

FLOWS OF STUDENTS, COMPUTER WORKERS, & ENTREPRENEURS

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What does it mean to have a competitive policy for highly skilled immigrants? Some observers simply extrapolate from the fact that other destination countries are devising policies to attract and admit more skilled workers. Coupled with plentiful critiques of the US system, it is presumed that ipso facto the US has been and will lose out on highly skilled workers in the future. Implicit in most of these observations is that competition means that policies must be more welcoming and that they must admit significantly more immigrants. In fact, US policies for the highly skilled are highly problematic in terms of the efficiency and timely allocation of visas. But it is not obvious that they are restrictive in the sense that they admit small numbers of highly skilled students and workers, the actual case appears to be the opposite.

The US admits large numbers of highly skilled foreign workers, but compared to other nations, its policies do not always deliver the “best” workers. So while the manifest failures of US admission policy must be addressed, the prevailing solutions that essentially dial in large increases in foreign supply are misguided. The share of highly skilled immigrants in US markets has boomed, the global pool of skilled workers has been rapidly growing, and too many US immigrants are not highly selected. The major difference between the US and the nations with whom we “compete,” is not the volume of foreign workers they admit, but rather their policy focus on admitting the best.

COMPARATIVE POLICIES

Other traditional countries of immigration tend to allot more visas for work-based migration. In the US only about 15 percent of permanent visas are employer sponsored, albeit there are very large numbers of temporary visas available for the highly skilled. Increasing the numbers of visas allotted to highly skilled workers might appear to be the best way to increase the share of all those admitted with high skills. While that seems obvious, the fact is proposed legislation to date also increases family admissions. There are recommendations to shift the balance by doing away with visas for adult children or siblings, but the most recent Senate proposals would have boosted family numbers significantly by clearing visa backlogs and doing away with caps on the immediate family members of sponsoring green carders. Even marked increases in visas for employment-based green carders are unlikely to remake the US system into one in which work-based visas dominate.¹

If one brackets out the fact that US policy reform is unlikely to heavily rebalance admission toward the highly skilled immigrant, one can still ask whether or not other countries are pursuing yet further increases in the numbers of the highly skilled they admit. The United Nations polls member nations every five years and asks about a menu of policy options including immigration. As figure one shows, between 2005 and 2013 neither the US or Canada reported changes to their policies to increase the number of highly skilled. During the same period many other nations did, with a near doubling of the share of more developed nations reporting policies to increase the number of highly skilled visas (21 to 39 percent; United Nations 2013). On that basis, it appears that there are more competitors seeking to increase the number of highly skilled immigrants they admit. Further investigation indicates that those competitors may not be thinking just about numbers.

FIGURE ONE HERE

Other countries have policies that, for the employment visas, are designed to select the best performers out of the pool of highly skilled foreign workers. How one might best design policies to achieve that end is not always obvious. For example, policies that are “attractive” might boost the number of foreign workers. Rankings of policies by their assumed ability to attract workers, say those with no cap or those that permit spouses to work, etc., have found that the US policies for the highly skilled tend to be about average in their attraction (Lowell 2005). Another approach is to rank policies by multiple attributes from openness to their guarantee of basic working rights (Ruhs 2015). But it is not clear that these various design elements, either individually or in concert, will actually select the best possible workers out of the global pool of

¹ There is even the possibility the family based system functions better than thought in supplying low-to-mid but even highly skilled workers who may have unrecognized benefits from their family networks (Lowell 2014).

possible foreign workers. These indexes show that the US ranking on immigrant admission policy is middling at best and that some nations have policies that are more competitive.

Consider the design of policies and the selectivity of high “quality” immigrants or efficiency in getting the best workers. Most observers readily agree that policies of other nations, particularly those of the traditional countries of immigration, are much more flexible. Their policies nimbly respond, are iteratively redesigned, to remedy any measured deficiencies of specific visa classes. While US visa policies for the most part remain unaltered for decades until legislated reform is made, ministerial managed immigration systems regularly gauge workers’ underemployment, earnings and the like. When too many highly skilled workers are deemed to be underemployed—as has often been the case over the past two decades—policies are changed. Most nations now incorporate US-style employer sponsorship in their admission policies, a notable difference from older pure point based systems.

It is possible to interpret nimbleness as an advantage, and the pursuit of better market outcomes is preferable, but history raises a couple of questions. Consider that what were deemed superior admission policies yesterday have been re-evaluated as having actually performed poorly over time, yielding relatively high rates of underemployment. At the least, that suggests that experts should be modest about their expectations that a pure point or a hybrid or some other system can be designed such that foreign workers always outperform domestic workers. Rather, policy redesigns have been the norm which suggests that the best mechanisms to select foreign workers are not well established.

The idea of capitalizing on international students, converting their US training and experience as assets for tomorrow’s foreign workers, bears some examination. The education industry has long recognized the possible conflicts between the forces of globalization and internationalization which is to say the difficulty of managing international students in a domestic context (Welch 2002). Embarking on policies that tied graduation from Australian institutions with opportunities for landed status led to a decline in quality and the expansion of inferior schools, students and workers. It took over a decade to turn that around (Hawthorne 2014, Birrell and Healy 2010, Koleth 2009). The Australians first re-regulated the type of school, mostly barring two year language institutions. The policy redesigns cast a fairly broad net in terms of the level and type of degree that is acceptable; and links the option to stay with employment requirements. That requires less finesse than parallel US proposals.

The US debate has focused on variations of “stapling a green card” to a foreign student’s Masters’ degree in STEM. These proposals attempt to address the possibility that colleges might induce foreign students to pay for sham education, but they tend not to entertain the possibility that the problem is not shady institutions. The problem may be the change in incentive from one focused on getting one’s degree first to the mixed incentive of getting a degree as an integral step

toward permanent status. The educational institutions are simply chasing a new type of student in the market. It has been argued in testimony before Congress that definitions of STEM degrees can be remarkably elastic and regulating all institutions will be difficult if not impossible (Nassirian 2011). There is already a small problem with diploma mills (DOE 2014); and it is not difficult to foresee stapling policies generating more deficits than benefits.

The relationship between the student market, the student employment market, and the H-1B visa have already contributed to a change from foreign students coming to study to international students coming to work in the United States (Lowell et al. 2007). Perhaps the change in incentives helps explain why MA degrees received in the US, which confer US-specific skills, no longer command a premium (Bound et al. 2014). Work schemes that abet foreign student enrollment need to be carefully managed. The 100,000 plus foreign student graduates working on Optional Practical Training (OPT) has grown nearly 10 fold, mostly in the past few years when STEM graduates were permitted lengthier work periods. That undeniably “nimble” regulatory change should cause concern because foreign students earn nearly 40 percent less than natives, because one official assessment suggests that OPT is a “risky” program, and because there is no ongoing rigorous evaluation of this or any US foreign work program (Lowell and Avato 2014, GAO 2014).

Can US policymakers anticipate all the problems that might occur once a policy is set in play? Not only could expansion of foreign enrollments further depress the selectivity of foreign students-slash-workers, the US system is not well place to detect abuses and revise policies. The point here is not that policymakers should not entertain new ideas, the point is that the principals that guide those ideas should be principals based on the competitive playing field on which we find ourselves. Being competitive means attracting migrants who are indeed the best and the brightest, creating the right set of incentives, not awarding awarding more visas.

COMPARATIVE NUMBERS

Calls for more visas, mostly explicit though sometimes implicit, are always foremost in US debates over policy reform. But on the numbers what is a competitive success? Are we talking absolute numbers or migrant shares of the domestic workforce, on which the US ranks well, or relative shares of the international pool of highly skilled migrants? When it comes to international students some observers decry the loss of global market share, but the number of international students in the US has grown smartly. And while their share of domestic undergraduates is minute, their share of graduate students is rather remarkable. Despite a lot of hang wringing over the belief that the United States is losing the competition for highly skilled foreign workers, the US has had and likely will retain a competitive edge on the numbers.

The US share of global student enrollments has declined, but that should not be surprising. In 2012 the US had 16 percent of all international students, down from 23 percent in 2000 (OECD 2014). By that metric the US is losing on the global marketplace, however, the US share of STEM graduate PhD students, the best of the best, has remained at about one third out of leading nations over the same time period. The US lost ground to its major English-speaking country competitors earlier in the first decade, but today has recovered and its foreign US PhD graduates are two-thirds of all PhD graduates from English speaking countries (Lowell et al. 2007, S&E Indicators 2014). In fact, the numbers of foreign students has grown throughout the past decade, despite prior hand wringing about policy impediments in the wake of 2001. Arguably, there was no real policy failure at that time (Lowell and Khadka 2010; Lowell et al. 2007). The economy better explains the plunge in student numbers after 2001, as well as, a plunge after 2008 for all except Chinese students coming to America. There are nearly 1 million foreign students studying in America today (ICE 2014).

At the same time, the global population of international students more than doubled during the opening years of the last century from 2.1 to 4.5 million. Freeman (2014) notes that, with global college enrollments forecast to double again by 2025, it is unreasonable to expect the US share of the world's college educated – or scientific effort – to keep pace. The decried loss of US “market share” seems misplaced when one considers that, if the US had retained its market share at 2000 rates, it would have several hundred thousand additional foreign enrollees today. Given the volume of today's enrollments, and strong ongoing increases, one would have to re-evaluate the business model of the entire enterprise of US higher education (IEE 2014). Perhaps that prospect would be welcomed by the academy, but it would not be without ramifications for the immigration system and domestic markets. If the number of foreign graduate students was to say double, what would that mean for the supply of foreign graduates with a green card stapled to their diplomas?

In fact, the supply of foreign students has already been significant, especially so if one considers the only disciplines to which US policy makers pay attention. The number of foreign enrollees has been so significant that they have become the single largest source of students in STEM graduate programs. While only roughly 3 percent of all college graduates, foreign students have concentrated in graduate degree programs where they contribute a “striking” percentage of all the degrees awarded (Bound et al. 2013). Foreign students' share of PhD degrees awarded almost doubled from 27 percent in 1973 to 51 percent in 2003. Their share of PhDs in 2003 reached 50 percent of degrees in the physical sciences, 67 percent in engineering and 68 percent in economics. Of course, foreign shares of master degree enrollments are also high, as they are for post-doctoral workers. On the metrics of absolute and relative share of domestic graduate students, immigration policy has yielded striking results indeed. Those contributions have continued through the end of the decade and will almost assuredly increase into the future.

This story for the global population of highly educated international migrants differs from that for students in one way. The US share of the world's highly educated has been and remains strong today, although that could change given the dynamics touched on above, while the increased share of foreign STEM workers in the US parallels that of foreign students in STEM. The best data available on the population of college-educated immigrants outside of their country of birth is based on developed country census data. A large sample of those nations found that not quite two-thirds of college-educated foreign born resided in the United States in both 1990 and 2000. More recent data for a large number of countries await tabulations from the 2010 round of Census. Figure two shows the US share of all college-educated immigrant adults among the leading 20, primarily European, countries of destination through 2010. These data show, despite minor fluctuations, a mostly steady and increasing US share of college-educated migrants from 1980 through 2010. Over the last decade, during which vocal concern about a loss of competitiveness has become commonplace, the US share of highly skilled foreign workers has actually increased.

FIGURE TWO

At the same time, the share of immigrants in the STEM workforce also demonstrates “striking” increases since the 1990s. The foreign born share of STEM workers in the United States has doubled, or nearly doubled in some fields, over the past two decades. During a period of so-called restrictive policies, the share of the foreign born in STEM jobs have outpaced their share in all professional occupations. Figure 2 shows the foreign born share of the major STEM occupations. If one were to restrict these data to younger workers, the foreign percentage of the workforce is larger. These are averages and, as can be inferred from the above, the percentage of foreign-born workers is greater among workers with graduate degrees. While the increases begin in the 1970s they really take off in the 1990s after changes to the Immigration Act and during the New Economy (Lowell 2013). If a doubling of the immigrant share of the STEM workforce in one generation, to levels an objective observer would deem significant, is the result of “restrictive” policies, what does “restrictive” actually mean?

FIGURE THREE

SUMMARY OBSERVATIONS

It would be misleading to assume that the policies of other countries, which seem to be constantly changing, will serve as the best model for the United States. Best policy practice is confounded by the fact that the US has been and likely will remain the nation first-in-queue in immigrants' imaginations; and that confers selective advantages and challenges. Identifying competitive policy regimes is further confounded by US labor markets that play an arguably larger role in immigrants' success than say in Europe with its less flexible labor laws and efforts to catch up on anti-discrimination laws and norms. Finally, the US admission system yields more

discretion to agency regulators than many observers are aware of, but the US Congress, slow to act and far removed from regulatory realities, is the primary designer of immigration policies and adaptation is necessarily slow. What sounds like a good proposal today may be tomorrow's policy failure, but one without ready redress and expansive admission policies may well compound the challenges of selecting the best foreign students and workers. Today's competition for highly skilled foreign workers faces a few fundamental challenges and "selectivity" not "more" should be the policy priority.

Any analysis would find serious problems with the US immigration system. One should not, however, presume that cumbersome policies work against high volume immigration because the data reviewed above clearly portray significant supplies of foreign students and workers. I am not offering here preferred policy options to improve selectivity, there are lots of ideas around. What I am arguing is that policies that emphasize numbers over selectivity are likely to get more numbers of foreign workers. But the current policy regime already admits significant volumes of workers and one has to extrapolate truly heroic productivity gains will be made by increasing that volume even more. Generous numbers of immigrants is a good thing, but to be competitive the US needs to meet other nations on the same ground, e.g, selective policies to admit the truly best and the brightest.

There new rules of completion have to factor in few basic facts that come with workforce volume. First, educational and economic development means the number of workers getting a high education is increasing exponentially in China and other development nations (Freeman 2014). The US will not be able to retain "market share" of the enterprise of innovation; it also means that the potential supply of foreign workers will be far larger than any optimal pool one might envision for the US and competitor nations. It is the case that many new engineers in developing nations are not that well trained, however, that only means that selection is more of a challenge as the pool grows. The pool of strong candidates will improve over time.

Second, globalization was the first-order force in immigrant selectivity yesterday, while today fast, inexpensive transportation and communications have lowered the barriers to mobility. One way to see that is the declining share of foreign-born US noble laureates of the world's total and relative to the foreign-born share of the domestic STEM workforce (Hunter et al. 2009). When labor markets in the developing economies are imperfectly but nevertheless connected to the industrial nation labor markets, employers' inclination to fill vacancies just in time may not ensure an effective search for the best candidates. This tendency may be abetted if immigration policy subtly or otherwise permits employers to gain some economic edge from a foreign hire.

Third, increased volumes of a ready supply of foreign workers – and one would be hard pressed to argue that foreign supplies are dwindling – face challenges associated with volume. A first-order effect is simply that policies must be more efficient at winnowing the best from the also ran workers. A second-order effect is that they are unlikely to be able to do so effectively; indeed, the OECD has found that across its member nations there is an inverse relationship

between a nation's population of immigrants and their average education. A third-order effect is simply regression toward the mean, e.g., as more immigrants are admitted more of lesser productivity will pull down average performance. None of these problems of managing volume is insurmountable, but they reinforce the observation that the challenge for a competitive US policy is not admit more, but rather to select the best foreign students and workers.

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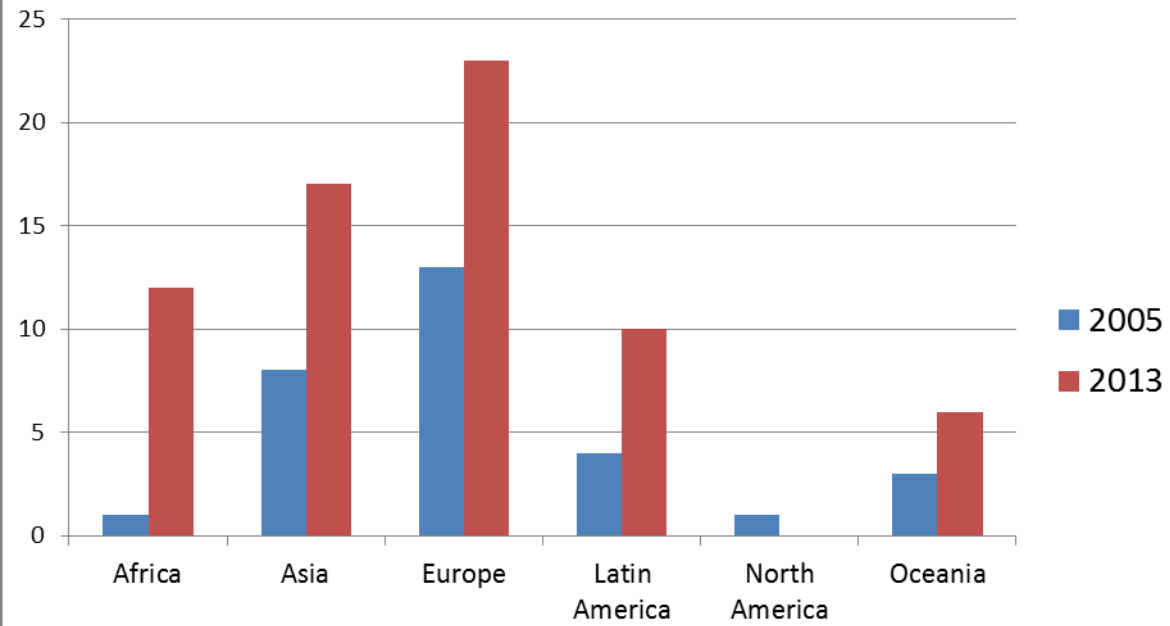
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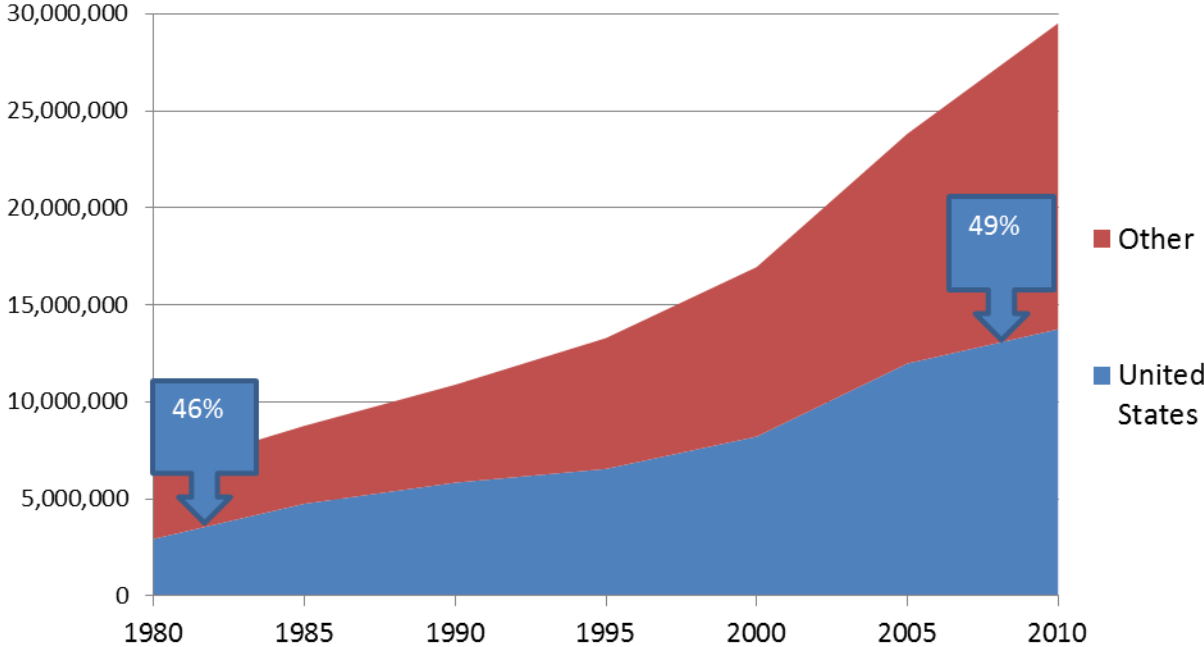
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Figure 1. Percent of nations reporting policy to raise highly skilled immigration



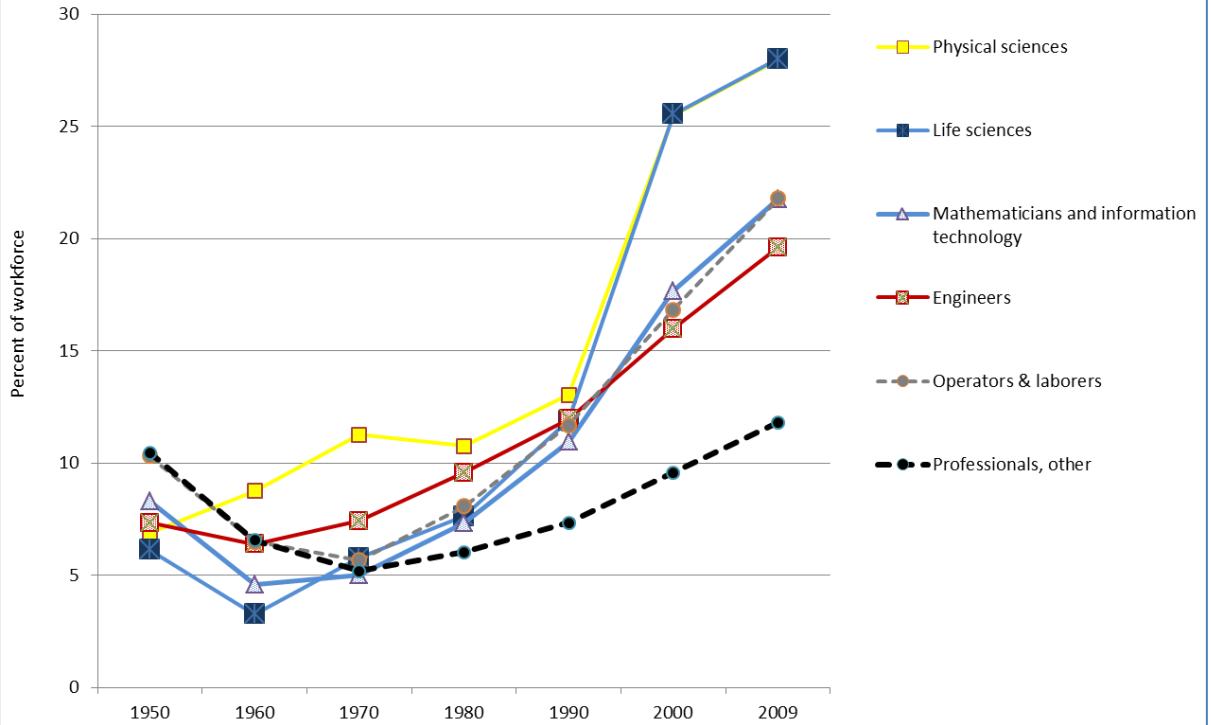
UN World Population Policies 2013

Figure 2. High Skilled Foreign-Born Population in the Leading 20 Nations of Destination



Source: IAB brain-drain data, <http://www.iab.de/en/daten/iab-brain-drain-data.aspx>

Figure 3. Percent of foreign born in core STEM occupations and select others



Source: US Census and ACS surveys