

Written Testimony of
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Introduction

Mr. Chairman and members of the committee, thank you for the opportunity to appear before you today and provide testimony on behalf of the American Immigration Council. For more than 25 years, the American Immigration Council has been dedicated to providing policymakers and the public with research and analysis on the critical issues shaping immigration law and policy, and to promoting a deeper appreciation for the role that immigration has played throughout America's proud history as a nation of immigrants.

Although the title of today's hearing suggests a more negative view of immigration, my hope is that this hearing will provide an opportunity to engage in a thoughtful conversation about the role that immigration can and should play in building a prosperous, growing, 21st century America. In today's labor market, foreign workers fill a critical need—particularly in the Science, Technology, Engineering, and Math (STEM) fields. It is crucial that we have an honest conversation about targeted reforms that can improve and strengthen the admission of legal immigrants into our labor force. Now more than ever, we must move the current immigration debate beyond the stereotypes, myths, and hyperbole that distract from that conversation, and which seek to pit native-born workers against their foreign-born colleagues. The U.S. job market is not a “zero-sum game” in which workers compete against each other for a fixed number of jobs. The United States has created the most dynamic and powerful economy the world has ever known, and immigrants of all types and skills, from every corner of the globe, have worked shoulder to shoulder with native-born workers to build it.

The overwhelming weight of the current research on immigration shows that in our dynamic labor market, skilled immigrants *complement* their U.S.-born counterparts. (This is even truer now with unemployment rates at their lowest since May 2008, before the financial crisis).¹ Skilled immigrants' contributions to the U.S. economy help create new jobs and new opportunities for economic expansion. Indeed, foreign workers *positively* impact the wages and employment opportunities of native-born workers across our economy.

The important role that skilled immigrants play in our economy extends far beyond the world of computers and high tech, and the positive impact of their contributions are helping to reshape communities far beyond Silicon Valley. Skilled immigrants and entrepreneurs are making

¹ CNN Money, “Good news: Unemployment at lowest in 7 years,” March 6, 2015, at <http://money.cnn.com/2015/03/06/news/economy/february-jobs-295000-us-economy/>, citing U.S. Bureau of Labor Statistics, “Employment Situation Summary,” March 6, 2015, at <http://www.bls.gov/news.release/empsit.nr0.htm>.

enormous contributions in almost every aspect of our economy, including manufacturing, medical research, healthcare delivery, and agriculture. Their contributions have helped rebuild economies in places like Des Moines, Iowa; Tuscaloosa, Alabama; and Raleigh, North Carolina.

This is not a new story. Immigrants have played an incredibly valuable role in our economy from our nation's beginning. But, in today's global economy, where other countries are spending billions of dollars to compete with America's ability to attract immigrants, we cannot take this issue for granted. If we continue to ignore the need for immigration reform or adopt policies that discourage skilled immigrants from helping American businesses to innovate, lead, and create high-paying jobs—and, instead, create an unwelcoming environment that drives immigrants to other countries that compete against us—we run the enormous risk that America will be left behind in today's global economy, without a robust innovation and entrepreneurial sector.² Economists, social scientists, business leaders, and a broad range of other experts agree that innovation is the key to growing the economy and creating jobs. In turn, the key to innovation is building, growing, attracting, and retaining a skilled workforce.³ Foreign-born workers, especially STEM workers, have been and will continue to be a critical part of this equation. According to Peri, Shih, and Sparber, STEM workers “are the main inputs in the creation and adoption of scientific and technological innovation.”⁴

One of the most pressing policy challenges of our time is wrestling with the critical policy choices that must be made to truly fulfill the promise of an immigration system that serves a 21st century economy. Research supports the creation of a revamped and revitalized immigration system with updated visa caps and per-country quotas and that retains talented individuals who were educated in the United States. Such a system would also support STEM education; more effectively comply with rules and safeguard against exploitation and abuse; and allow for more flexibility, predictability, and consistency.

In considering these policy options, though, we should recognize that maximizing the economic contributions of skilled immigrants is not an isolated enterprise, but an integral component of systematic immigration reform. Skilled immigration encompasses a wide range of individuals with very different educational and occupational backgrounds. Immigrant job creators, entrepreneurs, and innovators often come to these shores not only through employment-based channels but through family reunification and the admission of refugees and asylees. They can also be found within the population of unauthorized workers. As such, real, lasting reform can only be achieved by rising above the current political rancor and crafting bipartisan, comprehensive immigration reform.

I. High-Skilled Workers Play an Integral Role in the U.S. Economy

A broad range of new research and analysis has demonstrated that skilled immigrant workers do not take American jobs, but complement American workers. In the process, skilled immigrant workers actually *boost* the wages of native-born workers. This research also demonstrates the

² The Chicago Council, *US Economic Competitiveness at Risk: A Midwest Call to Action on Immigration Reform* (Chicago, IL: The Chicago Council on Global Affairs, February 2013), at

http://www.thechicagocouncil.org/sites/default/files/2013_ImmigrationTaskForce_Final.pdf.

³ Ibid.

⁴ Giovanni Peri, Kevin Y. Shih, and Chad Sparber, *Foreign STEM Workers and Native Wages and Employment in U.S. Cities*, NBER Working Paper No. 20093 (Cambridge, MA: National Bureau of Economic Research, 2014), at <http://www.nber.org/papers/w20093>.

various ways that high-skilled immigration helps the American economy—by creating jobs in diverse economic sectors (not just technology) and across the United States, on both coasts and in the heartland.

A. Skilled Foreign Workers Complement Native-Born Workers and Boost Their Wages

Highly skilled immigrants complement their native-born peers; they do not substitute for them. This is true throughout all high-skilled occupations, and particularly in STEM fields. The United States faces challenges in meeting the growing needs of an expanding knowledge-based innovation economy. Arguments that immigrants are freezing out native-born workers or depressing wages are rebutted by the best available empirical evidence.

1. Foreign Workers Fill a Critical Need in the U.S. Labor Market, Particularly in the STEM Fields

STEM employers report thousands of unfilled positions, with STEM jobs taking longer to fill than non-STEM jobs, according to job openings data. That so many high-paying jobs are going unfilled reflects a significant shortage of American workers to fill these skilled positions.⁵

Recent demand for labor exceeds supply for particular tech occupations. According to The Conference Board, in January 2015 there were over five vacancies advertised online for every one unemployed person in a “computer and mathematical science” occupation: 599,800 total ads and 107,200 unemployed.⁶ Additionally, the number of online ads for “computer and mathematical science” jobs increased by 12 percent from March 2014 to February 2015—from 536,400 to 599,800—indicating increased demand.⁷

In addition, tellingly, the unemployment rates of STEM degree holders are much lower than the national unemployment rate⁸ because STEM degree holders’ skills are in demand, in both STEM and non-STEM occupations. As to STEM occupations, many have shown low unemployment rates over the past decade (2.7 percent as of February 2015) compared to the overall national unemployment rate (5.5 percent as of February 2015) {see Table 1}.⁹ Additionally, the 2011 unemployment rate was only 3.15 percent for U.S.-citizen STEM workers with Ph.D.s, and 3.4 percent for those with master’s degrees, compared to the national 2011 unemployment rate of

⁵ Darrell M. West, *The Paradox of Worker Shortages at a Time of High National Unemployment* (Washington, DC: The Brookings Institution, 2013), at <http://www.brookings.edu/research/papers/2013/04/11-worker-shortage-immigration-west>.

⁶ The Conference Board, “Online Labor Demand Increased by 184,100 in February” (New York, NY: The Conference Board, 2015), at http://www.conference-board.org/pdf_free/press/PressPDF_5401_1425421579.pdf.

⁷ The Conference Board, “Online Labor Demand Falls 292,100 in March” (New York, NY: The Conference Board, 2014), at https://www.conference-board.org/pdf_free/press/PressPDF_5143_1396375046.pdf.

⁸ Information Technology Industry Council, the Partnership for a New American Economy, and the U.S. Chamber of Commerce, *Help Wanted: The Role of Foreign Workers in the Innovation Economy* (Washington, DC: December 2012), at <http://www.renewoureconomy.org/sites/all/themes/pnae/stem-report.pdf>.

⁹ U.S. Census Bureau and Bureau of Labor Statistics. Tabulation of Current Population Survey (CPS) microdata for employment and unemployment of persons by occupation and US citizenship status. The data set is pooled monthly CPS samples for 12 months—December 2013 through November 2014. Observations are weighted using the Bureau of Labor Statistics (BLS) composite monthly weight variable. Monthly weights were divided by 12, so totals are estimates of average monthly employment over the year. The 12 months of observations are the most recent 12 months available as of January 2015.

almost 8 percent.¹⁰ In some STEM occupations, the unemployment rate is even lower. Unemployment among Petroleum Engineers is 0.1 percent, for Computer Network Architects it is 0.4 percent, and for Nuclear Engineers it is 0.5 percent.¹¹

Why do some of these occupations have any unemployment at all? According to the Information Technology Industrial Council, “zero unemployment is neither attainable nor necessarily desirable. As companies reorganize, businesses open and close, and people look to change jobs or move from city to city, some degree of unemployment is inevitable and may even be healthy.”¹² The Federal Reserve Bank of San Francisco has argued that it is “well understood that some ‘frictional’ unemployment, which involves the search for new jobs and the transition between occupations, is a necessary accompaniment to the proper functioning of the economy in the long run.”¹³ And if unemployment is too low, economists believe that inflation may occur. Furthermore, many of the above-mentioned occupations are experiencing low unemployment rates that indicate “full employment,” generally defined as the lowest unemployment rate consistent with stable inflation, varying depending upon economic conditions.¹⁴

Table 1. Unemployment Rate for U.S.-Citizen Workers in Selected STEM Fields, 12-month average for December 2013 to November 2014

Main Job Occupation	Native-born citizens unemployment rate	All Citizens Unemployment rate	Workers who are non-citizens
Aerospace engineers	0.2%	0.4%	5.9%
Computer network architects	1.8%	1.6%	11.1%
Information security analysts	1.7%	1.6%	3.7%
Electrical and electronic engineers	1.2%	1.8%	11.4%
Mechanical engineers	1.5%	1.9%	8.8%
Database administrators	2.2%	1.9%	10.3%
Chemists and materials scientists	2.4%	2.1%	8.3%
Computer hardware engineers	1.9%	2.5%	10.6%
Network and computer systems administrators	2.9%	2.7%	4.6%
Industrial engineers, including health and safety	2.0%	2.7%	7.6%
Civil engineers	2.9%	2.8%	6.0%
All STEM occupations (including ones not listed above)	2.9%	2.9%	10.6%
All occupations	5.6%	5.6%	8.6%

Source: U.S. Census Bureau and Bureau of Labor Statistics. Tabulation of Current Population Survey (CPS) microdata for employment and unemployment of persons by occupation and US

¹⁰ Information Technology Industry Council, the Partnership for a New American Economy, and the U.S. Chamber of Commerce, *Help Wanted: The Role of Foreign Workers in the Innovation Economy* (Washington, DC: December 2012) at <http://www.renewoureconomy.org/sites/all/themes/pnae/stem-report.pdf>.

¹¹ Ibid., p. 2.

¹² Ibid., p. 4.

¹³ Federal Reserve Bank of San Francisco, *Economic Letter 99-04* (1999), at <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.200.9660&rep=rep1&type=pdf>.

¹⁴ Ibid.

citizenship status. The data set is pooled monthly CPS samples for 12 months—December 2013 through November 2014. Observations are weighted using the Bureau of Labor Statistics (BLS) composite monthly weight variable. Monthly weights were divided by 12, so totals are estimates of average monthly employment over the year. The 12 months of observations are the most recent 12 months available as of January 2015.

These statistics show that foreign STEM workers fill a critical need, rather than taking native-born workers' jobs. High-skilled foreign-born workers supplement the native-born workforce, and employers in different places request high-skilled visas for hard-to-fill jobs.¹⁵ Indeed, the metropolitan areas and occupations in which employers most request the H-1B high-skilled visa correspond to places and jobs where there is the greatest demand for skilled workers.¹⁶ Native-born workers have low unemployment rates even in STEM fields with large shares of foreign-born workers. And, H-1B workers earn significantly higher earnings than native-born workers with bachelor's degrees or higher, suggesting that these H-1B workers have specialized skills not readily available.¹⁷

Additionally, demand is rising for STEM workers in both STEM and non-STEM fields. Georgetown University's Center on Education and the Workforce points out that as more organizations seek to improve innovation and expand technology use, more employers in more fields compete for STEM competencies—knowledge, skills, and abilities like research, analysis, and quantitative and computer skills.¹⁸ Indeed, in today's data- and technology-oriented economy, many STEM degree holders use their degrees in a wide variety of jobs, including those outside of specifically defined STEM occupations.¹⁹

Thus, in the same way that not all writing majors become novelists and not all history majors become historians, not everyone graduating college with an undergraduate STEM degree chooses to pursue a graduate education in a STEM field or stay within a specifically defined STEM occupation. There is no evidence to suggest that, collectively, individuals with STEM expertise working outside of their trained fields have been pushed out of these fields by foreign-born workers.

2. Foreign-Born Workers Help, Not Harm, American Workers

Research shows that foreign-born high-skilled workers do not harm American workers. A key indication of this is that the wages of STEM workers have grown. Total real median annual wage growth (in 2012 dollars) for several STEM occupations from 2001 to 2012 was higher than the

¹⁵ American Immigration Council, *Fueling the Recovery: How High-Skilled Immigrants Create Jobs and Help Build the U.S. Economy* (Washington, DC: American Immigration Council, 2013), at <http://www.immigrationpolicy.org/just-facts/fueling-recovery>.

¹⁶ American Immigration Council, *H-1B Program's Impact on Wages, Jobs, and the Economy* (Washington, DC: American Immigration Council, 2014), at <http://www.immigrationpolicy.org/just-facts/h-1b-program%E2%80%99s-impact-wages-jobs-and-economy>.

¹⁷ Jonathan Rothwell and Neil G. Ruiz, *H-1B Visas and the STEM Shortage* (Washington, DC: The Brookings Institution, 2013), at <http://www.brookings.edu/research/papers/2013/05/10-h1b-visas-stem-rothwell-ruiz>; Magnus Lofstrom and Joseph Hayes, "H-1Bs: How Do They Stack Up to US Born Workers?" *IZA Discussion Paper No. 6259* (Bonn, Germany: IZA, 2011), at <http://ftp.iza.org/dp6259.pdf>.

¹⁸ Anthony P. Carnevale, Nicole Smith, and Michelle Melton, *STEM: Science, Technology, Engineering, Mathematics* (Washington, DC: Center on Education and the Workforce, Georgetown University, 2013).

¹⁹ Economics and Statistics Administration, "STEM: Good Jobs Now and for the Future" (Washington, DC: U.S. Department of Commerce, 2011), at <http://www.esa.doc.gov/reports/stem-good-jobs-now-and-future>.

median for all occupations, according to the Cato Institute.²⁰ And, while real wages for all workers fell slightly over the past decade, wages for STEM workers rose over that time period, as the Center for American Progress points out.²¹ Moreover, for occupations with the most requests for high-skilled visas, wage growth in recent years has been much higher than the national average. And in the metropolitan areas with the largest number of high-skilled visa requests, the average wages for STEM occupations are high.²²

The presence of skilled immigrants also boosts native-born wages by encouraging innovation, boosting the local economy, and increasing productivity. For example, a 2014 report found “a positive, large, and significant effect of foreign STEM workers on wages paid to college educated native workers.”²³ The report also found that “[w]age increases for non-college educated natives are smaller but still significant.”²⁴ In particular, the authors note that “a one percentage point increase in the foreign STEM share of a city’s total employment increased wages of native college educated labor by about 7 to 8 percentage points and the wages of non-college educated natives by 3 to 4 percentage points.”²⁵ According to the authors, “these results indicate that growth in STEM workers spurred technological growth by increasing productivity, especially that of college educated workers.”

In sum, overwhelming evidence points to a scarcity of high-skilled workers in the United States labor market, and indicates that high-skilled foreign-born workers can help fill the gap—supplementing rather than harming native-born workers and contributing to wage growth.

B. Immigrants Creating Jobs

Time and again, researchers across numerous disciplines have found that high-skilled immigration creates new jobs for Americans.²⁶ For example, a 2012 report found that each foreign-born graduate from a U.S. university with an advanced degree who stays in the U.S. to work in a STEM occupation creates an average of 2.62 jobs for American workers.²⁷ Innovation on the job also translates into strong entrepreneurial tendencies, which in turn create jobs.

²⁰ Alex Nowrasteh, “Is There a STEM Worker ‘Shortage’?” (Washington, DC: Cato Institute, 2014), at <http://www.cato.org/blog/there-stem-worker-shortage>.

²¹ Philip Wolgin, “Nativist Think Tank Spreads Misleading Claims About High Skilled Immigration,” *ThinkProgress* (Washington, DC: Center for American Progress, 2014), at <http://thinkprogress.org/immigration/2014/05/22/3440236/anti-immigrant-cis-misleads-high-skilled/>.

²² American Immigration Council, *H-1B Program’s Impact on Wages, Jobs, and the Economy* (Washington, DC: American Immigration Council, 2014), at <http://www.immigrationpolicy.org/just-facts/h-1b-program%E2%80%99s-impact-wages-jobs-and-economy>.

²³ Giovanni Peri, Kevin Y. Shih, and Chad Sparber, “Foreign STEM Workers and Native Wages and Employment in U.S. Cities,” *NBER Working Paper No. 20093* (Cambridge, MA: National Bureau of Economic Research, 2014), at <http://www.nber.org/papers/w20093>. The report examined the effect of foreign STEM workers on the wages and employment of college-educated and non-college-educated workers across 219 U.S. cities from 1990 to 2010. The authors of this report examined the distribution of foreign-born STEM workers in 1980 and used the introduction and variation of the H-1B visa program in 1990 that granted entry to new foreign-born college-educated, mostly STEM, workers so that they could study the before-and-after effects of the H-1B program.

²⁴ *Ibid.*

²⁵ *Ibid.*

²⁶ Neeraj Kaushal and Michael Fix, *The Contributions of High-Skilled Immigrants* (Washington, DC: Migration Policy Institute, 2006), at <http://www.migrationpolicy.org/research/contributions-high-skilled-immigrants>.

²⁷ Information Technology Industry Council, the Partnership for a New American Economy, and the U.S. Chamber of Commerce, *Help Wanted: The Role of Foreign Workers in the Innovation Economy* (Washington, DC: December 2012), p. 3, at <http://www.renewoureconomy.org/sites/all/themes/pnae/stem-report.pdf>.

According to a 2011 report from the Partnership for a New American Economy, immigrants were founders of 18 percent of all Fortune 500 companies, including many high-tech giants. The newer the company, the more likely it was to have an immigrant founder.²⁸ A 2012 report concluded that immigrant-founded engineering and technology companies founded between 2006 and 2012 in the U.S. employed around 560,000 people and produced over \$63 billion in sales in 2012.²⁹ The report's authors note that immigrants will undoubtedly "remain a critical asset for maintaining U.S. competitiveness in the global economy."³⁰

Immigrants bring job-creating innovation and ideas not only to the businesses they create, but to the businesses within which they work. A September 2010 report from the Brookings Institution notes that "among people with advanced degrees, immigrants are three times more likely to file patents than U.S.-born citizens."³¹ The benefits of these patents extend to native-born researchers and scientists. There is evidence that foreign-born and American-born scientists are benefiting from and building off of each other's work. The increased number of patents received by immigrants coincides with an increase in the number of patents awarded to native-born Americans, thus increasing the overall innovative capacity of the U.S.³²

In many U.S. metropolitan areas, the innovation economy, and the high-skilled jobs related to it, drive prosperity for a broader base of workers living in the region, through more jobs and higher salaries.³³ Innovation industry and STEM jobs tend to have higher than average multiplier effects, which spur greater job creation, especially in the surrounding localities.³⁴ Jobs in the innovation economy generate a disproportionate number of local jobs in other industries. An analysis of 11 million American workers in 320 metropolitan areas shows that each new high-tech job in a metropolitan area creates five additional long-term local jobs outside of the high-tech sector.³⁵ Furthermore, the five new jobs created for each new high-tech job benefit a diverse group of workers: two new jobs for professional workers such as attorneys and doctors, and three new positions in nonprofessional occupations such as service industry jobs.³⁶

²⁸ Partnership for a New American Economy, *The "New American" Fortune 500* (New York, NY: June 2011), pp. 11, 17, 21, at http://www.nyc.gov/html/om/pdf/2011/partnership_for_a_new_american_economy_fortune_500.pdf.

²⁹ Vivek Wadhwa, AnnaLee Saxenian, and Francis Daniel Siciliano II, *Then and Now: America's New Immigrant Entrepreneurs: Part VII* (Kansas City, MO: Ewing Marion Kauffman Foundation, October 2012), at http://www.kauffman.org/~media/kauffman_org/research%20reports%20and%20covers/2012/10/then_and_now_a_mericas_new_immigrant_entrepreneurs.pdf.

³⁰ *Ibid.*, p. 27.

³¹ Michael Greenstone and Adam Looney, *Ten Economic Facts About Immigration* (Washington, DC: The Hamilton Project of The Brookings Institution, September 2010), p. 11, at http://www.brookings.edu/~media/research/files/reports/2010/9/immigration-greenstone-looney/09_immigration.pdf.

³² William R. Kerr and William F. Lincoln, *The Supply Side of Innovation: H-1B Visa Reforms and US Ethnic Invention*, Working Paper No. 09-005 (Boston, MA: Harvard Business School, December 2008).

³³ Jonathan Rothwell, "Regional Inequality and 'The New Geography of Jobs'" (Washington, DC: The Brookings Institution, August 7, 2012), at <http://www.brookings.edu/blogs/the-avenue/posts/2012/08/07-regional-inequality-rothwell>.

³⁴ Mark Muro, "Multiplier Effects: Connecting the Innovation and Opportunity Agendas" (Washington, DC: The Brookings Institution, August 23, 2012), at <http://www.brookings.edu/blogs/the-avenue/posts/2012/08/23-multiplier-effects-muro>.

³⁵ Enrico Moretti, *The New Geography of Jobs* (New York, NY: Houghton Mifflin, 2012).

³⁶ *Ibid.*

C. Beyond High-Tech: Skilled Professionals in Agriculture, Manufacturing, and Healthcare

Although the high-tech industry garners the most public attention regarding high-skilled immigration, high-skilled immigrants play a host of other crucial roles in the U.S. economy and society. The agriculture industry, crucially important to the country's food security, relies on skilled workers, including engineers, scientists, and technicians.³⁷ Different companies across industries now create software, such as auto manufacturers for cars, appliance manufacturers for "smart" appliances, and healthcare companies to manage medical data.³⁸ A 2011 McKinsey Global Institute report estimated that by 2018 there will be a potential shortfall of 1.5 million data-savvy managers and analysts to fill U.S. positions requiring know-how of big data analysis.³⁹

The healthcare industry provides a key example of the contributions of, and need for, high-skilled immigrants. As of 2013, 22 percent of all U.S. healthcare professionals were foreign-born.⁴⁰ Immigrants also play a major role in specialized areas of medicine. For example, a 2013 report found that over 40 percent of cancer researchers at top U.S. cancer institutes are immigrants.⁴¹

Moreover, as the U.S. population grows older and grows in size, immigrant physicians, nurses, and other healthcare workers will play increasingly important roles. Recent research finds that the United States is experiencing an expanding shortage of physicians which will worsen in coming decades. Studies suggest that by 2025 the United States will require up to 90,000 more physicians,⁴² including nearly 52,000 primary-care physicians.⁴³ Additionally, the Department of Health and Human Services (HHS) reports that, as of January 2013, there were 5,864 primary-care Health Professional Shortage Areas (HPSAs) with 57 million people living in them.⁴⁴

³⁷ Stephanie Mercier, *Employing Agriculture: How the Midwest Farm and Food Sector Relies on Immigrant Labor* (Chicago, IL: The Chicago Council on Global Affairs, 2014), at

http://www.thechicagocouncil.org/sites/default/files/Midwest_Ag_final.pdf.

³⁸ Written Testimony of Brad Smith, General Counsel and Executive Vice President, Legal and Corporate Affairs, Microsoft Corporation, to U.S. Senate Judiciary Committee, Hearing on High-Skilled Immigration, Washington D.C. (April 22, 2013), at <http://www.judiciary.senate.gov/imo/media/doc/04-22-13BradSmithTestimony.pdf>.

³⁹ McKinsey Global Institute, "Big data: The next frontier for innovation, competition, and productivity" (May 2011), at http://www.mckinsey.com/insights/business_technology/big_data_the_next_frontier_for_innovation.

⁴⁰ Governor's Advisory Council for Refugees and Immigrants Task Force on Immigrant Healthcare Professionals in Massachusetts, "Rx For Strengthening Massachusetts' Economy And Healthcare System" (December 2014), pp. 11-12 & fn. 9, at http://www.miracoalition.org/images/stories/gac_task_force_report_final-12.18.14.pdf, analyzing data from the 2013 National Survey of College Graduates (NSCG), at <http://www.nsf.gov/statistics/srvygrads>.

⁴¹ Stuart Anderson, *The Contributions of Immigrants to Cancer Research in America* (Arlington, VA: National Foundation for American Policy, 2013), at http://www.nfap.com/pdf/NFAP_Policy_Brief.The%20Contributions%20of%20Immigrants%20to%20Cancer%20Research%20in%20America.March%2005%202013.pdf.

⁴² Association of American Medical Colleges' Center for Workforce Studies, *Physician Supply and Demand Through 2025: Key Findings* (Washington, DC: American Association of Medical Colleges, 2015), at <https://www.aamc.org/download/426260/data/physiciansupplyanddemandthrough2025keyfindings.pdf>.

⁴³ Stephen Petterson, et al., "Projecting US Primary Care Physician Workforce Needs: 2010-2025," *Annals of Family Medicine* 10, no. 6 (November/December 2012).

⁴⁴ Paul McDaniel, "Skilled Immigrants Filling U.S. Health Care Needs," *Immigration Impact* (Feb. 25, 2013), at <http://immigrationimpact.com/2013/02/25/skilled-immigrants-filling-u-s-health-care-needs/>, citing U.S. Department of Health and Human Services Health Resources and Services Administration, "Shortage Designation: Health Professional Shortage Areas & Medically Underserved Areas/Populations," at <http://www.hrsa.gov/shortage/>.

These shortages will not be limited to doctors. Dentist-to-population ratios have been dropping for the past decade and are expected to decline further by 2020, with dentist shortages particularly acute for children as well as low-income and minority communities.⁴⁵ Studies also project significant shortages in pharmacists, mental health professionals, and public health professionals.⁴⁶

The opportunity for immigrants to fill these gaps is significant.⁴⁷ Moreover, foreign-trained physicians are more likely than U.S. medical graduates to work in underserved and rural areas and provide primary care.⁴⁸ Employing immigrant physicians would, in turn, reduce state healthcare costs by improving preventative and chronic disease care. For example, a study suggested that Minnesota could save over \$63 million by using foreign-trained physicians to address shortages in medically underserved areas.⁴⁹

D. Beyond Silicon Valley: High-Skilled Immigrants Helping the Heartland

Beyond Silicon Valley, high-skilled immigrants and immigrant entrepreneurs are significantly contributing to local economies and communities across America and in the heartland. Examples include:

- In Iowa, skilled workers—immigrant and native-born—contribute to the success of many Iowa-based companies and institutions such as Rockwell Collins and the University of Iowa. Des Moines has become a key center of the “Silicon Prairie” technology corridor.⁵⁰ It is home to Dwolla, an online and mobile money transfer company that is a developing success story, having attracted millions in venture capital funding.⁵¹ Further, Des Moines

⁴⁵ The Pew Charitable Trusts, “In Search of Dental Care: Two Types of Dentist Shortages Limit Children’s Access to Care” (June 2013), at

http://www.pewtrusts.org/~media/legacy/uploadedfiles/pcs_assets/2013/Insearchofdentalcarepdf.pdf.

⁴⁶ See U.S. Department of Health and Human Services, Health Resources and Services Administration, Bureau of Health Professions, “The Adequacy of Pharmacist Supply: 2004 to 2030” (December 2008), at

<http://bhpr.hrsa.gov/healthworkforce/reports/pharmsupply20042030.pdf>; U.S. Department of Labor, Bureau of Labor Statistics, *Occupational Outlook Handbook, Psychologists*, 2012-2013 Edition, at

<http://www.bls.gov/ooh/Life-Physical-and-Social-Science/Psychologists.htm#tab-1>; and Teddi Dineley Johnson

“Shortage of U.S. Public Health Workers Projected to Worsen: About 250,000 New Workers Needed,” *The Nation’s Health* 38, no. 4 (2008), at <http://www.medscape.com/viewarticle/573792>.

⁴⁷ Allison Squires and Hiram Beltrán-Sánchez, “Strengthening Health Systems in North and Central America: What Role for Migration?” (Washington, DC: Migration Policy Institute, February 2013), at

<http://www.migrationpolicy.org/research/strengthening-health-systems-north-and-central-america-what-role-migration>.

⁴⁸ Linda Rabben, “Credential Recognition in the United States for Foreign Professionals” (Washington DC: Migration Policy Institute 2013), pp. 4, 6-7, at <http://www.migrationpolicy.org/research/credential-recognition-united-states-foreign-professionals>.

⁴⁹ Minnesota Department of Health, Task Force on Foreign-Trained Physicians, “Report to the Minnesota Legislature” (January 2015), at

<http://www.health.state.mn.us/news/pressrel/2015/physiciantaskforce012815.html>.

⁵⁰ Matt Vasilogambros and Mauro Whiteman, “Do the Most Hipster Thing Possible—Move to Des Moines,” *National Journal* (Oct. 16, 2014), at <http://www.nationaljournal.com/next-america/population-2043/do-the-most-hipster-thing-possible-move-to-des-moines-20141016>.

⁵¹ Lynn Hicks, “Dwolla founder’s burden of starting a tech revolution,” *USA Today* (Jan. 21, 2013), available at <http://www.usatoday.com/story/money/business/2013/01/20/dwolla-founder-ben-milne/1849469/>; Eric Markowitz, “30 Under 30: Taking On the Entire Banking System,” *Inc.* (July 2, 2012), at <http://www.inc.com/30under30/eric-markowitz/ben-milne-founder-dwolla.html>.

hosts the Iowa Startup Accelerator⁵² and Gravitare, a co-working space,⁵³ after hosting the tech incubator Startup City Des Moines from 2011 to 2014.⁵⁴

- The same goes for Alabama, which has attracted a variety of large companies—Mercedes Benz U.S. International, Hyundai, Honda, and several aerospace industry companies—to move there and create jobs in the state. Alabama’s universities also require a skilled pool of workers, which is supplemented by skilled immigrant talent. The University of Alabama at Birmingham (UAB) is the largest single employer in Alabama with more than 23,000 employees, a major medical center, and a major medical research university.⁵⁵ UAB played a large role in Birmingham’s shift from an industrial iron and steel manufacturing center to a post-industrial service-oriented city. In 2013, UAB’s annual economic impact on Alabama exceeded \$5 billion.⁵⁶
- In Texas, San Antonio and Austin have built knowledge economies around the universities and research industries located there. Houston attracts high-skilled workers for the area’s oil industry.
- In South Carolina, Greenville and Spartanburg have attracted industries that need high-skilled workers.
- And the universities, research organizations, and corporations of the North Carolina Piedmont, in Charlotte, Greensboro, Raleigh, and the Research Triangle area, create a high demand for high-skilled workers.

An increasing number of local communities are recognizing the need to be receptive to immigrants—for example, as large numbers of U.S. workers have been migrating from “Rustbelt” cities to the “Sunbelt,” and cities must replenish their labor force. As a result, a growing list of cities and towns across the heartland are officially becoming places of welcome and openness to immigration.

In Michigan, for example, while only six percent of the state’s population is foreign-born, immigrants founded around one-third of high-tech companies in the state over the past decade.⁵⁷ The state, through its “Welcoming Michigan” campaign of building immigrant-friendly communities, clearly sees the need to attract immigrants to the area.⁵⁸ Detroit also recognizes this need. In 2010, the city released the “Global Detroit” report, which documents a start-up rate

⁵² Iowa Startup Accelerator, at <http://www.iowastartupaccelerator.com/#>.

⁵³ Megan Bannister, “Move-in begins as Des Moines’ Gravitare opens to public,” *Silicon Prairie News* (Sept. 3, 2014), at <http://siliconprairienews.com/2014/09/gravitate-move-in/>.

⁵⁴ Megan Bannister, “Come celebrate the last three years in Des Moines with StartupCity,” *Silicon Prairie News* (Aug. 12, 2014), at <http://siliconprairienews.com/2014/08/come-celebrate-the-last-three-years-in-des-moines-with-startupcity/>.

⁵⁵ University of Alabama at Birmingham, “UAB Annual Impact on the Alabama Economy” (Birmingham, AL: University of Alabama at Birmingham, 2014), at <http://www.uab.edu/impact/>.

⁵⁶ Ibid.

⁵⁷ The Chicago Council, *US Economic Competitiveness at Risk: A Midwest Call to Action on Immigration Reform* (Chicago, IL: The Chicago Council on Global Affairs, February 2013), p. 23, at <http://www.thechicagocouncil.org/publication/us-economic-competitiveness-risk-midwest-call-action>.

⁵⁸ Welcoming Michigan, <http://www.welcomingmichigan.org/content/learn-more>.

for immigrant-founded high-tech firms in Michigan that is six times the rate of the native-born population.⁵⁹

Additionally, nearly 50 cities and counties such as Dayton, OH⁶⁰ have passed “welcoming resolutions”—formal proclamations by local elected leaders expressing their recognition of the importance of immigration to their local economy, and their openness to the continued contributions of immigrants.⁶¹ In Minnesota, local leaders also acknowledge the positive contributions of immigrants. As a member of the Minnesota Chamber of Commerce states: “Immigrants aren’t just an asset because they numerically increase the workforce. They are also playing a key role as entrepreneurs in Minnesota and have transformed neighborhoods in both Minneapolis and St. Paul while helping revitalize downtowns in several regional centers around our state.”⁶²

Finally, from 2008 to 2012, the following five metro areas experienced the fastest growth in foreign students: Corvallis, Oregon; Dayton, Ohio; Tuscaloosa, Alabama; Louisville, Kentucky; and Eugene, Oregon.⁶³ Not surprisingly, foreign students who remain in the United States following graduation tend to stay in the same geographic area where they studied.⁶⁴ In fact, around 45 percent of foreign students extend their visas to work in the same metropolitan area.⁶⁵ In Michigan, for example, the Michigan Global Talent Retention Initiative is the nation’s first international student retention program. GTRI partners with 32 Michigan college campuses and has over 60 “Global Opportunity” employers to help connect Michigan’s 28,000 international students (over 60 percent of whom are STEM majors) with unmet talent needs of Michigan companies.⁶⁶

II. The Problems with the Current Immigration System and Policy Recommendations

Most observers agree that our current immigration system is outdated and dysfunctional, making it more difficult for the United States to compete in the global marketplace and attract the power and potential of high-skilled immigrants. Yet our immigration laws and policies remain mired in the past and are often an impediment to achieving economic growth, job creation, and global competitiveness. As it stands, the current immigration system simply does not provide the numbers of visas needed to respond to the legitimate demands of our dynamic economy. High-skilled immigrants face years of waiting for an available visa and an endless array of bureaucratic delays. And immigrants who are enrolled in or graduate from U.S. universities are increasingly being recruited to other countries where immigration processes are far more welcoming.

⁵⁹ Global Detroit, *Global Detroit: Final Report* (Detroit, MI: 2010), p. 57, at http://www.welcomingamerica.org/wp-content/uploads/2011/06/global_detroit_full_report_with_appendices.pdf.

⁶⁰ Welcome Dayton, <http://www.welcomedayton.org/>.

⁶¹ Welcoming America: Building a Nation of Neighbors, <http://www.welcomingamerica.org/about-us/accomplishments/>.

⁶² Bill Blazar, Senior Vice President of Public Affairs and Business Development, Minnesota Chamber of Commerce, quoted in Chicago Council, *US Economic Competitiveness at Risk*, p. 40.

⁶³ Neil G. Ruiz, *The Geography of Foreign Students in U.S. Higher Education: Origins and Destinations* (Washington, DC: The Brookings Institution, 2014), at <http://www.brookings.edu/research/interactives/2014/geography-of-foreign-students#/M10420>.

⁶⁴ Ibid.

⁶⁵ Ibid.

⁶⁶ Global Detroit, “GTRI” (Detroit, MI: Global Detroit, 2014), at <http://www.globaldetroit.com/partner-initiatives/gtri/>.

Other countries are spending billions of dollars trying to recruit high-skilled workers, and global competition is only becoming more fierce. For now, the United States continues to be in a position of strength in the global battle for talent. But if we squander this opportunity to reform our immigration system, we are jeopardizing a competitive advantage that has been critical to establishing ourselves as the world leader in innovation and entrepreneurship.

The following policy recommendations provide a framework for exploring such reforms.

- *Update the Current Visa Caps and Per-Country Quotas to Reflect the Needs of Our 21st Century Global Economy*

Our current visa caps and per-country quotas are out of touch with current economic realities. The Immigration Act of 1990 provided the last major revision of our immigration system. It raised the annual ceiling on employment-based immigration from 56,000 to 140,000 and created the five employment-based immigration preferences in place today. For context, in 1990 only 15 percent of American households had a personal computer.⁶⁷

Despite dramatic changes to our economy since then—such as the entire technology boom—our immigration laws have not been updated to reflect current realities. For example, under current U.S. law, no more than 140,000 employment-based green cards are issued in a fiscal year. Wait times for skilled immigrants range from 6 to 12 years (or more) in most categories.⁶⁸ Moreover, the H-1B visa for highly skilled immigrants is currently capped at 65,000 visas per year, with 20,000 additional visas for foreign professionals who graduate with a Master’s or Doctorate from a U.S. university. The demand for these visas has outstripped supply every year since 2003, when the quotas were reduced from 195,000 back down to the 65,000 limit set in 1990. In some years, the limit has been reached on the first day the visas are made available.⁶⁹

Our immigration policies should take steps to eliminate the immigrant visa backlog. The long wait for visas means that employers seek out temporary workers when what they really need is permanent workers. As a result, the temporary visa programs are strained. This is inefficient and should be addressed by Congress.

Our laws and policies also must recognize that the H-1B and other temporary nonimmigrant visa programs play an important role in U.S. economic growth, innovation, and competitiveness. Companies, including those that make world-class products and deliver services to clients across the economy, rely on these visa programs to fill labor-market gaps and perform critical business functions.

⁶⁷ Written Testimony of Brad Smith, General Counsel and Executive Vice President, Legal and Corporate Affairs, Microsoft Corporation, to U.S. Senate Judiciary Committee, Hearing on High-Skilled Immigration, Washington D.C. (April 22, 2013), p. 8, at <http://www.judiciary.senate.gov/imo/media/doc/04-22-13BradSmithTestimony.pdf>.

⁶⁸ Stuart Anderson, “U.S. Immigration Reform Should Focus on Improving the Employment-Based Visa System,” Immigration Reform Bulletin (Washington, DC: Cato Institute, January 2011), at http://object.cato.org/sites/cato.org/files/pubs/pdf/irb_january2011.pdf; National Foundation for American Policy, “Employment-Based Green Card Projections Point to Decade-Long Waits” (November 2009), at <http://www.nfap.com/pdf/091117pb.pdf>.

⁶⁹ Immigration Policy Center, *High-Skilled Workers and Twenty-First Century Innovation: The H-1B Program’s Impact on Wages, Jobs, and the Economy* (Washington, DC: American Immigration Council, April 2014), at <http://www.immigrationpolicy.org/just-facts/h-1b-program%E2%80%99s-impact-wages-jobs-and-economy>.

One lesson learned from the immigration reforms of 1986 and 1990 is that it is impossible to predict the business conditions or the demands of the U.S. labor market years in advance. We should not box ourselves in with arbitrary visa caps and per-country quotas.⁷⁰

- *Create Pathways to Retain Talent Educated and Trained in the United States*

Growing numbers of U.S.-educated immigrants are returning to their home countries. Yet, these graduates offer much-needed skills and talent and can help to address our current labor shortages and ensure that the United States remains competitive in a global market. The Brookings Institution's Metropolitan Policy Program concluded that, "metro areas that retain high shares of their foreign graduates under the temporary Optional Practical Training (OPT) program tend to be either large diversified economies (e.g., New York, Los Angeles), or specialized labor markets that align closely with foreign graduates' training (e.g., Honolulu, Seattle, Las Vegas)."⁷¹ Particularly in the latter category, it is crucial for these markets to retain those graduates whose training is aligned with local needs. The U.S. immigration system should provide clear and efficient pathways to both permanent residence and temporary work visas for foreign-born graduates of U.S. universities.

- *Support STEM Education in the United States to Prepare for Future Labor Needs*

Although the United States needs policies that help retain talented foreign-born graduates from our universities, at the same time, we must commit to strengthening and encouraging STEM education at the secondary and post-secondary levels, as well as retraining our mid-career workers. Dedicated funding from increased private sector visa fees to support STEM education and training is crucial to this effort. Immigration and education reforms together will help solve the problem of a more robust U.S. STEM pipeline.

- *Pursue Enforcement Actions Against Employers Who Violate the Laws in Order to Protect U.S. Workers*

Certainly, instances of abuse must be taken seriously, and our permanent and temporary immigration categories can and should be strengthened to guard against fraud and to protect workers. For example, there are employers who bring an H-1B worker here and fail to pay the required wage or who cheat the system by calculating the required wage in an inexpensive market and then employing the person in a more expensive market where the wage would be higher. These are serious violations, but they are violations that can be enforced under today's rules. Any solution to this problem, including improved enforcement, that denies the important role that our temporary skilled worker visas play in a global economy is a dangerous mistake.

- *Implement Reforms that Will Increase Flexibility, Predictability, and Consistency in the Immigration Process*

⁷⁰ Immigration Policy Center, *The U.S. Economy Still Needs Highly Skilled Foreign Workers* (Washington, DC: American Immigration Council, 2011), at <http://immigrationpolicy.org/sites/default/files/docs/U.S. Economy Still Needs Highly Skilled Foreign Workers.pdf>.

⁷¹ Neil G. Ruiz, *The Geography of Foreign Students in U.S. Higher Education: Origins and Destinations* (Washington, DC: The Brookings Institution, 2014).

More flexibility, predictability, and consistency are needed in the U.S. immigration system. For example, the permanent-temporary visa dichotomy often fails to work in the best interests of employers or workers. In some cases, employers may only be able to obtain visas for temporary workers when they actually need permanent workers. Workers who arrive on temporary visas may find permanent jobs, but are unable to adjust to a permanent visa under the current system. And employees are limited in their ability to change jobs, even though this adversely impacts both individual workers and the U.S. economy. Put simply, our legal immigration system does not have the flexibility needed to respond to the country's evolving economic needs.

Moreover, our current system lacks consistency and predictability in the adjudication of immigration applications. For example, visa denial rates have gone up and, increasingly, employers must respond to time-consuming Requests for Evidence (RFE) after they have submitted an application. According to the National Foundation for American Policy, there are “numerous examples of superfluous Requests for Evidence. Employers say delaying applications for months effectively kills applications for people working on time-sensitive projects.”⁷² Also, “if one considers that in FY 2011 63 percent of all L-1B petitions received a Request for Evidence and 27 percent were issued a denial, that means U.S. Citizenship and Immigration Services adjudicators denied or delayed between 63 percent to 90 percent of all L-1B petitions in 2011. In comparison, in FY 2004, only 2 percent of L-1B petitions for employees with specialized knowledge involved a Request for Evidence.” Additionally, “denial rates for H-1B petitions increased from 11 percent in FY 2007 to 29 percent in FY 2009. For H-1B petitions, the Request for Evidence rate rose from 4 percent in FY 2004, to a high of 35 percent in FY 2009, according to USCIS.”⁷³ Clearly, these inefficiencies and the uncertainties they perpetuate are costly to employers and employees.⁷⁴

Reforms should create a nimble and efficient system that responds in real-time to the needs of the market by giving employers the ability to fill positions quickly. This includes increased ability to transition from one visa to another; expanded portability, which would provide more flexibility in changing jobs; and clearer rules and adherence to established policies.

III. Conclusion

As the Council on Foreign Relations' Independent Task Force on U.S. Immigration Policy noted several years ago:

“Immigration has helped make the U.S. economy, despite its recent difficulties, into the world's strongest and most dynamic; maintaining that economic advantage is the foundation of America's influence and power in the world. If the United States loses its economic edge, its power will diminish. Getting immigration policy right is therefore critical to U.S. economic and political leadership.”⁷⁵

⁷² Stuart Anderson, “New Research Finds Soaring Denial Rates for High Skill Professionals,” *Forbes* (February 12, 2012), at <http://www.forbes.com/sites/stuartanderson/2012/02/12/new-research-finds-soaring-denial-rates-for-high-skill-professionals/>.

⁷³ *Ibid.*

⁷⁴ *Ibid.*

⁷⁵ Jeb Bush, Thomas F. McLarty III, and Edward Alden, *U.S. Immigration Policy: Independent Task Force Report No. 63* (Washington, DC: Council on Foreign Relations, 2009), p. 13, at <http://www.cfr.org/immigration/us-immigration-policy/p20030>.

The United States must not squander the brain gain it has enjoyed in the past by letting its outdated immigration system decay. Many other countries around the world have taken steps to attract high-skilled workers who are now choosing other destinations when they encounter barriers for migration to the United States. For the United States to remain globally competitive, we must embrace the contributions and opportunities brought by high-skilled immigrants.

Yet, we must be mindful that the admission of high-skilled immigrants, though a critical part of our immigration system, is only one piece of a much larger system that has been largely abandoned. Our elected leaders must strive to create a workable, humane system of immigration that benefits workers, families, and business across the entire country and economy. Today's hearing provides a welcome opportunity to delve into an integral aspect of this important conversation.