Advocates pushing for both education and immigration reform in the United States often invoke the ‘needs’ of the U.S. labor market in making their pitch. For example the U.S. Bureau of Labor Statistics regularly releases occupation forecasts for the nation, identifying how many Bachelor Degrees the nation needs to produce in the next 20 years to fill open positions in the labor market. The results almost always show a need for more skilled workers beyond the forecasted new supply. The logic can then be boiled down to ‘reduce the cost of tertiary education’ or ‘increase the number of H-1B visas’ otherwise the United States will end up in big trouble.

But different institutions come up with different sets of figures. The Center on Education and the Workforce at Georgetown University has their own forecast indicating a much larger need for advanced degrees (perhaps not surprising given their on-campus home). The Public Policy Institute of California recently released a study suggesting California will have a shortage of over one million degreed workers by 2030.

So which numbers are right? Well, none of them actually. While such studies are well intentioned, the models that generate these numbers use assumptions that simply aren’t realistic in the real world. The idea of market ‘shortages’ in general makes no sense.

Consider a very simplistic example: you want to forecast how many tires will be needed on U.S. roads in 20 years. To figure this out using the methodologies described above you look at trends in the number of cars in the United States, forecast that forward, and then multiply the number by 4 to reach your final answer.

Forecasting occupational needs has been done in a very similar way—by looking at job trends by industry, forecasting those forward and then multiplying the final results by the occupational share in today’s firms. If the forecasts are sophisticated, they allow for occupational mixes to vary over time due to technological change, again on the basis of past trends. But they still come up wrong because staffing patterns can, and do, adjust not just to changes in technology and the economy, but also to the availability of supply itself. Consider staffing a hospital with doctors and registered nurses. These two professions have different skills, but there is overlap. A nurse can give shots and administer medications, do pre-interviews or assessments with patients, or enter patient notes in computers. A doctor can do most anything a nurse can do.

There is no ‘fixed’ ratio of personnel needed, rather that is a function of wages in the market. If there is a shortage of MDs, the hospital’s management will deal with this by assigning some doctor duties to nurses in order to focus doctor’s efforts on what they alone can do. If the shortage is severe enough, nurses may be trained to perform new tasks that might be otherwise assigned to a doctor. If there is a shortage of nurses, doctors will likely have to administer more shots and medications, and do other things that nurses typically handle.
There can never be a ‘shortage’ in the classical sense of the word in these situations. The hospital will make due with what is available.

Rather than ‘help wanted’ signs, the place to look to identify where we need more workers with specific skills is at relative wages. If there is a skills gap in a specific occupation, it will be reflected by high wages for those who have the skills because businesses will be bidding up their incomes as they try to fill positions. That is all the information we really need.

So does the United States need to ramp up its production of college graduates? Yes, it does. We know this because of the trends over the last 25 years. In 1990, there were 30% more high school graduates in the workforce than college graduates and they earned, on average, 54% of what a college graduate earned annually. As of last year there are 10% fewer high school graduates in the U.S. workforce than college graduates—but despite their decline in relative numbers, they now earn only 47% of what someone with a Bachelor Degree earns.

This suggests that demand for college graduates is growing faster than supply—and yes, we need more people to make it to the Bachelor Degree level. But there is no ‘right’ amount. If we ever get to the point where wages for college graduates are falling relative to high school graduates, only then do we know we are making progress towards closing the gap. If we get to a point where the cost of getting a Bachelor’s Degree is equal to the lifetime bump in earnings that comes from having that degree, we know we have fully saturated the market.

So how many holes Mr. Lennon? That depends on how much they cost!