Are High-Skill Immigrants a Problem?

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BOSTON – Fissures within US President-elect Donald Trump's "Make America Great Again" coalition have appeared sooner than expected. By the end of December, the tech-billionaire wing was in open warfare with MAGA's nativist wing over America's H-1B visa program, which enables US businesses to employ some 600,000 skilled foreigners per year on a temporary basis. Speaking for the billionaires, Elon Musk, the CEO of Tesla (a top H-1B employer), argues that, "There is a permanent shortage of excellent engineering talent. It is the fundamental limiting factor in Silicon Valley." Likewise, Vivek Ramaswamy, another tech billionaire advising Trump, claims that US companies need H-1B workers because, "Our American culture has venerated mediocrity over excellence for way too long (at least since the 90s and likely longer)." In response, MAGA activists like Laura Loomer and Steve Bannon – but also democratic socialists like Bernie Sanders – countered that the program helps large US corporations at the expense of American workers.

Who's right? While economic research makes clear that immigrants bring sought-after skills, creative dynamism, and useful knowledge that also helps domestic innovators, that doesn't mean there is no downside to heavy reliance on H-1B visas. For example, the argument that the H-1B program helps employers secure STEM (science, technology, engineering, math) skills ignores the fact that if there were no such program, US educational institutions would feel greater pressure from business to address this need.

The idea of elites pushing the education system to produce workers with useful skills and attitudes goes back at least to Sam Bowles and Herb Gintis's influential 1976 book, *Schooling in Capitalist America*. Applying their argument to the present, one would expect corporate America's growing need for skilled STEM workers to translate into advocacy for, and investments in, STEM education. But an overreliance on the H-1B program may have broken this link and made American elites indifferent to the widely recognized failures of the US education system. Put differently, the problem may not be a cultural veneration of mediocrity, as Ramaswamy argued, but rather neglect on the part of business leaders, intellectual elites, and politicians.

This is just a possibility, of course. We cannot say for sure that the response from the education system would be adequate even if it did feel more pressure from the business community. But whatever the case, surely US policymakers should pay more attention to the program's potential secondary effects.

A similar argument applies to choices about technology. Even as H-1B workers boost innovation, their presence may affect the direction innovation takes. My own work shows (theoretically and empirically) that when the supply of skilled labor increases, technology choices start favoring

such workers. Over the last several decades, businesses have increasingly adopted technologies that favor high-skill workers and automate tasks previously performed by lower-skill workers. While this trend may have been driven by other factors, too, the availability of affordable high-skill workers for the tech industry plausibly contributed to it.
Again, this effect reflects indifference on the part of business leaders and policymakers. It also suggests that if the US is going to rely on H-1B workers, policymakers should consider other adjustments to ensure that corporate strategies and the designs of new technologies seek to make use of workers without STEM skills or college degrees.

A final relevant question is whether programs such as H-1B could harm source countries by creating a brain drain. This, too, is open to debate. Such programs could be a win-win if destination economies have technologies, institutions, and other skilled workers that are especially complementary to high-skill immigrants. In this case, an Indian STEM worker would contribute more to global output or innovation from the United States than from India, and some of the additional scientific and technical knowledge produced would flow back home.

In fact, there is evidence suggesting that such knowledge exchanges already occur through cross-border ethnic networks. But this win-win scenario would not take place if nearly all skilled, innovative workers departed the source country, because there would no longer be a critical mass of workers left to benefit from the knowledge flows.

Moreover, for this win-win scenario to become a reality, the sharing of knowledge about new innovations and technical expertise must not reach such a scale or pace that it undercuts America's own comparative advantage (which is rooted in innovation). In the economics literature, this issue is usually explored in the context of technology-product cycles. While we currently have little evidence about what constitutes a flow of information that is too fast, some believe that China has benefited unduly in this respect, improving its technologies rapidly at the expense of Western companies.

Thus, a win-win scenario depends on sufficient numbers of skilled workers remaining in each source country, and on adequate international protections of intellectual property rights, so that innovators can reap the rewards from their contributions, at least for a while.

The H-1B debate within Trump's MAGA coalition raises some important questions for how the US should think about education and technology in an increasingly globalized knowledge economy. There are configurations that could ultimately benefit advanced economies and poorer countries alike. But whether they will be found over the next four years remains to be seen.

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