

## Flooding the STEM labor market

Senator Hatch Senator Klobuchar introduced The Immigration Innovation Act, known as “I-Squared.” It will triple the number of foreign temporary workers from about 800,000 to over 2.3 million. This will distort the STEM labor market, which has only 4 million workers at all education levels. I-Squared will seriously depress the domestic STEM labor market.

### Claims of Labor Shortage are overstated.

Employers argue that they cannot hire STEM workers to fill available positions. On the other hand acceptance rates on offers are above 90%. Unemployment rates for engineering and computing occupations are still double the pre-recession rate. Many recent college graduates and mid-career unemployed STEM workers are unemployed or underemployed and STEM occupations show no upward wage pressure.

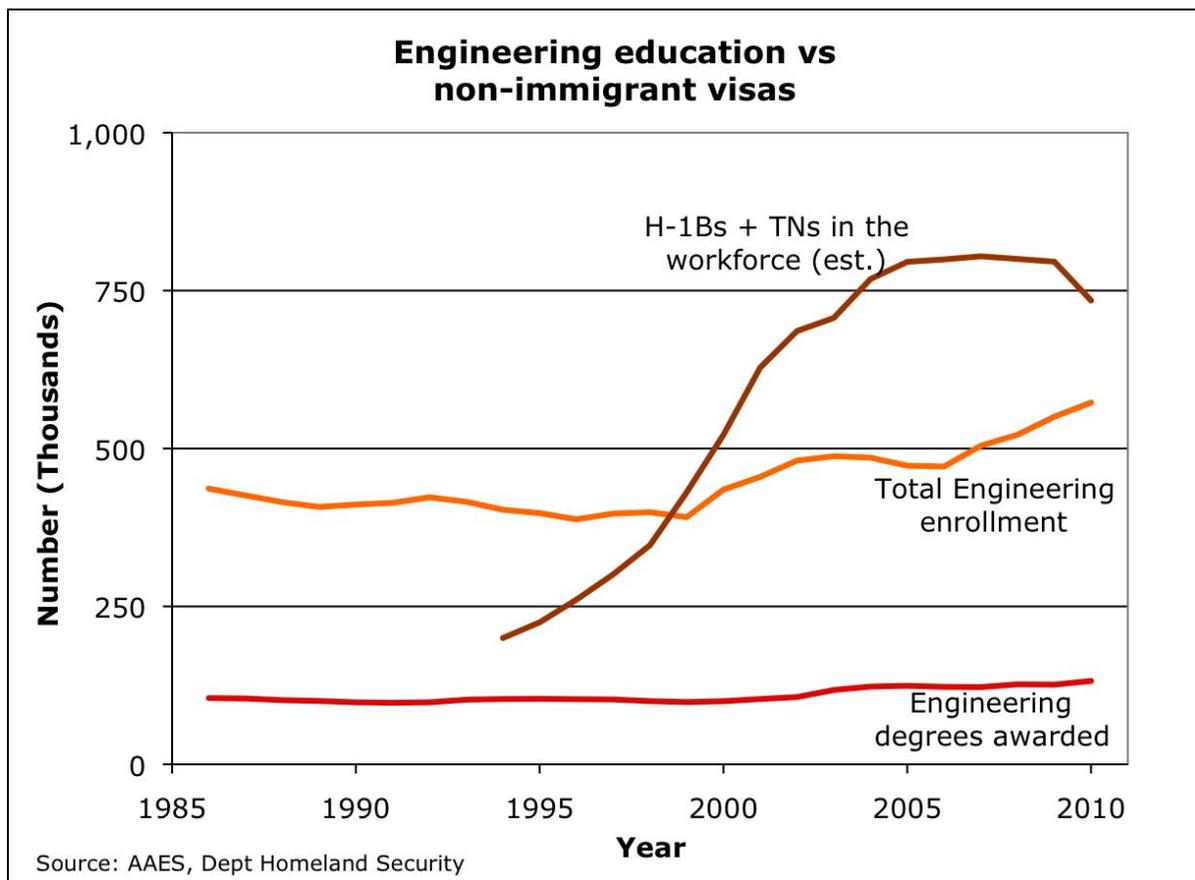


Figure 1. Trends in STEM enrollments and graduations compared to H-1B employment.

### Inside the STEM labor market.

Figure 1 puts the STEM educational pipeline into context with the H-1B program. All US engineering schools combined award about 130,000 engineering degrees per year, including about 20,000 Bachelors, Masters and PhDs in computing.

Roughly 130-150,000 initial H-1B visas are issued each year. Another 40,000 foreign students work for 2 years or more in extended internships under the Optional Practical Training Program, and many other H-1B workers stay in the workforce while they pursue permanent status.

Figure 1 gives a conservative estimate of the total number of foreign temporary workers in the STEM workforce.

### Labor market dynamics

Employers testify that unemployment for engineers, computing and other professionals is about half the rate for the total workforce nationally. This unemployment rate is put into context in Figure 2.

Unemployment for STEM and other professionals is stuck at above 4% - double what it was before the recession, and holding stubbornly after many years of recovery. The effect is worsened when we count discouraged workers and underemployment.

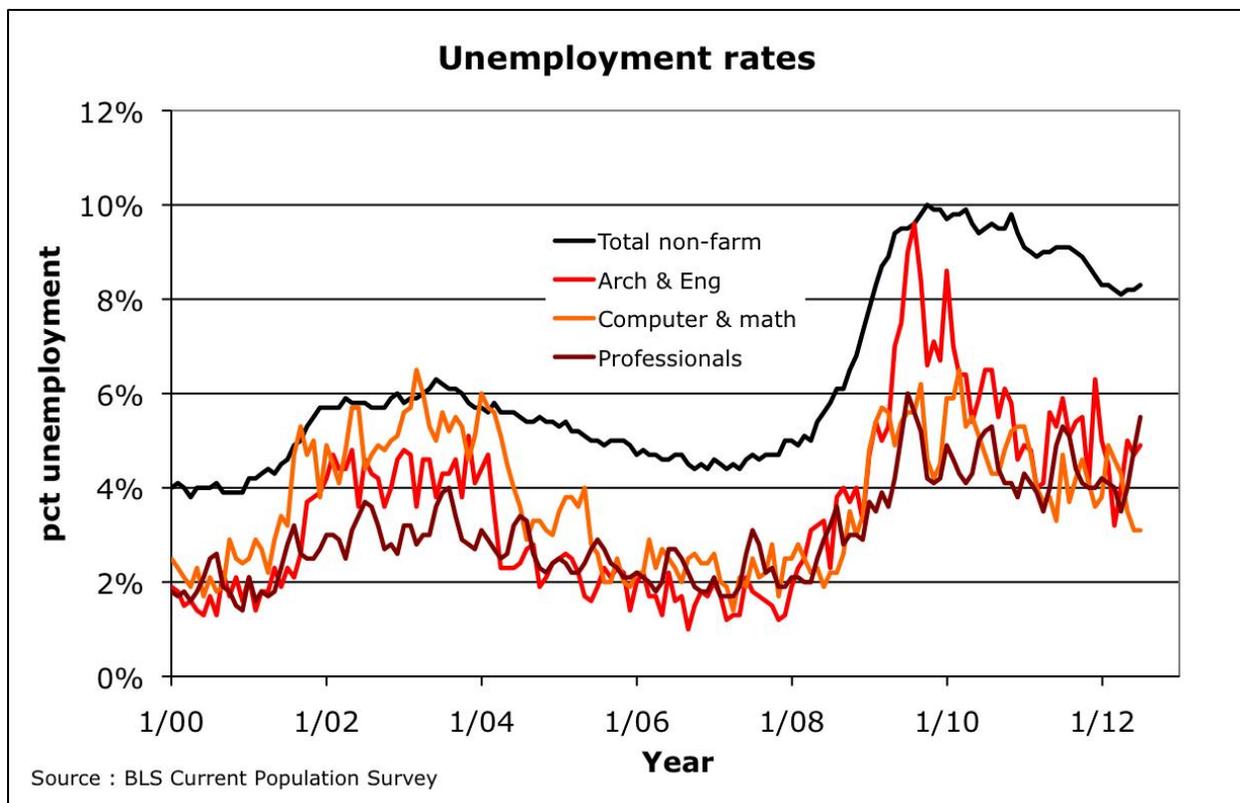


Figure 2. Unemployment rates for broad employment categories.

### Labor shortage?

Employers express frustration at not finding workers with needed skills. At the same time, they acknowledge receiving dozens or hundreds of applications for each job opening. Peter Cappelli, at the Wharton School of Business, points to a shift in hiring behavior. For many years, employers sought qualified workers who were able to do the work. Lately, employers are hiring fewer workers, and being much more selective. Now they want a perfect match of skills, knowledge and experience. That is, they want

someone already doing the work, requiring no training or learning curve. Employers seek a “snowflake” applicant, uniquely qualified to fill their job opening.

In Figure 3, each mark represents an individual employee in a high-demand skill – structures engineering in the aerospace industry. It shows how salaries vary with age within the group. Salaries generally reflect the work performed by the individual.

These employees are the same “skill code,” which means they can move easily from one assignment to another within group. Ironically, in order to be hired, they should present themselves as a unique snowflake, but once in the workplace, they are aggregated into a larger group of comparable employees for the purposes of managing the internal labor market.

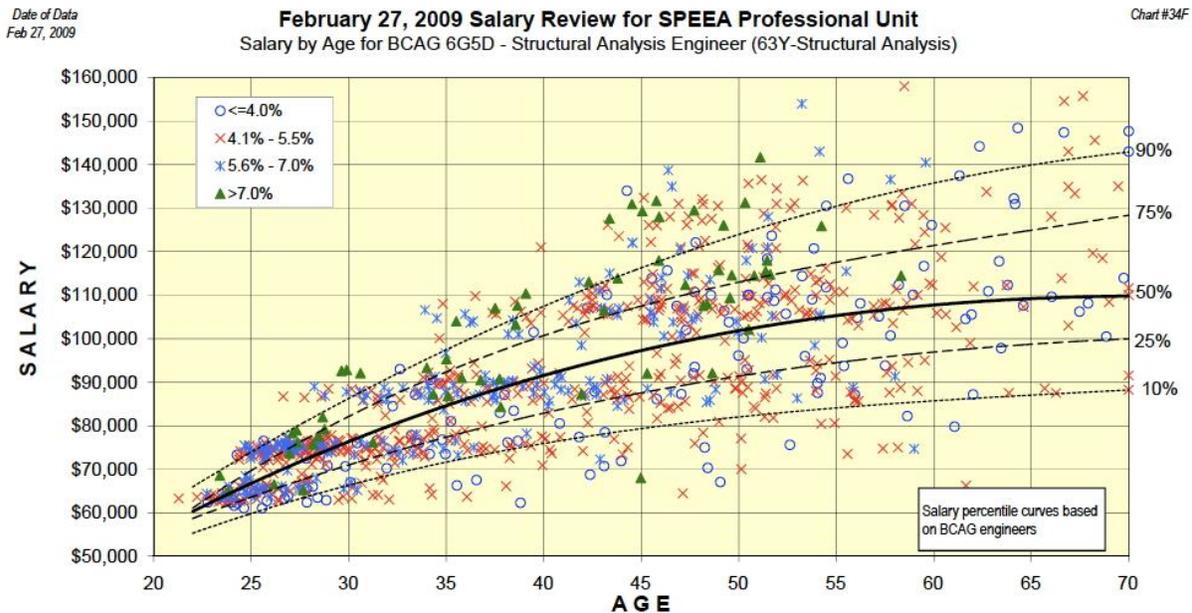


Figure 3. Workers with similar skills form an internal labor market.

### Employee Utilization

Referring again to Figure 3, skill team managers will say that employees in the lower quartile are not poor performers. Rather, the work is routine or generic in nature. Even so, the work is important and necessary and must be done. That work simply does not justify a high wage, or an exceptional worker.

Workers experience this as underutilization. In fact, a very common complaint from workers is that they are underutilized. Often, we hear this from workers who lowered their job search criteria, and customized their application to match exactly the job description, even though they are capable of many other tasks.

On February 19, the New York Times reported a trend in legal professions, that employers hire college graduates even for routine clerical jobs like filing and typing, resulting in widespread chronic underutilization of college graduates.

## **H-1B workers are workers, like everyone else**

“Job shops” dominate the H-1B petition process, and supply high-tech workers under a labor practice that is nearly commodity-like. Ironically, domestic workers are held to an exceptionally high level of precision in the skill set they must possess.

Employers will testify they are unable to find a domestic worker with highly specific skills, but the same employers will bring in foreign temporary workers with generic skills. Some employers file thousands of H-1B petitions, then “bench” workers until an opening is found.

It should be no surprise that about 10% of H-1B workers are in the upper decile, another tenth are in the lower decile, and the great majority of H-1B workers are conscientious, hard-working well-meaning, regular workers who are reasonably well-prepared for their high-tech work assignments. Of course, the same can be said of domestic workers.

The H-1B workers have no great advantage over the corresponding domestic workers. We see this clearly at the workplace level, when domestic workers are laid off, and must train their own H-1B replacement workers as a condition for receiving severance.

Suppose for the purpose of discussion, that the H-1B program can bring 800,000 geniuses into the workforce. Then predictably, most of them will be underutilized, and underpaid by their employers. We would also transform high-level STEM work into a hobby occupation for domestic workers.

## **Graduate School as an immigration portal**

I-Squared also lifts the cap on work visas for STEM graduates with advanced degrees. This places a huge economic premium on graduate degrees for foreign students. Meanwhile, a graduate degree carries a very small economic premium for US students. For many domestic students, graduate school simply increases their student debt.

Foreign students already make up half the enrollment in engineering graduate programs - as much as 90% in some cases – displacing qualified domestic students who want to major in STEM fields. Under I-Squared, STEM graduate school will become an immigration portal, displacing more domestic students from US college programs, particularly at the Masters level.

## **Protections**

We can easily provide worker protections for domestic and foreign workers.

- Visas should be tied to labor market conditions as determined by objective measures of the labor market for that occupation.
- Wages for foreign workers should be indexed to the 75th percentile in official surveys for each occupation.
- Domestic workers should be considered for open positions.
- Foreign workers should hold their own visas, and have mobility in their labor market.
- “No layoff” conditions should apply to all employers, not just H-1B dependent employers