



Immigration and the Science and Engineering Workforce: A Labor Perspective

On July 11, 2011, Department for Professional Employees, AFL-CIO President Paul E. Almeida spoke at the “Dynamics of the Science and Engineering Labor Market: Projections, Regulations, and Employment Patterns Workshop” held at Georgetown University and sponsored by the Sloan Foundation. The workshop included presentations from the public and private sectors and labor. Included below are Almeida’s remarks and research paper.

Paul E. Almeida – Remarks, Immigration and the Science and Engineering Workforce: A Labor Perspective

Our current skilled guest worker programs have created a race to the bottom. This is a race by companies to hire hundreds of thousands of low-wage workers to replace older and more expensive workers and limit worker rights and protections.

To end the race to the bottom, the labor movement has come together to support a reform plan that would improve the guest worker system. There are three main features of the plan.

First, the plan calls for the creation of an independent commission that would assess and manage future flows based on labor market shortages that are determined on the basis of actual need.

Second, the plan calls for instituting a market wage that would be pegged to the 75th percentile for the occupation and area. This would ensure that recruited workers actually are the best and the brightest and that their compensation does not undermine existing local standards.

Finally, the plan would allow guest workers to freely change employers after 18 months of employment.

If implemented, these changes would end the race to the bottom that the current guest worker system has created. These changes are in the best interest of both U.S. and foreign workers.

The race to the bottom is being accomplished with hundreds of thousands of entry-level and low-wage workers who have little leverage when negotiating with their employer.

The focus of my remarks are the H-1B visa, but I will also mention others.

While supporters of the H-1B visa repeatedly state that H-1B workers are the best and the brightest, a majority, 54 percent, of H-1B visas in 2010 were issued for entry level positions. These

positions require workers to have a basic understanding of duties and perform routine tasks requiring limited judgment. Only six percent of H-1B visas were for workers in the top pay grade.

There are several explanations for why a majority of H-1B workers are paid entry-level wages. The first is that these workers are highly skilled, but are willing to work for the low wages offered by their employer. Another explanation is that these are inexperienced entry-level workers who cannot command high wages.

Employers can hire recent graduates with little to no experience because the current guest worker system only requires that H-1B workers have a bachelor's degree. In some cases training or experience in a specialty occupation can substitute for a bachelor's degree. This results in H-1B petitions regularly being approved for low-skill workers, including file clerks, nannies, cooks, and child care workers.

Supporters of the H-1B often say that we need H-1B visas because American students are not majoring in science and engineering. This is simply not true. In 2008, 95,247 U.S. citizens and permanent residents received a bachelor's, master's, or Ph.D. in engineering. According to the Bureau of Labor Statistics, in 2008, there were 1,571,900 engineers employed in the U.S. By 2018, the BLS projects that there will be an additional 178,300 engineers in the U.S. workforce. So, in just two years, the U.S. graduates enough students to meet the growth in engineering for the next ten years, leaving plenty of graduates to replace retiring workers.

Also in 2008, nearly 179,000 U.S. citizens and permanent residents received a bachelor's, master's, or Ph.D. in a hard science.

So, if there is sufficient supply of domestic talent, why are employers hiring hundreds of thousands of guest workers?

Cheap labor is one answer. Low wages among H-1B workers are well documented. In a January 2011 report, the Government Accountability Office noted that "for systems analysts, programmers, and other computer-related workers...H-1B workers tend to earn less than U.S. workers..." \$61,000 for H-1B workers compared to \$70,000 for U.S. workers. "The Department of Labor has certified wages as low as \$12.25 per hour for H-1B computer professionals." In 2010, InfoSys Technologies, an Indian firm, paid as little as \$25,210 a year for a full-time computer programmer analyst.

If guest workers are so vital to our economy, then they should be making well over the average pay for an American worker in a similar occupation and area.

Executives who use the H-1B program and other supporters have repeatedly stated that the program is used and should be used to reduce labor costs. For example:

- The Government Accountability Office reported that during an interview with a staffing firm, the firm admitted that H-1B workers will work for less money than U.S. workers.

- An executive with Indian IT firm Tata Consultancy Services, remarked in an interview with an India-based magazine that “our wage per employee is 20-25 percent less than U.S. wage for a similar employee.”
- Another former tech CEO and outspoken proponent of H-1Bs stated that he knows that “H-1Bs are cheaper than domestic hires.”
- Former Federal Reserve chairman, Alan Greenspan, stated that H-1B workers are needed to lower wages in the technology sector.

Proponents of guest worker visas also attempt to argue that guest workers are highly skilled and critical to our nation’s future. Yet, the vast majority of them are not sponsored by their employer for permanent residency. From an employer perspective, it makes business sense not to sponsor workers for permanent residency. Permanent residents have more power to negotiate for higher pay, better benefits, and improved working conditions – exactly the kind of employee that most employers don’t want.

Employers have other avenues for lowering labor costs. Employers sponsoring L-1 visas actually have no wage requirements and are not required to disclose what they pay their workers. This is a glaring problem considering that there are an estimated 350,000 L-1 visa workers in the country who can stay for up to seven years. Also, there is no cap on the number of L-1 visas that can be issued.

Recently, companies have begun to employ guest workers on B-1 visas. B-1 visas are intended for business visitors, not people who are in the country to earn wages. However, these “business visitors” are in the U.S. performing work for wages.

Companies have grown increasingly dependent on guest workers, which explains their willingness to risk using visitor visas for guest workers. Employer dependence is due in part to the concentration of guest workers in just a few occupational fields—occupations that tend to be a good source of jobs for middle class American workers. However, middle class wages mean fewer profits for corporations.

The corporations like to argue that our economy is increasingly global. At what point do the costs to our domestic workforce become so high that we must place reasonable limits on the flow of guest workers. We need to think about the burdens of U.S. unemployment, retraining costs, and public assistance.

In an attempt to fight limits on guest worker visas corporations try to downplay the impact of guest workers on our workforce. Corporations like to say that guest workers make up less than one-tenth of one percent of the U.S. workforce. Not surprisingly, this is a misleading statistic, because guest workers are concentrated in just a few occupations, including computer-related work and engineering.

In 2008, the Bureau of Labor Statistics in its Occupational Outlook, estimated that there were approximately 2.5 million people employed in computer-related occupations, including computer network and systems and database administrators, computer software engineers, computer programmers, computer support specialists, and computer systems analysts. In fiscal years 2007 through 2009, there were 365,599 new and renewal H-1B petitions approved in computer-related occupations. If all of the computer-related guest workers worked six years, then nearly 13% of the computer-related workforce is made up of H-1B workers. This number does not include L-1 or other guest worker programs that employers utilize, for example, Optional Practical Training.

The Bureau of Labor Statistics noted that many of these computer-related occupations require only a bachelor's degree, and many computer support specialists need only a computer-related associate degree. Thus, U.S. workers could be quickly trained to fill these positions in the event of increased demand.

In 2008, the Bureau of Labor Statistics reported that there were nearly 1.6 million engineers employed in the U.S. In fiscal years 2007 through 2009, there were over 87,000 H-1B petitions approved in architecture, engineering, and surveying occupations, with most of those in engineering occupations. This accounts for over 5% of the engineering workforce.

Thus, it is disingenuous to say that H-1Bs make up only one-tenth of one percent of the whole workforce when guest workers clearly have a strong foothold in just a few sectors. This supply of cheaper labor has resulted in wages in these sectors being largely flat over the past decade.

The reforms supported by DPE, the AFL-CIO, and Change to Win would address many of the issues I have identified. An independent commission, staffed by economists, demographers, statisticians, and immigration specialists would be able to determine the existence of a labor shortage. The existence of a labor shortage protects U.S. workers from employers who seek labor for the lowest price.

It's important to point out that the requirement that there be a labor shortage already exists in other industrialized countries. Australia, Canada, and Spain, for example have specialist government departments that compile 'shortage occupation lists' that are integral parts of the countries' labor immigration programs. The UK has recently established a new Migration Advisory Committee, a small independent body of economists tasked to advise the government on where in the UK economy there are skilled labor shortages that can be addressed by immigration from outside the European Economic Area.

The market wage requirement, which would pay guest workers a wage in the 75th percentile for the occupation and geographic area, would ensure that the workers are the best and the brightest and protect U.S. workers from employers who seek to replace them with cheaper labor. In addition to a market wage, there should be a minimum wage since the U.S. should be seeking top talent, not cheap talent. A reasonable standard would be the average wage nationwide for all occupations that require a bachelor's degree.

Finally, the indentured nature of the employer/employee relationship needs to change. As currently configured, the employer has the power. In the case of H-1B and L-1 visas, the employer holds the visa and the employee must leave the country if terminated unless new employment can be found within a short amount of time. This imbalance leaves little room for the employee to negotiate for better pay, benefits, and working conditions.

Our guest worker programs have been sold to the American public as a way for businesses to gain access to the world's best and brightest minds. But the American people are not buying it, because all the evidence points to a race to the bottom. Employers are hiring young, low-paid workers with very few rights, and doing little to keep them in the country permanently. This comes at the expense of U.S. workers who are displaced and foreign workers who are exploited. To create fairness and balance in our guest worker system requires the three reforms I mentioned: an independent commission, a meaningful wage, and mobility for guest workers without employer control.

Thank you.

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A Labor Perspective**

I. Introduction

The 21 national and international unions in the Department for Professional Employees, AFL-CIO (DPE) represent hundreds of thousands of engineers, scientists, and professors in science, technology, engineering, and mathematics fields.¹ Many are adversely impacted by guest workers.

Skilled immigrants and guest workers can be an important supplement to our science and engineering workforce when a labor shortage exists. Unfortunately, our current skilled immigration system uses guest workers to substitute for U.S. workers.

To improve our skilled immigration system, there must be labor market protections for U.S. citizens; labor, health and safety, and other protections for guest workers; and protection against job loss and depression of wages and working conditions. Unfortunately, our current skilled immigration system provides few protections for U.S. citizens and guest workers.

This paper outlines three of the most significant issues with our current skilled immigration system and discusses what should be done.

II. Problems Plague the Current Skilled Immigration System

The skilled immigration system has numerous problems that justify the comprehensive reform supported by DPE. **First**, the system does not require a labor shortage before guest workers can be hired. **Second**, employers are able to use temporary visa programs to reduce labor costs. **Finally**, the system makes guest workers susceptible to abuse.

1. Evidence of a labor shortage is not required

Currently, most temporary visas are issued without employers having to demonstrate that U.S. workers in the particular field are not available. Millions of temporary workers have been hired, despite strong evidence that there is an ample supply of U.S. workers.

The U.S. is clearly graduating enough U.S. citizens and permanent residents in science and engineering fields to meet current and future demand. In 2008, 95,247 U.S. citizens and permanent residents received a bachelor's, master's, or Ph.D. in engineering.² According to the Bureau of Labor Statistics (BLS), in 2008, there were 1,571,900 engineers employed in the U.S. By 2018, the BLS projects that there will be an additional 178,300 engineers in the U.S. workforce. In 2008, 178,998 U.S. citizens and permanent residents received a bachelor's, master's, or Ph.D. in hard sciences.³

Unemployment rates should also be taken into account when determining visa allocation, because they are clearly relevant to issues of labor supply. In April 2011, architecture and engineering occupations had an unemployment rate of 4.1 percent.⁴ This was down from a high of 6.9 percent in 2009.⁵ The average unemployment rate in these occupations between 2004 and 2008 was 2.26 percent.⁶

Computer and mathematical occupations had an unemployment rate of 3.7 percent in April 2011.⁷ This was down from a high of 5.2 percent in 2009.⁸ The average unemployment rate in these occupations between 2004 and 2008 was 2.8 percent.⁹

In fiscal year 2010, tens of thousands of H-1B visas were granted to hire guest workers in computer science and engineering fields despite ample supply and high unemployment.¹⁰ Thus, current U.S. policy is to increase the supply of labor without evidence of labor market need.

2. Guest workers are used to lower labor costs

The H-1B program is used by employers to reduce their labor costs. This is the primary reason employers hire guest workers absent a labor market shortage. Executives who use the H-1B program and other supporters have repeatedly stated that the program is used and should be used to reduce labor costs. For example:

- The Government Accountability Office (GAO) reported that during an interview with a staffing firm, the firm admitted that H-1B workers will work for less money than U.S. workers.¹¹
- Phiroz Vandrevalla, while an executive with Indian IT firm Tata Consultancy Services, remarked in an interview with an India-based magazine that “our wage per employee is 20-25 percent less than U.S. wage for a similar employee.”¹²
- Vivek Wadhwa, Visiting Scholar at the School of Information, UC-Berkeley and proponent of H-1B visas, stated that as a former tech CEO he knows that “H-1Bs are cheaper than domestic hires.”¹³
- Former Federal Reserve chairman, Alan Greenspan, stated that H-1B workers are needed to lower wages in the technology sector.¹⁴

Employers use H-1Bs to acquire cheap labor and reduce wages. This puts U.S. workers at a competitive disadvantage and depresses wages.

While the H-1B visa requires a prevailing wage, the L-1 intra-company transfer visa does not even have a minimum wage requirement. This is a glaring problem. There are an estimated 350,000 L-1 visa workers in the U.S. and they are not required to be paid a minimum wage. They can be required to work for low wages for between six and seven years. There is no data available on how much L-1 visa workers are paid.

3. Guest workers are susceptible to abuse

The indentured nature of their employment—up to six years with the same employer—makes guest workers less likely to voice concern over health and safety violations, utilize whistleblower provisions, or file for workers' compensation. Temporary workers can lose their legal status and be forced to return to their home country if they are fired by their employer. This makes guest workers much less likely to file complaints and participate in authorized activities. Guest workers should have the right to join a union without fear of repercussions or retribution.

Temporary workers who complain about wages or working conditions can be fired and deported. This affects wages, wage competition, and is not fair to workers. The GAO noted that “[a]ccording to agency officials, H-1B workers are likely to be reluctant to file complaints against employers for fear that the company might be disbarred, which in turn could result in the complainant and fellow H-1B workers at the company losing their jobs and potentially having to leave the United States.”¹⁵ The H-1B workers are also reluctant to cooperate after a complaint has been filed “for fear of similar repercussions.”¹⁶ Of the workers who did file complaints in 2009, the U.S. Department of Labor required companies to pay \$11 million “in unpaid wages to 1,202 workers and \$739,929 in civil penalties.”¹⁷

Unfortunately, the current prevailing wage requirement does not protect wages for skilled guest workers. While these workers are supposed to be among the best and the brightest, “the Department of Labor has certified wages as low as \$12.25 per hour for H-1B computer professionals.”¹⁸ In 2010, InfoSys Technologies, an Indian firm, paid as little as \$25,210 a year for a full-time computer programmer analyst.¹⁹ In a January 2011 report, the GAO noted that “for systems analysts, programmers, and other computer-related workers...H-1B workers tend to earn less than U.S. workers....”²⁰ (\$61,000 for H-1B workers compared to \$70,000 for U.S. workers.)

III. Reforms would Protect U.S. and Guest Workers

DPE and the AFL-CIO support comprehensive reform of skilled guest worker programs.²¹ **First**, reform must include the creation of an independent commission that would manage future flows. **Second**, wage competition must be limited by requiring that a market wage be paid to guest workers. **Finally**, guest workers must not be faced with threats of deportation in the event they exercise their rights.

1. An independent commission is needed

An independent commission should be created “to assess and manage future flows, based on labor market shortages that are determined on the basis of actual need.”²² The commission would

be served by a professional staff of economists, demographers, statisticians, and immigration specialists to avoid political pressure.²³ The commission would make recommendations regarding immigration levels that unless rejected by Congress would become law.²⁴

Many of the issues that have been identified by DPE as injurious to skilled U.S. workers would be aided by the creation of an independent commission. As envisioned by former Secretary of Labor Ray Marshall, an independent commission would be able to “develop much better measures of labor market shortages, assessment methodologies, and processes to efficiently adjust foreign labor flows to employers’ needs while protecting domestic and foreign labor standards.”²⁵ In essence, the commission would be able to certify the existence of a real, temporary labor shortage.²⁶

The independent commission would “measure labor shortages and recommend the numbers and characteristics of employment-based temporary and permanent immigrants to fill those shortages.”²⁷ Similar independent commissions have been successful in other countries.

“In Australia, Canada and Spain, for example, specialist government departments are compiling ‘shortage occupation lists’ that are integral parts of the countries’ labour immigration programs.”²⁸ “The UK has recently established a new Migration Advisory Committee (MAC), a small independent body of economists tasked to advise the government on where in the UK economy there are skilled labour shortages that can be “sensibly” addressed by immigration from outside the European Economic Area.”²⁹ “[T]he UK’s [MAC] uses a combination of twelve economic indicators to help assess shortages, including the relative change in median hourly pay in an occupation, the relative change in unemployed by sought occupation and the relative share of skill shortage vacancies by occupation.”³⁰

2. A market wage, not prevailing wage, should be required

Workers should be paid a market wage, not just the prevailing wage. If guest workers are the best and the brightest, as supporters claim, then they should command a greater premium than their U.S. counterparts. Guest workers are not paid a premium and in fact, reports have shown that guest workers make less than or the same as U.S. citizens and permanent residents.

A market wage is a wage that would be “pegged to the 75th percentile for the occupation and area...to ensure that recruited workers are the best and the brightest, and that their compensation does not undermine existing local standards.”³¹ In any event, no wage offer should “be made that pays less than the average wage nationwide for all occupations that require a bachelor’s degree.” Currently, the median weekly wage for a worker with a bachelor’s degree is \$1,038.³²

3. Change the indentured nature of the system

Workers on an H-1B visa should be free to change employers after 18 months of employment. “H-1B workers are admitted to work for the single employer that petitions for their entry. Because the three-year visa is renewable, workers can be compelled to choose between

leaving the country and staying with the same employer for as long as six years, *even if the employer underpays them year after year.*³³

Under the current system, if the employer sponsors the worker for permanent residence, then the worker must stay with the employer until residency is received, which could take 10 years. If the employee leaves the job, then the whole process must start again. This puts many workers in a very weak position when negotiating wages and working conditions.

Allowing greater movement for guest workers would allow them to more freely engage in union activities, negotiate higher wages, have access to health and safety laws, and benefit from other worker protections without fear of retaliation and deportation.

IV. Conclusion

Our current skilled immigration program for temporary workers has significant flaws that necessitate reform. The creation of an independent commission to assess and manage future labor needs would go a long way toward fixing the broken system. In addition to the creation of a commission, a market wage should be required and there should be greater flexibility for guest workers. These reforms are in the best interest of U.S. and guest workers.

¹ Hirsch, Barry T. and David A. Macpherson, "Union Membership and Earnings Data Book." The Bureau of National Affairs, 2011.

² National Science Foundation, "Women, Minorities, and Persons with Disabilities in Science and Engineering." Division of Science Resources Statistics, February 2011: Data Tables: 5-13, 6-3, and 7-4.

³ *Ibid.* Table 5-3, 6-3, and 7-4.

⁴ U.S. Department of Labor. "Household Data, Not Seasonally Adjusted, A-30 Unemployed persons by occupation and sex." Bureau of Labor Statistics.

⁵ U.S. Department of Labor. "Household Data, Annual Averages, 25. Unemployed persons by occupation and sex." Bureau of Labor Statistics.

⁶ U.S. Department of Labor. "Labor Force Statistics from the Current Population Survey." Bureau of Labor Statistics.

⁷ "Household Data, Not Seasonally Adjusted, A-30 Unemployed persons by occupation and sex." *op. cit.*

⁸ "Household Data, Annual Averages, 25. Unemployed persons by occupation and sex." *op. cit.*

⁹ "Labor Force Statistics from the Current Population Survey." *op. cit.*

¹⁰ U.S. Department of Homeland Security, "Characteristics of H-1B Specialty Occupation Workers." U.S. Citizenship and Immigration Services, April 15, 2010.

¹¹ U.S. Government Accountability Office. "H-1B Program: Reforms Needed to Minimize the Risks and Costs of Current Program," January 2011: 25.

¹² Hira, Ron, and Anil Hira. "Outsourcing America." New York: Amacom, 2005.

¹³ Wadhawa, Vivek, "America's Other Immigration Crisis," *The American*, July/August 2008. June 23, 2011 <http://www.american.com/archive/2008/july-august-magazine-contents/america2019s-other-immigration-crisis>

¹⁴ Thibodeau, Patrick, "Greenspan: H-1B cap would make U.S. workers 'privileged elite,'" *Computerworld*, April 30, 2009. June 13, 2011. http://www.computerworld.com/s/article/9132438/Greenspan_H_1B_cap_would_make_U.S._workers_privileged_elite

¹⁵ H-1B Program: Reforms Needed to minimize the Risks and Costs of Current Program, p. 48. *op. cit.*

¹⁶ *Ibid.*

¹⁷ *Ibid.*

¹⁸ Hira, Ron, *The H-1B and L-1 Visa Programs Out of Control*, Economic Policy Institute, October 14, 2010: 1-2.

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- ¹⁹ Foreign Labor Certification Data Center. <http://www.flcdcenter.com/>.
- ²⁰ H-1B Program: Reforms Needed to minimize the Risks and Costs of Current Program, p. 41. op. cit.
- ²¹ AFL-CIO and Change to Win, "The Labor movement's Framework for Comprehensive Immigration Reform," April 2009.
- ²² *Ibid.*
- ²³ Marshall, Ray, "Immigration for Shared Prosperity, A Framework for Comprehensive Reform." Economic Policy Institute, 2009.
- ²⁴ *Ibid.*
- ²⁵ *Ibid.*
- ²⁶ *Ibid.*
- ²⁷ *Ibid.*
- ²⁸ Ruhs, Martin and Bridget Anderson. "Who needs migrant workers? Labor shortages, immigration and public policy." Centre on Migration, Policy and Society, University of Oxford, May 11, 2009.
- ²⁹ *Ibid.*
- ³⁰ *Ibid.*
- ³¹ Marshall, Ray, op. cit.
- ³² U.S. Department of Labor, Bureau of Labor Statistics, "Employment Projections, Education Pays," May 4, 2011. June 23, 2011 http://www.bls.gov/emp/ep_chart_001.htm.
- ³³ Marshall, Ray, op. cit.