

Not Lost in Translation

The Growing Importance of Foreign Language Skills in the U.S. Job Market



Executive Summary

In today's globalized world, businesses need employees who can serve customers not only in English, but in a wide range of other languages as well. In 2013 a record 305,000 U.S. companies reported exporting goods abroad.¹ Similarly, customers here on U.S. soil are growing increasingly diverse. While just one in nine Americans spoke a language other than English at home in 1980, more than one in five did by 2014.² Given this, it is not surprising that by 2020, proficiency in more than one language will be among the most important skills a job seeker can have.³ Research has already shown that foreign language skills can lead to enhanced job opportunities and higher wages for today's workers.⁴

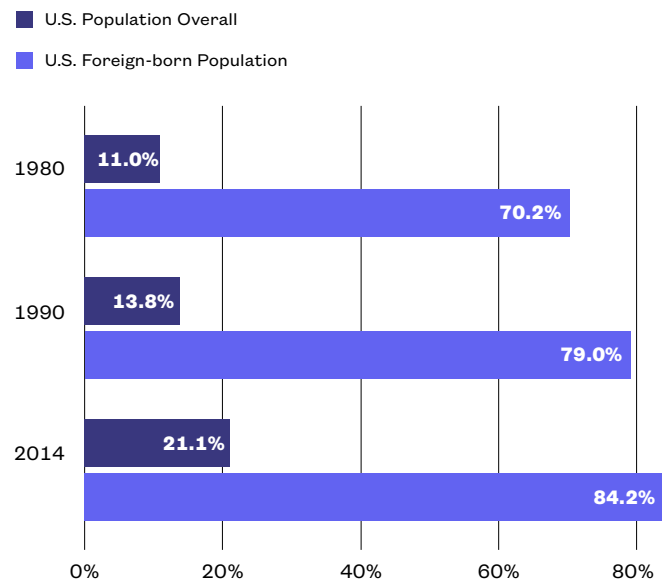
Yet, despite this rapid increase in demand for foreign language skills, fewer students in the United States are taking language classes.⁵ A 2015 study by the Modern Language Association found that between 2009 and 2013, a period when the number of students attending U.S. universities grew substantially, enrollment in foreign language courses at the university level dropped by more than 111,000 spots—the first decline since 1995. This meant that only 7 percent of college students were enrolled in a foreign language class by 2013. And even those taking language classes weren't likely to retain their skills for the long term. Indeed, less than 1 percent of American adults remain proficient in a language they learned in school.⁶

Previous attempts to understand the increasing demand for foreign language skills have been limited in scope. Many existing studies focus on demand for bilingual workers in fields like translation, interpretation, and language instruction—jobs in which language skills are clearly necessary. Other research has focused exclusively on Spanish-English bilinguals, or has relied on small-scale survey data.⁷ Such work does not

accurately reflect the rich diversity of today's labor and consumer market.⁸ It also fails to provide meaningful insights into how immigrants or their children could help to fill the growing demand for foreign language employees.

This study aims to overcome the limitations of past research, providing valuable insight into how the demand for bilingual workers has grown at both the state and national levels. We also explore demand for workers who speak specific languages including Arabic, Korean, or French. All this is possible largely due to our access to a unique resource: the Labor Insight tool by Burning Glass Technologies. Burning Glass, a leading labor market analytics firm, searches 40,000 job boards daily

FIGURE 1: PERCENTAGE OF KEY U.S. POPULATION GROUPS THAT SPOKE A LANGUAGE OTHER THAN ENGLISH AT HOME, 1980-2014



Source: American Community Survey, 1980, 1990, and 2014, 1-year samples

Key Findings

► The demand for bilingual workers is **rising**.

While U.S. employers posted roughly 240,000 job advertisements aimed at bilingual workers in 2010, that figure had more than doubled by 2015, growing to approximately 630,000. The share of postings seeking bilingual employees also increased, with the portion of online listings targeting bilingual individuals rising by 15.7 percent in the same time period.

► Employers are increasingly looking for workers who can speak **Chinese, Spanish, and Arabic**.

Employers posted more than three times more jobs for Chinese speakers in 2015 than they had just five years earlier. During the same time period, the number of U.S. job ads listing Spanish and Arabic as a desired skill increased by roughly 150 percent.

► Some employers have particularly strong demand for **bilingual workers**.

More than a third of the positions advertised by Bank of America in 2015 were for bilingual workers. At the health insurer Humana, meanwhile, almost one in four online posts asked for such skills—including almost 40 percent of the company's listings for registered nurses.

► There is a growing need for bilingual workers at both the **low and higher-ends** of the skill spectrum.

Fifteen of the 25 occupations (60 percent) with the highest demand for bilingual workers in 2015 were open to individuals with less than a bachelor's degree. These included jobs as tax preparers, customer service representatives, and medical assistants. Meanwhile, looking at the "prestige" of individual positions—an academic stand-in for income level—the fastest growth in bilingual listings from 2010 to 2015 was for so-called "high prestige" jobs, a category including financial managers, editors, and industrial engineers.

► Some states have **particularly high demand** for bilingual workers.

Despite being home to 12.4 percent of the overall U.S. working-age population, California accounted for 19.4 percent of all job ads seeking bilingual workers. Arizona displayed similar trends—accounting for just 2 percent of working-age adults, but 4 percent of bilingual job listings. Our analysis found that seven states—including Colorado, Oregon, and Texas—had considerably higher demand for bilingual speakers than would be expected based on their share of the working-age population overall.

to study the number and type of unique position being advertised by U.S. employers. The data provides us with a comprehensive picture of what today's employers are looking for—and also how the demand for bilingual workers has changed over the last few years.

The results of our analysis are clear. In the years since 2010, the United States has experienced strong job growth. During this period, however, workers who could speak a second language fluently faced a distinct

advantage. Employers added jobs at a much faster pace for bilingual individuals than they did for U.S. workers overall. This was especially true for workers speaking key languages such as Chinese, Spanish, and Arabic.

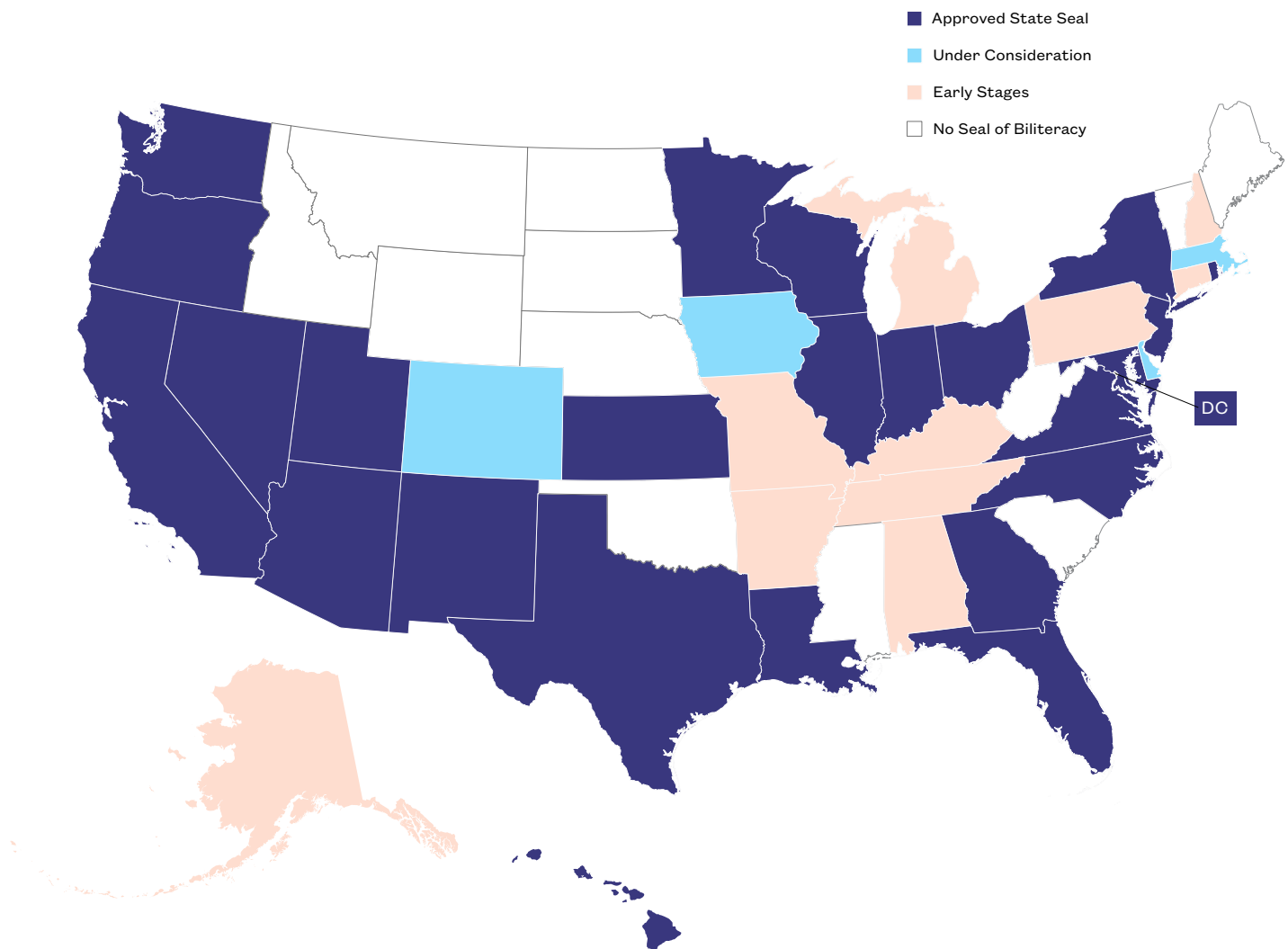
This report shows that today's employers are increasingly seeking out multilingual employees who can help them better compete and serve a wide range of customers. Immigrants may very well play an important role filling such labor gaps. America is currently home to

over 42 million immigrants—and more than five out of six of them report speaking a language other than English at home.⁹

The native-born can play an equally important role in meeting this demand, and in recent years a number of states have taken steps to recognize and promote students who thrive in foreign language education. Since 2008, almost 23 states and Washington, D.C. have

passed laws creating a “Seal of Biliteracy” that is placed on high school diplomas to indicate that graduates have achieved advanced language skills. Six other states are actively considering such legislation.¹⁰ Promoting such biliteracy initiatives—and providing job search support to immigrants with much-needed skills—will help ensure that employers have access to the workers they need to succeed not only now but into the future.

FIGURE 2: STATE LAWS REGARDING THE SEAL OF BILITERACY



Source: TheSealofBiliteracy.org, data current as of February 27, 2017

Background

Foreign language skills represent an advantage for individuals who possess these abilities, the businesses who employ these workers, and the American economy as a whole. Not only do multilingual employees allow businesses to widen their potential customer base, and increase their revenues, they also help them serve their existing customers better. The ability to communicate with clients in their native language is especially important in an industry like healthcare where language barriers are associated with less health education, worse patient care, and lower patient satisfaction.¹¹ Language barriers also have tangible economic consequences: A study by the U.S. Committee on Economic Development found that American businesses lose over \$2 billion each year because of language or cultural misunderstandings.¹²

As the United States becomes more diverse, it is not surprising that demand for multilingual employees has risen rapidly. To understand exactly how demand for foreign language skills has evolved since 2010, we use data from Burning Glass Technologies' Labor Insight tool, which includes information about the education, experience, and specific skills required for each job posting. This distinguishes it from other job databases, which tend to include information only on the occupation of the listing and its industry. With those added details, the Labor Insight dataset gives us a deeper understanding of the contemporary labor market and how demand for particular skills has evolved over time. For this reason, it has been used by many academics and policy researchers seeking to understand the needs of American employers and trends in the U.S. job market overall.¹³

We conducted multiple layers of analysis considering trends in specific job markets and industries, at both the state and national levels. Our focus is mainly on the

demand for workers who are fully fluent in English and another language—those who would be classified as bilingual. In the final section of the report, however, we discuss employer demand for five specific languages: Chinese, French, Spanish, Arabic, and Korean. In that section, data limitations require us to look at demand for workers with any proficiency in a language, ranging from competent to fluent speakers.

Americans lose almost **\$2 billion** each year because of language or cultural misunderstandings.

Before detailing our results, it is important to discuss the potential limitations of our approach. Our work looks solely at job listings that explicitly state that the employers would like to hire someone bilingual. When looking at the entire universe of jobs and positions advertised online, the share of jobs falling into this category is rather small, or less than 5 percent of the total. This figure, however, does not account for the many employers that may favor workers with language skills, while not explicitly stating so in job advertisements. It's also important to remember that the pool we're looking at is quite large. Employers advertised almost 28 million positions online in 2015 alone, and less than 5 percent of that total remains a large number.

The Increasing Demand for Bilingual Employees

Since 2010, the United States has experienced a meaningful increase in the demand for bilingual workers. In our work, we calculate this increase in two ways. First, we look at the raw number of jobs posted online in 2010 and 2015 that list bilingual ability as a desired attribute. Second, we look more closely at the share of all online job postings that target bilingual workers. Since the U.S. economy added a considerable number of jobs between 2010 and 2015—9,770,000 according to government estimates¹⁴—looking at the share of all online job postings aimed at bilinguals is particularly insightful. Because an increase in bilingual job postings could be caused by factors such as more employers choosing to advertise online, the share of bilingual listings provides a more accurate reflection of how demand for bilingual workers has increased over time.

As shown in Figures 3 and 4, employers were seeking far more bilingual workers in 2015 than they were in 2010. This is reflected in both the raw number of bilingual listings and the share of all U.S. job posts as well. In 2010, there were 239,267 job listings targeting bilinguals while in 2015, that

figure had more than doubled to 627,182. Meanwhile, the share of bilingual job postings increased by almost 16 percent.

Employers were seeking **far more bilingual workers** in 2015 than they were in 2010.

FIGURE 3: SHARE OF ONLINE JOB LISTINGS FOR BILINGUALS

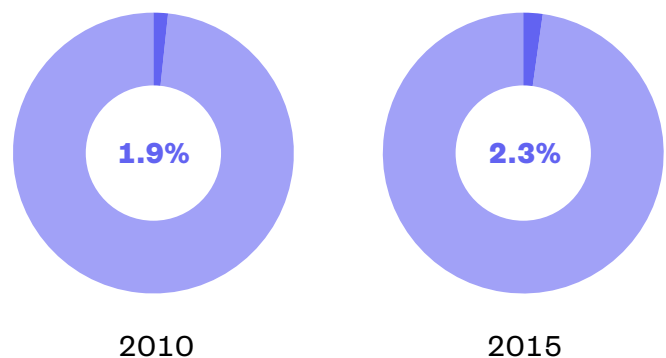
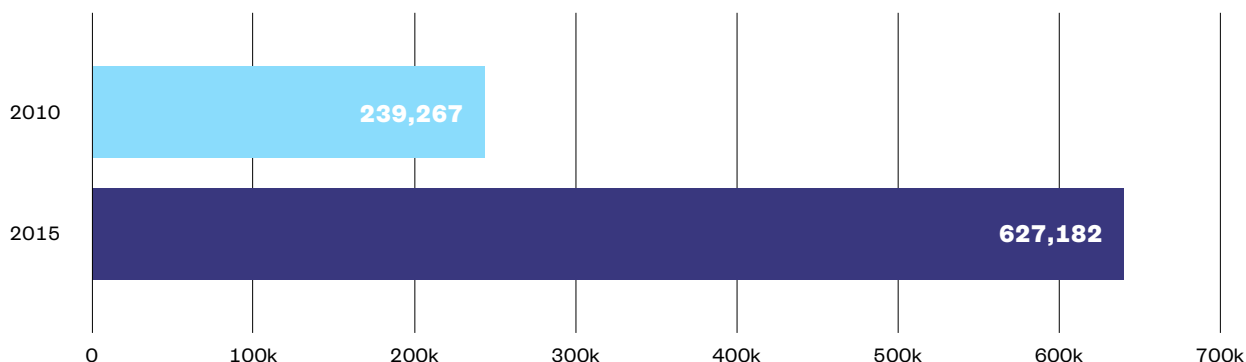


FIGURE 4: NUMBER OF ONLINE JOB LISTINGS FOR WORKERS WITH BILINGUAL SKILLS



What Types of Jobs Require Bilingual Skills?

Specific Occupations

Our initial layer of analysis revealed a general increase in the share of job postings requiring bilingual abilities. To deepen our understanding of the language-focused segments of the economy, we first identified the occupations that appeared to have the highest demand for workers with bilingual skills. The results of this analysis are presented in Figure 5 below, which shows the 25 occupations that appeared most frequently in bilingual job postings in 2015.

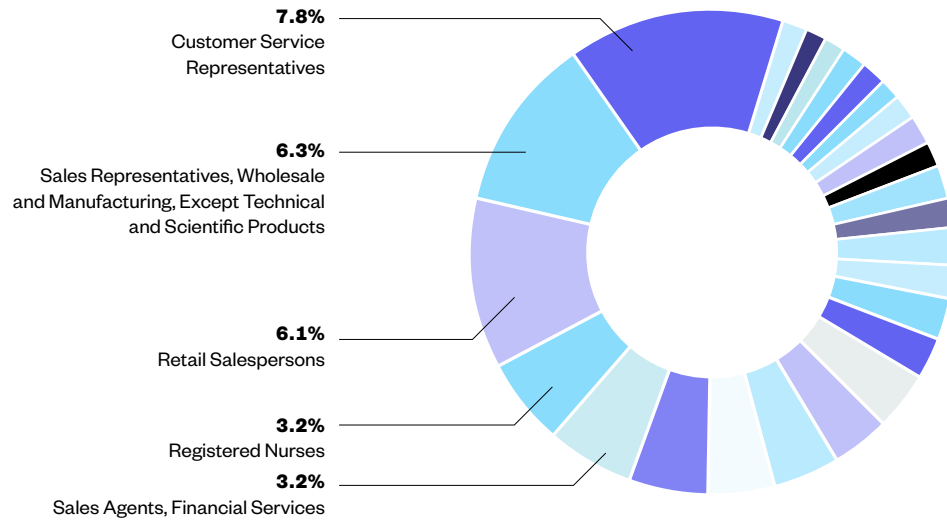
The ability to relate to people is critically important to the success of customer service representatives, the occupation that accounted for the largest share of bilingual job listings.

Some interesting commonalities exist among the professions with the highest demand for bilingual workers. Notably, almost all of the jobs involve high levels of human interaction. For example, the ability to relate to people is critically important to the success of customer service representatives, the occupation that accounted for the largest share of bilingual job listings in 2015, or 7.8 percent of the total. A similar thing could be said for individuals whose primary job is to sell products to customers, especially as U.S. residents and customers become increasingly multilingual and diverse. A range of different retail jobs—including retail salespeople, their supervisors, and sales agents in the financial services industry—together accounted for another 18.1 percent of all bilingual job listings in 2015.

Healthcare is another sector with an especially high demand for bilingual workers. Taken together, five healthcare-related jobs—registered nurses, medical assistants, medical and health services managers, licensed practical and vocational nurses, and medical secretaries—accounted for 7.6 percent of the bilingual jobs listed in 2015. Again, healthcare work requires direct interaction with patients, and for many healthcare workers, the ability to communicate clearly with patients—whether in person, by phone, or in e-mail—is crucial to success on the job. Numerous studies have linked the ability to provide quality healthcare with the ready availability of translators or foreign language services for diverse patients.¹⁵ A report by the Institute of Medicine, for example, found that individuals “whose care is inhibited due to a communication barrier...may be risk for poor outcomes.”¹⁶ Another study found that language barriers are associated with worse patient care and lower levels of patient satisfaction.¹⁷ Healthcare providers are better able to serve their patients when they can communicate with them in their native language, which explains the high demand for bilingual employees in this industry.

Skill and Income Level of Bilingual Positions

As part of our analysis, we also considered the minimum skill level and education required to enter some of the jobs most commonly in need of bilingual workers. While the qualifications were varied, the majority of the positions—including customer service representatives, retail salespeople, receptionists, and office clerks—required less than a bachelor’s degree, as shown in Table 1. Although this might seem to indicate that bilingual workers are predominately required in lesser-skilled positions, our

FIGURE 5: TOP 25 OCCUPATIONS ADVERTISED ONLINE FOR BILINGUAL WORKERS, 2015


	Occupation	Number of Total Bilingual Jobs Listings	Share of Total Bilingual Jobs Listings
1	Customer Service Representatives (43-4051.00)	46,948	7.8%
2	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	38,164	6.3%
3	Retail Salespersons (41-2031.00)	37,115	6.1%
4	Registered Nurses (29-1141.00)	19,211	3.2%
5	Sales Agents, Financial Services (41-3031.02)	19,012	3.2%
6	Tellers (43-3071.00)	16,346	2.7%
7	First-Line Supervisors of Retail Sales Workers (41-1011.00)	15,058	2.5%
8	Managers, All Other (11-9199.00)	13,992	2.3%
9	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (43-6014.00)	13,009	2.2%
10	Human Resources Specialists (13-1071.00)	11,966	2.0%
11	Medical Assistants (31-9092.00)	9,351	1.6%
12	Receptionists and Information Clerks (43-4171.00)	8,735	1.5%

	Occupation	Number of Total Bilingual Jobs Listings	Share of Total Bilingual Jobs Listings
13	Financial Managers, Branch or Department (11-3031.02)	8,009	1.3%
14	Medical and Health Services Managers (11-9111.00)	7,498	1.2%
15	Loan Officers (13-2072.00)	6,763	1.1%
16	Sales Managers (11-2022.00)	6,707	1.1%
17	Demonstrators and Product Promoters (41-9011.00)	6,051	1.0%
18	Tax Preparers (13-2082.00)	5,538	0.9%
19	Office Clerks, General (43-9061.00)	5,406	0.9%
20	First-Line Supervisors of Office and Administrative Support Workers (43-1011.00)	5,351	0.9%
21	Bookkeeping, Accounting, and Auditing Clerks (43-3031.00)	5,208	0.9%
22	Licensed Practical and Licensed Vocational Nurses (29-2061.00)	5,017	0.8%
23	Insurance Sales Agents (41-3021.00)	4,869	0.8%
24	General and Operations Managers (11-1021.00)	4,772	0.8%
25	Medical Secretaries (43-6013.00)	4,570	0.8%
	Other (not shown)	302,516	48.2%

TABLE 1: SKILL LEVEL AND PRESTIGE SCORE OF TOP 25 OCCUPATIONS SEEKING BILINGUAL WORKERS, 2015

	Occupation	Minimum Education Required for Entry	Skill Level	Prestige Score
1	Customer Service Representatives (43-4051.00)	High school diploma or equivalent	Less	40.4
2	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	High school diploma or equivalent	Less	36.6
3	Retail Salespersons (41-2031.00)	High school diploma or equivalent	Less	33.6
4	Registered Nurses (29-1141.00)	Bachelor's degree	High	66.4
5	Sales Agents, Financial Services (41-3031.02)	Bachelor's degree	High	52.8
6	Tellers (43-3071.00)	High school diploma or equivalent	Less	43.3
7	First-Line Supervisors of Retail Sales Workers (41-1011.00)	High school diploma or equivalent	Less	44.2
8	Managers, All Other (11-9199.00)	Bachelor's degree	High	56.6
9	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive (43-6014.00)	High school diploma or equivalent	Less	46.1
10	Human Resources Specialists (13-1071.00)	Bachelor's degree	High	42.3
11	Medical Assistants (31-9092.00)	Postsecondary nondegree award	Middle	50.5
12	Receptionists and Information Clerks (43-4171.00)	High school diploma or equivalent	Less	39.0
13	Financial Managers, Branch or Department (11-3031.02)	Bachelor's degree	High	58.8
14	Medical and Health Services Managers (11-9111.00)	Bachelor's degree	High	69.0
15	Loan Officers (13-2072.00)	Bachelor's degree	High	48.4
16	Sales Managers (11-2022.00)	Bachelor's degree	High	56.9
17	Demonstrators and Product Promoters (41-9011.00)	High school diploma or equivalent	Less	32.1
18	Tax Preparers (13-2082.00)	Some college, no degree	Middle	41.7
19	Office Clerks, General (43-9061.00)	High school diploma or equivalent	Less	33.8
20	First-Line Supervisors of Office and Administrative Support Workers (43-1011.00)	Bachelor's degree	High	51.0
21	Bookkeeping, Accounting, and Auditing Clerks (43-3031.00)	Some college, no degree	Middle	46.6
22	Licensed Practical and Licensed Vocational Nurses (29-2061.00)	Postsecondary nondegree award	Middle	59.9
23	Insurance Sales Agents (41-3021.00)	High school diploma or equivalent	Less	44.9
24	General and Operations Managers (11-1021.00)	Bachelor's degree	High	56.2
25	Medical Secretaries (43-6013.00)	High school diploma or equivalent	Less	46.1

analysis suggests this could soon be changing, as demand for bilingual workers in higher-skilled positions appears to have grown in recent years.

Demand for bilingual skills is not limited to one end of the skills-spectrum but instead is **spread across the economy** as a whole.

As part of our analysis, we also considered the minimum skill level and education required to enter some of the jobs most commonly in need of bilingual workers. While the qualifications were varied, the majority of the positions—including customer service representatives, retail salespeople, receptionists, and office clerks—required less than a bachelor’s degree, as shown in Table 2. Although this might seem to indicate that bilingual workers are predominately required in lesser-skilled positions, our analysis suggests this could soon be changing, as demand for bilingual workers in higher-skilled positions appears to have grown in recent years.

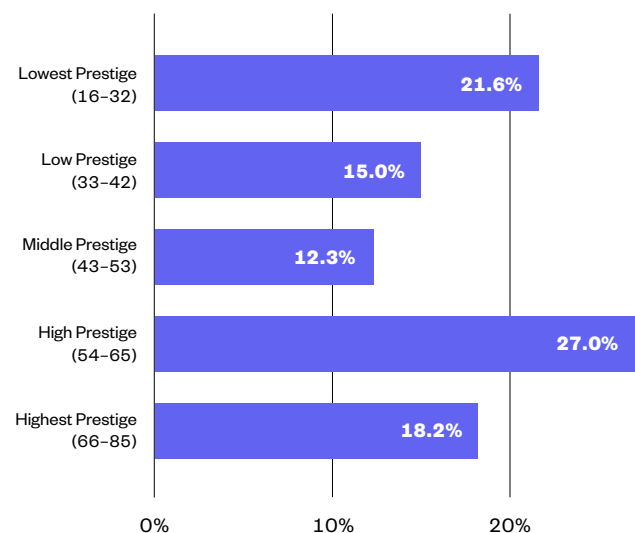
To understand how demand for high-skilled workers with bilingual skills has grown in recent years, it is useful to first understand some of the terminology we use in the report. The vast majority of jobs listings posted on Burning Glass do not include salary information. To get around this issue, we use a measurement called “prestige”—which refers to how people perceive the status of a specific job. The prestige scale that we use ranks jobs from 1 to 100, with 1 being the least prestigious score.¹⁸ This measurement has been used by a variety of academics in prior studies of the U.S. job market, most notably sociologist Judith Treas from the University of California, Irvine and Keiko Nakao who developed the scale.¹⁹

The bilingual jobs analyzed in this report had prestige scores that ranged from 16 to 85. To simplify our analysis, we grouped them into five prestige categories. Lowest prestige jobs, which include cashiers, janitors and maids, had prestige scores ranging from 16 to 32; low prestige jobs, such as food service managers and home health aides, had a prestige score between 33 and 42; and middle prestige jobs, which include secretaries and sales agents, ranged

from 43 to 53. Finally, high prestige jobs, such as editors and financial managers, had a score between 54 and 65, while the highest prestige group, which included web developers and lawyers, ranged from 66 to 85. Many of the jobs in the high and highest prestige categories required that workers have a bachelor’s degree or some postgraduate training.

In Table 2, we break down all online job listings for 2010 and 2015 by prestige category and then examine the share of listings in each prestige group targeting at bilingual workers. We find that from 2010 to 2015, the “high prestige” category experienced the fastest growth in bilingual listings—with the share of listings targeting such workers growing by 27 percent. (See Figure 6.) For comparison, the share of bilingual listings in the middle and highest prestige categories grew by 12.3 and 18.2 percent, respectively. For lowest-prestige workers, it grew by 21.6 percent. If high prestige positions continue to demand more and more bilingual workers, high skilled workers may soon find it is advantageous to have such skills. Our findings here also show that demand for bilingual skills is not limited to one end of the skills-spectrum but instead is spread across the economy as a whole.

FIGURE 6: CHANGE IN SHARE OF JOBS TARGETING BILINGUAL WORKERS, 2010-2015



Source: Burning Glass Technologies, Labor Insight. Data pulled on April 13, 2016

TABLE 2: GROWTH IN BILINGUAL JOBS BY PRESTIGE SCORE, 2010-2015

Prestige Category	Percentage of all Online Listings in Prestige Category for Bilingual Workers, 2010	Percentage of all Online Listings in Prestige Category for Bilingual Workers, 2015	Increase in Share, 2010-2015	Examples of Occupations in the Prestige Level
Lowest Prestige (16-32)	1.4%	1.7%	21.6%	Cashiers, Janitors, Maids
Low Prestige (33-42)	3.1%	3.6%	15.0%	Parts Salespersons, Food Service Managers, Nursing Assistants, Home Health Aids
Middle Prestige (43-53)	4.0%	4.5%	12.3%	Health Educators, Secretaries, Social Workers, Sales Agents
High Prestige (54-65)	1.9%	2.5%	27.0%	Financial Managers, Editors, Industrial Engineers, Physical Therapists
Highest Prestige (66-85)	1.3%	1.5%	18.2%	Web Developers, Software Developers, Lawyers, Physicians and Surgeons

Source: Burning Glass Technologies, Labor Insight. Data pulled on April 13, 2016

SPOTLIGHT ON

Bilingual Employees at GameStop, New York

Elizabeth Salazar has been an assistant manager at the GameStop in Kingston, New York, for the last five years. Over that time, she has seen her customer base become increasingly Hispanic, with the current demographic around 40 percent. “In the past two or three years, there have been a lot more Spanish-speaking customers,” she says, “A fair amount can barely speak English.” She says this is especially true when parents and grandparents come to the store without their children to buy holiday or birthday gifts. It is not enough for employees to merely be friendly; they must be able to talk about the ins and outs of Xbox cooling systems and Playstation adaptors.

Salazar says that, over the years, some of the store’s employees have been able to speak some limited Spanish. “They can understand what the customers are saying, but they can’t reciprocate,” she explains. Recently, she and the store’s manager decided that to adequately serve their customer base, they would need to hire a fully bilingual staff member.

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But Salazar’s store was in a peculiar position: According to thinking at the corporate level, if fewer than half of a store’s customers were Hispanic, it did not necessitate having a bilingual employee on staff. This means the company would not provide funding for extra employees or actively support the store in advertising for a bilingual employee. Instead, Salazar had to post



the typical GameStop job listing—one that mentions bilingual skills as a plus, but not as a requirement.

In the end, Salazar and her manager got lucky. A long-time customer who was fully fluent in both English and Spanish turned 18 and applied for the position. “Being able to have him on board will greatly improve customer service at the store,” Salazar says, adding that customers who might otherwise have visited a different GameStop—or a different gaming store altogether—will now come to her store. She adds that having a truly bilingual employee will encourage other bilingual job seekers to apply for future positions. “Other people who speak a second language will see our store as a job opportunity,” she says.

Which Employers Are Most in Need of Bilingual Workers?

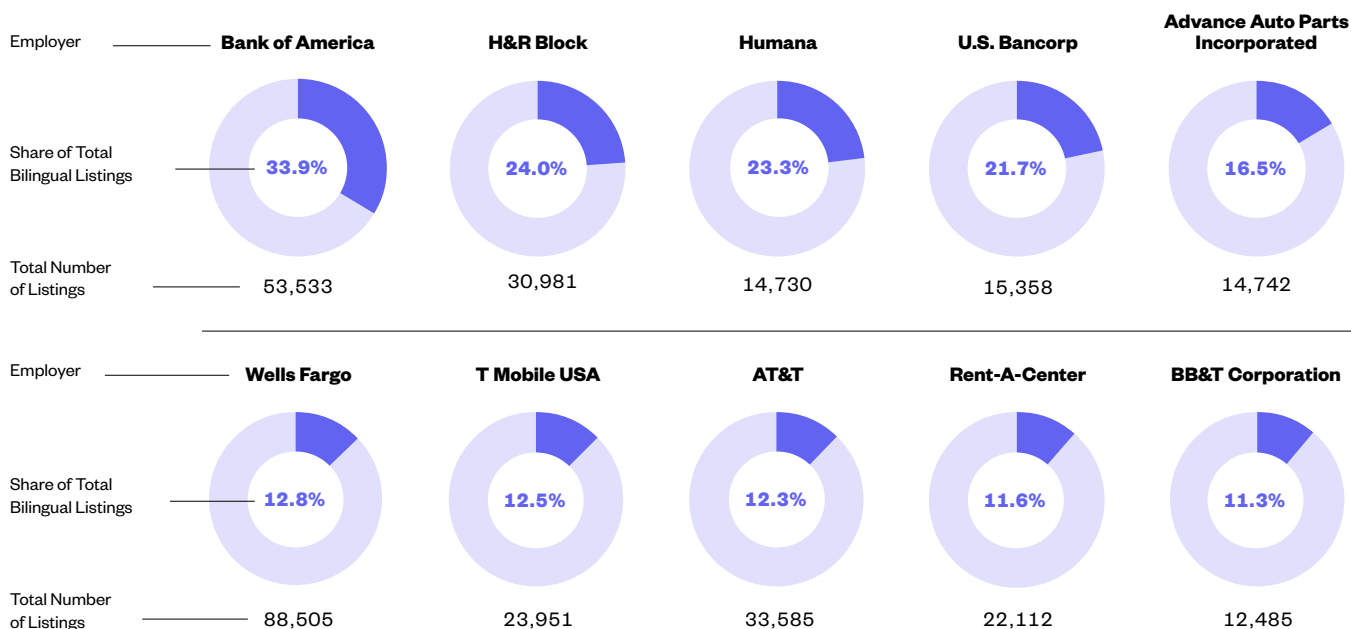
In addition to identifying the jobs for which bilingual abilities are especially needed, we also looked at data for individual employers, examining which firms had the greatest demand for bilingual workers in 2015. As expected based on our analysis of occupations, the companies that displayed the most need for bilingual workers in 2015 were those that provided services involving a high degree of human interaction. This included firms in the banking, healthcare, and telecommunications sectors, as well as an auto parts retailer.

As shown in Figure 7, Bank of America had the highest share of bilingual job postings. In 2015, 18,000 positions, or more than a third of the jobs posted online by the firm required bilingual skills. H&R Block, a company specializing in tax preparation, displayed similarly

strong interest in hiring bilingual employees. In 2015 almost 24 percent of that firm's online job postings were for bilingual workers. Humana, one of the country's largest health insurers, came in third with a similar share.

The effort by banks and other financial institutions to hire more bilingual employees is in many ways not a surprise. In recent years, there has been growing awareness that many immigrant populations—as well as the U.S. Latino population as a whole—have a high likelihood of underusing the U.S. banking system. In 2013, 22.7 percent of the foreign-born population that had not yet earned citizenship was without a bank account. Another 28 percent were underbanked, meaning they had a bank account but relied on alternative financial providers, such as pawn shops or check cashier services, for some of their

FIGURE 7: EMPLOYERS WITH THE LARGEST SHARE OF BILINGUAL LISTINGS, 2015



banking needs.²⁰ Among the U.S. population that spoke only Spanish at home, the figures were even higher—with almost three out of five individuals falling into one of those two categories.²¹ Growing awareness of the needs of such groups has led many major U.S. banks to take steps to provide more education and sales support to non-English speaking customers.²²

The data presented in Figure 7 allows us to pinpoint the kinds of companies that had strong need for bilingual workers in 2015. It does not, however, indicate the specific departments within those companies that require workers with such skills. To understand that, we analyzed the postings by the top eight employers to determine what positions they were trying to fill with bilingual workers. The results of this analysis are presented in Table 3. Once again, we find that many employers are seeking out bilingual workers for jobs that require high levels of direct interaction with customers or employees. For instance, bilingual individuals are regularly sought out to work as tax preparers, sales agents, financial managers, and retail supervisors. At Humana, much of this personal interaction

involves patients: Almost two out of every five postings for bilingual workers were for registered nurses. As discussed previously, research clearly shows the benefits of healthcare professionals being able to communicate with their patients in their native language.

Telecommunications firms are also big employers of bilingual individuals. At T Mobile, for example, more than 80 percent of the listings for bilingual workers were for sales positions in the company’s retail stores. At AT&T, the equivalent figure was 74.1 percent. Such figures were not surprising given that in recent years, the population using cellphones—and in particular, the sort of feature-intensive smartphones often tested in stores—has become increasingly diverse. In 2015, 86.6 percent of Asians and 82.4 percent of Hispanics in the United States owned smartphones, compared to 74.2 percent of whites.²³ Bilingual Hispanics in particular are the country’s most frequent smartphone users—spending almost 50 percent more time on mobile phone calls in the average month than the U.S. population overall.²⁴

TABLE 3: WITHIN TOP EMPLOYERS, JOBS MOST COMMONLY TARGETING BILINGUAL WORKERS, 2015

Bank of America	Number of Bilingual Jobs	Share of Listings	H&R Block	Number of Bilingual Jobs	Share of Listings
Sales Agents, Financial Services (41-3031.02)	8,578	50.4%	Tax Preparers (13-2082.00)	4,667	62.8%
Financial Managers, Branch or Department (11-3031.02)	4,387	25.8%	Receptionists and Information Clerks (43-4171.00)	2,499	33.6%
Tellers (43-3071.00)	1,540	9.1%	First-Line Supervisors of Retail Sales Workers (41-1011.00)	85	1.1%
Personal Financial Advisors (13-2052.00)	901	5.3%	Market Research Analysts and Marketing Specialists (13-1161.00)	72	1.0%
Loan Officers (13-2072.00)	468	2.8%	General and Operations Managers (11-1021.00)	52	0.7%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	369	2.2%	Customer Service Representatives (43-4051.00)	18	0.2%
Managers, All Other (11-9199.00)	129	0.8%	Sales Managers (11-2022.00)	10	0.1%
Customer Service Representatives (43-4051.00)	125	0.7%	Computer User Support Specialists (15-1151.00)	6	0.1%
Physician Assistants (29-1071.00)	61	0.4%	Human Resources Specialists (13-1071.00)	5	0.1%
General and Operations Managers (11-1021.00)	56	0.3%	Insurance Sales Agents (41-3021.00)	4	0.1%

Humana			U.S. Bancorp		
Registered Nurses (29-1141.00)	1,297	38.5%	Tellers (43-3071.00)	3,190	95.6%
Medical Assistants (31-9092.00)	204	6.1%	Sales Agents, Financial Services (41-3031.02)	38	1.1%
Insurance Sales Agents (41-3021.00)	130	3.9%	First-Line Supervisors of Office and Administrative Support Workers (43-1011.00)	31	0.9%
Customer Service Representatives (43-4051.00)	118	3.5%	Physician Assistants (29-1071.00)	22	0.7%
Licensed Practical and Licensed Vocational Nurses (29-2061.00)	105	3.1%	Financial Managers, Branch or Department (11-3031.02)	21	0.6%
First-Line Supervisors of Non-Retail Sales Workers (41-1012.00)	82	2.4%	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	8	0.2%
Social and Community Service Managers (11-9151.00)	78	2.3%	Customer Service Representatives (43-4051.00)	5	0.2%
Medical and Health Services Managers (11-9111.00)	66	2.0%	First-Line Supervisors of Retail Sales Workers (41-1011.00)	3	0.1%
Receptionists and Information Clerks (43-4171.00)	64	1.9%	Human Resources Specialists (13-1071.00)	3	0.1%
Pharmacy Technicians (29-2052.00)	60	1.8%	Loan Officers (13-2072.00)	3	0.1%

Advance Auto Parts			Wells Fargo		
	Number of Bilingual Jobs	Share of Listings		Number of Bilingual Jobs	Share of Listings
First-Line Supervisors of Retail Sales Workers (41-1011.00)	826	34.0%	Loan Officers (13-2072.00)	3,986	35.3%
Parts Salespersons (41-2022.00)	688	28.3%	Tellers (43-3071.00)	3,216	28.5%
Weighers, Measurers, Checkers, and Samplers, Recordkeeping (43-5111.00)	294	12.1%	Sales Agents, Financial Services (41-3031.02)	1,017	9.0%
Order Fillers, Wholesale and Retail Sales (43-5081.04)	293	12.1%	Loan Interviewers and Clerks (43-4131.00)	882	7.8%
General and Operations Managers (11-1021.00)	170	7.0%	Customer Service Representatives (43-4051.00)	784	6.9%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	37	1.5%	First-Line Supervisors of Retail Sales Workers (41-1011.00)	280	2.5%
Driver/Sales Workers (53-3031.00)	34	1.4%	Financial Managers, Branch or Department (11-3031.02)	260	2.3%
Laborers and Freight, Stock, and Material Movers, Hand (53-7062.00)	32	1.3%	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	222	2.0%
Industrial Engineers (17-2112.00)	15	0.6%	Bill and Account Collectors (43-3011.00)	101	0.9%
Storage and Distribution Managers (11-3071.02)	13	0.5%	Sales Managers (11-2022.00)	97	0.9%

T-Mobile USA			AT&T		
Retail Salespersons (41-2031.00)	2,401	80.2%	Retail Salespersons (41-2031.00)	3,049	74.1%
First-Line Supervisors of Retail Sales Workers (41-1011.00)	491	16.4%	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	721	17.5%
Customer Service Representatives (43-4051.00)	37	1.2%	First-Line Supervisors of Retail Sales Workers (41-1011.00)	62	1.5%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	21	0.7%	General and Operations Managers (11-1021.00)	49	1.2%
Stock Clerks, Sales Floor (43-5081.01)	12	0.4%	Customer Service Representatives (43-4051.00)	45	1.1%
Coaches and Scouts (27-2022.00)	11	0.4%	Sales Representatives, Wholesale and Manufacturing, Technical and Scientific Products (41-4011.00)	25	0.6%
Managers, All Other (11-9199.00)	3	0.1%	Telemarketers (41-9041.00)	20	0.5%
Registered Nurses (29-1141.00)	3	0.1%	Computer Occupations, All Other (15-1199.00)	10	0.2%
Training and Development Specialists (13-1151.00)	3	0.1%	Secondary School Teachers, Except Special and Career/Technical Education (25-2031.00)	10	0.2%
First-Line Supervisors of Non-Retail Sales Workers (41-1012.00)	2	0.1%	First-Line Supervisors of Non-Retail Sales Workers (41-1012.00)	9	0.2%

Rent-A-Center			BB&T Corporation		
		%			%
Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	1,143	44.6%	Tellers (43-3071.00)	739	52.6%
Property, Real Estate, and Community Association Managers (11-9141.00)	708	27.6%	Sales Agents, Financial Services (41-3031.02)	390	27.8%
Driver/Sales Workers (53-3031.00)	254	9.9%	Sales Managers (11-2022.00)	71	5.1%
Customer Service Representatives (43-4051.00)	199	7.8%	Bill and Account Collectors (43-3011.00)	42	3.0%
Sales and Related Workers, All Other (41-9099.00)	79	3.1%	Loan Officers (13-2072.00)	19	1.4%
Retail Salespersons (41-2031.00)	56	2.2%	Customer Service Representatives (43-4051.00)	16	1.1%
First-Line Supervisors of Retail Sales Workers (41-1011.00)	31	1.2%	Financial Managers, Branch or Department (11-3031.02)	16	1.1%
General and Operations Managers (11-1021.00)	22	0.9%	Market Research Analysts and Marketing Specialists (13-1161.00)	14	1.0%
Sales Managers (11-2022.00)	17	0.7%	Insurance Sales Agents (41-3021.00)	10	0.7%
First-Line Supervisors of Office and Administrative Support Workers (43-1011.00)	9	0.4%	Sales Representatives, Wholesale and Manufacturing, Except Technical and Scientific Products (41-4012.00)	10	0.7%

SPOTLIGHT ON

Bilingual Representatives at FinishMaster, Maryland

FinishMaster is an automotive aftermarket company that supplies thousands of replacement parts to body shops and do-it-yourself auto enthusiasts. It also specializes in automotive and industrial paint. “If you hit a deer on the way home, your body shop will be calling us,” says Andrew Harrington, who has worked for the company for 22 years and currently manages the Gaithersburg, Maryland location.

During Harrington’s tenure, he has seen his customer demographic change. Bodymen used to be predominantly non-Hispanic but, over the last decade, “It’s become more of a Hispanic trade,” he says. Research from The NDP Group, which tracks industry trends, bears this out. A 2009 report found that “automotive specialty stores with a higher percentage of Hispanic shoppers have a higher dollar volume than those stores that do not.” And though only a third of the 18,000 stores surveyed are located in Hispanic-heavy areas, Latinos accounted for more than 40 percent of the industry’s total retail volume.

A 2009 report found that “automotive specialty stores with a higher percentage of Hispanic shoppers have a **higher dollar volume** than those stores that do not.”

Not surprisingly, there are a lot of Spanish speakers among this clientele. “A lot of these guys prefer to talk to us in Spanish rather than English,” says Harrington. For this reason, Harrington’s store of 10 employees has two dedicated bilingual customer service representatives,



and they have just advertised for a third. “It has increased our business,” he says, “because these representatives can converse easily with both English and Spanish speakers.” And the Spanish-speaking customers in particular, feel that they are receiving personalized treatment. The representatives “have their own little clientele,” Harrington says. “Sometimes when I answer the phone, clients will ask for the bilingual reps by name.”

Which Parts of the Country Demand the Most Bilingual Workers?

In addition to identifying the companies and industries that advertised most heavily for bilingual workers in 2015, we also examined which parts of the country were most in need of bilingual workers. The data reveals stark regional differences, as shown in Figure 8. (Specific numbers for each state can be found in the Data Appendix at the back of the report.) As is to be expected, states with especially large immigrant populations—California, Texas, Florida, and New York—have the highest number of bilingual job postings. Of the 627,000 bilingual positions posted throughout the country in 2015, roughly 117,000 were in California; 70,000 were in Texas; 58,000 were in Florida; and 37,000 were in New York.

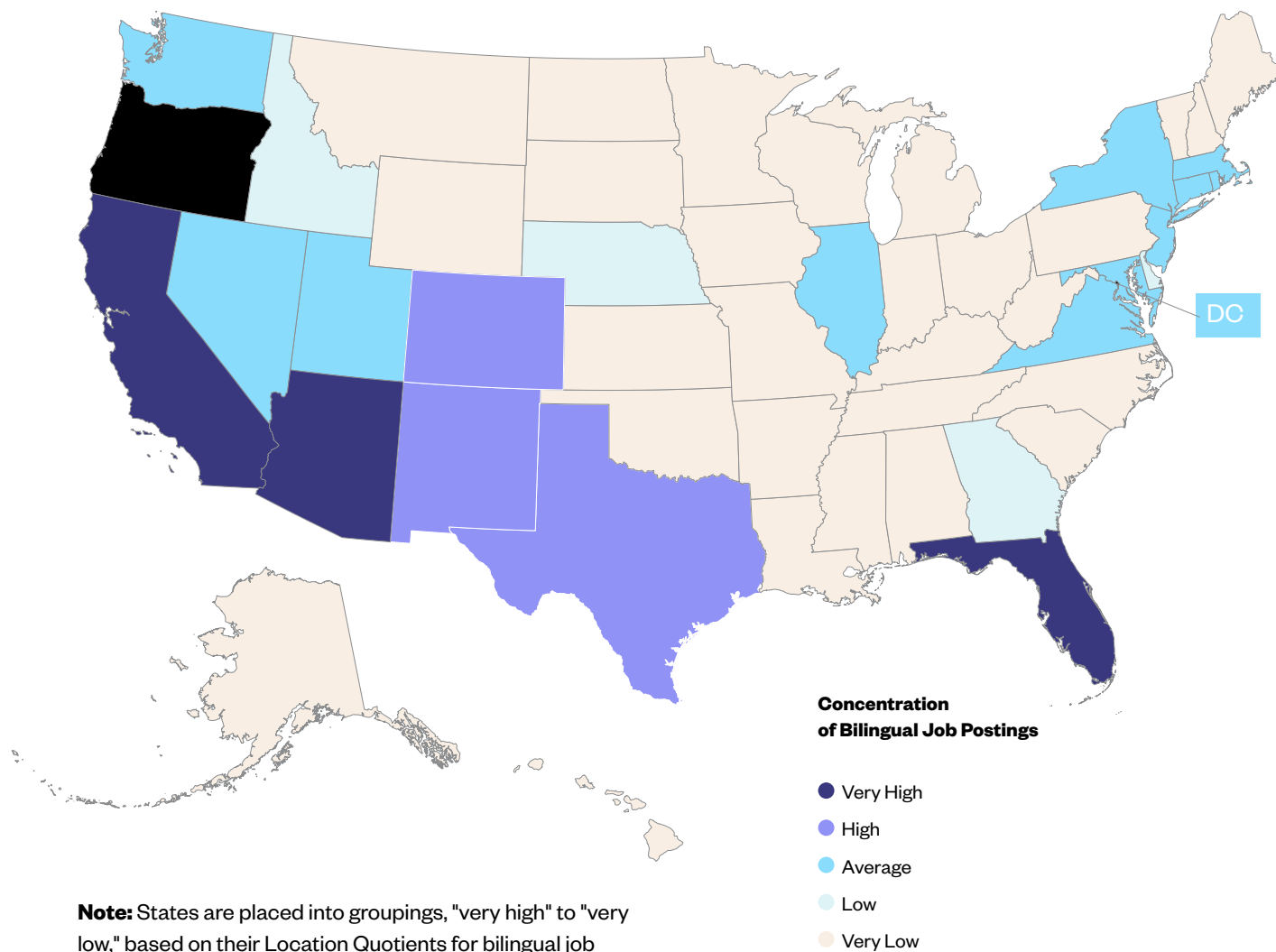
Several states had **considerably higher demand** for bilingual speakers than expected.

Our analysis found that several states had considerably higher demand for bilingual speakers than would be expected based on the share of the country's working-age population that lives in that state. For example, while Oregon is home to 1.4 percent of the working-age population, the state accounted for 2.3 percent of all job listings seeking bilingual workers. Colorado displayed similar trends, accounting for 1.7 percent of the U.S. working-age population, and 2.5 percent of all bilingual job postings. Finally California, home to 12.4 percent of the working-age population, accounted for 19.4 percent of bilingual job postings—by far the highest share in the country.

To quantify how demand for bilingual skills in each state compares to the national average, Burning Glass uses a measure known as a “location quotient” (LQ). An LQ shows how concentrated the demand for bilingual skills is in a particular state. The national average is 1.0, meaning that an LQ of 1.3, like that of New Mexico for example, indicates a demand for bilingual skills that is 30 percent higher than the national average. Using this measure, we find that in 2015 seven states—Arizona, California, Colorado, Florida, New Mexico, Oregon, and Texas—had location quotients that were either high or very high, meaning that their demand for bilingual workers was higher than expected. For example, Arizona and Oregon had “very high” location quotients of 2.1 and 1.8, respectively.

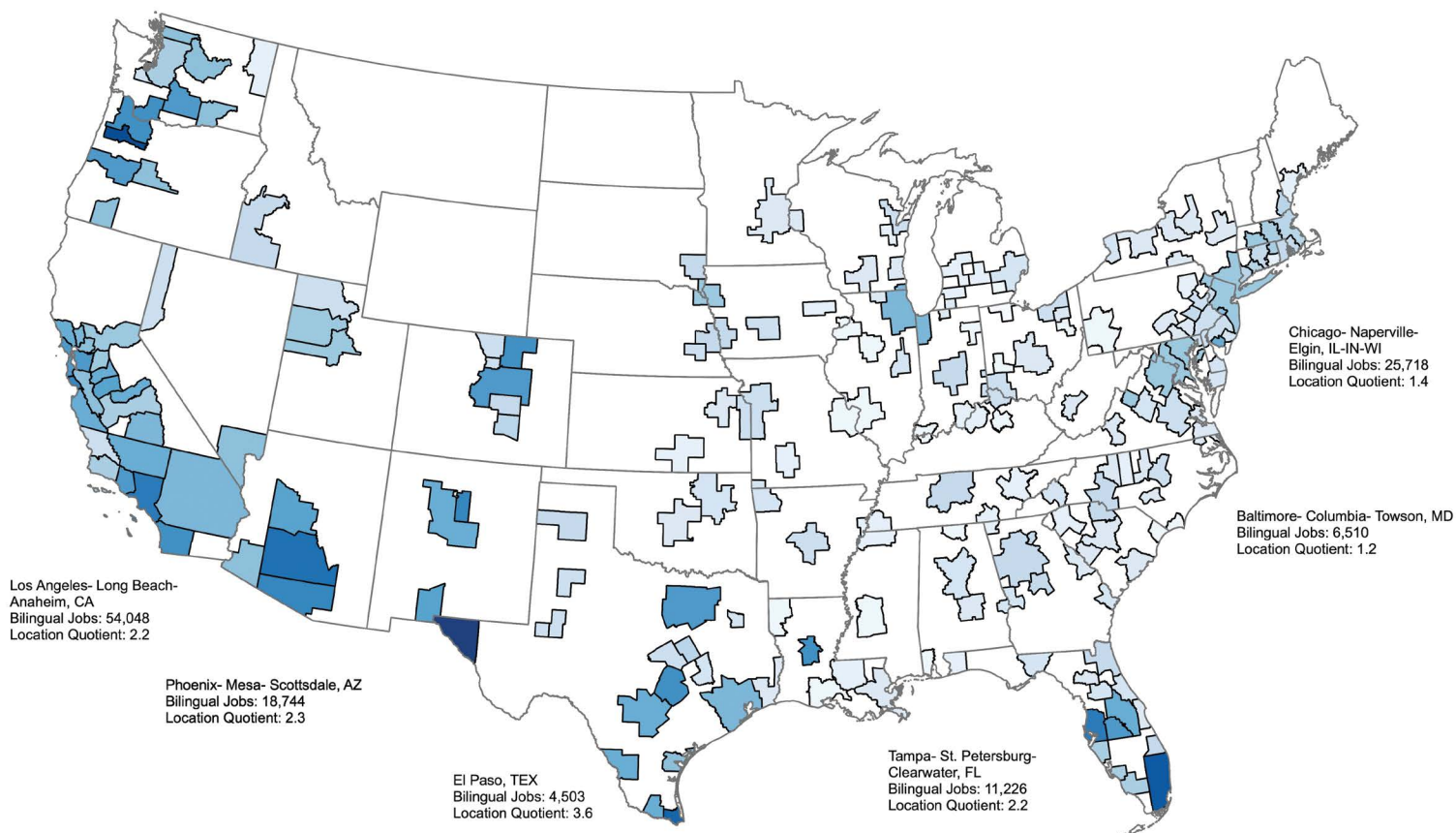
We also looked at the metropolitan areas that had the highest demand for bilingual workers in 2015. The results of this analysis are shown in Figure 9, as well as the Data Appendix at the end of the report. While it was unsurprising that certain cities, such as Los Angeles, San Diego, and Miami, had “very high” location quotients, some unexpected cities also showed up in this category. In Portland, Oregon, for instance, employers posted almost 8,800 online job ads for bilingual workers in 2015. In Denver, meanwhile, employers posted over 10,000 bilingual jobs. Interestingly, within states like California and Texas, it was not only the largest cities that accounted for the high numbers of bilingual job listings. Cities like Austin and Tampa, for example, had many more bilingual postings than expected, at around 7,000 and 11,000, respectively.

FIGURE 8: CONCENTRATION OF JOBS POSTED ONLINE FOR BILINGUAL WORKERS BY STATE, 2015



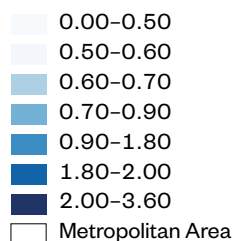
Note: States are placed into groupings, "very high" to "very low," based on their Location Quotients for bilingual job listings. Location Quotients (LQs) are ratios that highlight communities where the number of job listings is particularly concentrated compared to the country as a whole. If a state, for instance, has a LQ equal to 1.3, the share of its online job advertisements devoting to bilingual listings is 30 percent higher than the average state.

FIGURE 9: RELATIVE DISTRIBUTION OF BILINGUAL JOB POSTINGS BY METROPOLITAN AREA, 2015



Note: Location Quotients (LQs) are ratios that highlight communities where the number of bilingual job listings is particularly concentrated compared to the country as a whole. If a metropolitan area has an LQ equal to 1.3, for instance, the share of its online job listings devoted to bilingual listings is 30 percent higher than it is in the average metropolitan area.

Bilingual Location Quotient by 2014 Metropolitan Area



Demand for Individual Foreign Languages

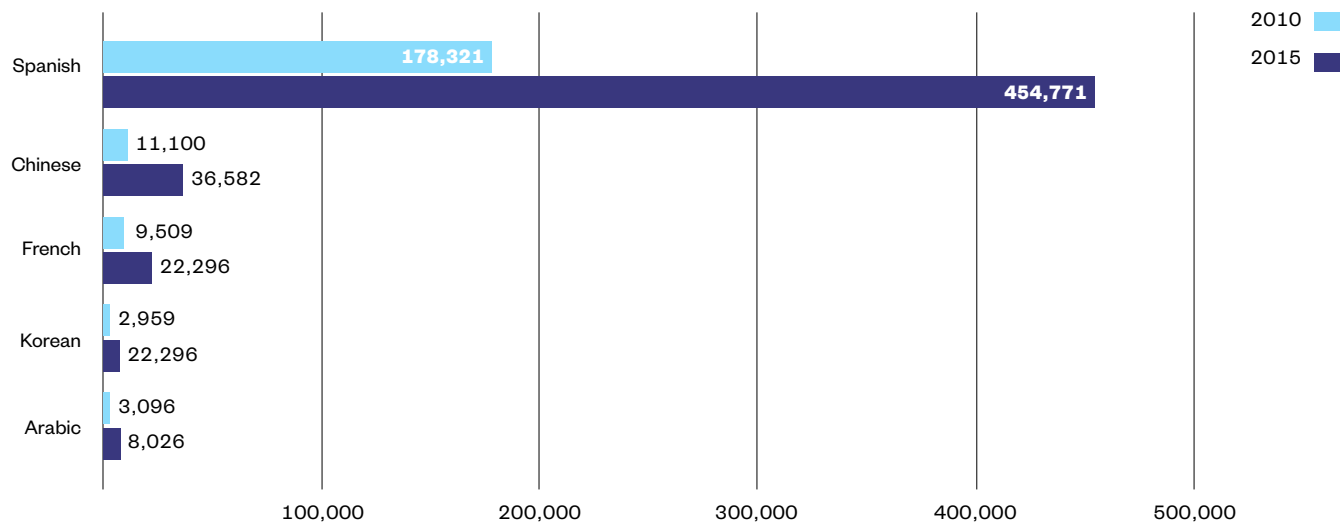
In addition to examining job listings targeting individuals with bilingual skills, we also looked at those that specifically required individuals with skill in one of the five most in-demand languages on the U.S. job market. This group included Spanish, which had more than 178,000 listings in 2015, followed by Chinese with more than 11,000, and then French, Korean, and Arabic. Listings focused on specific languages are different to the bilingual listings we discuss in previous sections. The way that Burning Glass codes the data means that the advertisements we discuss in this section include any job postings that list Spanish or one of the other four languages as a desired skill—whether the employer is seeking candidates who are merely proficient in the language, fully fluent, or somewhere in between. Furthermore, some bilingual job postings do

not specify which language is preferred because in many cases this may be inferred from the context, such as a business being located in a heavily Korean-American neighborhood. Thus, looking at listings that mention individual languages provides a sense of recent trends, perhaps without capturing the full demand.

The share of all U.S. job listings that require Chinese speakers increased by **45.5%** between 2010 and 2015.

In recent years, employers have increasingly sought out workers with skills in each of the five languages considered in this report. Once again, this is reflected

FIGURE 10: NUMBER OF ONLINE JOB LISTINGS FOR WORKERS WITH BILINGUAL SKILLS IN SPECIFIC LANGUAGE



in both the share of jobs asking for such skills, as well as the total number of positions. As shown in Table 4, there has been an especially strong increase in demand for Chinese and Arabic skills. The share of all U.S. job listings that require Chinese speakers increased by 45.5 percent between 2010 and 2015. For Arabic, the equivalent figure was 14.5 percent. In terms of the raw number of job listings, the increase in postings for Chinese and Arabic speakers was huge. From 2010 to 2015, the number of jobs requiring Chinese and Arabic abilities increased by roughly 230 and 160 percent, respectively.

From 2010 to 2015, the number of jobs requiring Chinese and Arabic abilities increased by roughly **230%** and **160%**, respectively.

Meanwhile, the demand for Spanish skills has continued to rise rapidly. Between 2010 and 2015, the share of jobs seeking Spanish speakers increased by 12.6 percent. This is not surprising as the number of Spanish speakers in the United States has increased quickly in the last decades. Between 1980 and 2013, the country’s Spanish-speaking population increased by 233 percent,²⁵ and today the U.S. is home to 41 million native Spanish speakers, and an additional 11.6 million individuals who speak the language well.²⁶

Although the language requirements for a particular job often depend heavily on its location and the community that a business or organization serves, there are general differences in the types of employers seeking out workers with skills in each of the languages considered in this report. As shown in Table 59, employers frequently seek out Spanish speakers to work in jobs in financial services or auto parts. Chinese speakers, on the other hand, are frequently needed to work in positions at luxury retailers or in the hospitality sector. For example, Wynn Resorts, the high-end hotel and casino brand, posted more than 1,200 jobs for Chinese speakers in 2015, more than any other company. The jeweler Tiffany’s & Co and the department store Macy’s also

TABLE 4: SHARE OF ONLINE LISTINGS FOR WORKERS WITH SKILL IN THE TOP FIVE LANGUAGES ON THE JOB MARKET, 2010–2015

	2010	2015	% Change
Share of All U.S. Job Listings...			
Share Spanish	1.45%	1.64%	12.6%
Share Chinese	0.09%	0.13%	45.5%
Share French	0.08%	0.08%	3.5%
Share Korean	0.02%	0.03%	10.1%
Share Arabic	0.03%	0.03%	14.5%

appeared in the 10 companies with the most job listings for individuals with Chinese ability in 2015.

French remains especially demanded in the **humanitarian** sector. Korean speakers, on the other hand, are highly sought after in the **pharmaceuticals, education, telecommunications, and banking industries**.

French, meanwhile, remains especially demanded in the humanitarian sector, with three humanitarian organizations, Peace Corps, ReliefWeb, and the International Rescue Committee posting hundreds of jobs for French speakers in 2015. Korean speakers, on the other hand, are highly sought after in the pharmaceuticals, education, telecommunications, and banking industries. For example, the pharmaceutical company Grifols posted 587 jobs that required Korean ability in 2015, while the education company, C2 Education, posted 421. While foreign languages are clearly most valued in particular industries, between 2010 and 2015 demand increased for all of the five languages considered in this report.

TABLE 5: TOP EMPLOYERS SEEKING WORKERS WITH SKILL IN SPANISH, CHINESE, FRENCH, KOREAN, AND ARABIC BASED ON SHARE OF ONLINE JOB LISTINGS, 2015

SPANISH ESPAÑOL

Employer	Industry	Number of Spanish Listings	Total Number of Listings	Share of Total
Advance Auto Parts Incorporated	Auto Parts Retail	11,493	14,742	78.0%
Wells Fargo	Banking and financial services corporation	6,922	88,505	7.8%
Bank of America	Banking and financial services corporation	5,609	53,533	10.5%
UnitedHealth Group	Managed health care	4,288	63,541	6.7%
AT&T	Telecommunications	3,170	33,585	9.4%
M & T Bank	Banking and financial services corporation	3,166	9,948	31.8%
Lowe's Companies, Inc	Retail	2,522	145,518	1.7%
GameStop Incorporated	Retail	2,414	4,217	57.2%
Manufacturers And Traders Trust Company	Financial Service	2,255	5,079	44.4%
Humana	Managed health care	2,168	14,730	14.7%

CHINESE 汉语

Employer	Industry	Number of Chinese Listings	Total Number of Listings	Share of Total
Wynn Resorts	Hospitality, Tourism	1,247	3,161	39.4%
Bank of America	Banking and financial services corporation	1,079	53,533	2.0%
Grifols	Pharmaceuticals, chemicals	587	4,373	13.4%
Portland Public Schools	Education	531	1,163	45.7%
Varsity Tutors	Education	360	4,796	7.5%
Trinity Health	Managed health care	340	9,740	3.5%
Macy's	Retail	302	95,950	0.3%
AT&T	Telecommunications	265	33,585	0.8%
Tiffany & Co.	Retail	263	1,702	15.5%
Oracle	Enterprise software, Cloud Computing	258	160,678	0.2%

FRENCH FRANÇAIS

Employer	Industry	Number of French Listings	Total Number of Listings	Share of Total
International Services Incorporated	Insurance brokerage	351	476	73.7%
Trinity Health	Managed health care	340	10,963	3.1%
Peace Corps	Humanitarian aid	280	3,111	9.0%
Reliefweb	Humanitarian aid	276	1,149	24.0%
Oracle	Enterprise software, Cloud Computing	238	160,678	0.1%
Asi Constructors, Inc	Construction	217	1,704	12.7%
Verint Systems Incorporated	Software, Business Intelligence, Speech Analytics, Video Analytics, Business consulting, IT consulting	180	3,490	5.2%
International Rescue Committee	Humanitarian aid	150	1,083	13.9%
Sykes	Brand advocacy, customer service, technical support and value-added sales	129	3,659	3.5%
United Nations Development Programme	Humanitarian aid	126	803	15.7%

KOREAN 한글

Employer	Industry	Number of Korean Listings	Total Number of Listings	Share of Total
Grifols	Pharmaceuticals, chemicals	587	4,373	13.4%
C2 Education	Education	431	1,116	38.6%
Bank of America	Banking and financial services corporation	138	53,533	0.3%
Olympia Medical Center	Healthcare	116	176	65.9%
Wells Fargo	Banking and financial services corporation	107	88,505	0.1%
Samsung America, Inc.	Telecommunications	79	1,463	5.4%
Verizon Communications Incorporated	Telecommunications	74	36,254	0.2%
AT&T	Telecommunications	65	33,585	0.2%
Worldlink	Financial Service	56	1,023	5.5%
Hilton Hotel Corporation	Hospitality, Tourism	50	40,212	0.1%

ARABIC

العَرَبِيَّة

Employer	Industry	Number of Arabic Listings	Total Number of Listings	Share of Total
International Rescue Committee	Humanitarian aid	250	1,083	23.1%
Asi Constructors, Inc	Construction	217	1,704	12.7%
Lend Lease	Project management and construction, real estate investment and development	187	428	43.7%
La Care Health Plan	Managed health care	120	637	18.8%
Reliefweb	Humanitarian aid	106	1,149	9.2%
Worcester Public Schools	Education	91	160	56.9%
Peace Corps	Humanitarian aid	89	3,111	2.9%
Booz Allen Hamilton Inc.	Management consulting, Government contractor	87	16,476	0.5%
Leidos	National security, health and engineering	83	16,580	0.5%
L3 Communications Holding Incorporated	Aerospace, Defense	79	8,490	0.9%

Conclusion

This report shows that the demand for bilingual workers in the United States rose significantly from 2010 to 2015. Between these five years, the share of online job listings targeting bilingual employees rose by 15.7 percent, while the raw number of bilingual job postings more than doubled—going from around 240,000 in 2010 to roughly 630,000 in 2015. What’s more, employers added jobs for bilingual workers at a much faster pace than they did for U.S. workers overall. We found that demand for bilingual workers is especially high in certain industries, notably finance and healthcare, with employers like Bank of America, Wells Fargo, and the health insurer Humana posting an exceptionally large share of bilingual jobs. Similarly, the demand for bilingual workers was particularly high for specific occupations, such as registered nurses and customer service representatives. These findings are intuitive: Human interaction is an integral component to these occupations and industries, and the ability to communicate with customers in their native language is increasingly important as the United States population becomes more and more diverse.

Demand for bilingual workers is especially high in certain industries, notably **finance and healthcare**.

We also found that demand for specific languages—notably Spanish, Chinese, and Arabic—increased particularly quickly. In 2015, employers posted around two and a half times more listings for employees with Spanish or Arabic skills than they did in 2010. Meanwhile, the number of listings that included Chinese as a desired ability more than tripled in the same period.

Between 2010 to 2015, the share of online job listings targeting bilingual employees rose by 15.7%, while the raw number of bilingual job postings **more than doubled**.

The trends uncovered in this report will likely continue in the next decades. Currently, the portion of the American population that is foreign-born—13.3 percent in 2014—is approaching historic highs, providing businesses with more customers comfortable speaking other languages.²⁷ In 2014, more than one in five members of the U.S. population—or 63.1 million people—spoke a language other than English at home.²⁸ The next generation of consumers is likely to continue such patterns. Data from the American Community Survey shows that almost 22 percent of children under the age of 18 regularly speak a foreign language at home—a slightly higher share than in the U.S. population more broadly.²⁹ At the international level, meanwhile, seven of America’s top 10 trading partners in 2015—including China, Mexico, Japan, Germany, and South Korea—were countries whose national language is not English.³⁰ The current administration has also actively worked on trade agreements that could expand trade with non-English speaking Asian and European countries still further.³¹

Despite the growing need for bilingual workers, however, more can be done to capitalize on the language skills of the country’s native and foreign-born populations. On the one hand, it is clear that the quality of language instruction in U.S. schools and universities must be enhanced to better equip the native-born students with the foreign language skills they need in today’s economy. On the other hand, more can also be done to help our country’s immigrants—particularly

those new to the country—connect with employers who may be in desperate need of their skills. Some nonprofits and states are already taking admirable steps in this direction. For example, the nonprofit Upwardly Global helps college-educated immigrants improve their resumes and interview skills so they can market themselves to employers that need their skills.³² Several states, including Washington, Michigan, and Idaho, have also taken steps to help immigrants get relicensed in the careers they pursued in their home countries—a step that could bring more bilingual individuals into key career fields such as nursing, education, and engineering.^{33 34 35}

Policy initiatives such as the Seal of Biliteracy will help ensure that the United States is equipped to compete in today’s **global, multilingual economy.**

Another important policy initiative is the Seal of Biliteracy, an effort discussed earlier in this report. The seal recognizes and rewards bilingualism in high school graduates by placing a special seal on their diplomas. While the Seal of Biliteracy has already been enacted in more than 20 states—including California, Washington, Indiana, Texas, and Minnesota—other states should be encouraged to implement it as well. Policy initiatives such as these will help ensure that the United States is equipped to compete in today’s global, multilingual economy—and that the potential of U.S. businesses is not lost in translation.

Data Appendix

APPENDIX TABLE A: JOBS POSTED ONLINE FOR BILINGUAL WORKERS BY STATE, 2015

State	Number of Bilingual Postings	Total Number of Job Postings Per State	Share of All Job Postings for State	Share of All Bilingual Job Postings	Location Quotient	Concentration
Alabama	3,988	322,100	1.2%	0.7%	0.5	Very Low
Alaska	468	81,025	0.6%	0.1%	0.3	Very Low
Arizona	23,906	778,272	3.1%	4.0%	2.1	Very High
Arkansas	2,499	218,357	1.1%	0.4%	0.5	Very Low
California	116,875	3,542,556	3.3%	19.4%	1.7	Very High
Colorado	14,986	737,193	2.0%	2.5%	1.4	High
Connecticut	6,968	342,820	2.0%	1.2%	1.0	Average
Delaware	1,545	102,702	1.5%	0.3%	0.8	Low
District of Columbia	3,595	231,823	1.6%	0.6%	1.1	Average
Florida	57,649	1,412,212	4.1%	9.6%	1.7	Very High
Georgia	13,560	798,720	1.7%	2.3%	0.8	Low
Hawaii	1,332	67,625	2.0%	0.2%	0.5	Very Low
Idaho	2,113	118,538	1.8%	0.4%	0.7	Low
Illinois	27,524	1,263,334	2.2%	4.6%	1.1	Average
Indiana	7,457	473,583	1.6%	1.2%	0.6	Very Low
Iowa	4,040	353,578	1.1%	0.7%	0.6	Very Low
Kansas	3,476	223,831	1.6%	0.6%	0.6	Very Low
Kentucky	3,303	279,598	1.2%	0.6%	0.4	Very Low
Louisiana	4,414	268,418	1.6%	0.7%	0.5	Very Low
Maine	935	110,987	0.8%	0.2%	0.4	Very Low
Maryland	11,827	574,412	2.1%	2.0%	1.1	Average
Massachusetts	14,561	738,917	2.0%	2.4%	1.0	Average

State	Number of Bilingual Postings	Total Number of Job Postings Per State	Share of All Job Postings for State	Share of All Bilingual Job Postings	Location Quotient	Concentration
Michigan	9,553	786,598	1.2%	1.6%	0.5	Very Low
Minnesota	6,456	539,617	1.2%	1.1%	0.5	Very Low
Mississippi	1,651	147,160	1.1%	0.3%	0.3	Very Low
Missouri	5,304	388,678	1.4%	0.9%	0.5	Very Low
Montana	620	95,239	0.7%	0.1%	0.3	Very Low
Nebraska	3,241	163,113	2.0%	0.5%	0.8	Low
Nevada	6,064	202,566	3.0%	1.0%	1.1	Average
New Hampshire	951	100,838	0.9%	0.2%	0.3	Very Low
New Jersey	18,052	920,744	2.0%	3.0%	1.1	Average
New Mexico	4,676	131,349	3.6%	0.8%	1.3	High
New York	37,437	1,538,154	2.4%	6.2%	1.0	Average
North Carolina	10,783	683,265	1.6%	1.8%	0.6	Very Low
North Dakota	473	62,838	0.8%	0.1%	0.2	Very Low
Ohio	12,384	1,023,072	1.2%	2.1%	0.5	Very Low
Oklahoma	3,698	210,715	1.8%	0.6%	0.5	Very Low
Oregon	13,784	544,992	2.5%	2.3%	1.8	Very High
Pennsylvania	13,262	891,693	1.5%	2.2%	0.5	Very Low
Rhode Island	2,100	111,763	1.9%	0.4%	1.0	Average
South Carolina	4,145	274,558	1.5%	0.7%	0.5	Very Low
South Dakota	1,102	139,683	0.8%	0.2%	0.6	Very Low
Tennessee	6,768	454,568	1.5%	1.1%	0.6	Very Low
Texas	70,489	2,012,281	3.5%	11.7%	1.4	High
Utah	6,424	276,765	2.3%	1.1%	1.1	Average
Vermont	320	44,424	0.7%	0.1%	0.2	Very Low
Virginia	13,722	803,272	1.7%	2.3%	0.9	Average
Washington	13,540	727,714	1.9%	2.3%	1.0	Average
West Virginia	1,003	81,126	1.2%	0.2%	0.3	Very Low
Wisconsin	5,878	438,455	1.3%	1.0%	0.5	Very Low
Wyoming	405	43,858	0.9%	0.1%	0.3	Very Low

APPENDIX TABLE B: TOP 25 METROPOLITAN STATISTICAL AREAS ADVERTISING FOR BILINGUAL WORKERS, 2015

Metropolitan Area	Number of Bilingual Job Postings	Location Quotient	Concentration
Los Angeles-Long Beach-Anaheim, CA	54,048	2.2	Very High
New York-Newark-Jersey City, NY-NJ-PA	44,396	1.2	Average
Miami-Fort Lauderdale-West Palm Beach, FL	27,939	2.7	Very High
Chicago-Naperville-Elgin, IL-IN-WI	25,718	1.4	High
Dallas-Fort Worth-Arlington, TX	23,869	1.7	Very High
Phoenix-Mesa-Scottsdale, AZ	18,744	2.3	Very High
Houston-The Woodlands-Sugar Land, TX	17,503	1.4	High
San Francisco-Oakland-Hayward, CA	15,977	1.7	Very High
Washington-Arlington-Alexandria, DC-VA-MD-WV	15,819	1.2	Average
Tampa-St. Petersburg-Clearwater, FL	11,226	2.2	Very High
Boston-Cambridge-Nashua, MA-NH (Metropolitan NECTA)	10,819	1.0	Average
San Diego-Carlsbad, CA	10,787	1.8	Very High
Denver-Aurora-Lakewood, CO	10,099	1.7	Very High
Atlanta-Sandy Springs-Roswell, GA	9,578	0.9	Average
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	8,955	0.8	Low
Portland-Vancouver-Hillsboro, OR-WA	8,760	1.8	Very High
Seattle-Tacoma-Bellevue, WA	8,608	1.1	Average
Riverside-San Bernardino-Ontario, CA	7,956	1.4	High
Orlando-Kissimmee-Sanford, FL	7,255	1.5	High
Austin-Round Rock, TX	7,091	1.8	Very High
Baltimore-Columbia-Towson, MD	6,510	1.2	Average
San Antonio-New Braunfels, TX	6,024	1.5	High
Detroit-Warren-Dearborn, MI	5,803	0.7	Low
San Jose-Sunnyvale-Santa Clara, CA	5,605	1.3	High
Las Vegas-Henderson-Paradise, NV	5,024	1.3	High

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