

# Assessing and Addressing Brain Waste in the United States

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## Background and research questions

The conventional wisdom suggests that highly skilled immigrants – defined here as persons at least with a Bachelor degree – enjoy abundant opportunities for economic success in the United States. However, occasional media stories of immigrant engineers and doctors driving cabs or working as parking attendants along with growing attention paid to the work of a few small-scale NGOs paint a somewhat different picture: many immigrants, especially newcomers and those with foreign degrees and work experience, appear to face numerous obstacles to success in US labor markets.

Evidence undeniably points to education being one of the strongest predictors of economic success in today's (and tomorrow's) US labor market. However, are returns to higher education guaranteed in the case of newcomers, especially those educated abroad? To what extent is “brain waste” (i.e., underutilization of skills and talents of college-educated immigrants in the host country's labor market), a reality? To what degree do place of education, race/ethnicity, national origin, as well as English abilities and other human capital and social characteristics affect the opportunities of the highly educated seeking quality jobs in the United States? What policies can help removing the barriers to full labor market incorporation of skilled newcomers?

While little is known about the extent of brain waste and the costs it carries for the US economy, these questions have to be placed in a broader context. The United States is in economic crisis that may already be the worst since the Great Depression. Given the current economic instability and great concerns regarding future economic prospects of all Americans, why should the society care about underutilization of skilled newcomers?

There are a number of reasons that go beyond the well-being of immigrants and their families, including:

- Almost a half of college-educated immigrants earned their degrees abroad. Therefore, putting their skills to maximum use helps to leverage

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foreign-funded investments and maximize the skills of immigrants who are already in the country.

- Successful integration raises worker productivity, increases tax yields, and decreases the use of public benefits. There issues have been a long-standing bone of contention in public and policy debates regarding immigration.
- Increasingly other countries are competing with the US for global talent: Canada, Australia, the UK, Singapore, and the EU use their admission systems to attract skilled immigrants. At the same time, China, Taiwan, and India invest heavily to woo their Diaspora back. The race for talent means that skilled workers trained in the developing world now have more options to work globally, thus lessening the historic advantage the United States has had in picking top workers.<sup>2</sup>
- Skilled immigration is not a zero-sum. Fully productive immigrants are also job creators.<sup>3</sup>

This paper focuses on college-educated immigrants and aims to identify reasons for labor market success and lack of it among various groups of skilled workers. It discusses the results of our earlier work on brain waste. The paper also presents new analysis of the role race and ethnicity, nativity, and place of education play in labor market stratification of college-educated workers. Here we analyzed two data sets – 2005/2006 American Community Survey (ACS) and 2003 New Immigrant Survey (NIS) – taking advantage of the unique information each of the datasets provides on labor market experiences of highly skilled immigrants in the United States.<sup>4</sup>

## **Explaining barriers to immigrants' full labor market incorporation**

Sociologists and economists have developed a vast body of cross-disciplinary literature on labor market outcomes of immigrants in their adoptive country. In

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<sup>2</sup> National Science Board, *Science and Engineering Indicators 2008*, (Arlington, VA: National Science Foundation), chapter 3, <http://www.nsf.gov/statistics/seind08/pdf/c03.pdf>; Ayelet Shachar, "The Race for Talent: Highly Skilled Migrants and Competitive Immigration Regimes," *New York University Law Review* 81(2006).

<sup>3</sup> Vivek Wadhwa, Annalee Saxenian, Ben Rissing, and Gary Gereffi, "Skilled Immigration and Economic Growth," *Applied Research in Economic Development* 5, no. 1 (2008): 6-14, <http://ssrn.com/abstract=1141190>; Rachel Friedberg, "The Economic Impact of Knowledge Workers from India and China," in *Movement of Global Talent: The Impact of High Skill Labor Flows from India and China*, ed. Udai Tambar (Princeton, NJ: Policy Research Institute for the Region, 2007).

<sup>4</sup> Data sources are the US Census Bureau (ACS); Guillermina Jasso, Douglas Massey, Mark Rosenzweig, and James Smith, "The New Immigrant Survey 2003 Round 1 (NIS-2003-1) Public Release Data," March 2006, <http://nis.princeton.edu>.

particular, they examined: 1) how one's education and work experience acquired at home and in the host country<sup>5</sup> as well as mode of admission, tenure in the host country, age, gender, and language ability affect labor market outcomes<sup>6</sup>; 2) how the attributes of origin countries such as similarity in educational systems and language with those of country of destination influence post-migration occupational attainment and earnings<sup>7</sup>; 3) how the host countries' institutional structures such as immigration regimes, labor market practices, existing racial and ethnic relations, educational system, and welfare policies shape immigrants' economic incorporation.<sup>8</sup>

We draw from two theoretical models developed to explain immigrants' labor market incorporation. One — the assimilation literature — emphasizes the role that immigrants' characteristics play in their adaptation. The other strand focuses on the host country's institutional practices and infrastructure in promoting or impeding immigrants' labor-market incorporation.

### *The Assimilation Literature*

Chiswick and colleagues using Australian data and Akresh using US data observed a U-shaped occupational change, that is an initial downward mobility compared to the jobs held at before immigration with a subsequent rise in the occupational status following a period of tenure in Australia and the United States, respectively.<sup>9</sup> In contrast to the previous research on occupation mobility, which mostly relied on information about occupations in two data points<sup>10</sup>, Chiswick et al. and Akresh use unique datasets that capture occupational attainment before migration, shortly after migration, and finally at some later point. These authors fine-tuned their analyses of exploring the differences in occupational trajectories among various classes of admission.

In Australia and the United States, the U-shaped pattern was the shallowest among economic immigrants, followed by family-sponsored immigrants and with

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<sup>5</sup> Barry Chiswick, "The Effect of Americanization on Earnings of Foreign-Born Men," *Journal of Political Economy*, 86 no. 5 (1978): 897-921; Borjas 1994)

<sup>6</sup> Barry R. Chiswick, Yew Liang Lee, and Paul W. Miller, "Patterns of Immigrant Occupational Attainment in a Longitudinal Survey," *International Migration* 41, no. 4 (2003): 47-69; Ilana Redstone Akresh, "Occupational Trajectories of Legal US Immigrants: Downgrading and Recovery," *Population and Development Review* 34, no. 3 (2008): 435-456. Rachel Friedberg, "You Can't Take It With You? Immigrant Assimilation and the Portability of Human Capital," *Journal of Labor Economics* 18, no. 2(2000): 221-51. Richard Alba and Victor Nee, *Remaking the American Mainstream: Assimilation and Contemporary Immigration* (Cambridge: Harvard University Press, 2003); (Borjas)

<sup>7</sup> (Mattoo, 2005; Jasso and Rosenzweig 1986)

<sup>8</sup> Noah Lewin-Epstein, Moshe Semyonov, and Irena Kogan, "Institutional Structure and Immigrant Integration: A Comparative Study of Immigrants' Labor Market Attainment in Canada and Israel," *International Migration Review* 37, no. 2 (2003): 389-420.

<sup>9</sup> Akresh, "Occupational Trajectories of Legal US Immigrants." Chiswick et al., "Patterns of Immigrant Occupational Attainment."

<sup>10</sup> (Rajiman and Semyonov 1995)

a lag by refugees. Chiswick et al. also point out that immigrants who arrive from countries similar to the receiving countries in language, occupational requirements, and labor market structure experience less downward occupational mobility.

Similar to Chiswick and Akresh, we are interested in identifying the variations in occupational trajectories among different classes of admission allowed by US immigration law. However, we add another dimension, i.e., whether an immigrant is a newly arrived or a status adjuster. Status adjusters are immigrants who obtain permission for permanent residence from within the United States after “adjusting” from a temporary visa, whereas new arrivals are immigrants who get their green cards at an US embassy in their home countries. We hypothesize that “status adjustment” might capture not only longer time spent in the United States but also a greater commitment to staying in the country and thus a higher level of investment in US-specific skills.

Zeng and Xie<sup>11</sup> maintained that – at least in the case of Asian immigrants – place of education matters a great deal more than race and nativity. The authors find that the effects of nativity and race on the earnings gap between Asians and US born whites become insignificant once place of education (foreign vs. domestic) is taken into account. The authors concluded that immigrants earn less than native workers mostly due to the lower value of the foreign-acquired human capital. Once they accumulate work experience in the US labor market, their labor market outcomes will improve. This conclusion implies that discrimination against visible racial minorities or non-US born is minimal, at least when it concerns immigrants who identified as Asians. In this paper, we will try to replicate Zeng and Xie’s approach and compare the occupational status of US born whites with that of black, Asian, and Hispanic immigrant (and native) college-educated workers to examine whether Zeng and Xie’s conclusion holds true for other groups.

### *Institutional Barriers*

The other strand of literature that informs our research stresses the importance of the host country’s institutional practices and structures in the process of labor market inclusion of newcomers.<sup>12</sup> Extensive research indicates that immigrant workers are disadvantaged (at least initially) in the labor market due to the complex interplay between the structure of employment, the demand for certain kinds of workers, and immigrants’ conditions upon arrival to the United States<sup>13</sup> as well as immigration and welfare policies of the host countries.

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<sup>11</sup> Zhen Zeng and Yu Xie, “Asian Americans’ Earnings Disadvantage Reexamined: The Role of Place of Education,” *American Journal of Sociology* 109 no. 5 (2004): 1075-1108.

<sup>12</sup> Lewin-Epstein et al., “Institutional Structure and Immigrant Integration.”; Kogan 2006; Reitz 2004)

<sup>13</sup> (Massey, Durand, and Malone 2002) (Borjas 1990, 1993; Portes and Rumbaut 2001)

With regard to the highly skilled, research from other countries such as Canada and Australia is particularly illuminating in identifying the institutional factors that play significant role in shaping labor market outcomes of educated newcomers. The works by Canadian<sup>14</sup> and Australian researchers<sup>15</sup> reveal that even in countries that emphasize skill-based over other types of immigration, new arrivals have experienced acute employment, occupational and earnings disadvantages.

In both countries, the underutilization of immigrants' skills has been a long-standing policy concern. Various institutional barriers to recognition of foreign educational credentials and job experiences were identified as a key culprit behind the immigrants' inferior labor market outcomes.<sup>16</sup> These barriers range from difficulties in proving their professional and work-related competencies, to validating their academic credentials in a new context (by government, licensing bodies, and employers), to employers' discrimination based on race and nativity.<sup>17</sup>

## ACS-based analysis

### *Data and Variables*

To examine skill underutilization, we first pooled ACS data from 2005 and 2006. Our two measures of brain waste are *share of civilian college-educated persons that is unemployed* and *share of employed college-educated persons that is in unskilled jobs*. For the latter, we assigned workers to one of three occupational groupings: unskilled, skilled technical, and high skilled according to the level of training or education typically required. The assignments were made according to the Bureau of Labor Statistics (BLS) classification, which indicates the highest level of education and training typically required to work in a given occupation.<sup>18</sup> We matched ACS occupational codes to the 11 BLS-specified education/training categories, eventually collapsing them into the three groups (see Table 1).

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<sup>14</sup> Jeffrey Reitz, "Tapping Immigrants' Skills: New Directions for Canadian Immigration Policy in the Knowledge Economy," *IRPP Choices* 11, no. 1 (2005). Jason Gilmore and Christel Le Petit, *The Canadian Immigrant Labour Market in 2007: Analysis by Region of Postsecondary Education* (Ottawa: Statistics Canada, July 2008), <http://www.statcan.ca/english/freepub/71-606-XIE/71-606-XIE2008004.pdf>; Jeffrey Reitz, "Does Canadian Experience in Immigrant Integration Have Lessons for Europe?" (keynote address, Third Annual Conference of the International Migration, Integration, and Social Cohesion Network, Vienna, September 5, 2006).

<sup>15</sup> Bob Birrell, Lesleyanne Hawthorne, and Sue Richardson, *Evaluation of the General Skilled Migration Categories* (Canberra: Commonwealth of Australia, March 2006), <http://www.immi.gov.au/media/publications/research/gsm-report/index.htm>; Hawthorne 2002)

<sup>16</sup> (Hawthorne 2002)

<sup>17</sup> Creticos, P., J. Schultz, A. Beeler, and E. Ball. 2006. "The Integration of Immigrants in the Workplace." Chicago, IL: Institute for Work and the Economy.

<sup>18</sup> 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>.

**Table 1. Defining Unskilled, Skilled Technical, and High-Skilled Jobs**

- *Unskilled occupations* require no more than modest on-the-job training (e.g., construction laborers, customer-service representatives, child-care workers, house cleaners and maids, file clerks).
- *Skilled technical occupations* typically employ workers with long-term on-the-job training, vocational training, or associate's degrees (e.g., carpenters, electricians, chefs and head cooks, massage therapists, real estate brokers).
- *High-skilled occupations* require at least a bachelor's degree (e.g., scientists and engineers, doctors, financial managers, postsecondary teachers).

We disaggregated college-educated persons by place of education, tenure in the United States, region of birth (Asia, Europe/Canada/Oceania, Latin America, and Africa), as well as by race and ethnicity for a logistic regression analysis.<sup>19</sup> We need to emphasize that *time of arrival* and its correlate *tenure in the United States* represent an assortment of events that might take place in skilled immigrants' lives after arrival and might bear on their economic mobility. These include developing professional networks, gaining more US work experience, improving English fluency, obtaining a US education, and/or changing one's profession altogether. These events can also reflect a deepening retreat in the face of US labor-market realities, i.e., partial or permanent withdrawal from the labor market and/or long-term underemployment. The *region of birth* variable is more than a geographic variable. In the absence of detailed information about educated immigrants in ACS, this variable becomes a rough proxy for a combination of many factors. These include socioeconomic and linguistic constraints and opportunities at home; similarity in cultural and business practices between the origin countries and the United States; educational systems' quality and comparability with that of the United States; and different modes of admission and climates of reception in the United States for newcomers from different world regions.

### ***Immigrants in the highly skilled workforce***

In 2005-2006 there were 6.1 million immigrants 25 or older with a bachelor's or higher degree, representing 15.2 percent of all college-educated persons in the US civilian labor force. Over half (53.4 percent) of these highly skilled immigrants

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<sup>19</sup> Since there is no direct measure of one's place of education in ACS, we used a proxy: "foreign-educated" immigrants are the foreign born with at least a bachelor's degree and who entered the United States at age 25 or older. We defined "US-educated" immigrants as those with a bachelor's degree or higher and who entered the United States before age 25. In terms of tenure in the US, we distinguished between "recently arrived" (those who arrived in the last ten years) and "long-term immigrants" (those who arrived 11 years ago or earlier).

appear to have received their college educations abroad. Asians were heavily overrepresented among the highly skilled. Although they made up 27.4 percent of adult immigrants in the US civilian labor force, they were half (49.8 percent) of all highly skilled immigrants. In contrast, Latin Americans were underrepresented: Although they made up 54.3 percent of all adult immigrants in the labor force, they accounted for only 19.9 percent of the highly skilled among the foreign educated.

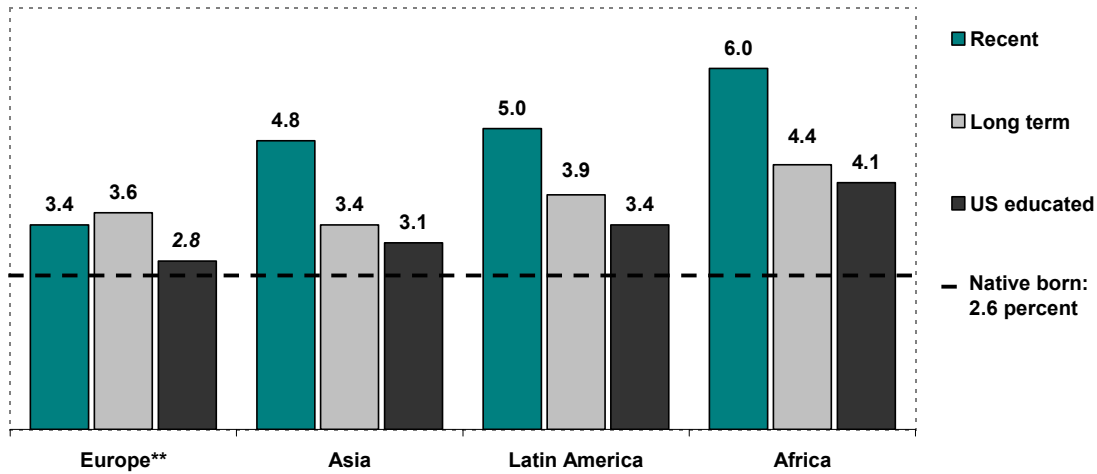
Foreign-educated immigrants were significantly more likely than native or US-educated immigrant workers to hold a PhD or professional degree. About a quarter of long-term immigrants from Europe and Africa, and about a fifth of long-term Asian and Latin American immigrants reported having a PhD or professional degree compared to 10.9 percent of US natives.

### *Unemployment Patterns*

Highly skilled immigrants had higher unemployment rates than their native-born counterparts (see Figure 1). Of all immigrants, those with a US degree had the lowest unemployment rates. Besides a US degree, these workers had the advantage of longer tenure in the country and hence presumably better English skills and greater familiarity with US labor markets. In contrast, recently arrived foreign-educated immigrants had the highest rates of unemployment.

In terms of origin, immigrants from Europe were the least likely to be unemployed while African-born immigrants were the most likely. In particular, recently arrived, foreign-educated Africans had unemployment rates that were twice as high as natives (6.0 percent versus 2.6 percent, although given the current economic conditions the displayed unemployment rates are not high).

**Figure 1. Share of the College Educated Who Are Unemployed: *Native vs. Recent and Long-Term Foreign-Educated vs. US-Educated Immigrant Workers, 2005-2006\****



*Notes:* \*Refers to college-educated workers age 25 and older in the US civilian labor force, including the self-employed. Among the foreign educated, "recent" refers to immigrants who came to the United States ten or fewer years ago, while "long term" includes immigrants who have been in the United States for 11 years or longer. \*\*"Europe" refers to Europe, Canada, and Oceania. Statistically *non-significant* differences in the likelihood of unemployment between immigrant groups and native workers are in italics. The unemployment rate of the college-educated native born in the US civilian labor force was 2.6 percent.  
*Source:* MPI analysis of 2005-2006 ACS.

### *Occupational Status*

Next we investigated the type of occupations highly skilled immigrants<sup>20</sup> are likely to find in the US labor market. Since our primary focus was the worst form of human capital waste, we mostly concentrated on the shares and characteristics of the highly skilled immigrants in unskilled jobs, although the group variation among immigrants working in semiskilled and high-skill jobs also warrant future examination.

First, with the exception of Europeans, foreign-educated immigrants from all regions tended to be in lower-skilled jobs than natives. Of all foreign-educated immigrants, those from Europe resembled natives most closely. In contrast, Latin Americans and, to a lesser extent, recently arrived Africans who received their degrees abroad were more likely to be in unskilled jobs than either natives or other highly skilled immigrants.

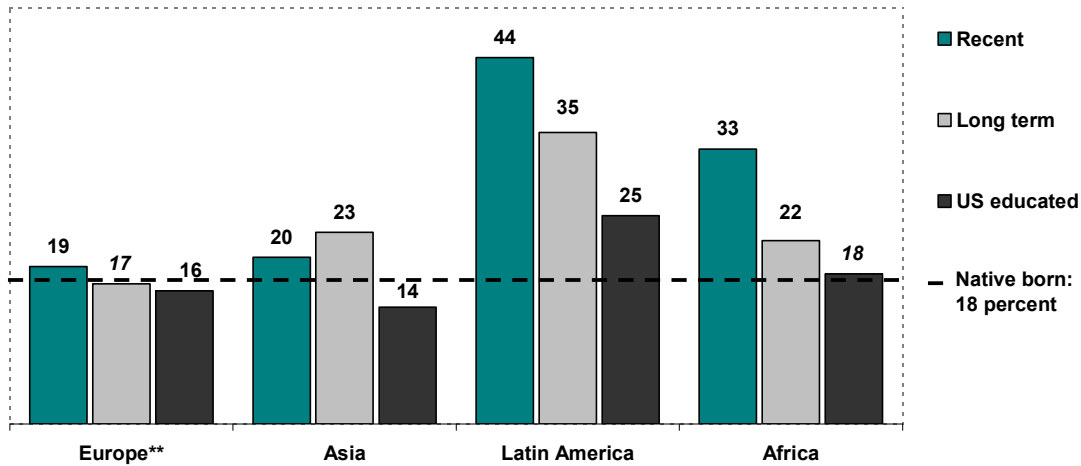
Of the 5.1 million employed highly skilled immigrants, 21.6 percent (or 1.1 million) were in unskilled jobs compared to 17.7 percent of native workers. The rates varied by place of education: Foreign-educated workers were more likely to be underemployed (24.9 percent) than their US-trained counterparts (17.9 percent).

<sup>20</sup> This section concerns employed workers in the US civilian labor force but excludes the self-employed.



However, some immigrant groups were more prone to work in low-end occupations. Nationwide, 43.5 percent of recently arrived Latin American and 32.9 percent of African foreign-educated immigrants were working in unskilled jobs (see Figure 2).

Figure 2. Share of the College Educated Employed in Unskilled Occupations: *Native vs. Recent and Long-Term Foreign-Educated vs. US-Educated Immigrant Workers, 2005-2006\**



Notes: \*Refers to college-educated employed workers age 25 and older in the US civilian labor force, excluding the self-employed. Among the foreign educated, "recent" refers to immigrants who came to the United States ten or fewer years ago, while "long term" includes immigrants who have been in the United States for 11 years or longer. \*\*"Europe" refers to Europe, Canada, and Oceania. Statistically *nonsignificant* differences in the likelihood of unskilled employment between immigrant groups and native workers are in italics. The share of the college-educated native born employed in unskilled jobs was 17.7 percent. Source: MPI analysis of 2005-2006 ACS.

Longer residence in the United States was associated with improved outcomes for all immigrant groups. In nearly all instances, long-term immigrants were less likely to be in low-skilled jobs than their recently arrived counterparts. Nevertheless, 34.6 percent of Latin Americans who had been in the United States for 11 or more years were still working in unskilled jobs.

Place of education was also important, especially among immigrants from Latin America. Those with a US education were significantly less likely than their foreign-educated compatriots to work in unskilled occupations.

### *Limited English Skills*

We also examined the relative effects of origin region, place of education, and English proficiency on the likelihood of being employed in unskilled job, controlling for various social and human-capital characteristics. The results of our logistic regression analysis are in table 2.

**Table 2. Odds Ratios Predicting the Likelihood of Being Employed in Unskilled Job among Employed College-Educated Workers, Age 25 and Older, by Nativity and Place of Education (Foreign vs. US-based Education), ACS 2005-2006**

Independent variables	Compared to US-born workers		
	Model 1	Model 2	Model 3
<b>Region of birth and place of educated</b>			
<u>Place of birth among the foreign educated</u>			
Europe	0.90 ***	0.96	0.84 ***
Asia	1.28 ***	1.15 ***	1.20 ***
Latin America	2.75 ***	2.10 ***	1.49 ***
Africa	1.62 ***	1.73 ***	1.74 ***
<u>Place of birth among the US educated</u>			
Europe	0.90 ***	0.92 ***	0.93 *
Asia	0.79 ***	0.72 ***	0.76 ***
Latin America	1.46 ***	1.18 ***	0.99
Africa	0.96	0.93	0.96
<b>Demographic variables</b>			
Male		0.89 ***	0.89 ***
Married		0.74 ***	0.73 ***
Master's degree		0.34 ***	0.34 ***
PhD or professional degree		0.17 ***	0.17 ***
<b>Citizenship and English skills</b>			
US citizenship		0.95 ***	0.98
Limited English proficiency		2.05 ***	1.19 ***
<b>Interaction terms</b>			
Foreign educated, bom in Europe x LEP			2.73 ***
Foreign educated, bom in Asia x LEP			1.62 ***
Foreign educated, bom in Lat America x LEP			3.25 ***
Foreign educated, bom in Africa x LEP			1.78 ***
US educated, born in Europe x LEP			1.48 ***
US educated, born in Asia x LEP			1.36 ***
US educated, born in Lat America x LEP			3.53 ***
US educated, born in Africa x LEP			1.32
-2 Log Likelihood	640755.46	606296.4	605619.5
N	693,561	693,561	693,561

Notes: US-born, male, married, bachelor's degree, US citizenship, and limited English proficiency are the reference categories.

\*\*\* p <0.001, \* p <0.05

The logistic regression results confirmed earlier findings on the impact of nativity, places of origin and education, and time in the United States displayed in Figures 1 and 2. They also suggested that a worker's English skills played a major role in finding a job consistent with one's qualifications: *limited English proficient (LEP) workers were twice as likely to work in unskilled jobs as those who were English proficient.*<sup>21</sup> Limited English skills seemed to play a greater role for college-

<sup>21</sup> Australian researchers similarly found that immigrants with limited English abilities were twice as likely to be employed in relatively low-skilled jobs. See Birrell et al., *General Skilled Migration Categories*.

educated immigrants from Latin America: regardless of whether their education was obtained abroad or in the United States, Latin Americans were significantly more likely to be in unskilled jobs than their English-proficient counterparts.

### *The Role of Race & Ethnicity, Nativity, and Place of Education*

So far we examined the difference in occupational status by place of birth, tenure in the United States, and place of education. Another lens through which we can examine the causes of stratification of skilled immigrants is race and ethnicity, tapping into the possible effect of racial discrimination in the labor market. Though racial discrimination in the labor market remains a lingering issue, it is a difficult subject to study empirically especially in the case of immigrants because it is hard to disentangle the impact of racial discrimination from that of the immigration circumstances on the labor market disadvantages of newcomers.<sup>22</sup>

Zeng and Xie (2004) hypothesized that immigration circumstances – manifested in the differences in human capital – play a major role in explaining the earnings gap between Asian immigrants and US-born whites. Using Israeli census data, Friedberg (2000) showed that immigrant's earnings disadvantage compared to native workers in Israel is fully attributable to the lower value of human capital acquired abroad. Foreign degrees and work experiences are likely to be discounted in a destination country's labor market for a number of reasons: differences (real and perceived) in the quality of education, transferability of training and knowledge conferred at schools in sending countries to the US context, nonrecognition of foreign credentials, and lack of familiarity of employer with foreign universities.

Other studies of immigrant disadvantages in the labor market argue that discrimination against visible minorities is to blame.<sup>23</sup> To test the effects of race, nativity, and place of education on the earnings gap of Asian Americans, Zeng and Xie compared four groups of workers (US-born whites, US-born Asians, US-educated Asian immigrants, and foreign-educated Asian immigrants) and hypothesized that if there is an earnings gap:

- Between US-born white and US-born Asians (same nativity, different race), the source of earnings difference is racial discrimination.
- Between US-born Asians and US-educated Asian immigrants (same race, different nativity), the source of earnings difference is nonnativity.
- Between US-educated and foreign-educated Asian immigrants (same race, same nativity, different place of education), the source of earnings difference is difference in human capital (expressed in foreign vs. US-based degree).

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<sup>22</sup> Sakamoto and Furuichi 2002; Waters and Eschbach 1995.

<sup>23</sup> Joe Feagin and Clairece Booher Feagin, "Race and Ethnic Relations," Prentice Hall.

The authors find that it is the place of one's education that has the biggest impact in the stratification of Asian-Americans and not racial discrimination or nonnativity. Table 3 displays the logistic regression results of a similar comparison, except that we look at all major racial and ethnic groups, focus on college-educated workers, and examine occupational status as a dependent variable (i.e., likelihood of being employed in an unskilled job).<sup>24</sup>

Our results seem to confirm Zeng and Xie's findings that racial discrimination is an unlikely cause of labor market stratification in the case of Asians (US-born Asians and US-educated Asian immigrants have similar or even better chances than US-born whites of having a non-unskilled job, see Model 1); US-educated Asian immigrants are less likely to be in unskilled jobs than their US-born co-ethnics, which rules out a nativity effect as well (Model 2). In contrast, other things being equal, foreign-educated Asian immigrants are more likely to work in jobs inconsistent with their education than US-educated Asian immigrants (Model 3). These patterns are similar in the case of white immigrants: US-educated white immigrants are slightly less likely to be in unskilled jobs than US-born whites (Model 2), whereas foreign-educated white immigrants are somewhat disadvantaged (though their estimated odds ratio (1.19) in Model 3 is the lowest of all groups).

The results are different for college-educated black and Hispanic workers. Regardless of their place of birth and education, skilled persons identified as black are more likely to work in unskilled jobs than their US-born white counterparts (Model 1), pointing out to racial discrimination as a source of labor market differences. On the other hand, US-educated black immigrants tend to have higher-status jobs than their US-born black counterparts (Model 2), which might be explained by their higher educational attainment. Foreign-educated black immigrants are more likely to work in unskilled jobs compared to US-born whites, US-born blacks, and US-educated black immigrants.

It seems that the story in the case of Hispanic skilled workers is the language story. Limited English proficiency appears to be the biggest barrier to higher status jobs for workers of Hispanic origin, the patterns similar to what we found in Table 2 when we examined the differences by place of birth.

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<sup>24</sup> Zeng and Xie examined Asian male workers at different levels of educational attainment and studies earnings differences as their dependent variable. They also used the Census 2000 data.

**Table 3. Odds Ratios Predicting the Likelihood of Being Employed in Unskilled Jobs among Employed College-Educated Workers, Age 25 and Older, by Nativity, Place of Education, and Race & Ethnicity**

	Asians	Blacks	Hispanics	Whites
	p	p	p	p
<b>Model 1: Effect of race (reference=US born whites)</b>				
US born	0.94 ***	1.20 ***	0.97 ***	
US-educated immigrant	0.76 ***	1.07 ***	1.32 ***	
Foreign-educated immigrant	1.34 ***	1.88 ***	2.45 ***	
Limited English proficiency (reference=LEP)	1.61 ***	1.29 ***	2.34 ***	
<b>Model 2: Effect of nativity (reference=US born same race/ethnicity)</b>				
US-educated immigrant	0.77 ***	0.86 ***	1.25 ***	0.96 ***
Foreign-educated immigrant	1.32 ***	1.40 ***	1.95 ***	1.28 ***
Limited English proficiency (reference=LEP)	1.78 ***	1.76 ***	3.22 ***	1.94 ***
<b>Model 3: Effect of place of education (reference=US-educated immigrant)</b>				
Foreign-educated immigrant	1.70 ***	1.55 ***	1.43 ***	1.19 ***
Limited English proficiency (reference=LEP)	1.82 ***	1.94 ***	3.82 ***	2.76 ***

Notes: \*All models control for limited English proficiency, gender, marital status, degree level.  
Source: ACS 2005-2006.

## NIS-based analysis

### *Data and Variables*

The comparatively large foreign-born sample in ACS offers a good vehicle for studying the labor-market outcomes of highly educated workers. However, ACS does not provide any information on respondents' legal status or prior work experiences. The 2003 New Immigrant Survey overcomes these deficiencies, providing a unique opportunity for understanding skill-utilization patterns among recent immigrants admitted for permanent residence.<sup>25</sup> NIS is the first nationally representative longitudinal study of legal permanent residents (LPRs) and their children; it is based on records compiled by the former Immigration and Naturalization Service.<sup>26</sup> What distinguishes NIS from other datasets is the survey's coverage of a wide range of pre- and postmigration experiences, including employment, occupation, English ability, place of the highest degree received, and category of admission, such as family, employment, refugee, etc.

The NIS respondents were asked about their employment and occupational status before they arrived to live in the United States (we call it "last job abroad"); after coming here ("first US job"); and at the time of the NIS survey ("current US job"). By comparing the occupation type at different points in time, we gained a unique perspective on occupational trajectories of immigrants granted legal permanent residence in the United States. This analysis sheds light on how well these immigrants are doing in the US labor market, as well as on possible barriers to better outcomes.

In addition to occupational history, the NIS data permitted us to do the following:

- Focus on legal permanent residents, thus excluding nonimmigrants, the unauthorized, and naturalized citizens.
- Identify categories of immigrant admissions, e.g., employment-based, family-based, refugee/asylee/parolee, diversity lottery winners (called "diversity" in this report), and legalizing immigrants.
- Distinguish between legal immigrants who are *new arrivals*, meaning those who obtained LPR status while still abroad, and *status adjusters*, those who obtained LPR status from within the United States.<sup>27</sup>

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<sup>25</sup> Guillermina Jasso, Douglas Massey, Mark Rosenzweig, and James Smith, "The New Immigrant Survey 2003 Round 1 (NIS-2003-1) Public Release Data," March 2006, <http://nis.princeton.edu>.

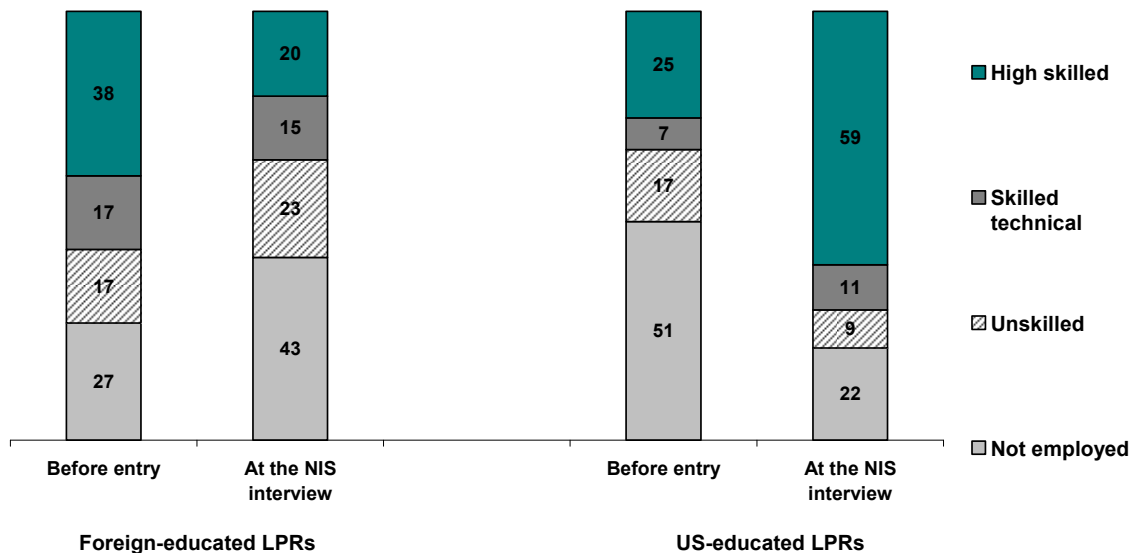
<sup>26</sup> Besides a limited pilot survey, currently only the first (2003) NIS wave is available. The next round of NIS data is expected in late 2009.

<sup>27</sup> "New arrivals" refers to LPRs who received their permission for permanent settlement in the United States at a US embassy in their home country. In contrast, "status adjusters" are immigrants who received their permanent residency from *within* the United States after spending some time in the United States on temporary nonimmigrant visas. We have to note a potential caveat regarding the new arrival versus status adjuster classification: the place where a person

## Results

The NIS analysis strongly reinforced the ACS-based finding that where highly skilled immigrants received their education — in the United States versus abroad — made a big difference in how they fared in the US labor market (see Figure 3).<sup>28</sup> More than a quarter (27.4 percent) of foreign-educated LPRs were not employed before coming to the United States.<sup>29</sup> At the time of the NIS interview, the share of foreign-educated LPRs who were not employed had increased to 42.6 percent; meanwhile, only 20.2 percent held high-skilled jobs as compared to 38.4 percent prior to their entry into the United States.<sup>30</sup> These labor-market results are in sharp contrast to those of US-educated highly skilled LPRs: only 21.5 percent were not employed and 59.0 percent worked in high-skilled occupations at the time of the NIS interview.

Figure 3. Share of Foreign- and US-Educated LPRs by Occupation/Employment Status: *Before Entry to the United States and At the Time of the NIS Interview*



Notes: Percentages may not add to 100 because of rounding.  
Source: MPI analysis of 2003 NIS.

These findings strongly indicate that having a US degree provided a boost both in terms of gaining employment and securing a job that matched one's qualifications. As mentioned earlier, several factors might explain the difficulties

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received approval for a green card. In fact, new arrivals might have visited, studied, or worked in the United States before getting a green card. However, the "new arrival" status does imply lack of continuous presence in the United States.

<sup>28</sup> "Country where one's degree received" refers to the country of the *highest* degree received. Also, unlike ACS, the NIS data allowed us to identify the place of one's education directly, rather than using a proxy.

<sup>29</sup> Not employed is defined here as being either out of the civilian labor force or unemployed.

<sup>30</sup> For definitions of occupations by skill type, see Table 1.

LPRs experienced in securing a job consistent with their education and skills. These factors include English proficiency and time spent in the United States, personal choices and family demands, the degree of cross-country transferability of one's profession, access to professional networks, nonrecognition of foreign academic or professional credentials, discrimination, and legal status.

### *"Quality of Job" Index*

To develop a more refined sense of the skill utilization of foreign-educated LPRs, we created a "Quality of Job" index that captures relative occupational status of different groups over time.<sup>31</sup> Each respondent received an average score on a scale where 1 means "employed in an unskilled job," 2 means "employed in a skilled-technical job," and 3 means "employed in a high-skilled job." We measured outcomes at three points in LPRs' migration history: their "last job abroad," "first US job," and "current US job." The lower the score, the more likely it was that a person was employed in an unskilled job during a given time period. Alternatively, the higher the score, the more likely it was for a person to be employed in a highly skilled job. Figure 4 depicts the transition over time by class of admission; figure 5 presents these patterns by region of birth.

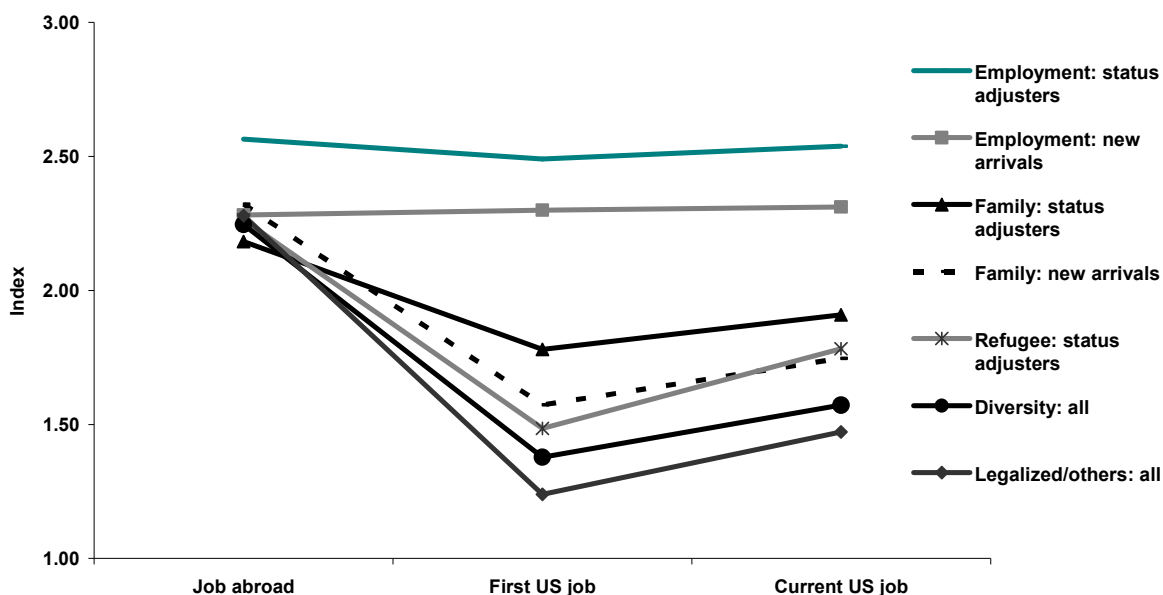
As expected, immigrants whose admission was based on an employment offer saw little change in the quality of their job abroad and their first US job and then little change going forward in the United States (see Figure 4).

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<sup>31</sup> In this section we focus only on LPRs with foreign education because the sample size of US-educated LPRs was too small.



Figure 4. Occupational Transitions by Admission Category: Foreign-Educated LPRs with a Bachelor's Degree or Higher, Age 25 and Older, NIS 2003



Source: MPI analysis of 2003 NIS.

For all other admission categories, however, there was a decline following migration and a subsequent rise in job quality. The decline was deeper for refugees and diversity immigrants than for family migrants, who often can count on relatives to assist in the integration process. Moreover, the improvement experienced with time spent in the United States did not bring nonemployment-based immigrants back to the same level of work as their last job prior to migration. And again, refugees and diversity immigrants fared worse than family migrants. Other researchers<sup>32</sup> have found similar patterns across various classes of admission both in the United States and in Australia, which relies on a points-based immigration policy to select highly skilled foreigners.

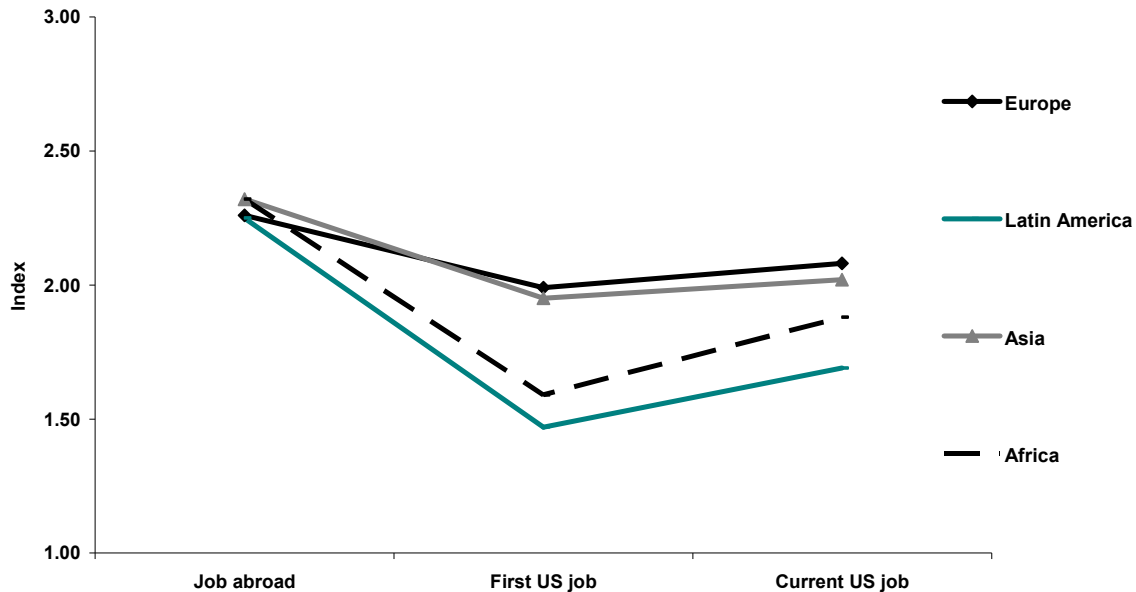
We further deconstructed both employment and family immigrants into status adjusters versus new arrivals. We found that status adjusters had better relative outcomes over time than new arrivals — in part owing to their greater experience in the US labor market.

Figure 5 shows that highly educated LPRs from the four origin regions held jobs of roughly equivalent quality before migrating to the United States. However, outcomes diverged following arrival. We observed the steepest declines in job quality among the foreign-educated from Africa and Latin America. Job quality

<sup>32</sup> Akresh, "Occupational Trajectories of Legal US Immigrants." Chiswick et al., "Patterns of Immigrant Occupational Attainment."

rose for both groups with more time in the United States, but outcomes substantially lagged those of their European and Asian counterparts.

Figure 5. Occupational Transitions by Region of Birth: Foreign-Educated LPRs with a Bachelor's Degree or Higher, Age 25 and Older, NIS 2003



Notes: "Europe" refers to Europe, Canada, Oceania, and Central Asia, while "Africa" includes the Middle East.  
 Source: MPI analysis of 2003 NIS.

The better outcomes of European and Asian LPRs are most likely attributable to their higher levels of education and higher proficiency in English. According to the NIS data, 45.4 percent of foreign-educated European LPRs had an advanced degree and 67.9 percent spoke English “well” or better. Among foreign-educated Asians, 77.1 percent spoke English “well” or better. Despite Africans’ higher levels of education (almost a quarter had an advanced degree and more than eight in ten reported speaking English “well” or better), they experienced a drop in job quality after arrival. They also experienced the fastest rise in occupational status between first and current US jobs. With nearly a third of African-born college-educated immigrants coming on diversity visas and another 42 percent through family reunification, these immigrants might take longer in converting their foreign-earned human capital in the US labor market.

A note of caution is in order. Given the short span of the available NIS data (i.e., information was collected only in one data point, in 2003), we have to be careful about interpreting the results. Our preliminary findings indicated that employment-based immigrants and those from Europe were doing significantly better than the other respective groups. However, we need to analyze the trends over time before coming to firmer conclusions about these groups’ differences in labor-market performance and what drives the differences. In other words, we need data over a longer period of observation to establish whether these trends

persist or converge. For example, past research (some now fairly dated) found that while employment-based immigrants initially obtained higher-status occupations and higher earnings than family immigrants, the two groups' labor-market outcomes converged over time.<sup>33</sup> The next wave of NIS data, expected in late 2009, will provide us with a better picture about the different groups' paths to economic integration.

## **Conclusion and implications**

In this paper we examined 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, 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 high skill immigrants progress over time obtaining better jobs and higher wages: As our NIS analysis shows that nearly all foreign-educated immigrants regardless of sending region or admission status (except employment based) experienced a U-shaped pattern of occupational mobility.

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. Our analysis of the role played by race, nativity, and place of education suggests that racial discrimination is a plausible source of limited mobility for black skilled immigrants and lack of English skills in the case of immigrants of Latino origin. These findings have implications for immigrant-integration policies, including credentialing and language training, and immigration policy.

If the experience of other countries that work to deal the brain waste provide any guidance, it is in the idea that the barriers to fuller labor market incorporation have to be addressed in a multi-prong way:

### At a firm level

Employers often insist that prospective workers have US work experience and better English skills. They could become part of the solution by

- incorporating language training into in-house communications skills training programs
- and training their recruiters and HR managers to be more sensitive to accents – that are often understood as poor English skills – and to other cultural differences as well as covert and overt racial discrimination.

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<sup>33</sup> Elaine Sorensen, Frank Bean, Leighton Ku, and Wendy Zimmermann, *Immigrant Categories and the US Job Market: Do They Make a Difference?* (Washington, DC: The Urban Institute Press, 1992).

### State level

- State workforce agency can partner up with other stakeholders and provide support for mentorship and internship programs similar to what Canadian federal and provincial governments are already doing on a large scale.
- States can set up accredited work-skills training and English language programs to boost the learning of professional/business English and to improve communications skills of newcomers. Our consistent finding that limited English proficiency represents a significant barrier to higher status jobs calls for more attention to language training for skilled newcomers.
- They can also spur up the development of effective bridge programs that serve both immigrants and employers. These programs are likely to have positive spillover benefits to other groups of workers such as those leaving the armed forces, women returning to work, or former inmates.
- These investments could limit the waste of human capital, raising immigrants' productivity, earnings, and tax contributions.

### US Department of Labor (DOL)

Given that much of the legal and institutional authority to recognize and validate education and professional credentials lies at the state- and local-government levels and within private groups and professional associations, DOL could focus its attention on funding innovative/successful programs and become an information sharing hub.

## **Revising immigration admission system**

### *Transitional Temporary-to-Permanent Visas*

As discussed above, characteristics such as language skills and transferrable degrees matter a great deal in the incorporation of high-skilled immigrants into the US labor market. Our finding that foreign-educated status adjusters (regardless of the class of admission) secure employment in higher-quality jobs relative to their newly arriving counterparts lends support to arguments in favor of transitional visas.<sup>34</sup> As proposed by MPI's Task Force on Immigration and America's Future, these would be three-year, renewable visas that would allow US employers to recruit high- and certain low-skilled workers to work in permanent or year-round jobs, with an opportunity for employer or, under some

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<sup>34</sup> Doris Meissner, Deborah Meyers, Demetrios Papademetriou, and Michael Fix, *Immigration and America's Future: A New Chapter* (Washington, DC: Migration Policy Institute, 2006).

circumstances, immigrant sponsorship for permanent immigration in the future.<sup>35</sup> In other words, these visas would provide an opportunity for both employers and prospective foreign workers to “test the waters” in the US labor market and society. The successful trajectories of status adjusters that the NIS data documented suggest that these probationary permanent visas would likely pay off substantially.

*Standing Commission on Labor Markets and Immigration*

Another recommendation is to create an independent federal agency that would make regular recommendations to Congress for adjusting admission levels in the [temporary, transitional, and permanent] immigration streams based on analysis of local and regional labor-market needs, trends, worker-supply chains, and the effects of recent immigration flows. Having such a Commission will introduce flexibility and responsiveness into the system regarding future labor needs and trends, which is particularly valuable in periods of rapid economic change, decline or boom. One metric of such an agency’s success would be reduced skill underutilization among high-skilled newcomers. If adopted in the United States, our estimate of the 1.3 million underutilized immigrants might be used as a baseline for future projections of employment-based admission levels.

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<sup>35</sup> Foreign nationals who arrive in the United States for nonemployment reasons (e.g., fiancées of US citizens and victims of trafficking) and are likely to eventually adjust to permanent status already have an option of receiving such a visa though it is not called provisional.