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2019 SB 855 Report

Landscape Architect Registration
Potential Barriers for Refugees and Immigrants

Submitted by the

OREGON STATE
LANDSCAPE ARCHITECT
BOARD

To

The Oregon Legislature

November 2019

Executive Summary

The Oregon State Landscape Architect Board (Board) is a semi-independent, stand-alone occupational licensure board responsible for regulation of the practice of landscape architecture in Oregon. The Board's mission is to help assure the safety, health, and welfare of Oregonians with regard to the practice of landscape architecture.

Since the passage of SB 855, the Board has worked on becoming more educated on the refugee and immigrant population in Oregon and the types of issues these individuals can face related to employment. The Board has learned about the problems of underutilization of skills or "brain waste" with respect to this population.

The Board is not experienced with receiving applications for examination or registration from refugees and immigrants. As a result, the Board previously had not identified a need to consider potential barriers to registration as a Landscape Architect faced by this population. Landscape architecture is a relatively small profession compared to many other licensed occupations, and this limits the number of refugees or immigrants who would have trained or worked in the profession prior to coming to Oregon. Also, refugees and immigrants are able to work in the related field of landscape design or even in landscape architecture so long as in a position that is supervised by a Registered Landscape Architect. Nonetheless, the Board has been seeking information that could help inform the Board's implementation of SB 855.

The Board is looking at where barriers might exist in relation to the education, experience and examination standards that individuals must meet to gain landscape architect registration. The Board is considering various administrative and outreach approaches to addressing potential barriers to landscape architect registration for refugees and licenses. At this time, the Board does not believe rulemaking will be required or necessarily be the best approach to addressing potential barriers.

The Board has tentatively identified the following methods to address SB 855:

Education Standards

- Development of outreach materials specifically geared towards addressing how education completed overseas will be assessed in the application process.

- Providing a list of suggested organizations for education transcript review (translation and comparison to accredited landscape architecture degree standards) for applicants.

Experience Standards

- Review of whether there are alternative approaches to work experience documentation that could be acceptable for applicants that are refugees or immigrants when the traditional form of documentation may be unavailable to those individuals.

- Development of guidance and a potentially also a related form for alternative documentation of work experience.

Examination Standards

- Development of information staff could share with refugees and immigrants about assistance with finding translation services and building English proficiency to support preparation to take the national competency examination.

- Review of whether there are any existing programs for refugees and immigrants that may provide grant funds to cover examination related costs.

Additional Information

A copy of the full report can be obtained by contacting the Board Administrator.

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For additional information about the Board, please also visit the Board's website:
https://www.oregon.gov/landarch/Pages/default.aspx

Introduction

The Oregon State Landscape Architect Board (Board) is a semi-independent, stand-alone licensure board responsible for regulation of the practice of landscape architecture in Oregon. The Board's mission is to help assure the safety, health, and welfare of Oregonians with regard to the practice of landscape architecture. The Board accomplishes this mission through various means including review of applications for pre-approval to sit for examination, review of applications for registration, consideration of complaints about landscape architecture practice and title use, and outreach efforts. The Board licenses individuals for practice and businesses that provide landscape architecture services in Oregon.

The Board provides this report to explain its efforts to date with implementation of 2019 SB 855. A copy of SB 855 is included as Appendix A for reference.

Board Education

Since the passage of SB 855, the Board has worked on becoming more educated on the refugee and immigrant population in Oregon and the types of issues these individuals can face related to employment. The Board has learned about the problems of underutilization of skills or "brain waste" with respect to this population. Key information sources utilized by the Board in this education process have come from the American Immigration Council, Migration Policy Institute, and Oregon Dept. of Human Services – Refugee program. See Appendix B for some background documents.

The Board is not experienced with receiving applications for examination or registration from refugees and immigrants. As a result, the Board previously had not identified a need to consider potential barriers to registration as a Landscape Architect faced by this population. Landscape architecture is a relatively small profession compared to many other licensed occupations, and this limits the number of refugees or immigrants who would have trained or worked in the profession prior to coming to Oregon. For reference, the Board currently has just over five hundred Registered Landscape Architects, with not all of those living in Oregon.

Refugees and immigrants are able to work in the closely related field of landscape design without holding a Landscape Architect registration. They can also work in landscape architecture so long as in positions with supervision by a Registered Landscape Architect. For a refugee or immigrant, this may mean taking an entry-level position, but the compensation level would likely be considerably more than a service sector job or other position that did not take into account the individual's training and expertise. A refugee or immigrant trained in landscape architecture will have to compete in the Oregon job market with others and would at some point likely need to pursue registration in order to advance his or her career.

The Board has been unable to find data specific to the profession about refugee and immigrant interest in landscape architecture registration or barriers encountered in seeking this specific professional licensure. Given the lack of experience and data, the Board is challenged in its efforts to identify and address barriers for this population. Nonetheless, the Board is looking at

where barriers might exist in relation to the education, experience and examination standards that individuals must meet to gain landscape architect registration.

The Board reached out to its registrants to request feedback on refugee and immigrant experiences individuals had directly or may have otherwise witnessed in the profession. This occurred via an article in a 2019 Board newsletter. Unfortunately, the Board did not receive any input from its registrants in response to its request.

The Board also investigated whether the professional association, American Society of Landscape Architects (ASLA), and national licensure examination provider, Council of Landscape Architectural Registration Boards (CLARB), had information relevant to refugee and immigrant pursuit of licensure in the landscape architecture profession. The Board did not find any such information from these sources.

The Board will continue to seek out information that may further enlighten its understanding of refugee and immigrant experiences with the path to landscape architect registration.

Registration (Licensure) Standards Review

To qualify for a Landscape Architect registration, individuals must meet education, experience, and examination standards. These standards are set forth in Board rule. Per statute, the Board must hold all applicants to the same standards and cannot make case-by-case exceptions. The Board is legally unable to hold refugees and immigrants or any other special group of persons to different standards. In terms of SB 855 implementation, the Board must focus on whether there are ways it might be able to assist refugees and immigrants with understanding and meeting these standards.

Education Standards: The Board currently does not require a specific type of degree. The Board already has made provision through its rules for various education pathways, from holding a Landscape Architectural Accreditation Board (LAAB) accredited degree in landscape architecture to qualifying solely on years of experience working in landscape architecture. Various types of degrees are accepted, although non-LAAB degrees and degrees not in landscape architecture are not awarded as much credit as LAAB-accredited landscape architecture degrees. Applicants without an accredited landscape architecture degree must supplement their education with additional work experience under the supervision of a Landscape Architect.

Albeit limited based on historical applications, the Board already has some precedent for how it can work with individuals that were educated overseas. The Board will accept an overseas transcript where it is accompanied by an official translation and evaluation of comparison to a LAAB-accredited landscape architecture degree.

The Board has tentatively identified the following ideas related to education requirements to address the unique needs of refugees and immigrants:

- Development of outreach materials specifically geared towards addressing how education completed overseas will be assessed in the application process.

- Providing a list of suggested organizations for education transcript review (translation and comparison to accredited landscape architecture degree standards) for applicants.

Experience Standards: The Board currently has work experience requirements specified in rule. Individuals are required to provide evidence of a minimum amount of work experience under the supervision of a Landscape Architect. Due to there being practice overlap, the Board allows for a portion of the required work experience to be under a licensed Architect or licensed Engineer. The total years of experience required depends on the education an individual received. For example, 3 years is required with a LAAB-accredited landscape architecture degree, 6 years is required with a bachelor's degree in an unrelated field, and 11 years is required with no education.

Work experience documentation has historically included signature from the supervising professional to verify the work timeframe and nature of work. The only exception to this has been for individuals practicing for an extended time in another state and seeking registration by reciprocity. In those limited cases, professional letters of reference can be submitted in lieu of supervisor verifications.

Refugees and immigrants may face unique difficulties in obtaining signatures from past supervisors as is currently required on work experience verification forms used by the Board. They also may not be able to reach past peers for reference letters.

The Board has tentatively identified the following ideas related to experience requirements to address the unique needs of refugees and immigrants:

- Review of whether there are alternative approaches to work experience documentation that could be acceptable for applicants that are refugees or immigrants when the traditional documentation might be unavailable to those individuals.

- Development of guidance and potentially also a related form for alternative documentation of work experience.

Examination Standards: The Board requires passage of the Landscape Architect Registration Examination (LARE) or the past equivalent for all registrations. The LARE is controlled by CLARB, the national examination provider. The LARE is available only in English and only in a computerized format. There is no other examination currently available to test for minimum competency to practice landscape architecture. The Board cannot legally issue a registration to an individual that has not passed the national examination.

The Board recognizes that limited English proficiency may make the LARE a barrier to registration for some refugees and immigrants. However, the Board lacks the resources to develop its own examination and does not have the ability to translate the LARE. With the many languages spoken by refugees and immigrants in Oregon, the Board would not be sure of where to begin with translation even if that was an option. CLARB has been in discussion with several countries about their future use of the LARE. The Board understands that these discussions are

not far progressed but have focused on access to the existing English examination and not on examination translation.

The Board further recognizes that the cost to take the LARE could be a barrier to refugees and immigrants. The LARE is a four-part examination, for which CLARB charges a total of $1,870 at a minimum (Sections 1 and 2, $365 each and Sections 3 and 4, $570 each). The examination cost is per section, per attempt. If an individual fails an examination section or for some reason is unable to sit for an examination section as scheduled, then the total cost of examination would exceed the minimum as fees apply each time an individual signs up to take a section. The Board has already flagged examination cost as a potential barrier to emerging professionals. The Board has expressed concerns about examination cost to CLARB through various venues. Most recently, the Board member representing the Board at the 2019 annual meeting of CLARB pointed out to the meeting attendees that examination cost needed to be addressed to meet CLARB and member board goals around accessibility and diversity.

CLARB offers the LARE at Pearson Vue test centers in Oregon. Currently, there are test centers located in Beaverton, Medford, Portland, and Salem. The Board understands that the overwhelming majority of refugees and immigrants settled in Oregon are in the Portland Metro area. Therefore, the Board does not anticipate that lack of access to a testing center would be a barrier to refugees and immigrants.

The Board has tentatively identified the following ideas related to examination requirements to address the unique needs of refugees and immigrants:

- Development of information staff could share with refugees and immigrants about assistance with translation services and building English proficiency, to support preparation to take the national competency examination.

- Review of whether there are any existing programs for refugees and immigrants that may provide grant funds to cover examination costs.

Summary

This report serves as the Board's working plan for further implementation of SB 855 requirements. The Board is looking at various administrative and outreach approaches to addressing potential barriers to landscape architect registration for refugees and licenses. At this time, the Board does not believe rulemaking will be required or necessarily be the best approach to addressing potential barriers.

Additional Information

For more information about this report or the Board, please contact the Board Administrator:

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2019 SB 855 Report

Appendix A

2019 SB 855

SB 855 reads as follows (key provisions and dates highlighted):

Sponsored by Senator DEMBROW; Senators MANNING JR, STEINER HAYWARD, Representatives HERNANDEZ, KENY-GUYER, PILUSO, SOLLMAN, WILLIAMSON

SECTION 1. (1) As used in this section:

(a) "Occupational or professional service" means a service:

(A) That an individual must possess a license, certificate or other form of authorization to provide under the laws of this state; and

(B) Over which a professional licensing board has regulatory oversight.

(b) "Professional licensing board" means a state agency or board that licenses, certifies or otherwise authorizes individuals to provide an occupational or professional service.

(2) ***Each professional licensing board shall study the manner in which persons who are immigrants or refugees become licensed, certified or otherwise authorized in the occupational or professional service regulated by the professional licensing board. Each professional licensing board shall develop and implement methods to reduce barriers to licensure, certification or other authorization for applicants who may be immigrants or refugees.***

(3) A professional licensing board may adopt rules to carry out the provisions of this section.

*SECTION 2. A professional licensing board, as defined in section 1 of this 2019 Act****, shall report*** *to the Legislative Assembly in the manner provided in ORS 192.245 on the professional licensing board's progress in meeting the requirements of section 1 of this 2019 Act* ***not later than November 30, 2019****.*

SECTION 3. (1) ***Section 1 of this 2019 Act becomes operative on July 1, 2020****.*
(2) A professional licensing board may take any action before the operative date specified in subsection (1) of this section that is necessary to enable the board to exercise, on and after the operative date specified in subsection (1) of this section, all of the duties, functions and powers conferred on the board by section 1 of this 2019 Act.
SECTION 4. This 2019 Act being necessary for the immediate preservation of the public peace, health and safety, an emergency is declared to exist, and this 2019 Act takes effect on its passage.

2019 SB 855 Report

Appendix B

American Immigration Council – Immigrants in Oregon, 2017

Migration Policy Institute – The Costs of Brain Waste among Highly Skilled Immigrants in Oregon, June 2017

Immigrants in Oregon

Oregon has a sizeable community of immigrants, many of whom hail from Mexico. Roughly 10 percent of all Oregon residents are foreign-born, while over 12 percent are native-born Americans who have at least one immigrant parent. More than a third of Oregon's farmers, fishers, and foresters are immigrants, as are nearly 23 percent of all production employees. As workers, business owners, taxpayers, and neighbors, immigrants are an integral part of Oregon's diverse and thriving communities and make extensive contributions that benefit all.

One in 10 Oregon residents is an immigrant, while about one in eight residents is a native-born U.S. citizen with at least one immigrant parent.

- In 2015, 397,293 immigrants (foreign-born individuals) comprised 9.9 percent of the population.[1]
- Oregon was home to 191,777 women, 180,488 men, and 25,028 children who were immigrants.[2]
- The top countries of origin for immigrants were Mexico (37 percent of immigrants), China (6 percent), Vietnam (5.2 percent), India (4.1 percent), and Canada (3.6 percent).[3]
- In 2016, 498,875 people in Oregon (12.4 percent of the state's population) were native-born Americans who had at least one immigrant parent.[4]

More than a third of all immigrants in Oregon are naturalized U.S. citizens.

- 167,977 immigrants (42.3 percent) had naturalized as of 2015,[5] and 82,341 immigrants were eligible to become naturalized U.S. citizens in 2015.[6]
- Almost three-quarters (73.2 percent) of immigrants reported speaking English "well" or "very well."[7]

Immigrants in Oregon are concentrated at both ends of the educational spectrum.

- More than a quarter of adult immigrants had a college degree or more education in 2015, while nearly a third had less than a high school diploma.[8]

Education Level	Share (%) of All Immigrants	Share (%) of All Natives
College degree or more	28.2	32.7
Some college	20.2	36.5
High school diploma only	19.6	23.9
Less than a high-school diploma	32.0	7.0

Nearly 90,000 U.S. citizens in Oregon live with at least one family member who is undocumented.

- 130,000 undocumented immigrants comprised 32 percent of the immigrant population and 3.2 percent of the total state population in 2014.[9]
- 186,460 people in Oregon, including 80,451 born in the United States, lived with at least one undocumented family member between 2010 and 2014.[10]
- During the same period, 1 in 12 children in the state was a U.S.-citizen child living with at least one undocumented family member (71,208 children in total).[11]

More than 10,000 Deferred Action for Childhood Arrivals (DACA) recipients live in Oregon [12]

- As of 2016, 82 percent of DACA-eligible immigrants in Oregon, or 12,049 people, had applied for DACA.[13]
- An additional 6,000 residents of the state satisfied all but the educational requirements for DACA, and another 4,000 would be eligible as they grew older.[14]

One in eight workers in Oregon is an immigrant, together making up an essential share of the state's labor force across industries.

- 260,001 immigrant workers comprised 12.8 percent of the labor force in 2015.[15]

- Immigrant workers were most numerous in the following industries:

Industry	Number of Immigrant Workers
Manufacturing	51,265
Accommodation and Food Services	36,540
Health Care and Social Assistance	35,260
Retail Trade	23,826
Agriculture, Forestry, Fishing & Hunting	22,039

Analysis of the U.S. Census Bureau's 2015 American Community Survey 1-year PUMS data by the American Immigration Council.

- The largest shares of immigrant workers were in the following industries:[16]

Industry	Immigrant Share (%) (of all industry workers)
Agriculture, Forestry, Fishing & Hunting	25.8
Manufacturing	19.7
Accommodation and Food Services	18.4
Administrative & Support; Waste Management; and Remediation Services	17.6
Management of Companies and Enterprises	16.3

Analysis of the U.S. Census Bureau's 2015 American Community Survey 1-year PUMS data by the American Immigration Council.

Immigrants are an integral part of the Oregon workforce in a range of occupations.

- In 2015, immigrant workers were most numerous in the following occupation groups:[17]

Occupation Category	Number of Immigrant Workers
Production	32,818
Food Preparation and Serving Related	27,957
Management	24,891
Building and Grounds Cleaning & Maintenance	24,571
Sales and Related	19,375

Analysis of the U.S. Census Bureau's 2015 American Community Survey 1-year PUMS data by the American Immigration Council.

- The largest shares of immigrant workers were in the following occupation groups:[18]

Occupation Category	Immigrant Share (%) (of all workers in occupation)
Farming, Fishing, and Forestry	39.5
Building and Grounds Cleaning & Maintenance	25.2
Production	22.7
Computer and Mathematical Sciences	18.3
Food Preparation and Serving Related	17.5

Analysis of the U.S. Census Bureau's 2015 American Community Survey 1-year PUMS data by the American Immigration Council.

- Undocumented immigrants comprised 4.8 percent of the state's workforce in 2014.[19]

Immigrants in Oregon have contributed billions of dollars in taxes.

- Immigrant-led households in the state paid $1.7 billion in federal taxes and $736.6 million in state and local taxes in 2014.[20]
- Undocumented immigrants in Oregon paid $80.8 million in state and local taxes in 2014. Their contribution would rise to $119.4 million if they could receive legal status.[21]
- DACA recipients in Oregon paid an estimated $20 million in state and local taxes in 2016.[22]

As consumers, immigrants add of billions of dollars to Oregon's economy.

- Oregon residents in immigrant-led households had $7.4 billion in spending power (after-tax income) in 2014.[23]

Immigrant entrepreneurs in Oregon generate hundreds of millions in business revenue.

- 28,567 immigrant business owners accounted for 11.2 percent of all self-employed Oregon residents in 2015 and generated $470.6 million in business income.[24]
- In 2015, immigrants accounted for 23.2 percent of business owners in the Portland/Vancouver/Beaverton metropolitan area, which spans Oregon and Washington.[25]

Endnotes

1. "Foreign born" does not include people born in Puerto Rico or U.S. island areas or U.S. citizens born abroad of American parent(s). U.S. Census Bureau, 2015 American Community Survey 1-Year Estimates. The American Immigration Council elected to use data from the 2015 ACS 1-Year estimates wherever possible to provide the most current information available. Since these estimates are based on a smaller sample size than the ACS 5-year, however, they are more sensitive to fluctuations and may result in greater margins of error (compared to 5-year estimates).
2. Children are defined as people age 17 or younger. Men and women do not include children. Ibid.
3. Analysis of the U.S. Census Bureau's 2015 American Community Survey 1-year PUMS data by the American Immigration Council.
4. Analysis of data from the 2016 Current Population Survey by the American Immigration Council, using IPUMS-CPS. Sarah Flood, Miriam King, Steven Ruggles, and J. Robert Warren, *Integrated Public Use Microdata Series, Current Population Survey: Version 5.0* [dataset] (Minneapolis, MN: University of Minnesota, 2017).
5. 2015 ACS 1-Year Estimates.
6. Augmented IPUMS-ACS data, as published in "State-Level Unauthorized Population and Eligible-to-Naturalize Estimates," Center for Migration Studies data tool, accessed August 2017, data.cmsny.org/state.html.
7. [7] Figure includes immigrants who speak only English. Data based on survey respondents age 5 and over. Analysis of 2015 ACS 1-Year Estimates by the American Immigration Council.
8. Data based on survey respondents age 25 and older. Ibid.
9. Pew Research Center, "U.S. unauthorized immigration population estimates," November 3, 2016, www.pewhispanic.org/interactives/unauthorized-immigrants/.
10. Silva Mathema, "State-by-State Estimates of the Family Members of Unauthorized Immigrants," University of Southern California's Center for the Study of Immigrant Integration and the Center for American Progress, March 2017, www.americanprogress.org/issues/immigration/news/2017/03/16/427868/state-state-estimates-family-members-unauthorized-immigrants/.
11. American Immigration Council analysis of data from the 2010-2014 ACS 5-Year, using Silva Mathema's "State-by-State Estimates of the Family Members of Unauthorized Immigrants" and IPUMS-USA. Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek, *Integrated Public Use Microdata Series: Version 7.0* [dataset] (Minneapolis, MN: University of Minnesota, 2017).
12. The "Deferred Action for Childhood Arrivals" (DACA) initiative began in 2012 and provides certain immigrants (those who were brought to the United States as children and meet specific requirements) with temporary relief from deportation, or deferred action. American Immigration Council, "Deferred Action for Childhood Arrivals: A Q&A Guide," August 17, 2012, www.americanimmigrationcouncil.org/research/deferred-action-childhood-arrivals-qa-guide. U.S. Citizenship and Immigration Services, "Number of Form I-821D, Consideration of Deferred Action for Childhood Arrivals" as of March 31, 2017, published June 2017, https://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/Immigration%20Forms%20Data/All%20Form%20Types/DACA/daca_performancedata_fy2017_qtr2.pdf.
13. DACA-eligible" refers to immigrants who were immediately eligible to apply for DACA as of 2016. Migration Policy Institute analysis of U.S. Census Bureau data from the 2014 American Community Survey (ACS), 2010-14 ACS pooled, and the 2008 Survey of Income and Program Participation (SIPP), as cited in "Deferred Action for Childhood Arrivals (DACA) Data Tools," accessed June 2017, www.migrationpolicy.org/programs/data-hub/deferred-action-childhood-arrivals-daca-profiles.
14. Ibid.
15. Analysis of 2015 ACS 1-year PUMS data by the American Immigration Council. Categories are based on the 2012 North American Industry Classification System (NAICS), www.census.gov/eos/www/naics/index.html.
16. Ibid.
17. Analysis of the U.S. Census Bureau's 2015 American Community Survey 1-year PUMS data by the American Immigration Council. Categories are based on the 2010 Standard Occupational Classification (SOC) system, www.bls.gov/soc/major_groups.htm.
18. Ibid.
19. Pew Research Center, "U.S. unauthorized immigration population estimates," 2016.
20. New American Economy, *The Contributions of New Americans in Oregon* (New York, NY: August 2016), 5, http://www.newamericaneconomy.org/research/the-contributions-of-new-americans-in-oregon/.
21. Institute on Taxation & Economic Policy (ITEP), *Undocumented Immigrants' State & Local Tax Contributions* (Washington, DC: March 2017), 3, www.itep.org/undocumented-immigrants-state-local-tax-contributions-2/.
22. ITEP, *State & Local Tax Contributions of Young Undocumented Immigrants* (Washington, DC: April 2017), Appendix 1, www.itep.org/state-local-tax-contributions-of-young-undocumented-immigrants/.
23. New American Economy, *The Contributions of New Americans in Oregon*, 5.
24. "Business owners" include people who are self-employed, at least 18 years old, and work at least 15 hours per week at their businesses. Analysis of 2015 ACS 1-year PUMS data by the American Immigration Council.
25. American Immigration Council analysis of 2016 CPS data. Flood, King, Ruggles, and Warren, *IPUMS CPS* dataset.

The Costs of Brain Waste among Highly Skilled Immigrants in Oregon

By Ariel G. Ruiz Soto, Jeanne Batalova, and Michael Fix

June 2017

Oregon's population grew from 3.4 million to 4.0 million between 2000 and 2015, with immigrants accounting for 17 percent of population growth. Today Oregon is home to nearly 400,000 immigrants, representing one in ten state residents. [1] Immigrants are employed in diverse industries—including education and health, manufacturing, and hospitality—and at all skill levels across Oregon.[2] Nonetheless, a significant number of college-educated immigrants in Oregon find that they cannot put their academic and professional qualifications to full use.

Using an innovative methodology developed by the Migration Policy Institute (MPI), this fact sheet examines skill underutilization—also known as "brain waste"—and its economic costs in Oregon. The authors estimate the number and share of college-educated immigrants who work in low-skill jobs or are unemployed in the state. They identify the key factors underlying this brain waste, and estimate the amount of annual earnings and state and local taxes lost because immigrant college graduates end up working in low-skilled jobs. In general, the analysis employs two types of comparisons: (1) between the foreign born[3] and U.S. born who are college graduates; and (2) between foreign-educated and U.S.-educated immigrants. This fact sheet follows a national report on brain waste, *Untapped Talent: The Costs of Brain Waste among Highly Skilled Immigrants in the United States*.[4]

Box 1. What Is Brain Waste? Quick Definitions

Brain waste describes the situation when college graduates cannot fully utilize their skills and education in the workplace despite their high professional qualifications. (We use the terms *college educated* and *highly skilled* interchangeably in this fact sheet.)

We define *brain waste* (or *skill underutilization*) as comprising two unfavorable labor market outcomes: unemployment and underemployment.

- *Unemployment* occurs when a person who is actively searching for employment is unable to find work.
- *Underemployment* refers to work by the highly skilled in *low-skilled jobs*, that is, jobs that require only moderate on-the-job training or less (e.g., home-health aides, personal-care aides, maids and housekeepers, taxi and truck drivers, and cashiers). These occupations typically require a high school diploma or less.

In contrast, highly skilled individuals who are *adequately employed* are working in high- or middle-skilled jobs. *High-skilled* jobs require at least a bachelor's degree (e.g., postsecondary teachers, surgeons, scientists, and engineers); *middle-skilled* jobs require long-term on-the-job training, vocational training, or an associate's degree (e.g., carpenters, electricians, massage therapists, and real estate brokers).

Because individuals in middle-skilled jobs are considered adequately employed in this analysis, underemployment here refers only to those who are *severely underemployed*, or in positions substantially below their level of training.

Key Findings

- Oregon was home to 55,000 highly skilled immigrants with at least a bachelor's degree during the 2009-13 period.[5] Of this group, 27 percent—or 15,000 people—were either working in low-skilled jobs or unemployed—a slightly higher rate than college-educated immigrants nationwide (25 percent).

- Low-skilled employment resulted in immigrant college graduates in Oregon forgoing approximately $272.5 million in annual earnings. As a result, Oregon experienced $27.7 million in forgone state and local tax revenue. Nationally, immigrant underemployment resulted in more than $39.4 billion in annual earnings losses and $3 billion in forgone state and local taxes.

- As with the country as a whole, highly skilled immigrants in Oregon experienced higher levels of brain waste than the U.S. born—with 27 percent of college-educated immigrants in the state working in low-skilled jobs or without work compared to 21 percent of Oregonians born in the United States.

- Having a degree earned outside the United States increases the likelihood of brain waste: Foreign-educated[6] immigrants in Oregon were more likely to be either underemployed or unemployed (30 percent) than U.S.-educated immigrants (23 percent). (Nationally, these shares

were 29 percent and 21 percent, respectively.) Immigrants in Oregon were also more likely to experience brain waste if they had limited English skills, had only a bachelor's degree, or were Hispanic or Black.[7] Time in the United States reduced skill underutilization for immigrant women more than for men.[8]

- Unlike the country as a whole, U.S. citizenship did not appear to reduce brain waste for highly skilled immigrants in Oregon. Naturalized U.S. citizens and legal permanent residents had nearly the same skill underutilization rates: 31-32 percent among immigrants educated abroad and 22-23 percent among those educated in the United States.

I. Highly Skilled Immigrants by the Numbers

Highly Skilled Immigrants. There were 55,000 immigrant college graduates in the Oregon civilian labor force during the 2009-13 period (see Table 1). They accounted for 11 percent of all highly skilled workers in the state. ("College graduates" and the "highly skilled" are used interchangeably in this fact sheet and refer to adults with a bachelor's degree or higher.)

Brain Waste Levels. Twenty-seven percent (15,000) of college-educated immigrants in Oregon were either underemployed or unemployed compared to 21 percent (98,000) of their U.S.-born counterparts (see Table 1). These shares were slightly higher than national averages.

Table 1. Employment Status of Highly Skilled Adults in Oregon and the United States, by Nativity (%), 2009-13

	Oregon		United States	
	Immigrants	U.S. Born	Immigrants	U.S. Born
Total labor force	55,000	459,000	7,618,000	37,936,000
Percent	100	100	100	100
Unemployed	7	6	6	4
Employed by job type				
High-skilled	56	58	57	62
Middle-skilled	18	20	18	19
Low-skilled	19	15	19	14
Brain waste: unemployed or in low-skilled jobs				
Number	15,000	98,000	1,918,100	6,974,800
Percent of the labor force	27	21	25	18

Note: Percentages may not add up to 100 percent due to rounding.
Source: Migration Policy Institute (MPI) analysis of U.S. Census Bureau data from the pooled 2009-13 American Community Survey (ACS) and 2008 Survey of Income and Program Participation (SIPP), with legal status assignments by James Bachmeier of Temple University and Jennifer Van Hook of The Pennsylvania State University, Population Research Institute.

II. Economic Cost of Brain Waste

Beyond the human-capital losses that are felt by individuals and their families, brain waste has broader economic implications. Workers who are either underemployed or lack employment despite their high professional qualifications have lower disposable incomes to spend and invest, and they pay less in taxes as a result of these forgone earnings. At the same time, employers—and the economy—miss an opportunity to hire available workers with needed skills and qualifications.

In this fact sheet, the Migration Policy Institute (MPI) for the first time estimates the value of forgone earnings associated with low-skilled employment of highly skilled immigrants, as well as the state and local taxes that would be generated by those earnings.[9] To do so, the authors compared the average annual earnings of highly skilled immigrants working in low-skilled jobs to those of "adequately" employed immigrants—i.e., those working in middle- and high-skilled jobs. Using decomposition analysis, the authors then estimated the amount of earnings losses attributable to low-skilled employment after controlling for demographic, educational, linguistic, legal status, and other factors.[10] It is important to note that these figures are in some ways conservative, as they do not account for the lost wages of highly skilled immigrants who were unemployed during the study period, despite wanting to work. Lost wages are also not quantified for highly skilled immigrant workers in occupations that require more than a high school diploma but less than a bachelor's degree (e.g., dental hygienists, teacher assistants, and electricians).

The value of annual earnings that highly skilled immigrants in Oregon lost due to their employment in low-skilled jobs amounted to $272.5 million during the period surveyed. If these immigrants had instead been adequately employed and remunerated correspondingly, their households would have paid an additional $27.7 million in state and local taxes. Nationwide, the low-skilled employment of college-educated immigrants resulted in $39.4 billion in forgone wages and $3 billion in forgone state and local taxes annually.[11]

III. Factors Driving Brain Waste

Several demographic characteristics of highly skilled immigrants in Oregon help explain their rates of skill underutilization. Some of these factors are examined below.

Place of Education. Of the 55,000 highly skilled immigrants in Oregon, 50 percent (28,000) were foreign educated and 50 percent (27,000) obtained their degrees in the United States. In the United States overall, 52 percent of highly skilled immigrants were educated abroad.

Like the country as a whole, foreign-educated immigrants in Oregon were more likely to be either underemployed or unemployed (30 percent) than U.S.-educated immigrants (23 percent). These higher rates of skill underutilization among the foreign educated reflect a number of factors, among them real and perceived differences in the quality of U.S. and foreign education, adult newcomers' access to professional networks, and the difficulties that immigrants can face getting their foreign credentials and professional experiences recognized by employers and professional licensing bodies.

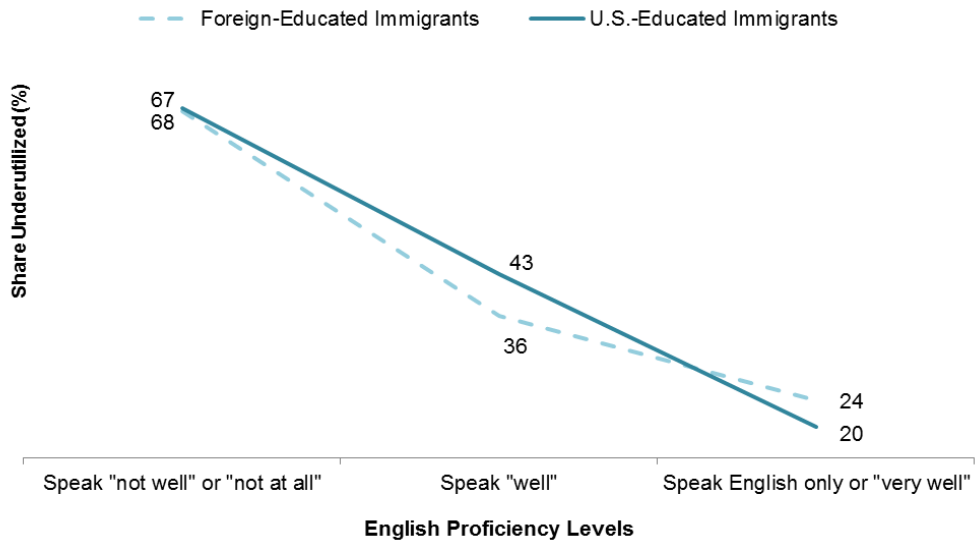
English Proficiency. The majority of high-skilled immigrants in Oregon were English proficient: 70 percent of the foreign educated and 87 percent of the U.S. educated (compared to 67 percent and 86 percent respectively at the national level).[12]

Limited English skills contribute significantly to higher risk of brain waste. Immigrants in Oregon who spoke English "not well" or "not at all" were approximately three times more likely to experience brain waste than those who spoke English "only" or "very well" (see Figure 1).

Level of Degree. As at the national level, college-educated immigrants in Oregon were more likely than the U.S. born to have advanced degrees:[13] 45 percent and 35 percent, respectively. Nationally, 43 percent of immigrants had advanced degrees compared to 37 percent of the U.S. born.

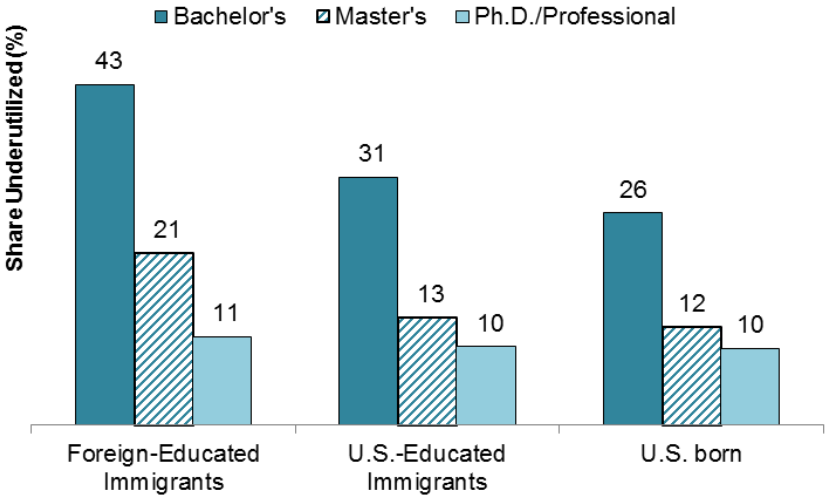
Regardless of place of birth or education, bachelor degree holders had much higher rates of skill underutilization than those with advanced degrees. Among the foreign educated in Oregon, 43 percent of bachelor degree holders experienced brain waste compared to 11 percent of those with a Ph.D. or professional degree, such as a law or medical degree (see Figure 2). Foreign-educated immigrants at all degree levels were more likely to be underemployed or unemployed than those with U.S. degrees. In contrast, there was no difference among U.S.-educated immigrants with advanced degrees and their U.S.-born counterparts.

Figure 1. Underemployment and Unemployment of Highly Skilled Immigrants in Oregon, by Place of Education and English Proficiency (%), 2009-13



Source: MPI analysis of 2009-13 ACS and 2008 SIPP data from the U.S. Census Bureau, with legal status assignments by Bachmeier and Van Hook.

Figure 2. Underemployment and Unemployment of Highly Skilled Adults in Oregon, by Nativity, Place of Education, and Degree Level (%), 2009-13



Source: MPI analysis of 2009-13 ACS and 2008 SIPP data from the U.S. Census Bureau, with legal status assignments by Bachmeier and Van Hook.

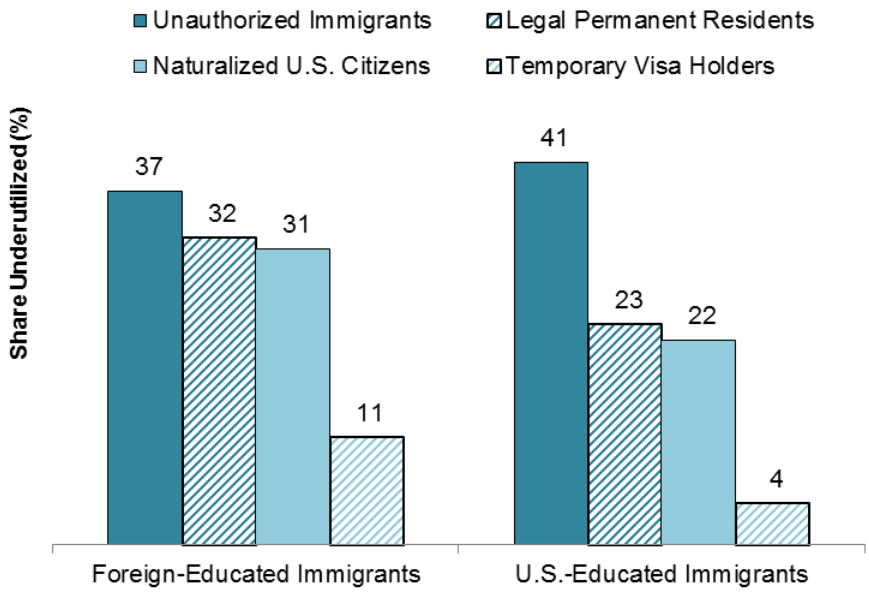
Legal Status/Citizenship. Fifty-three percent of highly skilled immigrants in Oregon were naturalized U.S. citizens, 31 percent were legal permanent residents (LPRs), 9 percent were unauthorized immigrants, and 7 percent were temporary visa holders. Highly skilled immigrants in Oregon were less likely to be naturalized U.S. citizens than the national average of 57 percent. As in the rest of the country, temporary visa holders had the lowest rates of skill underutilization—owing in large part to visa requirements.[14] For instance, many temporary visa holders have visas such as the H-1B (for highly skilled workers) or the L-1 (for intracompany transfers), meaning they

have presumably been sponsored by a company or nonprofit institution to perform a job commensurate with their experience and skill level.

U.S. citizenship did not appear to reduce brain waste levels for highly skill immigrants as it does at the national level. Naturalized U.S. citizens and LPRs both had a skill underutilization rate of 31-32 percent among immigrants educated abroad and 22-23 percent among those educated in the United States (see Figure 3).

Unauthorized immigrants had the highest risk of brain waste, with 37 percent of those who were foreign educated and 41 percent of the U.S. educated being either underemployed or unemployed. Nonetheless, it is noteworthy that more than 50 percent of college-educated unauthorized immigrants worked in middle- or high-skilled jobs.

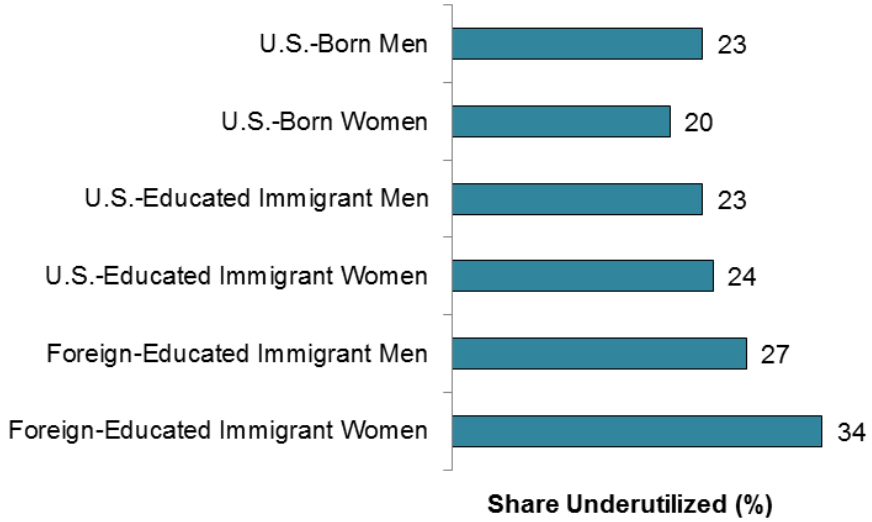
Figure 3. Underemployment and Unemployment of Highly Skilled Immigrants in Oregon, by Place of Education and Legal Status (%), 2009-13



Source: MPI analysis of 2009-13 ACS and 2008 SIPP data from the U.S. Census Bureau, with legal status assignments by Bachmeier and Van Hook.

Gender. Women represented 47 percent of the 55,000 million highly skilled immigrants in Oregon and 50 percent of the state's 459,000 U.S.-born college graduates. Foreign-educated immigrant women had the highest skill underutilization rates of all college-educated workers in the state (34 percent) (see Figure 4).

Figure 4. Underemployment and Unemployment of Highly Skilled Adults in Oregon, by Nativity, Place of Education, and Gender (%), 2009-13



Source: MPI analysis of 2009-13 ACS and 2008 SIPP data from the U.S. Census Bureau, with legal status assignments by Bachmeier and Van Hook.

Time in the United States. Length of residence in the United States had a bigger impact on the skill underutilization of immigrant women than of men—a change that may owe to shifting social norms within immigrant families as well as a need for higher household earnings.[15] The levels of brain waste among immigrant women decreased from 46 percent of recent arrivals (i.e., in the country for five years or less) to 23 percent of long-term residents (i.e., in the country for 15 years or more). By contrast, skill underutilization rates of immigrant men declined only slightly: from 28 percent of recent arrivals to 25 percent of long-term residents.

Race and Ethnicity. The racial and ethnic composition of highly skilled immigrants in Oregon varied by place of education (see Table 2): Among the foreign-educated population, White and Asian immigrants represented nearly the same shares (42 and 41 percent respectively); Asian immigrants represented the largest share (45 percent) among the U.S.-educated population. Hispanic and Black immigrants represented significantly lower shares of the U.S.-educated population. Ninety-four percent of U.S.-born college graduates were White.

Table 2. Race and Ethnicity of Highly Skilled Adults in Oregon, by Nativity and Place of Education (%), 2009-13

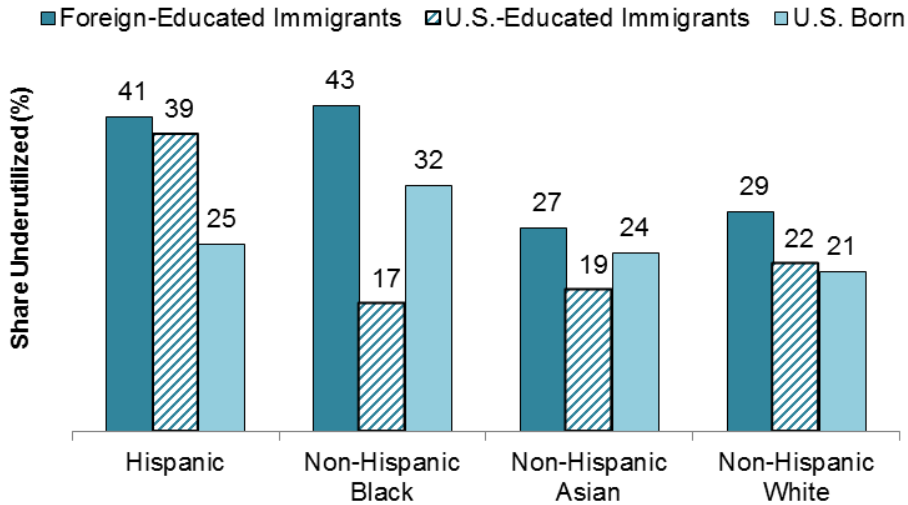
Race/Ethnicity	Oregon		
	Foreign-Educated Immigrants	U.S.-Educated Immigrants	U.S. Born
Number	**28,000**	**27,000**	**459,000**
Percent	**100**	**100**	**100**
Hispanic	13	16	3
Non-Hispanic Black	5	3	1
Non-Hispanic Asian	41	45	2
Non-Hispanic White	42	36	94

Note: Percentages may not add up to 100 percent due to rounding.
Source: MPI analysis of 2009-13 ACS and 2008 SIPP data from the U.S. Census Bureau, with legal status assignments by Bachmeier and Van Hook.

Of all racial and ethnic groups, Blacks had the highest skill underutilization rates (43 percent) among foreign-educated immigrants (see Figure 5). Hispanics had the highest rates of brain waste among U.S.-educated immigrants (39 percent). Asians and Whites had roughly similar skill underutilization rates across nativity and place of education.

Among Hispanics, skill underutilization rates were significantly lower for the U.S. born (25 percent) than for foreign- and U.S.-educated immigrants (41 percent and 39 percent respectively).

Figure 5. Underemployment and Unemployment of Highly Skilled Adults in Oregon, by Nativity, Place of Education, and Race/Ethnicity (%), 2009-13



Source: MPI analysis of 2009-13 ACS and 2008 SIPP data from the U.S. Census Bureau, with legal status assignments by Bachmeier and Van Hook.

Region and Country of Birth. Highly skilled immigrants in Oregon came from diverse regional origins, with no group representing over 20 percent of the population (see Table 3). Immigrants from East Asia and the European Union countries each represented about 20 percent of those

educated abroad—higher shares than nationally. Forty-eight percent of U.S.-educated immigrants came from Asia, with nearly similar shares across the East (17 percent), Southeast (16 percent), and Southwest (15 percent) regions.

Table 3. Region/Country of Birth and Place of Education for Highly Skilled Immigrants in Oregon and the United States (%), 2009-13

Region or Country of Birth	Oregon		United States	
	Foreign-Educated Immigrants (%)	U.S.-Educated Immigrants (%)	Foreign-Educated Immigrants (%)	U.S.-Educated Immigrants (%)
Total (Number)	**28,000**	**27,000**	**3,992,000**	**3,626,000**
Percent	**100**	**100**	**100**	**100**
East Asia	20	17	16	16
China	10	8	9	10
Japan/Asian Tigers*	10	9	6	6
Southeast Asia	11	16	13	14
Philippines	7	4	10	6
Southwest Asia	13	15	20	17
India	8	11	15	12
Middle East	3	2	3	3
Central America	8	11	7	11
Mexico	6	10	5	7
Caribbean	1	2	5	9
South America	4	4	8	7
Canada	5	9	3	3
Australia/Oceania	2	2	1	<1
European Union/EEA**	19	15	12	11
Rest of Europe	7	3	6	4
Africa	7	4	7	5

* Japan/Asian Tigers refers to Hong Kong, Japan, Singapore, and South Korea.
** European Union/EEA refers to the 28 European countries that were part of the European Union as of 2013, plus Iceland, Liechtenstein, and Norway, which are part of the European Economic Area (EEA).
Note: Percentages may not add up to 100 percent due to rounding.
Source: MPI analysis of 2009-13 ACS and 2008 SIPP data from the U.S. Census Bureau, with legal status assignments by Bachmeier and Van Hook.

Table 4. Underemployment and Unemployment of Highly Skilled Immigrants, by Place of Education and Region/ Country of Birth in Oregon and United States (%), 2009-13

Region or Country of Birth	Oregon		United States	
	Foreign-Educated Immigrants (%)	U.S.-Educated Immigrants (%)	Foreign-Educated Immigrants (%)	U.S.-Educated Immigrants (%)
Total (%)	**30**	**23**	**29**	**21**
East Asia	17	13	20	16
China	9	10	16	14
Japan/Asian Tigers*	26	16	25	20
Southeast Asia	50	32	35	20
Philippines	50	34	35	21
Southwest Asia	26	14	23	16
India	16	8	18	13
Middle East	51	23	28	21
Central America	45	44	51	36
Mexico	42	45	47	36
Caribbean	62	15	44	24
South America	28	35	37	25
Canada	19	16	12	15
Australia/Oceania	9	34	16	18
European Union/EEA**	21	18	18	19
Rest of Europe	43	36	33	23
Africa	45	20	37	26

* Japan/Asian Tigers refers to Hong Kong, Japan, Singapore, and South Korea.
** European Union/EEA refers to the 28 European countries that were part of the European Union as of 2013, plus Iceland, Liechtenstein, and Norway, which are part of the European Economic Area (EEA).
Source: MPI analysis of 2009-13 ACS and 2008 SIPP data from the U.S. Census Bureau, with legal status assignments by Bachmeier and Van Hook.

Although they represented a relatively low share of highly skilled immigrants in Oregon, those from the Caribbean had the highest rates of skill underutilization (62 percent) among the foreign-educated population, and those from Mexico had the highest rates (45 percent) among the U.S.-educated population (see Table 4). Chinese and Indian immigrants had lower skill underutilization rates in the state than at the national level, regardless of their place of education.

IV. Conclusion

In sum, 27 percent of the 55,000 college-educated immigrants living in Oregon were either underemployed or unemployed during the 2009-13 period. Low-skilled employment among these highly skilled immigrants comes with a price tag: $272.5 million in annual lost earnings and $27.7 million in forgone state and local taxes.

The scale of this economic impact suggests that policymakers would do well to examine the barriers to full employment that immigrants—particularly those who are foreign educated—face in the Oregon labor market. Given the costs documented here, policies that promote the recognition of foreign credentials, make licensing requirements more transparent, and expand access to courses that teach professional English and fill educational gaps should provide substantial returns on public investment.

About the Authors

Ariel G. Ruiz Soto is a Research Assistant at the Migration Policy Institute (MPI), where he provides quantitative research support across MPI programs. His research focuses on the impact of U.S. immigration policies on immigrant experiences of socioeconomic integration across varying geographical and political contexts. More recently, Mr. Ruiz Soto has analyzed methodological approaches to estimate sociodemographic trends of the unauthorized immigrant population in the United States.

Jeanne Batalova is a Senior Policy Analyst at MPI and Manager of its Data Hub, a one-stop, online resource that provides instant access to the latest facts, statistics, and maps covering U.S. and global data on immigration and immigrant integration. Her areas of expertise include the immigration and integration of highly skilled workers and foreign students in the United States and other countries; the impacts of immigrants on society and labor markets; and the social and economic mobility of immigrant-origin young adults.

Michael Fix is President of MPI, a position he assumed in 2014 after serving as CEO and Director of Studies. He joined the Institute in 2005, and was previously Senior Vice President and Co-Director of MPI's National Center on Immigrant Integration Policy. His research focus is on immigrant integration and the education of immigrant children in the United States and Europe, as well as citizenship policy, immigrant children and families, the effect of welfare reform on immigrants, and the impact of immigrants on the U.S. labor force.

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ENDNOTES

[1] Authors' tabulations of integrated public use microdata series from the U.S. Census Bureau's 2000 and 2015 American Community Surveys (ACS).
[2] Migration Policy Institute (MPI), "State Immigration Data Profiles," www.migrationpolicy.org/data/state-profiles/state/workforce/OR/US.
[3] The foreign born (or immigrants) are persons who were not U.S. citizens at birth. The U.S. born (or natives) are persons who were U.S. citizens at birth, even if they were born outside of the country.
[4] See Jeanne Batalova, Michael Fix, and James D. Bachmeier, *Untapped Talent: The Costs of Brain Waste among Highly Skilled Immigrants in the United States* (Washington, DC: MPI, New American Economy, and World Education Services, 2016). State-level fact sheets examining brain waste for college-educated immigrants cover California, Florida, Michigan, New York, Ohio, Texas, and Washington, and can be found at www.migrationpolicy.org/topics/brain-waste-credential-recognition.
[5] All estimates in this fact sheet refer to civilian adults ages 25 and older and are based on analysis of U.S. Census Bureau pooled 2009-13 ACS data unless otherwise stated. The data were pooled to increase the precision of the estimates. James Bachmeier at Temple University, in consultation with Jennifer Van Hook at The Pennsylvania State University and researchers at MPI developed techniques to link the ACS data to the Census Bureau's 2008 Survey of Income and Program Participation (SIPP) to allow for estimates by legal status. The 2009-13 data were the most recent at the time of the analysis.
[6] The term "foreign educated" refers to immigrants who have at least a bachelor's degree and arrived in the United States at age 25 or later. They were likely to have obtained all of their formal education abroad; "U.S. educated" refers to college-educated immigrants who came to the United States before age 25 and are likely to have been educated in the United States.
[7] Persons identified as Black, Asian, and White refer to non-Hispanic individuals. Persons identified as Hispanic are of any race.
[8] In *Untapped Talent*, Batalova, Fix, and Bachmeier employ logistic regression models to test the effect of place of education, time in the United States, level of educational attainment, English skills, race and ethnicity, and citizenship and legal status on the odds of low-skilled employment of immigrant men and women. The report finds that each of these variables had an independent and statistically significant impact on the likelihood of low-skilled employment. The analysis assumes that the relationships observed at the national level hold at the state level as well. See Batalova, Fix, and Bachmeier, *Untapped Talent.*
[9] MPI in 2008 first estimated the size of the immigrant population experiencing brain waste. See Jeanne Batalova and Michael Fix with Peter A. Creticos, *Uneven Progress: The Employment Pathways of Skilled Immigrants in the United States* (Washington, DC: MPI, 2008), www.migrationpolicy.org/research/uneven-progress-employment-pathways-skilled-immigrants-united-states.
[10] The analysis of forgone earnings was done separately by place of education and gender. See Batalova, Fix, and Bachmeier, *Untapped Talent*, Appendix A-3 for additional discussion of the decomposition methodology. Estimates of forgone tax contributions at the state and local level were computed by MPI based on framework provided by the Institute on Taxation and Economic Policy (ITEP). See Batalova, Fix, and Bachmeier, *Untapped Talent*, Appendix A-4 for additional discussion of the tax estimation methodology. The value of forgone federal taxes associated with low-skilled employment of immigrants in Oregon was not estimated.
[11] The national report also estimates the amount of forgone federal taxes associated with immigrant low-skilled employment: approximately $10.2 billion. See Batalova, Fix, and Bachmeier, *Untapped Talent.*
[12] Persons who reported speaking English only or "very well" in the ACS are considered to be English proficient. Persons who reported speaking English "not well" or "not at all" are considered to have low levels of English proficiency.
[13] Refers to master, doctoral, and professional degrees.
[14] Foreigners on temporary visas include those on work visas such as the H-1B visa or the L-1 intracompany transferee visa, or international students on F-1 visas. To obtain an H1-B visa, for instance, foreign workers must have a sponsoring employer (i.e., they will have a job) and the position for which they are hired (in most cases) requires at least a bachelor's degree (i.e., their job per the definition used in this fact sheet is "highly skilled").
[15] See Mary C. Waters and Marisa Gerstein Pineau, eds., *The Integration of Immigrants into American Society* (Washington, DC: The National Academies Press), www.nap.edu/catalog/21746/the-integration-of-immigrants-into-american-society.

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