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A Report for the Joyce Foundation

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Preface:

This project was conceived following the completion of a broader initiative addressing the challenges of integrating immigrants into the workplace. Virtually all immigrants, especially those who are not proficient in English, face difficulties in becoming full participants in the U.S. economy. Even in the face of growing globalization, we found that those who have special skills, and who completed post-secondary education outside of the United States, often discover that their knowledge and experience are undervalued, if not dismissed outright.

The United States has been a magnet for the best and the brightest in the world. In the last few years, that has begun to change as countries compete to attract – and retain – top talent. India and China, countries that traditionally exported their top scientists and engineers, are now seeking to retain those workers and to entice others to come or return. Slowly, policy makers are recognizing that the U.S. must step up and compete for this talent. But, in order to be effective, it must address the policies and practices – formal and informal – that are perceived as clear signals that the education and training received outside of the United States are regarded as inferior.

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Illinois:

- Julio Rodriguez, Illinois Department of Commerce and Economic Opportunity
- Edwin Silverman, Illinois Department of Human Services, Bureau of Immigrant and Refugee Services

Iowa:

- Barbara Bobb, Iowa Workforce Development
- Venus Vendoures-Walsh, Iowa Workforce Development, New Iowan Center

Minnesota:

- Bonnie Elsey, Minnesota Department of Employment and Economic Development, Workforce Development Division

Ohio:

- Benito Lucio, Ohio Department of Jobs and Family Services, Office of Workforce Development
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Wisconsin:

- Elena Frishman, Wisconsin Department of Workforce Development, Bureau of Migrant, Refugee and Labor Services, Division of Workforce Solutions
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- Irina Zelenskaya, Wisconsin Department of Workforce Development, Bureau of Migrant, Refugee and Labor Services, Division of Workforce Solutions

As always, a report such as this requires the support and thoughtful contributions of our funder, advisory committee and others with whom we consulted. Nevertheless, the substance and recommendations of this report are solely those of the authors.

Recommendations in Brief

Occupations requiring a higher education or technical credentials can be divided into two general categories: regulated occupations requiring a license or official certificate issued by a government agency, and un-regulated occupations requiring some proof of academic or technical achievement or membership in a professional society as determined by an employer or industry group.

The credentials of foreign educated immigrants are often not immediately transferable to the United States and therefore these immigrants have the added burden of translating and validating their credentials to the U.S. equivalencies. Likewise, individuals who continue their education in the United States after completing courses or degrees abroad face a similar burden when seeking to transfer academic credits to a U.S. institution. One significant difference between regulated and un-regulated occupations is that the governing bodies for many regulated occupations have established explicit (albeit sometimes confusing) methods for recognizing the academic and training credentials of foreign educated immigrants. The educational requirements for un-regulated occupations are much less formal and are collectively less transparent inasmuch as the job of interpreting and accepting these credentials is left to employers.

Occupations requiring a license for practicing before the public

Debates on professional regulation and occupational licensing policies and practices have roiled for decades in state capitals and within national and state professional associations. Recognizing that each state makes its own choices as to who qualifies to practice before the public and as to how that determination is made, many options are available nonetheless that respect state prerogatives, improve mobility for the foreign-educated and, at the same time, provide tangible benefits to licensed professionals regardless of where they obtain their education and training.

National associations, professional organizations, and collective state action

National associations of state regulatory boards and professional groups can – and should – be more transparent, consistent, efficient and efficacious in the movement of foreign-educated immigrants, and foreign-educated in general, into regulated occupations. These include the following actions:

1. *Establish a list of recognized education programs operated by foreign institutions.* A list of recognized programs operated by foreign providers may obviate the need for an independent credential review. It is important to remain cognizant that in shifting the burden from the individual to the institution, those who do not have access to a listed school may still require the exceptional recourse of a third-party credential evaluation.
2. *International examination opportunities.* Offer portions or all of other written licensing examinations at officially designated international centers, especially examinations that otherwise are offered in the United States.
3. *Effective cross-references and state-by-state summary descriptions of licensing processes for foreign-educated.* State-specific summary information will provide

immigrants (and native born) with a quick understanding of what is required by their state of choice as well as provide a context by providing an overview of practices by other states.

4. *Common license application form.* A common application form is an aid to all applicants. We believe that this form will be especially helpful to foreign-educated immigrants who are unfamiliar with state licensing practices and who are not part of a network of professionals or school guidance counselors who can help them navigate the application process. In addition, a common form offers greater transparency and may be better monitored for fairness.
5. *Secure electronic portfolios.* Some educational institutions currently enable students to establish electronic portfolios. These portfolios include relevant biographical background, educational and work history, and a secured, tamper-proof site for official transcripts. This tamper-proof function allows the educational institution password controlled access to a student portfolio. Electronic portfolios have great value for the job seeker as well as for prospective employers or other educational institutions.

Getting the Facts: Where to Find Information on Licensing

Informational and other supports may be improved to assist foreign educated immigrants as they make a transition to a licensed occupation in the United States. These include:

1. *Central information resource for state occupational licensing information.* A collaboration to establish a central information resource involving state licensing agencies, workforce development agencies, educational institutions and professional associations offers the best strategy for improving opportunities for foreign-educated professionals while addressing the concerns of incumbent professionals in the state. The state workforce agency in particular is best positioned to convene such an effort as well as provide early support for new guidance tools, especially online resources, developed with the expert assistance of the state licensing agencies.
2. *Mentoring.* Staffs at workforce intermediaries and at state and local workforce agencies are positioned to provide important support to license-seekers, recognizing that immigrants with the smallest networks will benefit the most. State workforce agencies should also develop in-service training for staff at intermediaries regarding state licensing requirements and processes in key occupational groups, e.g., all aspects of health care, engineering and surveying, architecture, accounting and financial services, teaching.

   Large urban labor markets such as Chicago, Milwaukee, Minneapolis and St. Paul, Detroit, Columbus, Cleveland, Cincinnati, Indianapolis and Des Moines and specialized markets such as Rochester are gateways for the foreign educated and may sustain mentoring initiatives focused specifically on immigrants. In addition, these organizations can take on an advocacy role.
3. *Credential bridging programs.* These programs may provide either accelerated education opportunities leading to a degree at an accredited professional education program or specific courses aimed at filling a gap in the educational

credentials of a prospective licensee who was educated at a foreign institution. Three additional recommendations can be drawn from Canada's experience:

a. Academic accreditation bodies for regulated occupations, national professional associations, member academic institutions and state regulatory agencies, through their respective associations, should establish methodologies for recognizing and providing academic credit for the competencies of foreign-educated professionals.

b. Recognizing that systemic change can occur only at the national level, states may act to address specific internal needs. State oversight boards for higher education (four-year colleges and universities and two-year colleges), state regulatory agencies, and state professional associations may establish accredited experimental or pilot credential bridging programs as part of an effort to address shortages in specific sectors and labor markets. Such an approach helps shorten the time and expense for the foreign-educated immigrant wishing to be re-established professionally, however, it may limit the practice of that person to a single state.

c. States in partnership with foundations and community-based organizations may initiate bridging initiatives that help to resolve credentials barriers without altering state licensing laws and practices. These initiatives may include:

    i. Credential evaluation, authentication and gap analysis

    ii. Classes delivered through distance learning programs or in non-traditional settings – including prior to immigration

    iii. Mentoring and coaching

    iv. Networking with immigrant professional groups

    v. Development of alternative career paths – e.g., career paths in related occupations

    vi. English-language training

    vii. Financial support – loans, grants, and work-study programs to cover tuition, materials, health care, and family living expenses.

Strategies for Supporting Immigrants in Non-licensed Occupations

Clearly, immigrants in licensed occupations face many challenges. Nevertheless, there are established, although sometimes tortuous, methods for addressing these challenges through state and national professional associations, state legislatures, and state executive agencies. There are few, if any, established methods for bringing about collective change in non-licensed occupations. The problems of licensed occupations are systemic and may be resolved by wholesale changes in law and practice. The problems faced by immigrants pursing non-licensed occupations, however, are situational and generally are resolved individually. Here, collective action, either by a state or local government, by an association, or by advocacy organizations is aimed more at providing direct job-search

assistance, by empowering immigrants and influencing employers, and less at changing legal structures.

National, state and local business associations serve those who create them and, as such, provide credible venues for educating their members and for formulating policies, positions and practices that advance the interests of the group. Some business organizations have developed formal initiatives around immigrant integration. Outside of the discussion on immigrants with H1B visas, however, very little attention is given to the successful integration of well-educated immigrants who have obtained their training outside the United States. We believe that there will be growing pressure to accept foreign-education credentials as markets continue to globalize and as competition for competent talent increases. One outcome is that progressive business organizations will be asked by their members to help them identify, recruit, employ, and retain international professionals.

Establish the market value of foreign-educated immigrants

Foreign-educated immigrants add value to the labor market in two ways: First, due to their own training and education, they are subject matter experts in their given professions. Second, they are knowledgeable about the customs and business processes of their country of education and long-term residence. The challenge is to establish that value along each of these two dimensions in terms that are understandable to prospective employers and to the business community as a whole.

Business associations play a key role in establishing this value. They may:

1. Open access to experienced talent in global markets by sponsoring forums on overseas markets conducted, in part, by knowledgeable foreign-educated who are members of the association
2. Educate their members on strategies for incorporating immigrant professionals into global market initiatives
3. Invite representatives of non-U.S. colleges, universities and technical schools to participate in recruitment events for their graduates
4. Conduct job fairs for immigrant professionals and member businesses
5. Provide guidance and training on immigration law
6. Provide guidance and training on how businesses may succeed with a culturally, religiously and linguistically diverse workforce
7. Establish the *bona fides* of credential evaluation services.

Public agencies and workforce intermediaries may also play a significant role in improving the career opportunities of foreign-educated immigrants. These actions may include:

1. Develop in-house expertise on the needs and services for foreign-educated immigrants through training of front-line staff or by establishing a cadre of expert practitioners among the ranks of the staff
2. Add information to existing websites and printed materials addressing known barriers for foreign-educated immigrants, including information on credentials

evaluation, classes on English for speakers of other languages, job interview strategies and techniques, and resume writing

3. Conduct community workshops, seminars and classes on career pathways
4. Host job fairs, support electronic portfolios, and provide technical assistance to employers on immigration and employment

States or regional collaborations of states may also:

1. Designate an "official credential evaluation service" through a competitive request for proposal process. The value of such a designation is that it shifts the burden of educating employers as to the validity of such a service onto the state and from the immigrant job seeker
2. Assist academically qualified foreign education immigrants obtain U.S. work experience through paid internships. Funding may come from public resources, donations or fees paid by participating businesses, and foundations. These internships need not be exclusive to the foreign educated and may be expanded to include native born and immigrants educated in the United States who are unable to find good jobs because they lack critical work experience
3. Establish financial assistance programs (loans and grants) to assist with education and family living expenses
4. Establish programs offering a full-array of support services targeted to foreign-educated immigrants. These programs may be operated within a metropolitan area, statewide or as a collaboration among states
5. Provide access to credential assessment services and occupational counseling to possible émigrés prior to migration. These services may be provided through websites, through U.S. consular offices, through state-operated trade offices and through U.S. academic institutions operating in other countries.

Introduction:

Stories abound of newcomers to the U.S. who once worked as physicians, nurses, engineers or managers in their home countries who now are employed as janitors, nurses assistants, assemblers or garage attendants. Some start their own businesses, perhaps out of necessity or perhaps because they are inclined to take new risks. Some restart their professional lives and return to their careers of choice, but often incur significant costs and time losses. Unfortunately, others never recover.

Much of what we know about the employment of foreign educated immigrants is anecdotal. What are their numbers? What are their credentials? Where are they educated? Where do they come from? And, how do they compare to the general workforce population in the United States?

It is not simply a matter of demographics, however, if the demand for top talent is becoming global. Labor markets best able to smooth the economic integration for knowledge workers will enjoy significant competitive advantages. Inventions and innovations are emerging worldwide. Markets continue to globalize and the sharp boundaries that once defined national economies are becoming less distinct. Will local and state economies be well served in light of these trends by focusing exclusively on developing local sources of human talent? Even if one agrees that U.S. universities are the gold standards in their respective fields or research, will it still be the case for very long when one considers that the Academic Ranking of World Universities lists 166 U.S. institutions among the top 500 universities in the world? Although the U.S. is still a dominant international player, it is clearly facing competition from Europe (207 institutions) and Asia (99 institutions).[1]

Illana Akresh, in her paper, *Occupational Mobility Among Legal Immigrants to the United States*, noted that within one year after receiving authorization to work in the U.S., fifty percent of immigrant workers experienced downgrading in their jobs when compared to the last jobs abroad.[2] While some immigrant workers bring skills and knowledge that are not easily translated to the job requirements of businesses in the U.S., it is clearly not the only plausible explanation for this phenomenon. In fact, the challenges faced by foreign-educated immigrants may be more deeply part of a U.S.-centric view that education and experiences obtained outside of the United States (and Canada) are inferior or unimportant.

In our report, *The Integration of Immigrants in the Workplace*[3], we suggested that there are at least four sets of barriers that slow the integration of these workers:

- Interpretation and validation of academic, professional and work-related competencies and credentials
- Acceptance by employers of validated credentials and competencies
- Acceptance by state regulators of validated credentials and competencies, and

[1] Academic Ranking of World Universities, Institute of Higher Education, Shanghai Jiao Tong University, August 2007
[2] Illana Redstone Akresh (2005). Occupational Mobility among Legal Immigrants to the United States, Urbana: University of Illinois.
[3] Peter Creticos, Amy Beeler, James Schultz and Eva Ball (2006). The Integration of Immigrants in the Workplace, Naperville, IL: Institute for Work and the Economy.

- Limited education and training targeted to bridging the gaps between what is validated and what is required for employment.

We observed that these barriers are generally within the policy and programmatic purview of states, local governments and educational and training institutions. We also noted that this is especially the case with respect to occupational licenses that are within the exclusive jurisdiction of state governments.

Upon further reflection and research, the challenges appear to be much more complex. For example, most state licensing systems divide applicants into two groups: those who graduated from an accredited program and those who did not. Those in the first category are usually permitted to take the next step in the licensing process upon showing proof of graduation. Given its mission to protect the public good, the licensing body often requires those who obtained their education at foreign (non-accredited) programs to submit their credentials for a third party evaluation so that a determination can be made that they meet the same standards as the person who graduated from an accredited program. While this appears to be neutral, it presumptively favors candidates from accredited institutions since each course-by-course evaluation of a student's transcript in foreign program is forced to be aligned to a U.S. context.

Also, there are many accredited organizations that interpret and validate academic, professional and work-related competencies and credentials. Some specialize in a particular occupation, others may serve an academic market, and still others may work in multiple markets. But, an immigrant, especially one pursuing a job in an occupation for which there are few established pathways for recognizing foreign education achievements, may not know about these services or know which one to select. Employers, also, may not know anything about these services and, therefore, may not know how to interpret, much less accept, the word of a third-party organization.

Entry into state licensed occupations is slowed by other challenges that appear to be more a function of enculturation and knowledge of the licensing process. Many states have reorganized their occupational regulatory boards into single agencies, have placed them all in a single building, or have created Web portals that attempt to improve public access and to consolidate information into a single location. For the most part, these websites set forth the facts on what to do, what forms to file, make available copies of important forms for easy download, and may enable a candidate to file an application on-line. Many sites, however, appear to be designed for people who already have been coached on processes and procedures by their school counselor or professional colleagues. They generally are not for those who are trying to figure out the process on their own.

It is not uncommon that educational gaps will surface in an individual's foreign credentials. A few higher education institutions offer high intensity programs that are aimed at expediting the completion of formal U.S.-based training for those who already have completed a portion of the formal educational process. More often, such gaps are addressed through standard curricula, thereby requiring a student to repeat courses and content. Also, it is neither unusual nor unique to those with a foreign education to encounter differences among U.S. educational institutions with respect to credit transfers or course prerequisites. Such decisions are the prerogative of each educational institution, a fact that may not be fully appreciated by someone who is not familiar with higher

education here. Immigrants, therefore, are left to their own devices to figure out how to complete the process.

This report addresses three questions and focuses on seven states in the Midwest[4]:

- *What are the numeric size and characteristics of foreign educated immigrants in the United States and within seven Midwest states?* We address this through an analysis of census and Bureau of Labor Statistics data by the Migration Policy Institute and a review of other studies on the economic consequences of lost opportunities for foreign educated immigrants
- *What are the challenges faced by immigrants who are pursuing careers in state regulated and licensed occupations in the Midwest and what can be done to help?* States license and regulate a broad range of occupations across many industries and no two states are identical in terms of the occupations they regulate or how it is accomplished. Inasmuch as our objective is to understand the systemic barriers that may exist, we examine a handful of critical occupations requiring formal education and training, that are regulated generally by states and that are likely to be recognized and regulated occupations in other countries. This approach gives us greater confidence that an occupation of a given title in one state or country is basically the same occupation in another state or country. We offer a template for flowcharting the licensing process, examine the challenges to long term success faced by immigrants and make recommendations as to what states may do to improve the process for foreign educated immigrants, and coincidentally, for many American educated professionals as well.
- *What are the credentials barriers faced by immigrants who are pursuing careers in non-regulated occupations and what can be done to help?* Of course, foreign educated immigrants encounter an array of many challenges. But, these may be problems only from the perspective of immigrants, especially if employers believe that immigrants add costs and risks and also believe that the pool of U.S. educated workers is sufficient to meet their immediate human resources needs. As a result:
    - Employers may overemphasize the importance of English, especially for jobs requiring little direct contact with customers
    - Recruiters may pass over a résumé because the name appears to be foreign
    - Interviewers may insist on a telephone screening thereby handicapping non-native English speakers
    - Employers may consider foreign universities and degrees to be invalid or inferior, or may regard some regions of the world as inferior
    - Employers may not accept independent validations of foreign credentials by accredited credential validation services
    - Employers may not hire someone without U.S. work experience

[4] The seven states are Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin.

- Companies may advertise that only permanent residents or U.S. citizens only need to apply without knowing that refugees and other non-permanent resident immigrants may also be work-authorized.[5]

Research by the Migration Policy Institute and others suggest clearly that immigrants who rely only on their education from institutions outside of the United States are disadvantaged over the long term. Those who receive some education and training at U.S. institutions are able to catch up with their American educated counterparts. Therefore, short of launching a broad campaign designed to educate employers on proper employment practices, one area for public action is to make improvements to the process for translating and validating the credentials of foreign educated immigrants for the American labor market.

[5] Source: Upwardly Global

Section 1:

Immigrant Skill Utilization in the U.S. Labor Market

By: The Migration Policy Institute: Michael Fix, Jeanne Batalova; Rob Paral and Associates: Rob Paral

Note: Michael Fix and Jeanne Batalova of the Migration Policy Institute and Rob Paral, Rob Paral and Associates, conducted an analysis for this project of U.S. Census and Bureau of Labor Statistics data to examine the extent to which immigrants may be underutilizing their skills in the United States. This is the report.

Introduction to Section 1:

In this report we examine the extent to which foreign-educated immigrants may be underutilizing their skills and education in the US labor market. Our findings tell two stories. On the one hand, many highly skilled immigrant workers (i.e., those with a BA or higher degree), especially immigrants from Europe and Asia, do well in the US labor market. They are employed in high skill jobs that pay wages equal to their native counterparts. Further, many of these high skill immigrants progress over time obtaining better jobs and higher wages.

On the other hand, the data presented below indicate that many highly skill immigrants with degrees from abroad work in low-skill jobs and remain in them even after 10 years of US residence. These patterns of limited mobility are most pronounced among Latin American and African immigrants. The results suggest that the issue of "credentialing" – translating the education qualifications earned in the sending country into those that are valued and accepted in the United States – remains a tough, important, and unresolved issue as the country seeks to capitalize on the skills of current residents.

Data and definitions

In this report we use survey data from the US Census Bureau combined with data from the US Bureau of Labor Statistics (BLS). Survey products from the US Census Bureau are the source of the vast majority of studies on the economic status of immigrant workers. In particular, the American Community Survey (ACS), which is a household survey conducted in all fifty states, provides annually updated data on the socioeconomic status of persons residing in the United States. In our analysis, we pool 2005 and 2006 ACS data.[6] Unless stated otherwise, this report focuses on workers ages 25 and older who are employed in the civilian labor force and who are not self-employed.

Although ACS data do not report on whether an individual received his or her education inside or outside of the US, we are able to develop a reasonable proxy measure of where a person was educated. We do this by identifying "foreign-educated" immigrants as those who entered the United States at age 25 or later and who have at least a bachelor's degree.

[6] Since 2005 ACS data excludes group quarter population, to make the two years comparable, we also excluded non-household population from the 2006 data.

We further divide these immigrants by their time of arrival, distinguishing between "recently arrived" (those who arrived in 1996 or later) and "long-term immigrants" (those who arrived before 1996). We also divide these immigrants into the major world regions where they were born. We select four regions – Asia, Europe/Northern America/Oceania, Latin America and Africa – to ensure adequate sample size and because these regions vary in terms of the education and training of the immigrants they send. For comparison, we also analyze the demographic and economic characteristics of the US-born workers. We use terms "foreign born" and "immigrants" interchangeably and define them to include those who did not have US citizenship at birth.

The ACS permits analysis of the educational levels and jobs of immigrants as compared to natives. However, we believe that further information on the types of jobs held by immigrants and natives is useful in understanding whether immigrants are fully utilizing their education in the US labor force.

We therefore supplement ACS data with BLS data to measure the skill level of immigrant workers. The BLS publishes data categorizing jobs held by workers in the United States by the highest level of training and education typically required by employers. The training and education classifications are:

1. First professional degree
2. Doctoral degree
3. Master's degree
4. Bachelor's or higher degree plus work experience
5. Bachelor's degree

1. Associate's degree
2. Postsecondary vocational award
3. Work experience in related occupation
4. Long-term on-the-job training
5. Moderate-term on-the-job training
6. Short-term on-the-job training

BLS data are coded in a way that permits us to link BLS data on skills to each job category found in the ACS. Appendix A describes this linking process in more detail. The result is a data set with educational and skills descriptions of both native- and foreign-born workers in the United States. Appendix B provides examples of each of the eleven occupational groups.

After assigning skill level to a worker's occupation, we collapse the eleven detailed skill levels into three aggregate measures for ease of comparison and analysis:

- Skill levels 1-5 = "High skilled;"
- Skill levels 6-9 = "Skilled technical;"
- Skill level 10-11 = "Unskilled."

Share of high skilled labor force

In 2005/2006 there were 2.7 million immigrant workers with BA's or higher who had entered the United States after they were 25 or older. These persons represent 8 percent of the 33.7 million of all college-educated workers, ages 25 or older employed in the civilian labor force.

Many educated immigrants appear to have received their education abroad: 53 percent of all immigrants with at least a bachelor's degree entered the United States at or after 25 years of age. However, there was significant variation by region of origin: The share of foreign educated among college graduates from Africa was 61 percent but only 46 percent among those from Latin America.

Regional distribution

The regional distribution of highly skilled immigrants who received a college education abroad differs from the distribution of all immigrant workers. As seen in Table 1, Latin American immigrants account for more than half (55 percent) of all foreign-born employed workers in the United States. But Latin Americans are only one-fifth (20 percent) of immigrants who received their college education abroad. Asians, meanwhile, represent 27 percent of all immigrant workers, but 51 percent of immigrant workers receiving a college degree abroad.

Table 1. Origins of Foreign-Born Workers, Ages 25 and Older

	All foreign-born workers*		Foreign-educated workers**	
	Number	Percent	Number	Percent
Total	16863511	100.0	2691787	100.0
Europe/Northern America/Oceania	2350258	13.9	605381	22.5
Latin America	9284784	55.1	533164	19.8
Asia	4577682	27.1	1372172	51.0
Africa	650788	3.9	181070	6.7

Source: American Community Survey (pooled 2005-2006).

*Foreign born who are employed in civilian labor force, aged 25 years and over.

** Foreign born who are employed in civilian labor force, aged 25 years and over, hold at least a Bachelor's degree, and entered the United States at age 25 or later .

Distributions across educational levels

Table 2 indicates that employed native workers are slightly more likely to hold a college degree (32 percent) than their foreign-born counterparts (30 percent). It also shows only 13 percent of Latin American immigrants have a college degree. In contrast, more than 45 percent of immigrant workers from other world regions have at least a bachelor's degree.

Table 2. Number and Percent of Employed Workers (Age 25 and Older) Who Have Bachelor's Degree or Higher by Nativity and Origin

	All workers	Native born	Foreign Born	Region			
				Europe*	Latin America	Asia	Africa
All workers	105158659	88295148	16863511	2350258	9284784	4577682	650788
College-educated:							
Number	33681808	28582717	5099091	1078508	1170621	2555013	294950
Percent of all workers	32.0	32.4	30.2	45.9	12.6	55.8	45.3

Source: American Community Survey (pooled 2005-2006).

*Europe refers to Europe, Northern America, and Oceania.

We shift now to focus on the educational attainment of *workers with a college education*. Table 3 indicates that, in general, the foreign-educated workers are less likely than natives to hold bachelor's degrees and more likely than natives to hold professional and doctoral degrees.

Table 3. Educational Attainment of Employed College-Educated Workers by Nativity

	All workers	Native born	Foreign Born	Foreign-educated workers*				
				Total	Europe**	Latin America	Asia	Africa
Number	33681808	28582717	5099091	2691788	605382	533164	1372172	181070
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Bachelor's	63.5	64.6	57.6	53.9	44.9	64.0	53.7	57.2
Master's	26.2	26.1	26.9	27.4	31.9	20.2	28.6	24.1
Professional	6.1	5.8	7.4	8.6	8.3	11.4	7.5	9.3
Doctoral	4.2	3.5	8.1	10.1	14.9	4.3	10.3	9.4

Source: American Community Survey (pooled 2005-2006).

*Foreign born who are employed in civilian labor force, aged 25 years and over, hold at least a Bachelor's degree, and entered the United States at age 25 or later.

**Europe refers to Europe, Northern America, and Oceania.

Earnings and labor force characteristics

Data on the earnings and labor force participation of immigrants in Table 4 demonstrate interesting but not unexpected differences in labor market outcomes by nativity, origin, and time spent in the United States. Recently arrived immigrants who are foreign educated (with the exception of persons from Europe/Northern America/Oceania) tend to earn less than the other two groups – natives and long-term immigrants. Immigrants who have lived in the United States for at least ten years have generally higher average earnings than those of natives, with the exception of the Latin American cohort.

Regardless of the time spent in the United States, immigrants from Europe/Northern/Oceania have higher earnings than immigrants from other world regions.

Various factors may explain the differences in earnings among recently arrived workers and the other two groups. Newer arrivals need to adjust to a new social milieu and learn English and establish business and social networks. Long-term immigrants tend to be older, have better command of English, and are more likely to leverage their work and social experience to gain greater rewards in the labor market.

Table 4 further indicates that immigrants' unemployment rates are higher for nearly all cohorts than for native workers, and that labor force participation rates are lower among earlier arrivals, again partly reflecting an age effect (especially among the European immigrants). At the same time, though, the share of long-term foreign-educated immigrants who worked full-time, year-round is higher for all sending regions than for their US-born counterparts.

These findings suggest that while immigrants lag in terms of entry into employment, when they do find a job and become integrated into society (i.e., have greater US experience, speak better English, etc.), they generally outperform natives.

Table 4. Labor Force Characteristics of College-Educated Workers, Ages 25 and Older, by Nativity and Origin

	Total	Native born	Foreign Born	Foreign-educated, entered before 1996*					Foreign-educated, entered in 1996 or later*				
				Total	Europe**	Latin America	Asia	Africa	Total	Europe**	Latin America	Asia	Africa
In civilian labor force:													
Number (estimate)	34,697,448	29,396,249	5,301,199	1,342,176	296,471	251,871	708,180	85,654	1,470,070	331,347	307,443	725,094	106,186
Percent in civilian labor force	75.8	76.0	74.7	67.7	61.7	68.8	68.7	80.8	72.3	75.9	75.8	68.5	80.5
Unemployed, in civilian labor force:													
Number (estimate)	1,015,641	813,533	202,108	52,323	10,756	10,933	26,650	3,984	68,136	11,681	15,217	34,452	6,786
Percent unemployed	2.9	2.8	3.8	3.9	3.6	4.3	3.8	4.7	4.6	3.5	4.9	4.8	6.4
Employed, in civilian labor force:													
Number (estimate)	33,681,808	28,582,717	5,099,091	1,289,853	285,715	240,938	681,530	81,670	1,401,935	319,667	292,226	690,642	99,400
Earnings (mean)	$67,050	$67,509	$64,475	$69,051	$83,490	$51,023	$69,327	$69,427	$55,330	$74,167	$39,460	$54,674	$45,969
Earnings (median)	$52,488	$52,488	$50,783	$52,488	$60,941	$38,596	$54,846	$51,439	$40,627	$52,488	$27,294	$43,369	$32,502
Weeks worked (mean)	48.4	48.5	48.1	48.9	48.9	48.5	48.7	48.8	46.7	47.6	46.7	46.4	46.2
Hours worked (mean)	42.2	42.3	41.9	41.7	42.8	40.9	41.2	42.4	41.8	44.0	41.5	41.0	41.8
Part-time, part-year	5.9	6.0	5.3	4.8	5.7	4.6	4.6	4.5	6.2	5.4	6.0	6.3	8.8
Part-time, year-round	6.0	6.1	5.2	5.8	5.4	6.6	5.8	5.2	5.1	4.2	5.7	5.3	5.5
Full-time, part-year	16.6	16.4	17.5	15.0	13.3	14.4	15.6	17.1	21.6	19.3	20.1	23.5	20.5
Full-time, year-round	71.6	71.5	72.0	74.4	75.6	74.3	74.0	73.2	67.0	71.1	68.2	64.9	65.3

Source: American Community Survey (pooled 2005-2006).

*Foreign born who are employed in civilian labor force, aged 25 years and over, hold at least a Bachelor's degree, entered the United States at age 25 or later .

**Europe refers to Europe, Northern America, and Oceania.

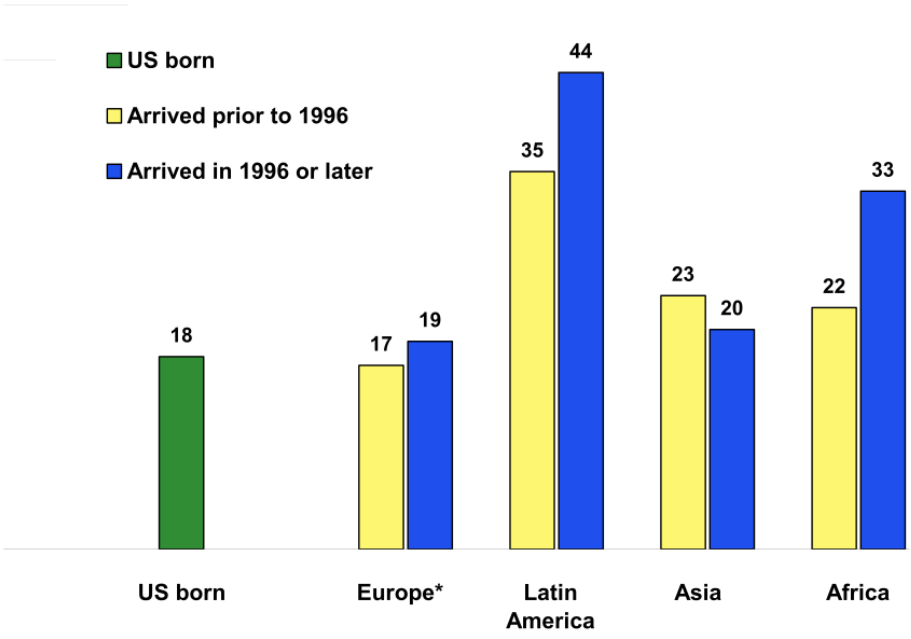
Education and skills levels

We now turn our attention to the evidence of whether immigrants underutilize the education and training they earned abroad. Table 5 displays the percent of workers in "high skilled," "skilled technical," and "unskilled" occupations, broken down by workers' education level.

Several striking patterns emerge. First, across all world-region groups, foreign-educated immigrants tend to be in lower-skilled jobs than natives, a pattern found at every level of education. Foreign-educated immigrants from Europe/Northern America/Oceania are closest to natives in terms of the skills they use on the job. At the other extreme, foreign-trained Latin American immigrants are markedly more likely than natives and their fellow immigrant cohorts to be in unskilled jobs, regardless of their education level.

As Figure 1 indicates, nationwide, 44 percent of recently arrived foreign-educated Latin American, and 33 percent of recently arrived African were working in unskilled jobs. Thirty-five percent of Latin Americans who had been in the United States for ten or more years were still working in unskilled jobs.

Figure 1. Percentage of College-Educated Workers Employed in Unskilled Occupations by Nativity, United States



Source: American Community Survey (pooled 2005-2006).

*Europe refers to Europe, Northern America, and Oceania.

Second, as immigrants acquire more education, there are less likely to work in unskilled jobs. For example, the share of European and Asian immigrants employed in unskilled jobs is significantly smaller among PhD holders than among BA's holders (See Table 5).

Finally, length of residence in the United States tends to improve the situation of all immigrant groups. In nearly all instances, immigrants with less than ten years of residence in the United States are more likely to be in low-skilled jobs than their longer-term counterparts, regardless of education level.

Table 5. Education by Skill Level of Current Occupation of the Employed Workers, Ages 25 and Older

	Total	Native born	Foreign Born	Foreign-educated, entered before 1996*					Foreign-educated, entered in 1996 or later*				
				Total	Europe**	Latin America	Asia	Africa	Total	Europe**	Latin America	Asia	Africa
Bachelor's degree													
Number (estimate)	21,402,026	18,463,613	2,938,413	692,257	123,425	149,964	377,847	41,021	760,536	148,212	191,322	358,493	62,509
Occupational distribution													
Percent in "high skilled"	49.8	50.9	42.9	33.9	45.6	28.4	32.5	32.0	38.8	46.6	25.6	43.7	32.6
Percent in "skilled technical"	26.3	26.1	27.7	31.7	30.2	29.2	32.9	34.4	25.7	25.6	24.0	26.4	27.2
Percent in "unskilled"	23.9	23.0	29.5	34.4	24.3	42.4	34.6	33.5	35.5	27.8	50.4	29.9	40.2
Master's degree													
Number (estimate)	8,819,337	7,450,288	1,369,050	333,123	89,125	50,965	171,601	21,432	403,680	104,230	56,942	220,257	22,251
Occupational distribution													
Percent in "high skilled"	74.4	75.1	70.5	65.2	62.4	55.1	69.3	68.4	69.0	65.2	53.3	76.3	54.3
Percent in "skilled technical"	15.8	15.6	17.2	19.7	21.2	24.2	18.1	16.6	15.8	19.9	20.8	11.9	21.7
Percent in "unskilled"	9.8	9.3	12.3	15.0	16.3	20.7	12.6	15.0	15.2	14.9	26.0	11.8	24.0
Professional/Doctorate degree													
Number (estimate)	3,460,445	2,668,816	791,629	264,475	73,165	40,010	132,082	19,218	237,721	67,225	43,963	111,893	14,640
Occupational distribution													
Percent in "high skilled"	83.4	84.3	80.2	79.7	84.3	57.5	83.1	85.4	75.8	81.9	41.5	86.1	71.9
Percent in "skilled technical"	11.3	11.2	11.4	12.2	10.5	18.7	11.7	8.4	11.7	11.7	20.3	8.3	12.5
Percent in "unskilled"	5.4	4.4	8.4	8.1	5.2	23.8	5.2	6.2	12.5	6.4	38.2	5.6	15.6
College-educated (total)													
Number (count)	693,561	601,327	92,234	24,726	5,719	4,195	13,369	1,443	24,113	6,027	4,738	11,780	1,568
Number (estimate)	33,681,808	28,582,717	5,099,092	1,289,855	285,715	240,939	681,530	81,671	1,401,937	319,667	292,227	690,643	99,400
Occupational distribution													
Percent in "high skilled"	59.7	60.3	56.1	51.4	60.8	38.9	51.6	54.1	53.7	60.1	33.4	60.9	43.3
Percent in "skilled technical"	22.0	22.0	22.3	24.6	22.3	26.4	25.1	23.6	20.5	20.8	22.8	18.8	23.8
Percent in "unskilled"	18.3	17.7	21.6	24.0	16.9	34.7	23.3	22.2	25.8	19.1	43.8	20.2	32.9

Source: American Community Survey (pooled 2005-2006).

*Foreign born who are employed in civilian labor force, aged 25 years and over, hold at least a Bachelor's degree, entered the United States at age 25 or later .

**Europe refers to Europe, Northern America, and Oceania.

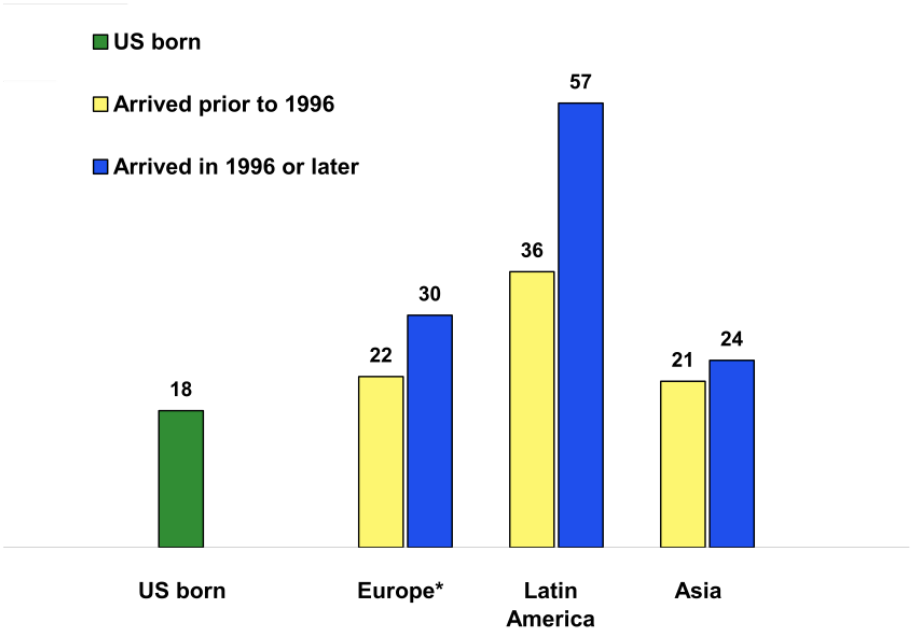
State-level findings

We also reviewed state-level data on the skill level of the jobs held by immigrants who received their college education abroad. We detailed our findings for six large, immigrant-receiving states: California, Illinois, Florida, New Jersey, New York, and Texas. States vary in their share that foreign-educated workers represent of the state skilled workforce: 14 percent in California and New Jersey; 12 percent in Florida and New York; 9 percent in Illinois and 8 percent in Texas.

As Table 6 demonstrates, in general, patterns of skill underutilization observed at the state level are similar to those at the national level. Immigrants generally held lower-skilled jobs and the percent of immigrants in unskilled jobs decreases with time in the United States.

Looking to Illinois (Figure 2) we see that more than half (57 percent) of recently arrived foreign-educated Latin Americans work in unskilled jobs, a much higher share than of any other group. The figure also shows that having US experience helps somewhat. Nevertheless, long-term immigrants with college degree from Latin America are twice as likely to be employed in jobs that require short- or moderate-term on-the-job training (36 percent) than their native-born counterparts (18 percent). Recently arrived European immigrant workers fare significantly worse in Illinois than Europeans nationwide with 30 (versus 19) percent working in unskilled jobs.

Figure 2. Percentage of College-Educated Workers Employed in Unskilled Occupations by Nativity, Illinois



Source: American Community Survey (pooled 2005-2006). Due to an insufficient sample size of foreign-educated African-born immigrants, data for this group is not displayed.

*Europe refers to Europe, Northern America, and Oceania.

Table 6. Skill Level of Current Occupation of Employed College-Educated Workers, Ages 25 and Older (excluding self-employed): the United States and Six States

	Total	Native born	Foreign Born	Foreign educated, entered before 1996*					Foreign educated, entered in 1996 or later*				
				Total	Europe**	Latin America	Asia	Africa	Total	Europe**	Latin America	Asia	Africa
California													
Number (estimate)	4,078,829	2,857,903	1,220,926	315,269	50,911	34,573	220,077	9,709	268,569	50,508	32,473	176,178	9,411
Occupational distribution													
Percent in "high skilled"	59.8	61.8	55.2	47.5	62.1	36.2	45.6	54.2	54.0	67.5	33.4	53.9	54.5
Percent in "skilled technical"	21.8	21.2	23.3	25.9	23.2	26.1	26.6	24.3	22.1	19.0	23.5	22.6	23.1
Percent in "unskilled"	18.4	17.0	21.5	26.5	14.6	37.7	27.8	21.5	23.9	13.5	43.1	23.4	22.4
Florida													
Number (estimate)	1,729,079	1,334,157	394,923	96,262	15,704	56,394	20,196	-	117,469	19,941	72,564	21,430	-
Occupational distribution													
Percent in "high skilled"	55.1	58.0	45.2	43.0	50.3	40.7	44.1	-	36.4	46.2	28.4	53.8	-
Percent in "skilled technical"	24.3	23.5	26.7	27.7	27.6	24.9	35.1	-	25.4	25.8	26.3	22.7	-
Percent in "unskilled"	20.7	18.5	28.2	29.3	22.1	34.4	20.9	-	38.2	27.9	45.3	23.5	-
Illinois													
Number (estimate)	1,604,504	1,351,127	253,377	68,854	19,771	8,396	37,857	-	69,259	20,293	10,042	35,849	-
Occupational distribution													
Percent in "high skilled"	59.6	60.8	53.6	50.8	53.3	41.2	50.2	-	48.8	46.9	26.5	58.2	-
Percent in "skilled technical"	21.8	21.6	22.6	26.3	24.7	23.3	28.4	-	19.3	23.2	16.3	17.7	-
Percent in "unskilled"	18.6	17.6	23.8	22.8	22.0	35.5	21.4	-	31.9	29.9	57.2	24.1	-
New Jersey													
Number (estimate)	1,297,457	960,055	337,402	94,440	16,200	16,551	56,451	-	83,243	13,229	13,040	50,550	6,424
Occupational distribution													
Percent in "high skilled"	59.8	61.2	55.7	50.0	58.9	31.5	52.8	-	53.1	52.9	26.6	60.0	52.2
Percent in "skilled technical"	22.0	21.8	22.4	24.7	23.3	24.8	24.8	-	20.8	22.9	20.8	20.4	18.9
Percent in "unskilled"	18.3	17.0	22.0	25.3	17.8	43.7	22.4	-	26.2	24.2	52.6	19.6	28.9
New York													
Number (estimate)	2,567,673	1,949,575	618,099	171,953	50,576	45,386	65,914	10,078	144,911	47,651	30,091	57,790	9,380
Occupational distribution													
Percent in "high skilled"	60.2	62.4	53.2	46.6	53.2	35.9	47.3	57.7	49.7	57.6	32.3	53.9	39.7
Percent in "skilled technical"	21.3	20.3	24.5	28.0	23.9	33.6	28.3	21.4	24.5	22.6	29.2	22.4	30.8
Percent in "unskilled"	18.5	17.3	22.3	25.4	22.9	30.5	24.3	20.9	25.8	19.7	38.5	23.6	29.5
Texas													
Number (estimate)	2,304,628	1,954,010	350,618	81,530	12,308	17,725	45,325	6,173	101,719	16,647	31,693	44,559	8,821
Occupational distribution													
Percent in "high skilled"	61.6	62.4	56.9	52.7	68.1	39.3	53.9	51.4	54.6	63.4	41.7	64.3	35.5
Percent in "skilled technical"	21.8	21.5	23.3	27.1	22.0	26.7	28.4	29.2	21.4	20.4	21.7	20.7	26.1
Percent in "unskilled"	16.7	16.1	19.8	20.2	9.9	34.0	17.7	19.4	24.0	16.3	36.6	15.0	38.4

Section 2:

Challenges Faced by Foreign Educated Immigrants: Lessons from the Midwest

By: Institute for Work and the Economy, Peter A. Creticos and Contributing, Amy Beeler

Occupations requiring higher education or technical credentials can be divided into two general categories: regulated occupations requiring a license or official certificate issued by a government agency, and un-regulated occupations requiring some proof of academic or technical achievement or membership in a professional society as determined by an employer or industry group. Examples of regulated occupations include nursing (e.g., registered nurse, licensed practical nurse), medicine (physician, podiatrist, chiropractor), architects, professional engineers, pharmacists, social workers, and accountants. Examples of un-regulated occupations include business managers, engineers not practicing before the public, advertising and marketing managers, and finance managers. Nevertheless, an un-regulated occupation may take on the appearance of a regulated one since such credentials often recognize specific learning achievements at institutions that are industry accredited and often play important roles with respect to employment preference and compensation. In all cases, individuals seeking to enter or who wish to maintain membership in an occupation must offer proof that his or her academic or technical training credentials meet the minimum standards for the occupation. Individuals doing their training in the U.S. (and generally Canada) need only receive their credentials from an institution that is properly accredited by a recognized accrediting organization.

The credentials of foreign educated immigrants are often not immediately transferable to the United States and therefore these immigrants have the added burden of translating and validating their credentials to the U.S. equivalencies. Likewise, individuals who continue their education in the United States after completing courses or degrees abroad face a similar burden when seeking to transfer academic credits to a U.S. institution. One significant difference between regulated and un-regulated occupations is that the governing bodies for many regulated occupations have established explicit (albeit sometimes confusing) methods for recognizing the academic and training credentials of foreign educated immigrants. The educational requirements for un-regulated occupations are much less formal and are collectively less transparent inasmuch as the job of interpreting and accepting these credentials is left to employers.

Credential Recognition in the United States

The United States government does not establish standards for assessing education credentials obtained outside of the country, although comparative international studies have been conducted since shortly after the conclusion of the Civil War. In 1867, U.S. Office of Education published the first set of official reports on education in other countries. Beginning in 1919, in response to one request, the U.S. government took a direct hand in credential evaluation when the Office of Education established the Foreign Credential Evaluation Service (FCES). It accomplished this by drawing on the expert

knowledge of the comparative education staff. Although it relied on borrowed use of the comparative education staff, the number of FCES evaluations grew to 14,000 by 1967. Finally, the Office of Education discontinued the FCES and shifted the work to private credential evaluation services and the admissions offices of colleges and universities.[7]

There are many credential evaluation services serving various U.S. markets niches. Although there is no central authority in the United States, the National Council on the Evaluation of Foreign Educational Credentials (CEC) participates in international meetings on foreign educational credentials and assists in the admission and placement of people holding foreign educational credentials by establishing standards used for interpreting these credentials. CEC also helps to establish priorities, research guidelines and review procedures for international admissions publications.[8]

The American Association of Collegiate Registrars and Admissions Officers (AACRAO), a non-profit, voluntary, professional association of higher education and admissions professionals, is a member of the CEC and operates the International Education Services (IES). The IES offers a broad range of services and responds to questions regarding educational systems and institutions outside the U.S. education system. It provides a foreign education credential service for individuals who are seeking recognition of their credentials by participating U.S. educational institutions. In so doing, it provides evaluations of education credentials from all countries of the world, and follows the placement recommendations approved by CEC when available. It is currently developing the AACRAO Electronic Database for Global Education (EDGE), a web-based resource for the evaluation of foreign educational credentials. Currently, EDGE provides profiles for 76 countries, including information on the educational history of the country, grading systems, educational ladders, sample credentials, placement recommendations, a list of post-secondary institutions, and documentation for the sources used in the profile.[9]

Other independent credential evaluation services are organized generally by the National Association of Credential Evaluation Services (NACES®), and to a far lesser extent in terms of membership, by the Association of International Credential Evaluators (AICE®). Established in 1987 by credential evaluation services, NACES® is "dedicated to promoting excellence and committed to setting the standards for the profession." The association is comprised of evaluation services organizations, some specializing in specific occupational niches and others serving more general populations. Credential evaluation organizations are permitted to join NACES® after successfully completing a comprehensive application process.[10]

Many state occupational regulatory agencies or their national bodies will designate specific evaluation services for purposes of credentialing. States regulatory agencies vary, however, as to whether such designation is given to a single service or to several. In addition, there are a handful of occupations where state sanctioned reviews of foreign credentials are conducted often by "captured" evaluation services – services established

[7] James F. Frey, Report on a Study to Determine the Feasibility of Establishing a Central Foreign Credential Evaluation Service Under Non-Governmental Auspices. 1969. (ERIC #: ED026974)
[8] Source: American Association of Collegiate Registrars and Admissions Officers.
[9] Ibid.
[10] Sources: National Association of Credential Evaluation Services and the Association of International Credential Evaluators

by national associations of licensing agencies tied to specific occupations. These include architects, physicians and pharmacists.

There are four basic components to a complete evaluation: first, the evaluation service must obtain the appropriate documents from recognized educational institutions, such as transcripts, and verify them for authenticity; second, it must have precise word-for-word English translations of each document; third, it compares the individual's credentials with the U.S. educational equivalents; fourth, it evaluates the credentials against job or educational requirements. This may be done on either a document-by-document or course-by-course basis. The document level evaluation may be sufficient for many businesses and includes such matters as the name of the institution awarding the credential, the year the credential was obtained and major field of study. Academic institutions and state licensing boards often require a course level evaluation which includes a list of all subjects of study and their corresponding value expressed in terms of U.S. semester credit and grade equivalents.

Occupations Requiring a License for Practicing before the Public

The states generally regulate most occupations requiring a license for practicing before the public. Some exceptions to direct state oversight include occupations in federally regulated industries, such as aviation, communications, and nuclear safety.

States vary as to the occupations that come under state oversight and the requirements for a license or certificate. Table 5 illustrates the variety of occupations subject to direct state oversight. It is not a comprehensive list, however. Minnesota, for example, lists as many as 500 individual occupations subject to licensing. It also does not include licenses that, for one reason or another, are tied to important state-specific industries such as cheese making in Wisconsin or forestry in Michigan.

A state certificate or license to practice before the public is granted upon satisfactory completion of: 1) required education and training, usually at a third-party accredited institution, and 2) an examination administered or recognized by the state, 3) sometimes a period of supervised residency, and 4) increasingly, a background check. In addition, immigrants from countries where English is not the primary language may also be required to pass an English proficiency examination, such as the TOEFL. Some occupations, such as in law enforcement, may also require U.S. citizenship. There are many occupations for which registration is nothing more than recording a name with the state or other legal authority, paying a fee and sometimes submitting to a background check.

Generally, it is sufficient that a person complete an accredited course of study in the United States in order to qualify for a state licensing examination. Explicit provisions are made sometimes for education and training obtained at either an institution outside the United States or Canada, for documented experience under the direct supervision of a person licensed in the occupation, or, for education and training earned at a time prior to the imposition of new standards (so-called "grandfathered" exceptions).

Although many states share common criteria, practices and procedures and offer comity (or reciprocity) on many occupations, the determination with respect to each applicant is solely that of the state agency. It is sometimes sufficient that an individual holding a

license granted in one state is able to qualify for the same license in another state. It is more often the case that holding a license from one state permits the individual to qualify for the relevant state examination in another. Some states, however, may require a complete review of the individual's credentials as if the applicant is applying for the first time for a state license.

Any person making a career choice may certainly find that the list of jobs requiring a license and the certification, examination and licensing processes themselves to be bewildering. This may be a challenge especially for immigrants who are not accustomed to the culture of their new home. Fortunately, in many occupations, the education and training requirement may be relatively short – e.g., forty hours of certified training – and create very few barriers to entry for any person seeking to be licensed in the profession. Occupations such as nursing, pharmacy, medicine, architecture, accounting and the like pose a very different challenge. The length, complexity and expense of required education and residency are significant. These issues can be taxing for anyone wishing to pursue one of these careers. It can be especially so for immigrants seeking to capture what they have learned prior to coming to the United States.

Table 5: Sample of State-Regulated Occupations - Midwest

General Occupation Area	IL	IN	IA	MI	MN	OH	WI
Accountant	X	X	X	X	X	X	X
Acupuncturist	X	X	X	X	X	X	X
Athletic training	X	X	X	X	X	X	X
Architect	X	X	X	X	X	X	X
Auctioneer	X	X				X	X
Barber	X	X	X	X	X	X	X
Boxing and associated occupations	X	X	X	X	X	X	X
Chiropractor	X	X	X	X		X	X
Community planner				X			
Cosmetology, including manicurists, electrology and ethetician	X	X	X	X	X	X	X
Counselor	X	X	X	X	X	X	X
Dental hygienist, assistant, technician	X	X	X	X	X	X	X
Dentist and dental specialties	X	X	X	X	X	X	X
Dietitian and nutritionist	X	X	X	X	X	X	X
Emergency medical service	X	X	X	X	X	X	X
Engineer and land surveyor	X	X	X	X	X	X	X
Environmental health and sanitarian	X	X		X	X	X	X
Geologist	X	X			X		X
Health facility administrator		X					
Hearing aid dispenser		X	X	X	X	X	X
Home inspector	X	X					X
Interior designer	X		X	X	X		X
Landscape architect	X	X	X	X	X	X	X

General Occupation Area	IL	IN	IA	MI	MN	OH	WI
Manufactured home installer		X			X	X	X
Marriage and family therapist	X	X	X	X	X	X	X
Massage therapy	X	X	X			X	X
Medical and medical specialties, including osteopathic	X	X	X	X	X	X	X
Mortuary science	X	X	X	X	X	X	X
Naprapath	X						
Nursing and nursing specialties and classifications	X	X	X	X	X	X	X
Nursing home administrator	X		X	X	X	X	X
Occularist				X		X	
Optometry	X	X	X	X	X	X	X
Orthotics, prosthetics, pedorthics	X					X	
Perfusionist	X						X
Pharmacist including specialties	X	X	X	X	X	X	X
Pharmacy technician, assistant	X		X			X	X
Physical and occupational therapy	X	X	X	X	X	X	X
Physician assistant	X	X	X	X	X	X	X
Podiatrist	X	X	X	X	X	X	X
Polygraph, detection of deception	X			X			
Private detective	X	X		X	X	X	X
Professional emergency manager	X						
Proprietary security force	X			X		X	X
Psychology	X	X	X	X	X	X	X
Real estate appraiser	X	X	X	X	X	X	X
Real estate broker and salesperson	X	X	X	X	X	X	X
Residential builder				X	X		
Respiratory care	X	X	X	X	X	X	X
Social work	X	X	X	X	X	X	X
Speech pathology and audiology	X	X	X	X	X	X	X
Teacher, teacher specialties and school administrator	X	X	X	X	X	X	X
Veterinarian	X	X	X	X	X	X	X

In order to illustrate this point, the following are examples of licensing practices in three key occupations: Registered nurse, physician and professional engineer.[11]

[11] Note: Information on licensing is from the official websites of relevant professional associations and state occupational regulator agencies

Registered Nurse

A foreign-educated nurse may seek *license by examination*, however, Midwestern states differ as to the procedure. Illinois, Michigan, Minnesota and Ohio require a course-by-course evaluation of the applicant's education by a credentials evaluation service. Except for Illinois, this is performed by the Credentials Evaluation Service of the Commission on Graduates of Foreign Nursing Schools (CGFNS). (Illinois accepts evaluations by either CGFNS or Education Records Evaluation Service.) Foreign-trained nurses must also demonstrate English fluency, usually by passing the Test of English as a Foreign Language (TOFEL). Ohio requires the candidate to pass an examination that tests spoken language proficiency.

Indiana, Iowa and Wisconsin require that nurses who are certified outside the United States must have their status officially verified by the Commission on Graduates of Foreign Nursing Schools (CGFNS) (http://www.cgfns.org/) to the state board of nursing. The CGFNS Certification Program (CP) is designed specifically for first-level general (Registered) nurses educated outside the United States who are eligible to practice as registered nurses in the United States. The program is comprised of three parts:

8. A credentials review that includes secondary and nursing education, registration and licensure. In order to be eligible for the CGFNS Qualifying Exam, the candidate must have completed sufficient classroom instruction and clinical practice in adult medical/surgical nursing, maternal/infant nursing, pediatrics, and psychiatric/mental health nursing. Presumably, this is accomplished separately by the Credentials Evaluation Service of CGFNS. Candidates failing to meet these requirements are ineligible to sit for the exam until an entire course in each deficient area is completed successfully at a government-approved nursing school. Also the candidate must be registered as a first-level (registered) nurse in the country of education and also currently hold a registration or license as a registered nurse in some jurisdiction. All documents must be in English or be accompanied by a literal English translation (and a Certificate of Accuracy).
9. The CGFNS Qualifying Exam testing nursing knowledge is offered three times a year in over 50 test sites worldwide. The CGFNS Qualifying Exam also satisfies one of the immigration requirements for securing an occupational visa to work in the USA;
10. An approved English language proficiency examination such as TOEFL. Graduates from schools in certain English-speaking countries (or at specified universities in French-speaking portions of Canada) may be exempt from taking an English language proficiency examination.

According to CGFNS, Certification Program Certificate holders consistently have a higher rate of success on the NCLEX-RN® examination than foreign-educated nurses who do not hold the Certificate.

Application and Examination

Once the CGFNS certificate is granted or the state board accepts the credentials of a foreign-educated nurse, the candidate may receive permission to register for the NCLEX-RN® examination. Also, some states may impose other requirements that may

differentially affect immigrants. For example, Iowa requires that the applicant provide a social security number on the application. The NCLEX-RN® examination is administered electronically throughout the year at approved testing centers. The examinations are processed usually within three weeks. Some state websites indicate that receipt of a license is the only confirmation that the candidate passed the test. At least one state indicated that candidates who fail the test would receive feedback on the areas requiring further study.

License by Endorsement without Examination

Foreign-educated nurses are often able to endorse active licenses from another U.S. jurisdiction. Illinois requires that the license must be active and that the candidate has passed the NCLEX-RN®. Although a social security number is requested, it is not required until the nurse applies for first renewal. Indiana requires official verification of the candidate holding an active license in another state, official nursing school transcripts specifying "theory" or "clinical experience" in all areas and an official high school diploma or equivalent (or official transcripts), and, if necessary, an official English translation of all documents by the consulate or embassy of the country in which the nursing school is located. Iowa participates in a multi-state compact and treats the license of a nurse actively practicing in a compact state as multi-state license. Wisconsin is the only one of the seven Midwest states that participates in the compact. Since Iowa requires that the applicant seeking endorsement must have attended a board approved RN program, it is not clear that the CGFNS exam is an appropriate substitute (as it is when an applicant is seeking a license by examination).

In Michigan, any nurse who has been active for 5 years in another state is able to become licensed by endorsement. Minnesota and Ohio simply require a proof of license from another jurisdiction, although Minnesota adds that the other jurisdiction must impose comparable requirements. Wisconsin generally requires a CGFNS certificate, or in the case of nurses licensed in states where the CGFNS is not required, verification that the nurse has been licensed and practicing full-time in two of the last five years. In any event, the nurse must have an active license in the other jurisdiction.

Medical Doctors

The process for obtaining a medical license by a foreign-educated physician is straightforward, but requires significant sacrifices in time and money. In addition the Federation of State Medical Boards and the National Board of Medical Examiners are piloting an effort to further streamline the licensing process for all applicants and will have significant benefits for those who are educated outside the U.S. or Canada.

Initial Application. The first step is to submit an application for the United States Medical Licensing Examination (USMLE) to the Educational Commission for Foreign Medical Graduates (ECFMG). In order to qualify, the applicant must be an international medical student or graduate from a medical school that is located outside the United States and Canada. In addition, the school must be listed in the International Medical Education Directory (IMED) of the Foundation for the Advancement of International Medical Education and Research (FAIMER®).

ECFMG will verify the applicant's medical education credentials and diploma and authorize the applicant to begin the examination process.

Medical Knowledge. The applicant must pass the Step 1 and Step 2 of the USMLE Clinical Knowledge Exams. These exams are offered worldwide at test centers operated by Prometric.

Clinical Skills. The USMLE Step 2 Clinical Skills (Step 2 CS) is offered at one of several regional Clinical Skills Evaluation Centers in the United States. This test mirrors a typical workday in a clinic and focuses on the applicant's ability to gather and interpret clinical patient data on approximately one dozen "standardized" patients, the applicant's English language proficiency and appropriate interpersonal skills. Applicants who have passed the former ECFMG Clinical Skills Assessment (CSA®) and achieved a score acceptable to ECFMG on an English language proficiency test can use these passing performances to fulfill this requirement. Ohio separately requires all graduates of foreign medical to pass the TOEFL-IBT examination

ECFMG Certificate. ECFMG grants the applicant a certificate upon passing all exams and meeting medical education certification requirements. This permits the applicant to then apply to Graduate Medical Education Programs (medical residencies).

Medical residency. The Electronic Residency Application Service (ERAS) transmits residency applications, letters of recommendations, Dean's letters, transcripts and other supporting documents to residency program directors. ERAS is available to foreign medical graduates through ECFMG. The National Resident Matching Program (NRMP) matches medical graduates with residency programs. A minimum period of residency is required before being permitted to take the USMLE Step 3 exam and apply for a license. States vary with respect to the residency time requirements for licensure. Illinois and Wisconsin require 1 year; Indiana, Iowa, Michigan, Minnesota, Ohio require 2 years for graduates of foreign medical schools. (Note: the duration of most residency programs is three years, and some specialties are longer.) A foreign medical graduate who is neither a citizen nor lawful permanent resident of the U.S. must obtain an appropriate visa to participate in a graduate medical education program. The J-1 visa is the most common visa used for this purpose. ECFMG is authorized by the U.S. Department of State to sponsor foreign national physicians for this visa.

Federation Credentials Verification Service (FCVS) and common licensure. Several states are accepting FCVS verification. It is a permanent, lifetime portfolio of primary-source verified credentials operated by the Federation of State Medical Boards. These documents may be used for state licensure, hospital privileges, employment and professional memberships. For physicians, this service is especially valuable for those who graduated from medical schools outside of the U.S. or Canada, when the applicant's related programs close or when records later are lost or destroyed.

In addition, some states are moving to a Common License Application Form (CLAF). This form is intended to reduce the number of incomplete applications received by state medical boards, allow for the collection of uniform information and add

convenience for physicians applying for licensure in several states. The State Medical Board of Ohio was the first state to integrate this form into its online application process in December 2006. New Hampshire and Kentucky went "live" in 2007. More than 1,300 physicians have been authenticated to use the CLAF since late 2006. CLAF is the first phase of the "Trusted Agent" pilot program of the Federation of State Medical Boards and the National Board of Medical Examiners. The pilot program is designed to test the feasibility of a web-based system that will permit on-line submission of state licensing applications and secure collection and storage of confidential credentialing information from primary sources.

Professional Engineers

Licensing is generally a four-step process.

Graduate from an accredited program: The first step is to graduate from an engineering program accredited by the Accreditation Board for Engineering Technology (ABET). Graduates of foreign schools may be required to have their credentials evaluated by an authorized evaluation service, typically the Center for Professional Engineering Education Services.

Fundamentals of Engineering Examination (FE): This exam is offered in April and October and is often taken around the time of graduation while the technical information is still fresh. The credentials of graduates of foreign schools must first be evaluated and accepted. In addition, the states may impose other requirements not otherwise required of graduate of ABET-accredited programs. Illinois requires four years of documented work experience following receipt of bachelor degree (although up to two years of credit may be granted for graduate degrees) and demonstrated English proficiency (e.g., TOEFL). Indiana, Iowa, Michigan, Minnesota, do not explicitly require any prior work experience. The candidate becomes an Engineering Intern (EI) or Engineer-in-Training (EIT) upon passing the test.

Work Experience. The EI/EIT is required to work under the supervision of a licensed professional engineer. Each state licensing board determines the types of experiences and the duration of the training period. Illinois, Indiana, Iowa, Michigan, require 4 years of properly documented experience (altogether Illinois requires 8 years – 4 years prior to EI/EIT and 4 years as an EI/EIT). Minnesota requires 6 years. Ohio and Wisconsin require 8 years for graduates of non ABET-accredited programs.

Principles and Practice of Engineering Examination (PE): After obtaining the appropriate experience, the applicant is eligible to take the second examination in the licensing process. This examination is given in a variety of engineering disciplines and is usually offered in April and October. Some examinations are offered only in October. Some states require an additional test on state laws prior to a license being issued.

Recommendations:

Debates on professional regulation and occupational licensing policies and practices have roiled for decades in state capitals and within national and state professional associations. Recognizing that each state makes its own choices as to who qualifies to practice before

the public and as to how that determination is made, many options are available nonetheless that respect state prerogatives, improve mobility for the foreign-educated and, at the same time, provide tangible benefits to licensed professionals regardless of where they obtain their education and training.

National associations, professional organizations, and collective state action

National associations of state regulatory boards and professional groups can – and should – be more transparent, consistent, efficient and efficacious in the movement of foreign-educated immigrants, and foreign-educated in general, into regulated occupations. These include the following actions[12]:

1. *Establish a list of recognized education programs operated by foreign institutions.* For example, in order to qualify for the U.S. Medical Licensing Examination, a foreign-educated student must graduate from an institution listed in the International Medical Education Directory (IMED) of the Foundation for the Advancement of International Medical Education and Research (FAIMER®). Most of the other professions require that a foreign-educated candidate submit their credentials for a third-party review to determine whether and to what extent the candidate attained the threshold educational qualifications leading to the next step of the licensing process. A list of recognized programs operated by foreign providers may obviate the need for an independent credential review. It is important to remain cognizant that in shifting the burden from the individual to the institution, those who do not have access to a listed school may still require the exceptional recourse of a third-party credential evaluation.
2. *International examination opportunities.* Some professions, including nursing, require that the candidate pass a special qualifying examination given only to those who received their education outside of the U.S. or Canada and who have had their credentials accepted following a third-party evaluation. In contrast, it is assumed that graduates of accredited U.S. or Canadian programs meet the sufficiency standard and are qualified to begin the licensing process, usually by taking a licensing test. Candidates interested in pursing careers in certain fields, e.g., nursing and medicine, are able to take their foreign-qualifying examinations offered by state-designated testing organizations at various centers around the world. An extension of this concept is to offer portions or all of other written licensing examinations at officially designated international centers, especially examinations that otherwise are offered nationally.
3. *Effective cross-references and state-by-state summary descriptions of licensing processes for foreign-educated.* Currently, websites operated by associations of state licensing boards and professional organizations often provide general descriptions of state licensing processes and sometimes provide links to each state's official website. They often do not, however, provide state-specific summaries of the occupational licensing process. We recognize that there may be

[12] We are cognizant of the many broad and often heated debates among state regulatory agencies, professional associations, and various advocacy groups regarding the general subject of the recognition of prior learning. Our recommendations are not dependent on a change in policies on prior learning, although liberalization of such policies will likely improve opportunities for high skilled, foreign educated workers in the U.S. labor force.

significant overhead costs, information management challenges and liability concerns to operating and maintaining a comprehensive site providing state-by-state descriptions of the licensing process. Nevertheless, state-specific summary information, even with no guarantee of complete accuracy, will provide immigrants with a quick understanding of what is required by their state of choice as well as provide a context by providing an overview of practices by other states.

4. *Common license application form.* Several states, led in the Midwest by Ohio, have initiated a common licensing process in medicine through the adoption of the CLAF. Although a common application form is seen as an aid to all applicants and state board, we believe that this form will be especially helpful to foreign-educated immigrants who are unfamiliar with state licensing practices and who are not part of a network of professionals or school guidance counselors who can help them navigate the application process. In addition, a common form offers greater transparency and may be better monitored for fairness.

5. *Secure electronic portfolios.* As our examples demonstrate, states vary on the issue of reciprocity (comity). Some states in some occupations will accept the license of another state – either by compact or at a state's own initiative. Others may require an original review of all education and licensing records – foreign and domestic. The Federal Credentials Verification Service (FCVS), although intended to address the needs of all physicians who move from one jurisdiction to another, may ease the burden experienced by many immigrants who may not have easy, repeated access to their educational records. Some educational institutions currently enable students to establish electronic portfolios. These portfolios include relevant biographical background, educational and work history, and a secured, tamper-proof site for official transcripts. This tamper-proof function allows the educational institution password controlled access to a student portfolio. The student and others accessing the portfolio are only able to view the contents of the secured area and may not in any way alter the contents. Some states (Minnesota through the Minnesota State Colleges and Universities system and Colorado through the state workforce system) offer similar services to their respective state residents but without the transcript function. Although university or state-supported portfolios, especially those with a secured area for such items as transcripts, have great value for the job seeker as well as for prospective employers or other educational institutions, portfolio services launched by recognized national organizations (such as the one being launched in medicine) are more likely to be accepted universally.

Getting the Facts: Where to Find Information on Licensing

People obtain information on licensing – and on jobs in general – from a broad range of sources of uneven quality, accessibility and accuracy. Immigrants receive guidance from friends, family members, colleagues, community and immigrant-serving organizations, professional associations, various public agencies and educational institutions. It is reasonable to expect, however, that, with respect to licensed occupations, the relevant professional licensing agency is the definitive source of such information. Given that expectation, we reviewed the information on occupational licensing available through

official state government web portals for Illinois, Indiana, Iowa, Michigan, Minnesota, Ohio and Wisconsin. In this review, we determined the site or sites in the portal where someone may obtain information on licensing, how the process for obtaining a license is outlined, and what specific information is offered for those who are foreign-educated.[13]

States have implemented a variety of strategies to provided easy access to information on licensed professions. These strategies are often linked to some structural change: a general re-organization of state licensing agencies either by combining many under a single administrative umbrella such as Indiana and Illinois or co-locating several agencies at one facility, such as Iowa. Some states, such as Minnesota, have accomplished a virtual re-organization by establishing a single portal through which a person may gain access to information on most regulated occupations. Minnesota goes an extra step by displaying key information in a simple, text-based format.[14] Despite these efforts, in every state except Minnesota, some licensed professions are not within any consolidated site. For example, only Minnesota includes lawyers among the consolidated list of licensed professions. None of the other states includes lawyers, even as a link, among the list of licensed professions in omnibus sites.[15]

[13] We supplemented this review with interviews aimed at providing a context for this on-line research with directors of state licensing bodies in Indiana, Iowa, Minnesota and Ohio and with research conducted independently by the Wisconsin Department of Workforce Development staff.

[14] The Minnesota site builds upon a platform and data developed by the Minnesota Department of Employment and Economic Opportunity.

[15] From the perspective of a foreign educated immigrant, in some states it is immaterial as to whether information on teacher or lawyer certification is available on the web: only Illinois permits graduates of foreign law schools to sit for the bar examination – and only after meeting other threshold requirements. Some states, such as Ohio, Michigan and Minnesota permit a foreign-educated attorney to obtain a foreign legal consultant license: a license permitting highly limited practice.

State Websites on Licensing: Selected Midwest States

State	Occupations	Site
Illinois	All occupations except lawyers and teachers	http://www.idfpr.com/DPR/default.asp
	Teacher	http://www.isbe.state.il.us/certification/default
	Lawyer	http://ibaby.org
Iowa	Accountant, architect, engineer and land surveyor, landscape architect, real estate appraiser, real estate broker and salesperson, interior designer	http://www.state.ia.us/government/com/prof/home.html
	Athletic training, barber, behavioral science, chiropractic, cosmetology, dietetic, hearing aid dispenser, sign language, massage therapy, mortuary science, nursing home administrator, optometry, physical and occupational therapy, physician assistant, podiatry, psychology, respiratory care, social work, speech pathology	http://www.idph.state.ia.us/licensure/default.asp
	Nursing	http://state.ia.us.nursing/init_licens_1pn.html
	Physician	http://www.docboard.org/ia/licensure.htm
	Teacher	http://www.boee.iowa.gov
	Lawyer	http://www.judicial.state.ia.us/professional_regulation
Indiana	Health related: acupuncture, athletic training, audiology chiropractic, controlled substances, dentistry, dietician, environmental health specialist, health facility administrator, hearing aid dealer, hypnotist, medical (physician), nursing, occupational therapy, optometry, pharmacy, physical therapy, physician assistant, podiatry, psychology, respiratory care, social worker, marriage and family therapist, mental health counselor, speech language pathology, veterinary medicine. Professional related: accountancy, architect, auctioneer, barber, boxing, cosmetology, funeral and cemetery service, home inspector, manufactured home installer, land surveyor, landscape architect, professional engineer, plumbing, private detective, real estate appraiser, real estate commission	http://www.in.gov/pla/bandc/index.html
	Teacher	http://www.doe.state.in.us/dps/licensing
	Lawyer	http://www.in.gov/judiciary/ble

State	Occupations	Site
Michigan	Labor and economic growth: accountancy, real estate appraiser, architect, barber, boxing, residential builder, community planner, cosmetology, professional engineer, forester, funeral director (mortuary science), immigration clerical assistant, interior designer, hearing aid dealer, landscape architect, occularist, polygraph examiner, prepaid funeral and cemetery contract provider, private detective, private security guard, real estate broker and salesperson, security alarm contractor, professional surveyor, vehicle inspection product warrantor	http://www.michigan.gov/cis/0,1607,7-154-35299_35414---,00.html
	Health care: chiropractic, audiologist, counseling, dentistry, dietetics and nutrition, marriage and family therapy, medicine, nurse aid, nursing, nursing home administrator, occupational therapy, optometry, osteopathic medicine and surgery, pharmacy, physical therapy, physician's assistant, podiatry, psychology, sanitarian, social worker, veterinarian	http://www.michigan.gov/som/0,1607,7-192-29943_31469_31895---,00.html
	Teacher	http://www.michigan.gov/som/0,1067,7-192-29939_32383_32505---,00.html
	Lawyer	http://courts.michigan.gov/supremecourt,BdofLawExaminers/index
Minnesota	Index to over 500 licenses administered by over 40 state agencies in Minnesota	http://www.state.mn.us/portal/mn/jsp/home.do?agency=LicenseMN
Ohio	Non-Healthcare: accountant, architect, attorney, psychologist, stockbroker, teacher Healthcare: chiropractor, dentist, dietitian, health department program list, medical professionals, nursing, occupational therapy, physical therapy, athletic trainer, optical dispenser, optometrist, pharmacist, respiratory care, sanitarian, security guard, speech pathologist, audiologist, veterinarian Occupational licenses: agriculture (various), auctioneer (agriculture), barber, boiler operator, boxing/mixed martial art, cosmetology, counselor and social worker, insurance agent, mortgage broker, pawnbroker, precious metal dealer, private investigator, real estate agent, real estate appraiser, security guard	http://business.ohio.gov/business_cycle/maintaining/licenses_permits.shtml
	Professional engineer or professional surveyor	http://www.ohiopeps.org
	Lawyer	http://www.sconet.state.ohio.us/Atty_Reg/default.asp
Wisconsin	Generally all professions except lawyer and teacher	http://drl.wi.gov/index.htm
	Teacher	http://dpi.state.wi.us/
	Lawyer	http://www.wicourts.gov/about/organization/office.bbe.htm

Generally, state licensure websites are designed to serve the needs of many different users: regulators and agency personnel, practitioners, those seeking licenses, elected officials and consumers. The content of these sites are, for the most part, organized into seven basic categories:

1. Information about the regulatory board and staff, including contact information
2. State statutes and regulations governing the occupation and the regulatory board
3. Application forms for obtaining a license or for renewing a license, often categorized in terms of license by examination, license by comity or reciprocity, special information for applicants who are trained at institutions outside of the U.S. and Canada, license renewal
4. Disciplinary information: hearings, status of cases, how to file a complaint
5. Information on continuing education requirements
6. License status: the license status of current and former practitioners
7. New releases on changes in laws, regulations and other breaking news.

Overall, the sites are expository on the facts of the law, licensing and discipline and the language is that of the regulator. The sites are not designed, however, to address questions from the points of view of various information consumers. So, for example, a person who wants to know how to obtain a license in a given occupation is able to find the necessary application and instruction forms. None of the sites that we examined, however, either provide a map for obtaining a license or a self-assessment tool or checklist to help an applicant prioritize and properly sequence their next steps.

The step-by-step process for obtaining a license or certificate is rarely described explicitly, but may be inferred. For example, the Pharmacy Board in Ohio provides a comprehensive explanation of the licensure requirements for graduates of pharmacy schools outside of the U.S. and Canada (see http://pharmacy.ohio.gov/ForeignPharGrads-060310.htm). It describes the standards for becoming a licensed pharmacist and sets forth the procedures for obtaining a license by examination or by reciprocity. The procedures, while detailed and clear, are structured more as a checklist than a roadmap.

As an alternative, Welcome Back, the independent not-for-profit organization operating in California, provides licensing guides to foreign-educate health professionals. It provides detailed graphical roadmaps and back-up information for obtaining state occupational licenses in a variety of health care professions.[16]

We expect that school counselors or friends in the profession coach individuals graduating from U.S. institutions on the licensing process. Graduates of most foreign institutions, especially immigrants who are new to American culture and society and who lack English proficiency, are much less likely to have access to these guides and therefore must rely more on publicly available resources.[17] Nevertheless, even graduates of

[16] Source: http://www.e-welcomeback.org

[17] The same argument may also be made for people contemplating a career in a given profession who have not yet entered into an education program. We expect that many do not have the knowledge networks that will help them understand the process of becoming a licensed professional.

domestic institutions could benefit greatly from a clear exposition of the relevant licensing process.

The approach by Welcome Back raises the underlying policy question as to whether state licensing agencies ought to present licensing information in a similar way. We believe that the final determination is tied to the intent of state legislation establishing the licensing body. If the legislature regards the licensing body as solely administrative, charged with the responsibility of protecting the public from incompetent practitioners, it can be reasonably argued that the agency should focus its work on making judgments on the competencies of applicants. Its primary responsibility should not be guiding applicants through the licensing process. If, on the other hand, the legislature also charges the agency with the responsibility of encouraging career opportunities in a given profession, then it is reasonable to expect that it will counsel applicants on the how to negotiate entry into the profession. Since the administrative role is paramount for the regulatory agencies in the seven states that are part of this project, it is appropriate to consider alternative means for guiding foreign-educated professionals through the licensing process.

Is it a matter for each state regulatory agency to solve for itself? Is it the responsibility of another agency, educational institutions, or professional associations? There are four available options for improving access to state occupational licenses.

Option One: The state workforce agency and its network of local agencies and one-stop centers take on the job of advising foreign-educated applicants. The advantage is that the workforce system is already in the business of providing job assistance to workers. The disadvantage is that a fair amount of subject-matter expertise is required for each licensed profession. As noted earlier, the Minnesota Department of Employment and Economic Development, started down this path by developing a web portal and common template for all licensed occupations. Even here, however, the Department aggregates the content that ordinarily appears on an occupational licensing website and does not offer a pathway for licensing.

Option Two: Leave the responsibility to an independent organization. This is the Welcome Back model with respect to healthcare professions. The advantage is that it is able to develop the subject matter knowledge to provide meaningful guidance for a select group of professions. The disadvantage is that each such group must be independently organized and funded – a difficult set of tasks when resources are scarce.

Option Three: Professional associations serve as the primary sources of information on how foreign-educated professionals may obtain a license. The advantage is that a primary mission of these associations is the development of the profession. To that end, many associations encourage new entrants into the field and have great subject matter expertise. Also, some professional associations are organized around specific ethnic or national groups. In addition to having subject matter knowledge about the profession and licensing process, these organizations may also help bridge cultural and social gaps for immigrant professionals. The disadvantage of relying on associations is that some view state licensing as an economic protection for their members by creating barriers to entry. Therefore, it is conceivable that some associations may actually discourage foreign-educated professionals from seeking a license to practice.

Option Four: Educational institutions and training providers serve as the primary guides for foreign-educated professionals. These institutions, for the most part, already guide their students through the licensing process and often offer special courses on how to pass the licensing examination. It is conceivable, however, unlikely, that they could offer similar services to someone who is not a student and who is educated outside of the U.S. What is likely is for the institution to accept the foreign-educated professional as a new student and possibly grant the student credit for prior learning. In order for such credit to be granted, the educational institution will need obtain an evaluation of the individual's educational credentials and then make a determination as to what, if any, credit it is willing to award, how that credit conforms to course pre-requisites, and the curriculum that completes the required course of study.

Recommendations

Actions that States May Take

States may take many actions to assist the transition to optimal employment for foreign-educated immigrants, and at the same time improve services to all who are seeking state licensure.

1. *Central information resource for state occupational licensing information.* Since the primary duty of state licensing agencies is to protect the public by carefully regulating who is permitted to practice, it is important that the these agencies maintain an objective appearance. State workforce development agencies, educational institutions and professional associations are well positioned to understand and advocate in behalf of the needs of license seekers. Therefore, a collaboration among these four groups is probably the best strategy for improving opportunities for foreign-educated professionals while addressing the concerns of incumbent professionals in the state. The state workforce agency in particular is best positioned to convene such an effort as well as provide early support for new guidance tools, especially online resources, developed with the expert assistance of the state licensing agencies. Minnesota provides an important early model, however, we recommend that this model be enhanced further by flow diagrams and clear text descriptions of the licensing process.
2. *Mentoring.* Staffs at workforce intermediaries and at state and local workforce agencies are positioned to provide important support to license-seekers, recognizing that immigrants with the smallest networks will benefit the most. Our interviews revealed that many state licensing agencies regard some form of mentoring as an important element of their mission, albeit not necessarily a primary element. That role often falls to educational and training institutions, local one-stop centers, immigrant assistance organizations, and community-based organizations that serve as the first point of contact for many job seekers. Therefore, state workforce agencies should also develop in-service training for staff at intermediaries regarding state licensing requirements and processes in key occupational groups, e.g., all aspects of health care, engineering and surveying, architecture, accounting and financial services, teaching.

Large urban labor markets such as Chicago, Milwaukee, Minneapolis and St. Paul, Detroit, Columbus, Cleveland, Cincinnati, Indianapolis and Des Moines and specialized markets such as Rochester are gateways for the foreign educated and may sustain mentoring initiatives focused specifically on immigrants. One example is the British Columbia Internationally Trained Professionals Network (BCITP Net), a "partnerships of internationally trained professionals from around the province, working cooperatively, to improve access to meaningful employment for all immigrant professionals in BC. The purpose of BCITP Net is to help build associations and networks among internationally trained professionals."[18] In addition, these organizations can take on an advocacy role. In the case of BCITP, one of the primary objectives of BCITP Net is to influence public policy, including policies pertaining to the recognition of the foreign education credentials.

3. *Credential bridging programs.* In theory, these programs provide either accelerated education opportunities leading to a degree at an accredited professional education program or specific courses aimed at filling a gap in the educational credentials of a prospective licensee who was educated at a foreign institution. In practice, Canada has moved aggressively at both the federal and provincial levels in the development of such programs; the corresponding initiatives in the U.S. are non-traditional education programs that recognize prior learning and experience.

After allowing for differences in structure, occupational governance and political systems, three recommendations can be drawn from Canada's experiences:

1. *Academic accreditation bodies for regulated occupations, national professional associations, member academic institutions and state regulatory agencies, through their respective associations, should establish methodologies for recognizing and providing academic credit for the competencies of foreign-educated professionals.* This will enable the development of accelerated programs aimed specifically at bridging academic gaps due to differences between the U.S. and other countries. Dentistry provides an example with international dentist programs (IDP), although only a few dentals schools offer separate programs leading to a DDS, DMD, or a certificate of completion that satisfies the licensure eligibility requirements only in the state where the program is located.[19]. Absent explicit support by accreditation bodies, few U.S. institutions are likely to act independently and establish programs that systematically grant credit for prior learning at a non-U.S. accredited program.

2. *Recognizing that systemic change can occur only at the national level, states may act to address specific internal needs.* State oversight boards for higher education (four-year colleges and universities and two-year colleges), state regulatory agencies, and state professional associations may establish accredited experimental or pilot credential bridging programs as part of an

[18] http://www.bcitp.net
[19] *International Dentists – Frequently Asked Question*s, American Dental Association, May 1, 2006.

effort to address shortages in specific sectors and labor markets. Such an approach helps shorten the time and expense for the foreign-educated immigrant wishing to be re-established professionally, however, it may limit the practice of that person to a single state.

3. *States in partnership with foundations and community-based organizations may initiate bridging initiatives that help to resolve credentials barriers without altering state licensing laws and practices.* These initiatives may include:

    a. Credential evaluation, authentication and gap analysis

    b. Classes delivered through distance learning programs or in non-traditional settings – including prior to immigration

    c. Mentoring and coaching

    d. Networking with immigrant professional groups

    e. Development of alternative career paths – e.g., career paths in related occupations

    f. English-language training

    g. Financial support – loans, grants, and work-study programs to cover tuition, materials, health care, and family living expenses.

Strategies for Supporting Immigrants in Non-licensed Occupations

Clearly, immigrants in licensed occupations face many challenges. Nevertheless, there are established, although sometimes tortuous, methods for addressing these challenges through state and national professional associations, state legislatures, and state executive agencies. There are few, if any, established methods for bringing about collective change in non-licensed occupations. The problems of licensed occupations are systemic and may be resolved by wholesale changes in law and practice. The problems faced by immigrants pursing non-licensed occupations, however, are situational and generally are resolved individually. Here, collective action, either by a state or local government, by an association, or by advocacy organizations is aimed more at providing direct job-search assistance, by empowering immigrants and influencing employers, and less at changing legal structures.

National, state and local business associations serve those who create them and, as such, provide credible venues for educating their members and for formulating policies, positions and practices that advance the interests of the group. Some business organizations have developed formal initiatives around immigrant integration. Outside of the discussion on immigrants with H1B visas, however, we know of no association that has given significant attention to the successful integration of well-educated immigrants who have obtained their training outside the United States. That work has been left largely to independent organizations such as Upwardly Global. We believe that there will be growing pressure to accept foreign-education credentials as markets continue to globalize and as competition for competent talent increases. One outcome is that

progressive business organizations will be asked by their members to help them identify, recruit, employ, and retain international professionals.

As the MPI analysis demonstrates, there is strong evidence of systematic underemployment of foreign-educated immigrants. This is not surprising in light of the paucity of assistance programs in the U.S. targeting this population. On the other hand, skilled immigrants in Canada, seemingly contrary to Canadian immigration policies encouraging migration and settlement of skilled workers, have also experienced underemployment and poverty. Picot, Hou and Coulombe recently wrote on chronic low income among recent immigrants and noted that by the late 1990s, one-half of the skilled economic class were chronically poor and 41 percent had degrees (up from 13 percent in the early 1990s).[20] They noted further that data through 2004 suggest that outcomes continue to deteriorate, especially during the early years of settlement in Canada. "For immigrants entering after 2000… low-income rates [low income is defined as family income below 50 percent of median income for the total population, adjusted for family size] during their early years in Canada were higher than for those entering around or before 2000. The relative low-income rates of entering immigrants (relative to the Canadian born), … were particularly high during the early 2000s, as compared to the 1990s."[21] This is especially troublesome to Canadian policy makers who see immigration of skilled workers as a cornerstone of economic development policy. Consequently, federal and provincial governments in Canada have supported substantial research in understanding the barriers faced by the foreign-educated. They also have invested significantly in programs and practices that are aimed at improving economic outcomes for migrants with advance skills. Acknowledging that there are important differences in political structures and cultures between the U.S. and Canada, there still are important lessons that can be learned and applied in the context of the United States.

Research in Canada and anecdotal evidence from Upwardly Global, Welcome Back, and state immigrant and refugee experts from the Midwest suggest that the poor economic track record of those who are foreign-educated can be attributed to several factors, including:

- Poor understanding and acceptance by employers of the value of foreign credentials
- Social, racial, religious and ethnic discrimination
- Poor understanding by immigrants of employment practices in the U.S. or Canada
- Language, for those who are not proficient in English
- Protectionist practices and policies of professional associations favoring native-born and naturalized citizens
- Financial burdens associated with immigration, settlement, education, training, and certification
- Lack of U.S. or Canadian work experience.

[20] "Chronic Low Income and Low-income Dynamics Among Recent Immigrants." Garnet Picot, Feng Hou and Simon Coulombe. Statistics Canada, Business and Labour Market Analysis, 11F0019 No. 294, January 2007. P. 5.
[21] Ibid.

In addition, Jessica Walters, writing for CERIS, a consortium of Toronto area universities and community planners, suggests that employment assistance programs, as opposed to immigrant empowerment programs, contribute to long term dependence: She argues that:

> *Direct assistance involves helping an individual to solve their problem directly without their gaining an understanding of the issues which may be contributing to their longer term and deeper problems. … These types of direct initiatives, consequently, often fail to contribute to the skilled newcomers' competitiveness in the labour market although they may meet a narrowly defined goal of labour market readiness for employment in the lower end of the job market.*[22]

This argument is oddly resonant of the concerns with work-first initiatives growing out of welfare-to-work policies in the 1990s. It highlights the special circumstance faced by immigrants: their unfamiliarity with U.S. employment customs and practices. Walters generally argues that such direct assistance does not help immigrants learn the ways of the host country, thereby slowing their empowerment and their ability to act independently and competitively in the labor market.

The Association of Canadian Community Colleges (ACCC), in conjunction with Human Resources and Skills Development Canada, undertook a diagnostic survey of college and institute programs and services. It produced a college/institute process model for the integration of immigrants that sets forth a programmatic response to resolving these barriers. Set in the Canadian context, it describes a comprehensive partnership involving federal, provincial and local governments, community and immigrant serving organizations, employer associations, unions, educational institutions, and professional associations.[23]

The Canadian model also views immigration as a process that begins prior to a person making a decision to migrate in the first place. This is consistent with an affirmative policy to encourage immigration, especially by those with needed skills. It looks to address possible barriers, in particular those that can be resolved through education and training while the prospective immigrant is still in their country of origin. Information is a key, not so much on what people learn upon arriving in Canada, but what they learn through the Internet on the Canada Immigration Portal and other resources in advance of travel. Essentially, the remaining steps – assessment, advising and counseling, college and institute capacity, partnerships and programs – are elements that flow conceptually from that initial assumption. For example, although existing assessment services are conducted currently in Canada, the process model contemplates that prospective immigrants will be assessed on communication, language, competencies, credentials and prior learning (PLAR).

Although the U.S. federal government does not promote skilled immigration aside from H1B and J waiver visas, and, consequentially, plays virtually no role in their integration,

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[22] Exploring Internationally Educated Professionals' Employability: An Ontario Service Provider's Perspective. Jessica Walters. August 2006. Pp. 4-5.

[23] Source: Valuing the Knowledge, Skills and Experience of Canada's Immigrants. The Association of Canadian Community Colleges. Presented to: House of Commons Standing Committee on Citizenship and Immigrant: Consultations on the Recognition of the International Experience and Credentials of Immigrants. May 2005.

the Canadian model provides some important guides for state and local policies and programs and for educational and training institutions. These guides conform to the six major elements of the model leading to integration: information, assessment, advising and counseling, partnerships, programs, and college and institutional capacity.

The greatest difference between U.S. and Canadian approaches is in how information is shaped and distributed. As we demonstrate earlier in this report, the content and presentation of a website is defined by three factors: the goals of the organization, the intended audience, and the purpose of the site. Consequently, websites operated by state occupational licensing agencies serve as information repositories and not process guides. On the other hand, state workforce agencies give greater attention to process and frame the content and services to be meaningful to their two primary audiences: job seekers and employers. Generally, they are designed with the underlying assumption that all users are acculturated to U.S. values and customs. The Canadian approach is instructive because it has established customized portals, such as Ontario's Settlement.org (http://www.settlement.org), for immigrants and their friends and family as well as for employers and others who interact with immigrants.

There are no great inherent differences except as to degree of focus in the programs offered to immigrants and to those offered to all others in the workforce. For example, all workers are assessed routinely on four dimensions irrespective of whether it is the U.S. or Canada: literacy (communication and language skills), professional competencies and work experiences, credentials, and other prior learning,[24] although immigrants face added burdens due to language, custom, academic pedagogies, distance, circumstances of their migration, and bias. Similarly, we would expect few philosophical differences with respect to any of the other elements: educational institutions on both sides of the border offer counseling, special education programs, etc.

The greatest value of the Canadian model is that it sets forth a comprehensive package of services that are organized to work from the perspective of the skilled immigrant. The challenge faced by the United States is that in the absence of a federal presence, the states, either singly or collectively, will have to act if they choose to successfully integrate and possible attract high skilled immigrants to their labor force.

We believe that a comprehensive initiative to improve the optimal employment prospects of foreign-educated immigrants needs to move on three tracks:

- Establish the value of foreign-educated immigrants in the mind of the public and employers
- Establish an immigrant-focused dimension to existing programs and policies supporting the full-employment of skilled workers
- Establish new programs that address problems faced by skilled immigrants.

[24] PLAR – prior learning assessment and recognition

Recommendations

Establish the market value of foreign-educated immigrants

Foreign-educated immigrants may add value to the labor market in two ways: First, due to their own training and education, they are subject matter experts in their given professions. Second, they are knowledgeable about the customs and business processes of their country of education and long-term residence (although this knowledge may be tempered by other factors such as status and area of study). The challenge for the immigrant, and on a broader scale, for groups of immigrants of common background and education, is to establish that value along each of these two dimensions in terms that are understandable to prospective employers and to the business community as a whole.

It is a testament to the marketing prowess of U.S. business schools that many businesses operating in international markets recruit their graduates regardless of whether the students have the experience to work in these markets. The implication is that the in-country knowledge of the foreign-educated immigrant combined with the technical education obtained overseas is not considered equal to the combine value of a U.S. business education and no foreign experience.

A large measure of the solution to this conundrum is to change employer attitudes about the underlying value of the foreign-educated immigrants. This occurs at several levels:

- A business association may open access to experienced talent in global markets by sponsoring forums on overseas markets conducted, in part, by knowledgeable foreign-born who are members of the association
- The association may educate their members on strategies for incorporating immigrant professionals into global market initiatives
- They may also invite representatives of non-U.S. colleges, universities and technical schools to participate in recruitment events for their graduates
- Finally, they may conduct job fairs for immigrant professionals and member businesses.

Another key barrier is that immigration law is not well understood, especially by companies that do not have the resources to support human resources departments that are well-schooled on immigration matters. State and national business groups and professional associations routinely provide guidance and training to their members on environmental law, labor law, equal opportunity practices, safety and health issues. As such, they are well positioned to provide similar guidance on immigration law. Inasmuch as the aim is to promote employment of internationally trained immigrants, such guidance should address policies and practices aimed at bringing in top talent and not focus solely, as is normally the case, on ways to avoid breaches of the law. For example, Upwardly Global reports that one of many challenges is convincing employers that a foreign-educated immigrant who is in the U.S. legally due to family re-unification also may work legally.

Many competent credential evaluation services operate within the U.S., but anecdotal evidence suggests that many employers are not familiar with these services, may not trust these services, or do not know how to interpret the reports of these services. Business

organizations and professional associations may help to resolve this by establishing the *bona fides* of such services, by designating one as the "official" service for the group, or by establishing their own credential evaluation service. The common element among all these approaches is that a business organization or professional association serves as the "trusted" third party endorser.

Adding immigrants to management and professional ranks increases diversity. This may pose new challenges for employers and their workforces as they encounter new cultures, religious practices, and native languages. On the other hand, a diversified workforce is often highly innovative by virtue of the many perspectives and models inherent in the group.[25] Business associations and professional associations may "normalize" these challenges by providing guidance – written and through training – on how these businesses may successfully integrate immigrants into their teams and keep them focused on common goals. National and state groups are best positioned to do the groundwork, whereas local organizations are better able to understand and address the context of an individual business.

Establish an immigrant-focused dimension to existing programs and policies

Many agencies – public, not-for-profit and commercial – facilitate labor transactions among employers and workers. In traditional gateway communities where there are high concentrations of immigrant families, local experts emerge who re-contextualize such assistance to improve the relevance of that help for immigrants. Many gateway areas, however, seem to lack the resources that are targeted to the needs of the foreign-educated. Of course, new gateway communities and areas that are experiencing large influxes of immigrants for the first time in living memory are even less prepared to provide assistance that is shaped to the needs of these newcomers and the businesses that may employ them.

In *Integrating Immigrants into the Workplace*, we argue generally that immigrant and native-born populations should receive the same services and should not be isolated into groups. Foreign-educated immigrants, however, bring a new set of challenges that do not fit the services typically offered by public and not-for-profit agencies. Many such agencies are focused on poorly functioning labor market segments with large volumes of clients, e.g., low wage and low skill work, unemployment due to economic dislocations. U.S. educated workers with advanced skills and education rely on commercial services and professional networks to resolve employment problems. This is not necessarily true for foreign-educated immigrants. Consequently, new expertise needs to be developed among the ranks of public and non-profit service providers to assist foreign-educated immigrants.

We believe that state and local workforce agencies can play a prominent role by:

First, developing in-house expertise within migrant and refugee offices, local workforce centers, and community and immigrant serving organizations on the needs and services for foreign-educated immigrants. This can be accomplished through training of front-line staff conducted by non-profit organizations already

[25] An excellent analysis of the value of diverse groups is, **The Difference: How the Power of Diversity Creates Better Groups, Firms, Schools, and Societies.** Scott E. Page. Princeton University Press, 2007.

dedicated to providing such services or by establishing a cadre of expert practitioners among the ranks of staff. This expert staff may be further supported through regional or multi-state collaborations

Second, adding information to existing websites and printed materials that address known barriers for foreign-educated immigrants, including information on how to have credentials evaluated, where to find and enroll in English-language learning resources, and what to expect at a job interview

Third, conducting community workshops, seminars and classes on pathways to optimal employment for foreign-educated immigrants

Fourth, hosting job fairs, supporting electronic portfolios (a service that also provides significant benefit to all job seekers), and providing guidance on effective practices and policies to employers.

Establish new programs that address problems faced by skilled immigrants

Tight budgets, growing competition for limited resources, and increasing demand for employment assistance have stretched thin public and non-profit organizations. There are, however, several available program options.

Credential evaluation. States may designate an official credential evaluation service through a competitive request for proposal process. The value of such a designation is that it shifts the burden of educating employers as to the validity of credential evaluation services onto the state and from immigrant job-seekers. This follows an example set by Ontario. There, the province gives its implied endorsement of the service and immigrants are encouraged to use its services. Neither the immigrant nor the service provider are paid a subsidy by the province.

Elements of a request for proposal for academic credential assessment services[26]

1. Objectives:
   a. To provide academic credential assessments and student placement guidelines that are accurate, credible, consistent and fair
   b. To provide customized services and products to meet the needs of particular end users and clients
   c. To have sophisticated research capacity
   d. To provide high quality service
   e. To be accountable to the public and the state government regarding quality of services, and
   f. To be self-financing.
2. Assessments:
   a. Assess academic credentials for foreign programs from any country (including programs that no longer exist, currently existing programs and future programs) and to determine the comparability of foreign academic credentials to academic credentials issued in the United States
   b. Types of assessments
      i. Basic assessment: a comparison of an individual's foreign academic credentials to academic credentials issued by educational institutions in the United States
      ii. Detailed assessment: Basic assessment together with:
      A comparison of each of the foreign courses which the individual has taken, in terms of credit hours, to comparable courses offered in U.S. educational institutions, and
      A comparison of grades and marks awarded to the individual for each of these foreign courses to grades and marks awarded by U.S. educational institutions, and

[26] Source: Request for proposal by the Province of Ontario for international academic credential assessment service (ACAS)

Customized assessment: an assessment customized to meet the specific needs or requests of a client or end user

c. Use assessment methodologies that are transparent and conform in quality, thoroughness and substance to accepted international and national practices
d. Assessments must be timely
e. Clients must be give reasonable means and resources to appeal their assessments

3. Documentation: Conform to accepted international and national practices with respect to:
   a. The types and acceptable form of documents:
      i. For clients, generally, and
      ii. For clients, such as refugees, who legitimately cannot obtain academic documents from the applicable foreign educational institutions
   b. Translations of academic documents
   c. Verifying the authenticity and legitimacy of academic documents
   d. Verifying of the status of the status of foreign educational institutions as "recognized" institutions
4. Security: All assessment reports and documents, including documents transmitted electronically, must be protected from unauthorized access and from being altered or falsified.
5. Access: Information and services should be available to clients through a variety of media. Full accommodations should be made for people with limited English abilities and for people with disabilities.

U.S. Work Experience. Foreign-educated immigrants seeking to re-establish their careers often face a chicken versus the egg problem of needing U.S. work experience in order to qualify for a job. One strategy for overcoming this dilemma is to provide paid internships to academically qualified foreign-educated immigrants. *Career Bridge* in Ontario connects employers and qualified immigrants for a reasonable stipend and for specified periods. The result is that the immigrant is able to add valuable work experience to their resume and the employer is given an opportunity to get an up-close look at the worker. Under this arrangement, employers are not obligated to offer full time employment, however, many do so. It is noteworthy that a similar program is offered by the same agency in Ontario for entry-level workers (native born and foreign born). It also is conceivable that such a program may be operated in partnership with a temporary worker business. Funding for the internships could come from public resources, donations or fees paid by participating business.

Financial Assistance. Newcomers, especially those who are not proficient in English, face significant financial challenges made all-the-more difficult if their validated academic credentials do not meet the expectations of the market. A pilot project operated by Mosaic in Vancouver, British Columbia, was established to provide loans to foreign-educated professionals to help cover such costs as education and family living expenses in lieu of wages. Although this pilot was discontinued after the initial phase of funding, it points out the financial burden that many face – not unlike the burden faced by many students attending undergraduate and graduate programs.

Full-service Support Services. Based on the experiences of San Francisco, New York, Los Angeles, and San Diego, large metropolitan economies with high concentrations of foreign-educated immigrants are able to sustain organizations that offer full-service support to foreign-educated immigrants. Although existing models are metropolitan focused, it is conceivable that such a service may be able to operate within a multi-state region that is economically integrated, such as the Midwest. A service organization may be established as an affiliate of an existing entity operating elsewhere in the country or as a standalone. It also may be targeted to a cluster of occupations or industry.

Overseas Assistance. Services to foreign-educated immigrants can begin prior to immigration. Credential assessment can occur prior to migration, and, in fact, facilitated since the possible émigré may be able to expedite the transmission of needed documentation to the evaluation service. Possible émigrés may also use the results of these evaluation services to complete necessary coursework – offered either by domestic institutions or by U.S. educational institutions operating overseas or virtually - to fulfill minimum employment requirements in the U.S. States may help to facilitate this by making information about employment opportunities and requirements through websites, through U.S. consular offices, through state-operated trade offices and through resident academic institutions operating in other countries.

Final Comments

There is no doubt that foreign educated immigrants want to enjoy the full use of the knowledge, experience and talent – and that the U.S. economy will benefit from their participation. Through much of the Twentieth Century, the U.S. did not need to look much beyond its shores for the core of its intellectual base. Clearly, there are notable exceptions – the German scientists and engineers who were the backbone of American rocket science and space exploration, the British scientists who emigrated in the 1950s and early 1960s and prompted significant soul searching in the United Kingdom over its brain drain, the Japanese engineers and managers who have contributed to significant restructuring in manufacturing in the U.S., and so on. But, for the most part, American business leaders and policy makers have worked with the assumption that the U.S. will grow its own talent (and the talent of immigrant students) through what they considered a superior higher education system. Whether these leaders were justified in their thinking is immaterial since the reality today is that there are institutions around the globe that can compete with some of the better American institutions. After adding the economic globalization of production and markets to this stew, it then becomes apparent that in order for the U.S. to succeed, it must rely on all its talent and especially the talent of those who can work effectively on the world scene.

It can be reasonably argued that the federal government should take a primary role in supporting the full integration of foreign educated workers. The lessons of immigration reform suggest that policies addressing immigrant integration will take a back burner for quite a while. In any event, states and communities have traditionally had the primary responsibility of seeing to their economic development and success. Given that tradition, it makes sense that states and communities take up the slack and move forward with their own immigrant integration initiatives – and they are doing so and can do much more.

As we have shown, foreign educated immigrants face both structural and social barriers to full employment. The structural barriers can be resolved through systems changes that address both licensing requirements and information. These problems are largely within the purview of the public sector, but public understanding and opinion can make a significant difference. The social barriers are more difficult because they are less obvious. But these, too, can be mitigated through collective action by the business community, civic and community organizations and public agencies.

The main theme of our recommendations is that significant improvements can be made without broad and expensive new programs. Many of our suggestions are procedural or can be incorporated into the next revision of a website or informational materials. Some solutions are more complicated. These initiatives, however, are not exclusive to foreign educated immigrants and may benefit all who have an advanced education. There are a few ideas that are exclusive to immigrants, such as the designation of an approved credential evaluation service or a financial loans and grants program for foreign educated workers as they make the transition to the U.S. job market. But, as a practical matter, these are programs that have some parallels to existing state functions. In short, while the challenges are profound and, from the perspective of the foreign educated immigrant, the barriers appear monumental, the solutions are neither exotic nor complicated and are within the experience, resources and ability of government and society to resolve.

Appendix A. Methodology

The source of demographic and socioeconomic data in this report is the 2005 American Community Survey (ACS), at http://www.census.gov/acs/www/, http://www.census.gov/acs/www/Products/PUMS/C2SS/CodeList/2005/Occupation.htm

The US Bureau of Labor Statistics (BLS) definitions of skill and training levels associated with specific occupations are located at ftp://ftp.bls.gov/pub/special.requests/ep/optddata/optd.zip

BLS assigns one of eleven categories of training and postsecondary education to each of 754 occupations. The ACS, however, reports 465 occupations. By comparing these lists, it is possible to assign the most significant source of education or training from BLS to the ACS 2005-2006 PUMS.

ACS and BLS occupations matched in 314 instances. These 314 matches accounted for 60 percent of the year 2004 employment shown on the BLS spreadsheet. ACS occupations subsume BLS occupations. When a particular ACS occupation was represented by two or more BLS occupations, we assigned to the ACS occupation the highest skill/training level found among the BLS occupations.

Appendix B. Occupational titles by required skills, education, and training

BLS publishes data categorizing jobs held by workers in the United States by the highest level of training and education typically required by employers:

1. First professional degree
2. Doctoral degree
3. Master's degree
4. Bachelor's or higher degree plus work experience
5. Bachelor's degree
6. Associate's degree
7. Postsecondary vocational award
8. Work experience in related occupation
9. Long-term on-the-job training
10. Moderate-term on-the-job training
11. Short-term on-the-job training

We aggregated the eleven categories of occupations into the following three groups by skill level:

- Skill levels 1-5 = "High skilled;"
- Skill levels 6-9 = "Skilled technical;"
- Skill level 10-11 = "Unskilled."

The table below lists examples of occupations in each of the eleven skill-education category:

Education/ Training	Occupational titles
1	MED-PHARMACISTS
1	MED-PHYSICIANS
1	MED-VETERINARIANS
1	LGL-LAWYERS
2	SCI-MEDICAL SCIENTISTS
2	SCI-ASTRONOMERS
2	SCI-PSYCHOLOGISTS
2	EDU-POSTSECONDARY
3	CMM-OPERATIONS RESEARCH ANALYSTS
3	SCI-URBAN AND REGIONAL PLANNERS
3	EDU-LIBRARIANS
3	MED-PHYSICAL THERAPISTS
4	MGR-FARM AND AGRICULTURAL MANAGERS
4	BUS-MANAGEMENT ANALYSTS
4	CMM-ACTUARIES
4	ENT-PRODUCERS AND DIRECTORS
5	MGR-SOCIAL AND COMMUNITY SERVICE
5	BUS-HUMAN RESOURCES
5	FIN-FINANCIAL EXAMINERS
5	CMM-COMPUTER PROGRAMMERS
5	CMM-COMPUTER SOFTWARE ENGINEERS
5	ENG-CHEMICAL ENGINEERS
6	MED-REGISTERED NURSES
6	MED-RADIATION THERAPISTS
6	SCI-NUCLEAR TECHNICIANS
6	MED-DENTAL HYGENISTS
6	CMM-COMPUTER SUPPORT SPECIALISTS
7	EDU-LIBRARY
7	MED-PARAMEDICS
7	MED-LICENSED PRACTICAL & VOCATIONAL NURSES
7	HLS-HOME HEALTH AIDES
7	RPR-AUTOMOTIVE SERVICE TECHNICIANS
7	RPR-FARM EQUIPMENT MECHANICS
8	BUS-WHOLESALE AND RETAIL BUYERS
8	BUS-PURCHASING AGENTS
8	ENT-DANCERS AND CHOREOGRAPHERS
8	CON-CONSTRUCTION LABORERS
8	TRN-TRANSPORTATION INSPECTORS
9	ENT-ATHLETES AND SPORTS COMPETITORS
9	CON-CARPENTERS
9	CON-ELECTRICIANS
9	TRN-AIR TRAFFIC CONTROLLERS
9	ENT-BROADCAST TECHNICIANS
10	SAL-SALES REPS
10	OFF-CUSTOMER SERVICE REPS
10	OFF-SECRETARIES
10	CON-CARPET INSTALLERS
10	TRN-RAIL TRANSPORTATION WORKERS
11	EAT-COOKS
11	EAT-BARTENDERS
11	SAL-CASHIERS
11	SAL-TELEMARKETERS
11	OFF-SWITCHBOARD OPERATORS