAs, it should surprise no one that large numbers of LCAs are filed and certified every year whether an employer plans on filing a petition for an H-1B worker or not. I-129 petitions, which represent actual H-1B workers, cost money and require a worker to be identified.

Dr. Zavodny has no way of knowing where the H-1B workers are located because she is relying on the LCA data to tell her the work location. She also doesn't know the occupations of those workers. And she has no idea which of those LCAs were actually exercised into petitions.

The upshot is that the quality of the data Dr. Zavodny are poor and unreliable. Further, the study cannot isolate and control the many different factors - performance of the economy, stock market, business cycle, taxes, technological disruptions, etc. - that play important roles in job creation. By omitting these factors, she is attributing too much of the correlation to H-1Bs. Further, there isn't a clear causal theory at the micro level to support the correlation findings. In fact, there are empirical facts that showing that H-1Bs substitute for American workers. As we know *most* H-1B workers are employed by offshore outsourcing firms that directly replace American workers and substitute for them. Those firms do not seek American workers first. The Southern California Edison case clearly demonstrates that many H-1B workers are replacing Americans, not creating jobs for them. Dr. Zavodny completely ignores this common usage of the program.

Turning to the National Foundation for American Policy report, "H-1B Visas and Job Creation." The study examined the global employment levels of a subsample of S&P 500 firms.

There are numerous weaknesses in the study's methodologies. I will highlight just a few of the major ones. By selecting the sample in the way he did, the study's author excludes the most of the top H-1B employers, thus skewing, or biasing, the results. As a result, the sample does not represent typical H-1B use. Further, the study compares H-1B applications, which are jobs located in America but held by foreign workers, against the worldwide employment levels of these firms. It did not compare H-1B employment levels against U.S.-based employment levels for these firms.

So, for example, a firm might apply for 100 H-1Bs and increase its headcount in India by 500, and the firm would meet the study's claim. Given the rapid expansion of offshoring by major S&P 500 companies, like IBM, it should be no surprise that some of these numbers look very high. But they don't measure *American* job creation.

Remarking on its dubious theory in a 2009 Wall Street Journal article, Harvard University economist Richard Freeman said the NFAP study, "…has all the scientific sense of cold fusion, … though of course it could be we have discovered the perpetual employment expansion elixir."

Based on my own research of the H-1B program I have concluded on balance that it does more harm than good to the American labor market and for American workers. On the positive side, some employers do indeed use the H-1B program to bring in truly specialized and rare skills, and these workers complement the American workforce. Further, some H-1B holders, who become permanent residents, and later citizens, turn into entrepreneurs who create new technologies and jobs for American workers. However, the typical H-1B worker merely has ordinary skills, skills that are no better than American workers who are currently unemployed or underemployed. And the firms that get the most H-1Bs are using the program to facilitate the offshoring of American jobs and work. In the worst cases American workers are being forced to train their foreign replacements as a condition of severance and eligibility for unemployment insurance.

- Does the AEI study or any other similar study you know of measure the job-creating powers of *American* workers?

I know of no such study. And I am not sure how one could construct such a study.

- During the hearing there was discussion of a 2013 article by the Brookings Institution ("H-1B Visas and the STEM Shortage") that stated that "H-1B workers are paid more than U.S. native-born workers with a bachelor's degree generally ($76,356 versus $67,301 in 2010) and even within the same occupation and industry for workers with similar experience." Do you agree with the conclusions in that Brookings article?

There are significant problems with the Brookings Institution report. The primary one is that the authors cannot make clear apples-to-apples comparisons between H-1B and U.S. workers' wages.

In identifying the H-1B workers' wages, the Brookings report cannot identify the work location of the H-1B worker. While they attempt to identify the location, the method they used, counting LCAs, simply doesn't work. They don't know which LCAs have been exercised as I-129 petitions. Therefore, they cannot control for geography.

What they should be able to do is estimate wages for U.S. workers but here their estimates are clearly far too low. No one in the industry would agree that IT worker wage estimates that Brookings uses of $67,301 as being close to the market wages in IT. I suspect that the authors are averaging in many low wage computer occupations like computer support specialists (an occupation with large numbers of worker but don't require a degree) in order to bias the wages lower. H-1Bs require a Bachelor's degree or equivalent experience, so comparing those workers to U.S. workers in occupations that don't require a degree is making an apples-to-oranges comparison.

The Southern California Edison case shows how wildly off the Brookings Institution is in estimating U.S. market wages. Before being replaced by H-1Bs, the 500 American IT workers being were paid on average $110,000 per year. That's 64% more than what Brookings has estimated. There's a yawning gap between Brookings estimate that the American IT workers are paid $67,301 versus the actual wages paid to the SCE American IT workers of $110,000.

- If the minimum wage for exempting H-1B Dependent employers from recruitment and non-displacement were raised from $60,000 to $95,000, would this solve the problems in the H-1B program?

H-1B abuse, including using it for outsourcing by IBM and Accenture, is widespread even outside of H-1B Dependent employers. Targeting only H-1B Dependent firms badly misses the mark. An alternative proposal that would have some positive effect would be to raise the wage floor for *all* H-1B employers to $95,000 and eliminate any educational exemptions. Many in the IT industry have suggested that the true wage floor should be $100,000 or more. Microsoft's Bill

Gates has publicly claimed that its H-1B workers are paid more than $100,000, so this seems like a reasonable floor.

- Do the top H-1B employers generate large numbers of patents?

Most top H-1B employers do not patent much at all. The table below shows the number of U.S. patents, from FY10-12, for the top 20 H-1B employers. These are patents from *all* of the employees of the firm, American, permanent resident, foreign, and temporary workers.

As you can see most of the top H-1B employers patent very little. This is due to a number of factors. First, patenting is driven by the industry sector of the employer. Most of the top H-1B employers are in the IT Services sector, a sector that re-sells labor, and does not patent very much. For example, the top H-1B employer for FY12 was Cognizant. It received more than 9,000 workers yet received ZERO U.S. patents for the three years FY10-12.

Firms like Intel and Qualcomm are in sectors, semiconductor design and fabrication, where employers patent heavily. It should be noted that we don't know how much their H-1B workers contributed to patenting.

The case of IBM is interesting. IBM has traditionally been the leading receiver of patents but almost all of its patenting comes from its Software Products and Semiconductor business lines; whereas, most of its H-1B workers are in its IT Services and Outsourcing business lines. So, it is almost certain that the H-1Bs IBM hires have little to do with its divisions that patent.

Some, like Bill Kerr from Harvard University, have claimed that raising the H-1B cap would spur patenting and thus innovation. But if this recommendation were adopted it would be terribly ineffective given that more than half the H-1Bs go to employers that hardly patent at all. Giving Cognizant more H-1Bs, which is what would happen with an increase in the cap, would contribute zero to patenting. If Kerr's goal for the H-1B program is to spur patenting then a more sensible approach would be to change the H-1B eligibility criteria to favor industries and heavily patent like semiconductors and automotive and occupations like mechanical engineering and electronics engineering. The current H-1B system brings in mostly ordinary IT workers who fill positions as Computer Systems Analysts, implementing IT systems in the back offices of banks and insurance companies. Those occupations aren't involved in product development and certainly not in patenting.

TABLE: Most Top H-1B Employers Do Little Patenting			
FY12 H-1B Rank	**Company**	**# New H-1Bs Received in FY12**	**Total U.S. Patents for ALL Employees 2010-2012**
1	Cognizant	9,280	0
2	Tata	7,485	17
3	Infosys	5,600	56
4	Wipro	4,304	28
5	Accenture	4,035	340
6	HCL America	2,131	0
7	Tech Mahindra/SATYAM	1,963	15
8	IBM	1,846	18,463
9	Larsen & Toubro	1,829	5
10	Deloitte	1,668	6
11	Microsoft	1,496	8,713
12	Patni	1,260	0
13	Syntel	1,161	0
14	Intel	811	4,287
15	Amazon.com	775	46
16	Qualcomm	729	3,293
17	Google	646	1,879
18	PricewaterhouseCoopers	597	3
19	Synechron	571	0
20	Mphasis	567	0
Sources:	USPTO patents by firm and year http://patft.uspto.gov/		
	H-1B Top 20 from ComputerWorld list - USCIS original source		

- How does the H-1B program impact the racial and gender diversity of STEM workforce?

The H-1B program has negative impacts on the racial and gender diversity in STEM. Current H-1B policies are working at cross-purposes to the very large investments being made by government to increase the diversity of American STEM workers and students. The adverse impacts of the H-1B program on diversity in the STEM workforce are both direct and indirect. In very public ways, the technology industry has recently acknowledged that it needs to do much more to improve its racial and gender diversity. Yet, the H-1B program undermines these private sector proclamations and efforts.

First, according the USCIS Characteristics of Specialty Occupations reports (http://www.uscis.gov/tools/reports-studies/reports-and-studies), a large majority, 70%, of H-1B workers in FY14 come from a single source country, India. And this concentration has been increasing over the years. Just ten years earlier, in FY04 the figure stood at 43%. The reason is simple – the rise of the offshore outsourcing industry and its increasing use of the H-1B program over the past decade. Nearly all the H-1B workers the offshore outsourcing firms hire are from India. For Wipro, 98.4% of its H-1B workers come from India, and for Tata it is 99.9% and 97.4% for Infosys.

It should be noted that this preference for H-1Bs from India has nothing to do with international student enrollments. The number of Chinese students at U.S. universities far outnumber Indian students: 274,000 Chinese to 103,000 Indian in 2013/14 according to the Institute of International Education.

(http://www.iie.org/EN/Services/Project-Atlas/United-States/International-Students-In-US)

Yet, the number of Chinese H-1B worker share *decreased* from 9.1% in FY04 to 8.4% in FY14.

So, the H-1B program directly skews the STEM workforce significantly towards workers of Indian origin, a group that is already overrepresented in the America's STEM workforce.

Though USCIS hasn't released gender information on H-1B workers, industry experts have said that the H-1B workers at outsourcing firms are overwhelmingly male. This again directly contributes negatively towards diversity in the STEM workforce, particularly in computer occupations.

There are also significant indirect impacts of the H-1B program on STEM diversity in America. Employers can tap cheaper H-1B and L-1 workers so they have little incentive to help prime and create pipelines of women and under-represented minority talent. They have little reason to invest in universities and educational organizations that broaden the pool of American STEM talent. While it is often sub-conscious, incumbent pools of workers tend to prefer workers that are similar to themselves.

The programs also contribute to rampant age discrimination in the industry.

- What is the "B-1 in lieu of H" visa category provided for in the State Department's Foreign Affairs Manual? What is your understanding of the way in which this visa category is used to bring foreign workers to the U.S. outside of the H-1B and L-1 programs?

My knowledge of this program is limited. I know that employers believe that the rules allow them to have their B-1 visa holders perform work. The B-1 is supposed to allow foreigner to make business visits but prohibits them from working. Employers have exploited what they perceive to be vagueness in the law to have B-1 visa holders work. We know that outsourcing companies like IBM have advertised *work* positions for B-1 visa holders, and have paid modest fines when caught. The government could and should do more to enforce the B-1 rules. Abuse of the B-1 rules were at the heart of the record Infosys $34 million fine. It is very likely that many companies are using the B-1 visa program for work when they should not.