

Brain Waste in the U.S. Workforce: Select Labor Force Characteristics of College-Educated Native-Born and Foreign-Born Adults

Research by the Migration Policy Institute (MPI) in the United States and Europe has demonstrated the challenges facing foreign-educated individuals who seek high-skilled employment that utilizes their talents and professional experience.¹ In the United States, these challenges include difficulties in obtaining recognition of professional experiences and credentials earned from educational institutions abroad, acquiring professional-level English skills, navigating costly or time-consuming recertification processes, and building professional networks and U.S. job search skills.

This fact sheet updates MPI's prior estimates of the extent of "brain waste" in the United States, that is, the number of college-educated immigrant² and native-born adults ages 25 and older who are either unemployed or have jobs that are significantly below their education and skill levels. The fact sheet also provides new calculations of underutilization³ of education among immigrant and native-born professionals with engineering, nursing, and teaching degrees at the undergraduate level.

Among the key findings:

- 1.6 million, or 23 percent, of the nearly 7.2 million college-educated immigrants ages 25 and older in the civilian labor force are affected by brain waste—e.g. are in low-skilled jobs or are unemployed, according to MPI analysis of the most recent U.S. Census Bureau American Community Survey data.
- Brain waste particularly affects the foreign born who earned their bachelor's degrees abroad, with 26 percent in low-skilled jobs or unemployed.
- 20 percent of college-educated immigrants who obtained their academic degree abroad worked in low-skilled jobs, compared to 12 percent of college-educated native-born workers.

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1. See, for example: Jeanne Batalova and Michael Fix with Peter A. Creticos, *Uneven Progress: The Employment Pathways of Skilled Immigrants in the United States* (Washington, DC: Migration Policy Institute, 2008), www.migrationpolicy.org/research/uneven-progress-employment-pathways-skilled-immigrants-united-states; Madeleine Sumption, *Tackling Brain Waste: Strategies to Improve the Recognition of Immigrants' Foreign Qualifications* (Washington, DC: Migration Policy Institute, 2013), <http://migrationpolicy.org/research/tackling-brain-waste-strategies-improve-recognition-immigrants%E2%80%99-foreign-qualifications>.
 2. The terms *immigrant* and *foreign born* are used interchangeably, and describe persons who had no U.S. citizenship at birth. This population includes naturalized citizens, lawful permanent residents (LPRs), certain legal nonimmigrants (e.g., persons on student or work visas), those admitted under refugee or asylee status, and persons illegally residing in the United States; the native born are persons born in the United States, U.S. outlying territories, or abroad to at least one U.S. citizen parent.
 3. The terms *brain waste* and *skill underutilization* are used interchangeably and describe a phenomenon when college-educated persons are either unemployed or employed in *low-skilled jobs*, i.e., jobs that require only moderate on-the-job training or less, such as nursing, psychiatric, and home health aides, personal care aides, maids and housekeeping cleaners, taxi and truck drivers, and cashiers.

I. College-Educated Adults in the U.S. Civilian Labor Force by Nativity and Place of Education⁴

More than 45 million adults ages 25 and older engaged in the U.S. civilian labor force have at least a bachelor's degree, according to the most recent American Community Survey (ACS) data from the U.S. Census Bureau. Of these adults, almost 7.2 million are college-educated immigrants. While the foreign born represent 13 percent of the overall U.S. population, they account for 16 percent of the college-educated civilian labor force.

We estimate that about 3.7 million (or 52 percent) of the 7.2 million college-educated immigrants obtained their education abroad, with the remaining 3.5 million U.S.-educated. Each group makes up about 8 percent of the overall U.S. college-educated civilian labor force.

Table 1. College-Educated Adults in the U.S. Civilian Labor Force, by Nativity and Place of Education

	Native Born	Foreign Born		
		Total	Foreign-Educated Immigrants	U.S.-Educated Immigrants
College-educated civilian labor force	37,851,200	7,192,900	3,726,400	3,466,500
Share of all immigrants by place of education	--	--	52%	48%
Share of the total college-educated labor force by nativity	84%	16%	8%	8%

Source: Migration Policy Institute (MPI) tabulation of U.S. Census Bureau pooled 2010-12 American Community Survey (ACS) data for the population ages 25 and older in the U.S. civilian labor force.

4. *College-educated civilian labor force:* defined as civilian adults ages 25 and older with at least a bachelor's degree who were either employed or unemployed but looking for work. The civilian labor force excludes members of the armed forces (Army, Navy, Air Force, Coast Guard, and Marines); *place of education:* the ACS survey does not ask for respondents' place of education. We use the following definitions: *foreign-educated immigrants* are immigrants who have at least a bachelor's degree and who arrived in the United States at age 25 or older; *U.S.-educated immigrants* are immigrants with at least a bachelor's degree and who arrived to the United States before age 25.

II. College-Educated Native-Born and Foreign-Born Adults by Job Skill and Place of Education with Number and Share Affected by Brain Waste

Among both native-born and foreign-born college-educated adults, a majority of individuals are employed in high-skilled positions. Slightly more than 22.3 million (59 percent) of native-born workers are employed in high-skilled positions compared to 4.7 million (12 percent) employed in low-skilled positions. Among the foreign born, a smaller share—55 percent or more than 3.9 million—is employed in high-skilled jobs versus 1.2 million (17 percent) in low-skilled jobs. Among college-educated immigrants, those educated in the United States are more likely to be employed in high-skilled jobs than those with foreign credentials (58 percent versus 52 percent). The greatest disparity exists between foreign-educated immigrants and their native-born and U.S.-educated counterparts: 20 percent of foreign-educated immigrant college graduates are employed in low-skilled jobs versus 12 percent and 13 percent of their U.S.-educated counterparts (native born and foreign born respectively).

Comparing college-educated native- and foreign-born individuals who are either employed in low-skilled jobs or unemployed, one finds that immigrants are also more generally affected by brain waste, with 23 percent in low-skilled jobs or unemployed compared to 17 percent of the native born. Among the immigrant labor force, those educated abroad are again more likely to be affected by brain waste, with 26 percent in low-skilled jobs or unemployed compared to 17 percent of native-born college-educated adults and 19 percent of U.S.-educated immigrants.

Table 2. College-Educated Native-Born and Foreign-Born Adults, by Job Skill and Place of Education with Number and Share Affected by Brain Waste

	Native Born	Foreign Born		
		Total	Foreign-Educated Immigrants	U.S.-Educated Immigrants
College-educated labor force	37,851,200	7,192,900	3,726,400	3,466,500
	100%	100%	100%	100%
Employed workers by job skill				
High-skilled	22,310,700	3,953,300	1,931,800	2,021,500
<i>Share high-skilled</i>	59%	55%	52%	58%
Middle-skilled	9,229,800	1,619,500	826,400	793,100
<i>Share middle-skilled</i>	24%	23%	22%	23%
Low-skilled	4,663,600	1,195,500	733,800	461,600
<i>Share low-skilled</i>	12%	17%	20%	13%
Unemployed	1,647,000	424,700	234,400	190,300
<i>Share unemployed</i>	4%	6%	6%	5%
Affected by brain waste				
Number (i.e., in low-skilled jobs or unemployed)	6,310,600	1,620,100	968,200	652,000
Share	17%	23%	26%	19%

Notes: High-skilled jobs require at least a four-year bachelor's degree plus a substantial amount of work-related skills, knowledge, or experience; middle-skilled jobs typically require that workers have trained in vocational schools, have related on-the-job experience, or hold an associate's degree; low-skilled jobs require only moderate on-the-job training or less. Unemployed refers to those adults who do not have a job but are looking for work.

Source: MPI tabulation of U.S. Census Bureau pooled 2010-12 ACS data.

III. Number and Share of Immigrants with Engineering, Nursing, or Teaching Degrees Earned at the Undergraduate Level

Immigrants account for 16 percent of the U.S. college-educated labor force, but they are overrepresented among workers with engineering and nursing bachelor’s degrees. Of the roughly 4 million college-educated individuals who earned a bachelor’s degree in engineering, about 1.4 million or 33 percent are foreign born; among the 1.8 million individuals with undergraduate degrees in nursing, 360,000 (20 percent) are immigrants. However, immigrants are significantly underrepresented among those with teaching degrees—accounting for 443,000 or 8 percent of individuals in the workforce with a bachelor’s degree focused on teaching.

Table 3. Number and Share of Immigrants with Undergraduate Engineering, Nursing, or Teaching Degrees

	Total College-Educated Labor Force	Foreign Born	Foreign-Born Share (%)
Persons with engineering major**	4,051,900	1,353,800	33%
Persons with nursing major ***	1,843,200	360,100	20%
Persons with teaching major ****	5,497,200	443,200	8%

Notes: The ACS requests degree major information only at the bachelor’s level. If a respondent earned a master’s degree the subject area would not be reflected in the data; if a respondent earned two bachelor’s degrees, each would be counted separately.

** Engineering or engineering technologies was indicated as the degree of field at the bachelor of arts (BA) or the bachelor of science (BS) level; *** Nursing was indicated as the degree of field at the BA/BS level; **** Education was indicated as the degree of field at the BA/BS level (e.g., general, elementary, early childhood, secondary teacher, or special needs education, mathematics, science, and computer teacher education, art and music education).

Source: MPI tabulation of U.S. Census Bureau pooled 2010-12 ACS data.

IV. Adults Who Earned Bachelor’s Degrees in Engineering, Nursing, or Teaching by Job Skill, Nativity, and Place of Education for Foreign Born

Engineering/engineering technology major college graduates. Though the majority of individuals with engineering degrees at the undergraduate level tend to be employed in high-skilled positions, significant disparities exist among native-born and foreign-born college graduates, especially for engineers who were educated abroad. Foreign-educated immigrant engineers are almost twice as likely to be employed in a low-skilled job (13 percent) as their native-born counterparts (7 percent), and while 73 percent of U.S.-trained immigrant engineers are employed in high-skilled positions, only 64 percent of those educated abroad are.

Nursing major college graduates. Foreign-educated immigrants with a nursing bachelor’s degree are more than three times more likely to have a low-skilled job (13 percent) than their U.S.-born counterparts (4 percent), and only 17 percent work in high-skilled positions (compared to 23 percent of native-born college graduates with nursing degree). While U.S.-educated immigrant nurses are just as likely as those educated abroad to work in a high-skilled position (about 17 percent each), only 7 percent work in low-skilled positions.

Teaching major college graduates. Data on the underemployment of foreign-educated teachers show the greatest disparities of all three fields. Just over one-third of foreign-educated immigrant teachers (34 percent) have low-skilled jobs, making them three times more likely than U.S.-born teachers to be employed in low-skilled jobs. Foreign-trained immigrant teachers are also more likely to be unemployed, with 7 percent jobless compared to only 3 percent of U.S.-born teachers. And while 70 percent of U.S.-born individuals with teaching degrees are employed in high-skilled jobs, only 36 percent of foreign-educated immigrants with a teaching degree and 58 percent of those educated in the United States hold high-skilled positions.

Table 4. Adults with Bachelor’s Degrees in Engineering, Nursing, or Teaching by Job Skill, Nativity, and Place of Education for Foreign Born

	Native Born	Foreign-Educated Immigrants	U.S.-Educated Immigrants
Persons with engineering major at the BA/BS level**	2,698,100	782,400	571,400
High-skilled	72%	64%	73%
Middle-skilled	18%	17%	15%
Low-skilled	7%	13%	7%
Unemployed	4%	5%	4%
Persons with nursing major at the BA/BS level***	1,483,100	200,100	159,900
High-skilled	23%	17%	17%
Middle-skilled	71%	67%	73%
Low-skilled	4%	13%	7%
Unemployed	2%	3%	3%
Persons with teaching major at the BA/BS level****	5,054,000	263,200	180,100
High-skilled	70%	36%	58%
Middle-skilled	16%	24%	21%
Low-skilled	10%	34%	17%
Unemployed	3%	7%	5%

Notes: ACS requests degree major information only at the bachelor’s level. If a respondent earned a master’s degree the subject area would not be reflected; if a respondent earned two bachelor’s degrees each would be counted separately.

** Engineering or engineering technologies was indicated as the degree of field at the bachelor’s level; *** Nursing was indicated as the degree of field at the bachelor’s level; **** Education was indicated as the degree of field at the bachelor’s level (e.g., general, elementary, early childhood, secondary teacher, or special needs education, mathematics, science, and computer teacher education, art and music education).

Source: MPI tabulation of U.S. Census Bureau pooled 2010-12 American Community Survey data.

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For questions or to arrange an interview, please contact Michelle Mittelstadt at 202-266-1910 or mmittelstadt@migrationpolicy.org.

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