

Latino Workers and Digitalization

An Analysis and Policy Roadmap to
Building an Inclusive 21st Century
Digital Economy

1 // THERE IS A DEEP DIGITAL DIVIDE
2 THAT AFFECTS THE LIVES OF LATINOS.

3

4 {

5

6 Although **Latinos** are the future of
7 the American workforce, they face
8 barriers in accessing education
9 and digital technology.

10

11 The digital divide prevents **Latinos**
12 from acquiring the skills necessary
13 for the 21st century economy.

14

15 }

16

Nick González, Diana García,
Dr. Rodrigo Domínguez-Villegas,
and Dr. Arturo Vargas Bustamante

September 30, 2020



FOREWORD

For many Latinos, surviving the pandemic boils down to prioritizing work to support their families over protecting their health. As advertising, social media, and news stories portray upwardly mobile professionals and families transitioning to work-from-home thanks to digital technology know-how and access, only 16% of Latinos have jobs that permit telework and the safety of sheltering in place.¹ The sobering truth is that over 15 million or 65% of the Latino workforce are "overrepresented in nine of the ten lowest-wage jobs considered high contact and essential," according to a recent McKinsey report.² The high incidence of COVID-19 infections and deaths among Latinos across all age groups are directly correlated to their overrepresentation in frontline work.

To further compound the problem, five vital industries hardest hit by the pandemic generate almost 50% of the revenues for Latino-owned businesses.³ According to the Stanford Latino Entrepreneurship Initiative, 86% of Latino-owned businesses surveyed reported immediate negative effects of COVID-19 in the early months of the pandemic. Nearly two-thirds said they would not be able to sustain businesses for more than six months.

When Latinos represent nearly 17% of the American workforce and are the fastest-growing share of the labor force, projected to become 30% of the total U.S. population by 2050, the looming question is: as advanced technologies transform industries, will an even greater share of American Latinos be trapped in the lower rungs of an occupational caste system?

Mitigating occupational segregation has never been more important for Latinos and our nation. For America to prosper, Latino overrepresentation in sectors with low paying jobs that lead to greater health risks, shorter lives, and dim economic prospects must change. Quality of life depends on having a quality job, with the social safety nets necessary to promote economic and social mobility. The Aspen Institute Latinos and Society Program is committed to catalyzing solutions that will build a more equitable and just society where Latinos can thrive. In this spirit, we partnered with the UCLA Latino Policy and Politics Institute (LPPI) to create synergies between industry and regional leaders in our quest to upskill Latino workers and entrepreneurs.

Sonja Diaz and the research conducted by UCLA Latino Policy and Politics Institute (LPPI) team provides a much-needed state-level analysis of local industry digitalization patterns with high Latino employment composition across six states. Understanding the degree to which the local industries have embraced technology and how Latinos fare per industry will help reskill, upskill, and migrate workers from one sector to another. Moreover, LPPI's insights about the nuances of the local Latino demographic profile are critical to crafting workforce development policy.

Beyond identifying a skills-gap, LPPI's baseline report sounds the alarm on the imperative of upskilling the Latino workforce. To succeed and realize their full potential, the Latino community cannot continue to be occupationally segregated in jobs that keep them trapped in a cycle of generational poverty, vulnerable to automation and marginalization.

The path forward is an iterative process; it requires leadership, local solutions, and accountability. The report's policy recommendations suggest ways that key stakeholders can work together and create tailored solutions to mitigate the harmful effects of low-paying and high-risk work.

We are grateful to Google.org for underwriting this report and AILAS new initiative Latino Inclusion in the Digital Economy, thus harnessing the power of our networks to effect change. Together, local industry, educators, workers, and worker advocates can create sustainable pathways to upskilling current and future Latino workers and entrepreneurs to contribute to the digital economy. Let's get to work!

Domenika Lynch, Executive Director of the Aspen Institute's Latinos and Society Program.

ACKNOWLEDGEMENTS

This report was funded by grants from Google.org and Bank of America. We are grateful to them and to all our funders who make our independent research possible. We would also like to thank The Aspen Institute Latinos & Society Program for the intellectual conception of the project and for their partnership to amplify the reach of the findings. The authors would like to thank Reid Kelley from the U.S. Bureau of Labor Statistics for supporting our efforts in finding occupational data from the Local Area Unemployment Statistics and Mark Muro and Jacob Whiton from the Brookings Institute for their direct assistance on understanding and using Brookings' digital scoring methodology.

At the Latino Policy and Politics Initiative (LPPi), the authors would like to thank Sonja Diaz for her thoughtful comments, Myrna Rosales for their cover design, Eliza Moreno for writing the press release, and Ricardo Quintero for his support with development.

TABLE OF CONTENTS

<u><i>Introduction: Upskilling and Mobility in a 21st-Century Digital Economy</i></u>	6
<u><i>Methodology</i></u>	7
<u><i>Analysis and Comparison of Latino Workers Across the Six Most Latino-Populated States</i></u>	8
<u><i>State by State Analysis of Latino Representation and Promising Programs for Digital Upskilling</i></u>	11
<u><i>Arizona</i></u>	11
<u><i>California</i></u>	12
<u><i>Florida</i></u>	12
<u><i>Illinois</i></u>	13
<u><i>New York</i></u>	14
<u><i>Texas</i></u>	15
<u><i>Policy Recommendations</i></u>	16
<u><i>Conclusion</i></u>	17
<u><i>Appendix- Detailed Occupational Data by Race and Ethnicity for the Six States With the Largest Latino Populations in the U.S.</i></u>	18

EXECUTIVE SUMMARY

The American workforce is undergoing rapid changes due to the digitalization of jobs across the economy. Thousands of people are displaced from their jobs every year because of the automation of tasks by digital technology. The COVID-19 pandemic and the physical distancing protocols necessary to slow its spread are likely to accelerate the replacement of workers in automatable roles with digital technology.

This report analyzes occupational data from the six states with the largest Latino population – Arizona, California, Texas, Florida, Illinois, and New York – to investigate the representation of Latino workers across industries with high rates of adoption of digital technology and industries with low digitalization. These six states host 39 million Latinos constituting 68.5 percent of the U.S. Latino population.

The report has three overall findings.

1. Over 7.1 million Latinos, representing almost 40% of the Latino workforce in those six states, are at high risk of being displaced by automation.
2. Across these six states, Latino workers remain overrepresented in three of the four industries that have the lowest levels of digitalization –agriculture, leisure and hospitality, and construction–and in wholesale and retail trade, which has a mid-level degree of adoption of digital technologies. Workers in these 4 industries have the highest risk of displacement by automation.
3. Latinos are underrepresented in industries with the highest degrees of adoption of digital technologies – professional and business services, finance and insurance, education and health services, and information and communications technology. These four industries provide jobs that are less likely to be displaced by automation. The underrepresentation of Latinos in highly digitalized industries shows the need to increase access to education and training opportunities to upskill the Latino workforce.

By state, the following statistics stand out:

- In Arizona, 32.5 percent of the Latino workforce works in the construction and wholesale and retail trade industries where they are particularly overrepresented. In construction, Arizona’s Latino workers hold a 3.1 percentage point surplus compared to the overall workforce.
- Four in 10 Latino workers in California, representing 2.7 million workers, are employed in the construction, agriculture, leisure and hospitality, and wholesale and retail trade industries.
- Over a third of Latino workers in Texas are employed and overrepresented in the state’s agriculture, construction, and leisure and hospitality industries.
- Florida’s Latino workforce is slightly better situated to endure the digitalization of the economy. Out of the six states included in this report, Florida has the highest share of Latino workers in professional and business services (12.2 percent) and finance and insurance (6.7 percent).
- In Illinois, over 1 in 6 Latino workers are employed in the state’s manufacturing industry where Latinos are overrepresented by 5.1 percent, the largest margin of overrepresentation for any industry across the six states.
- Over 22 percent of New York Latinos work in construction and leisure and hospitality where they are overrepresented by almost 3 percentage points in each industry relative to the overall workforce.

Latino Workers and Digitalization

These findings show that the country's second largest demographic group and largest minority racial or ethnic group is at a disproportionate risk of job displacement and economic insecurity.

To provide a safety net for Latinos who will be displaced by digitalization and provide them with the skills required to succeed in a 21st century economy, the report includes the following policy recommendations:

1. Modernize unemployment insurance programs to expand eligibility to all workers and fund worker retraining initiatives.
2. Grow and design apprenticeship and career-pathways programs tailored to Latinos that provide employable and transferable skills, knowledge on job searching and hiring, and direct connections with potential employers.
3. Invest in providing Latinos access to digital technologies and expanding broadband access.
4. Increase Latino representation, retention, and graduation in institutions of higher education through affirmative action, robust financial aid, and integrated social welfare programs to support housing, food security, health care, and other service needs.

INTRODUCTION: UPSKILLING AND MOBILITY IN A 21ST-CENTURY DIGITAL ECONOMY

Innovation in the U.S. economy continues to promote the digitalization of labor-intensive economic sectors. Digitalization is the process of adopting information and digital technologies to transform business operations.⁴

If present trends continue, Latino workers are likely to be more affected by this economic transformation since they remain concentrated in occupations that have less demand for digital skills and perform more routine tasks. Consequently, Latinos face one of the highest risks of displacement by digital technology compared to other racial and ethnic groups in the U.S. Previous studies estimate that Latinos have a potential displacement rate of 25.5 percent with approximately 7.4 million Latino workers nationwide employed in occupations at risk of digitalized displacement.⁵ Comparatively, previous studies estimate that non-Hispanic white workers have a significantly lower potential displacement rate of just 22.4 percent.⁶ California, Texas, Florida, Illinois, and New York are expected to bear 65 percent of Latino job displacements due to digitalization through 2030.⁷

Latinos represent a critical asset to the future of the digitalized American economy and workforce. Despite being 18 percent of the U.S. population, population growth among U.S. Latinos is six times faster than the population growth of non-Latinos and Latinos also account for 82 percent of U.S. workforce growth since the Great Recession. Just before the COVID-19 pandemic in February 2020, the U.S. Latino labor force participation rate was at 68.1 percent, almost a full 5 percentage points higher than the overall U.S. workforce at 63.4 percent.⁸

The importance of the Latino workforce growth cannot be overstated because U.S. rates of retirement are expected to increase 15 percent in the next three years with an estimated 345,000 people retiring each month by 2022. To offset a shortage of workers, the U.S. will need to add 8 million new workers per year with most going into either healthcare to satisfy the health demands of an aging population or into digitally-skilled roles to satisfy the increasing demand for jobs with digital skills. With a median age of 29.3 years compared to 40.5 years for non-Latinos, U.S. Latinos are a younger cohort who could rescue the U.S. economy from its demographic catastrophe if they are included in local and state policy efforts to build a digitally-skilled workforce for the new economy.⁹

Economic changes triggered by COVID-19 are likely to accelerate this digitalized displacement in all economic sectors with profound impacts on Latino workers. Latino workers are experiencing a 10.5 percent unemployment rate, the second highest of any racial or ethnic group.¹⁰ In the midst of this pandemic, industries with low digital scores are likely to experience faster digitalization due to physical distancing requirements creating incentives to minimize human interactions. This economic transformation creates an opportunity for workers most affected by digitalization to acquire new digital skills that could be leveraged into stable jobs and income in an increasingly digitalized economy.

Looking at the six most Latino-populated states, this report summarizes the representation of Latino workers in both low-digital and high-digital industries and proposes policy recommendations for helping Latino workers “upskill” their digital proficiency to effectively integrate into the new jobs of an increasingly digitalized 21st-century economy.

METHODOLOGY

In this report, we combine industry digital scores developed by the Brookings Institution with occupational data from the Local Area Unemployment Statistics Database and racial and ethnic data from the American Community Survey to analyze the concentration of Latinos in industries with high and low digital scores across six states.

The Brookings Institution developed an industry digital score by measuring the knowledge of digital skills required in a job and the amount of engagement with computers required in a workspace. Using data from the Occupational Information Network (O*NET), researchers quantified both the degree of knowledge and engagement with digital technologies required in hundreds of occupations between 2002 and 2016.¹¹ Each industry was assigned a digital score ranging between 1 and 100, where a score of 100 would mean that industry is fully digitalized.

Table 1 shows the distribution of digital scores across 13 different industries. As illustrated in the table, industries such as professional and business services and finance and insurance have the highest digital scores, while industries like leisure and hospitality, public administration, and agriculture have the lowest digital scores.

Table 1. Digital Scores by Industry

INDUSTRY	DIGITAL SCORE
PROFESSIONAL AND BUSINESS SERVICES	55
FINANCE AND INSURANCE	55
EDUCATION AND HEALTH SERVICES	44
INFORMATION AND COMMUNICATIONS TECHNOLOGY	44
WHOLESALE AND RETAIL TRADE	43
TRANSPORTATION AND UTILITIES	39
MINING, QUARRYING, AND OIL AND GAS EXTRACTION	37
OTHER SERVICES	37
MANUFACTURING	36
CONSTRUCTION	33
LEISURE AND HOSPITALITY	32
PUBLIC ADMINISTRATION	32
AGRICULTURE AND RELATED INDUSTRIES	16

Source: Muro, M. et al. Digitalization and the American Workforce. The Metropolitan Policy Program at Brookings. November 2017. https://www.brookings.edu/wp-content/uploads/2017/11/mpp_2017nov15_digitalization_full_report.pdf

To understand Latino representation across industries with different degrees of digitalization, we analyzed employment data by race and ethnicity. We pulled employment and occupational statistics by state from the Local Area Unemployment Statistics 2018 database.¹² We used data from the American Community Survey to obtain state-level statistics by race and ethnicity. This allowed us to assess Latino representation by industry and digital scores in comparison to the share of each state’s overall workforce also employed in those industries.

ANALYSIS AND COMPARISON OF LATINO WORKERS ACROSS THE SIX MOST LATINO–POPULATED STATES

This analysis of occupational data from the six most Latino-populated states shows that Latino workers remain overrepresented in industries with lower digital scores (16–33) and underrepresented in industries with higher digital scores (44–55). As Table 2 illustrates, Latinos are consistently overrepresented in 3 out of the 4 industries with the lowest digital scores. Latinos are overrepresented in construction and leisure and hospitality across all six states, and in agriculture in four out of the six states (Arizona, California, Texas, and Florida).

Table 2. Latino Representation in the 4 Industries with the Lowest Digital Scores

	DIGITAL SCORE	ARIZONA	CALIFORNIA	TEXAS	FLORIDA	ILLINOIS	NEW YORK
CONSTRUCTION	33	3.1	1.9	4.9	3.0	3.7	2.9
LEISURE AND HOSPITALITY	32	0.9	1.6	1.5	0.1	2.9	2.8
PUBLIC ADMINISTRATION	32	-0.7	-0.9	-0.7	-1.0	0.7	-1.6
AGRICULTURE AND RELATED INDUSTRIES	16	0.8	1.2	0.5	0.1	-0.2	0.0

Notes: A plus sign indicates the percentage by which the share of Latino workers in that industry are overrepresented in comparison to the share of the overall state population employed in that industry. A minus sign indicates the percentage by which the share of Latino workers in that industry are underrepresented in comparison to the share of the overall state population employed in that industry.

Latinos are consistently underrepresented in the industries with the highest digital scores. As seen in Table 3, Latinos are underrepresented in all four industries with the highest digital scores across the six states with the largest Latino populations. The highest underrepresentation is in Education and Health services, where Latino underrepresentation is between 2.3 percentage points in California and 6 percentage points in Illinois.

Table 3. Latino Representation in 4 Industries with the Highest Digital Scores

	DIGITAL SCORE	ARIZONA	CALIFORNIA	TEXAS	FLORIDA	ILLINOIS	NEW YORK
PROFESSIONAL AND BUSINESS SERVICES	55	-0.8	-2.5	-1.5	-0.7	-1.2	-1.1
FINANCE AND INSURANCE	55	-1.8	-1.3	-1.2	-0.8	-2.8	-1.9
EDUCATION AND HEALTH SERVICES	44	-2.8	-2.3	-2.8	-3.1	-6.0	-3.8
INFORMATION AND COMMUNICATIONS TECHNOLOGY	44	-0.2	-0.8	-0.5	-0.2	-0.4	-0.7

Source: United States Department of Labor, 2018 Local Area Unemployment Statistics, [Available online](#).

Notes: A plus sign indicates the percentage by which the share of Latino workers in that industry are overrepresented in comparison to the share of the overall state population employed in that industry. A minus sign indicates the percentage by which the share of Latino workers in that industry are underrepresented in comparison to the share of the overall state population employed in that industry.

Latino Workers and Digitalization

The states with the greatest numbers of Latino workers at risk of digitalized displacement are California and Texas. In California, Latinos are overrepresented in the state's construction industry by 1.9 percent, leisure and hospitality industry by 1.6 percent, agriculture by 1.2 percent, and wholesale and retail trade industry by 1.7 percent. These four industries employ 2.7 million or 40 percent of California's Latino workers (see Table A2 in appendix for detailed data). Meanwhile, Latino workers in California are underrepresented in the state's professional and business services industry by 2.5 percent (see Table 2). While this may be just one example, unusually high income inequality across the economy in California has made the state's overall job market unfavorable for Latino and African American workers who make up just 12 percent of those with incomes above the 90th percentile, despite making up 44.7 percent of the state's population.¹³ This racialized inequality indicates that in California more than other states, Latino workers are disproportionately impacted by the income gap through their overrepresentation in low-wage industries, particularly those in which jobs are labor-intensive and threatened by digitalized displacement.

In Texas, Latino workers are overrepresented in three of the lowest-scoring industries. Over 33 percent of the Latino workers in Texas work in these three industries where the low digital scores indicate less utilization of digital skills and a greater susceptibility to digitalized displacement for workers in these roles. For Latino workers in Texas, educational barriers likely pose a potential barrier to accessing digital skills and more sustainable jobs. Despite making up 39 percent of Texas's overall population, Latinos represent just 26 percent of the state's population with a college degree or professional certificate.¹⁴ Lower levels of education have translated into higher poverty levels for Latino children in Texas where they are three times more likely to live in poverty than a white child.¹⁵ In Texas more than other states, Latinos have disproportionately matriculated into industries, such as agriculture, construction, and leisure, that have low digital scores and put the overall Texas Latino workforce in a position where it needs to obtain digital skills to remain a viable workforce in the days of economic digitalization.

In contrast with California and Texas, the Latino workforce in Florida has a distribution that more closely resembles that of the state's overall workforce. This is driven in large part by higher levels of education and entrepreneurship among Florida's Latino workforce. While only 22 percent of Latino workers nationwide have a college degree or postsecondary credential, 35.1 percent of Latinos in Florida have a postsecondary credential.¹⁶ ¹⁷ This educational gap could be due to the demographic profile of the groups who make up Florida's Latino population. While Mexican Americans make up 62 percent of all U.S. Latinos, they make up just 14 percent of Latinos in Florida.¹⁸ Instead, Florida is home to 66 percent of Cuban Americans, 52 percent of Venezuelan Americans, 31 percent of Colombian Americans, and 29 percent of Argentinian Americans.¹⁹ In comparison to the rest of the U.S. Latino population of whom only 16 percent have at least a bachelor's degree, 27 percent of Cuban Americans, 55 percent of Venezuelan Americans, 33 percent of Colombian Americans, and 43 percent of Argentinian Americans have at least a bachelor's degree.²⁰ The higher educational attainment among Cubans, Venezuelans, Colombians, and Argentinians could be a factor in explaining why Latinos in Florida have an occupational distribution that fairly resembles the state's overall workforce.

Florida is also home to an exceptionally high number of small and medium-owned businesses with over 600,000 Latino-owned businesses, which continues to grow.²¹ Across the six states in this study, it was also found that the Latino workforce in Florida has the highest share of its workers represented in the professional and business services sector at 12.2 percent with just a 0.7 percentage point deficit compared to the overall share of the state's workforce in that sector. As previously mentioned, this could be due to the demographic composition of Florida's Latino population and their higher levels of educational attainment. Professional and business services is the highest scoring industrial sector with a digital score of 55 out of 100, indicating a higher share of jobs and tasks that utilize digital skills and are less susceptible to digitalized displacement. These trends indicate more promising futures for the Latino workforce in Florida as they make strides in education and bridge their representational disparity in industries with more digitally stable occupations.

This analysis presents caveats within the Latino workforces of several states and discusses how our findings reveal that Latino workers across the six states remain overrepresented in industries with low digital scores (16-33) and underrepresented in industries with high digital scores (44-55). For Latino workers, these trends indicate a general lack of access to the jobs that utilize digital skills and will be more stable as the economy further digitalizes and rapidly reduces jobs that are labor-intensive and replaceable with digital technology.

STATE BY STATE ANALYSIS OF LATINO REPRESENTATION AND PROMISING PROGRAMS FOR DIGITAL UPSKILLING.

Arizona

Arizona is home to over 2 million Latinos who make up 31.1 percent of the state's overall population. While Latinos make up 31.1 percent of the Arizona population, only 10 percent of Latinos hold a bachelor's degree.²² Of the Latino workforce in Arizona, 55.7 percent of them work in the following four industries: education and health services (17 percent), wholesale and retail trade (15.4 percent), construction (11.7 percent), and professional and business services (11.6 percent). Data shows that compared to the overall state workforce, Arizona's Latino population is particularly overrepresented in construction and the wholesale and retail trade industries which hold a combined 27.1 percent of Arizona's Latino workforce. In fact, in the construction industry, Latino employees represent a 3.1 percentage point surplus compared to the overall share of the active civilian workforce in Arizona (see Table A1 in the Appendix for detailed occupational data in Arizona).

In terms of digital scores, the Latino workforce in Arizona is overrepresented in lower-ranked industries; construction with a digital score of 33 and wholesale and retail trade at 43. These lower scores indicate that jobs in lower-scoring sectors, such as construction and wholesale and retail trade, do not have high utilization of digital skills. This means that most workers in these lower-ranked industries perform roles that are more routine, labor-intensive, and thus more easily able to be replaced by automation. Meanwhile, Latinos remain underrepresented by 2.8 percentage points in education and health services, an industry with a digital score of 44, and by 1.8 percentage points in the finance and insurance sector, which has a digital score of 55.

Based on the overrepresentation of Latinos in industries with low digital scores, Arizona policymakers should build on current initiatives and craft policies to ensure that the state's Latino workers are sufficiently trained for the growing demands of the digital economy. A grant from the U.S. Chamber Foundation, the Greater Chamber of Phoenix Foundation has launched the Talent Pipeline Management Upskill Academy of Arizona in an effort to address the gap in the professional pipeline by providing in-person and web-based training.²³ Although it offers an impressive curriculum, this initiative does not address specifically how it aims to empower underserved communities that may be substantially affected by automated sectors and the digitalization of jobs.

Latino Workers and Digitalization

California

California is home to over 15 million Latinos who make up 38.9 percent of the state's overall population. While Latinos make up almost 40 percent of the state population, only 17 percent of Latinos in California have a college degree compared to 51 percent of non-Hispanic whites.²⁴ Of the Latino workforce in California, 55.6 percent work in the following four industries: education and health services (17.4 percent), wholesale and retail trade (14.5 percent), leisure and hospitality (12.2 percent), professional and business services (11.5 percent). Data reveals that compared to the overall state workforce, California's Latino population is particularly overrepresented in the construction and leisure and hospitality industries which hold a combined 21.4 percent of California's Latino workforce. Meanwhile, they remain underrepresented in the education and health services and professional and business sectors. In fact, in the professional and business industry, Latino employees hold a 2.5 percentage point deficit compared to the overall share of the active civilian workforce in California. When examining digital scores, the Latino workforce in California is overrepresented in lower-ranked industries, especially leisure and hospitality which holds a digital score of 32 and construction with a score of 33. Latino workers in California also remain underrepresented in professional and business services by 2.5 percentage points and in finance and insurance by 1.3 percentage points, both of which are industries with high digital scores of 55 (See Table A2 in Appendix for detailed occupational data in California).

Previous research shows that the leisure and hospitality and construction industries are sectors where digitalization is heightening job displacement by automating tasks and reducing the need for the current number of employees.²⁵ For example, 70 percent of tasks in hospitality and food service remain susceptible to digitalized automation, endangering the jobs of workers who perform those tasks.²⁶

The low digital scores and large concentration of Latinos in industries prone to digitalized displacement call for employers and educators to find ways to prepare the California Latino workforce with new digital literacy skills. The California College Workforce and Economic Development Division has begun to lay the groundwork for upskilling by providing apprenticeships and career pathways into fields like nursing.²⁷ California has the groundwork and infrastructure in place, now the next step is to expand and include pathways that train students for higher-demand fields including healthcare and IT.

Florida

Florida is home to over 5 million Latinos who make up to 25.2 percent of the state's overall population. While only 22 percent of Latinos nationwide have a college degree or postsecondary credential, 35.1 percent of Latinos in Florida have a postsecondary credential. In Florida, 56.8 percent of Latinos work in the following four industries: education and health services (16.9 percent), wholesale and retail trade (15.6 percent), professional and business services (12.2 percent), and construction (12.1 percent).

Compared to the overall state workforce, Florida's Latino workers are overrepresented in the state's construction and wholesale and retail trade industries which hold a combined 27.7 percent of Florida's Latino workforce. In the construction industry, Latino workers make up 11.1 percent of the workforce, which results in a 3-percentage point surplus compared to the 8.1 percent share of the overall Florida workforce employed in construction (see Table 2). The overrepresentation in construction and wholesale and retail trade threatens long-term job security for Latino workers who remain concentrated in these occupations where digitalization is reducing these sectors' demand for human labor.^{28 29}

Even though Latinos remain underrepresented in professional and business services, the Latino workforce in Florida has the highest share of its workers in this industry at 12.2 percent. Relative to other states, Florida also has the highest share of its Latino workforce in the finance and insurance industry at 6.7 percent. While Latinos are well-represented in these industries, they still remain underrepresented compared to Florida's overall workforce. Both industries have the highest digital scores at 55. A high share of Latino workers already in these sectors indicate potential areas where policymakers can focus on crafting digital training programs to reduce Latino overrepresentation in lower-scoring sectors and enhance representation in industries with more digitally stable roles (see table A3 for detailed occupational data in Florida).

Florida already has training programs in place, such as CareerSource Florida which allows workers to apply for retraining with up to 75 percent of their training costs covered and job placement serves to be streamlined into business and finance careers.³⁰ To deliver this service, CareerSource Florida works with Florida's Department of Economic Opportunity, 24 local workforce development boards, and 100 career centers throughout Florida.³¹ Florida policymakers should work further with CareerSource and similar entities to expand investment into culturally and linguistically competent outreach efforts. These efforts must be driven to reach the state's Latino communities in order to ensure that workers of color have equitable opportunities to obtain high-demand digital skills and filter into sustainable industries.

Illinois

Illinois is home to over 2 million Latinos who make up 17 percent of the state's overall population. Only 19 percent of Latinos in Illinois have a college degree compared to 45 percent of non-Hispanic whites.³² In Illinois, 59.2 percent of Latino employees work in the following four industries: manufacturing (17.5 percent), education and health services (16 percent), wholesale and retail trade (14.1 percent), and leisure and hospitality (11.6 percent).

Compared to the overall state workforce, Illinois's Latino population is overrepresented in the manufacturing and construction industries which hold a combined 27.7 percent of Illinois's Latino workforce. The manufacturing and construction industries hold low digital scores of 36 and 33, respectively. In manufacturing, Latinos hold a 5.2 percentage point surplus compared to the 12.3 percent share of the Illinois workforce employed in manufacturing, the largest such margin for Latino workers in any industry across the six states (see table A4 for detailed occupational data in Illinois).

Previous research has identified both manufacturing and construction as industries with roles that are susceptible to displacement through the progressively increasing digitalization of tasks.^{33 34} As indicated by the manufacturing industry's low digital score of 36, manufacturing is a sector where job displacement is a high risk due to the tasks of these jobs being more routine, labor-intensive, and therefore more susceptible to digitalized displacement (Table 5). Conversely, Latino workers in Illinois are also underrepresented in education and health services by 6 percentage points and in finance and insurance by 2.8 percentage points (Table 3). These industries have high digital scores at 44 and 55, respectively (see Table 3).

Latino Workers and Digitalization

Illinois policymakers should invest in helping its Latino workforce upskill their digital proficiency to integrate into sectors with more stable occupations, such as professional and business services and finance and insurance. In light of the COVID-19 pandemic's impact on unemployment in Illinois, Governor Pritzker recently launched Get Hired Illinois, an initiative offering free virtual training courses for workers who have lost their jobs to COVID-19.³⁵ Get Hired Illinois offers to retrain workers for in-demand fields, such as information technology, business, computer science, and engineering.³⁶ Illinois policymakers could build on these efforts by investing into culturally and linguistically competent outreach aimed at the state's Latino population, especially those in manufacturing and construction, to ensure that they can access the technology necessary to obtaining digital skills offered by programs like Get Hired Illinois.

New York

New York is home to over 3 million Latinos who make up 18.9% of the state's overall population. Only 21 percent of Latinos in New York have a college degree compared to 48 percent of non-Hispanic whites.³⁷ In New York, 58.1 percent of Latino employees work in the following four industries: education and health services (22.9 percent), leisure and hospitality (12.6 percent), wholesale and retail trade (11.4 percent), and professional and business services (11.2 percent) (see table A5 in the Appendix for detailed occupational data in New York).

Compared to the overall state workforce, New York's Latino workers are particularly overrepresented in the construction and leisure and hospitality industries where they hold representational surpluses of 2.9 and 2.8 percentage points, respectively. Both construction and leisure and hospitality have low digital scores of 33 and 32, respectively (see Table 2). Both construction and hospitality have been identified as sectors where the necessity for human labor is being reduced by the digitalization of tasks with disproportionate impacts on the roles filled by Latino workers.³⁸

Latino workers in New York are also underrepresented in high-digital industries such as finance and insurance by 2 percentage points and education and health services by 3.8 percentage points. The distribution of New York's Latino workforce should prompt state and local officials to consider solutions that reduce Latino workers' concentration in the low-digital construction and hospitality industries (see Table 3).

In early 2020, Governor Cuomo announced a \$175 million investment into the New York Workforce Development Initiative which seeks to expand micro-credential educational opportunities in underserved communities, expand apprenticeships in high-demand fields, and increase training opportunities for jobs in the green economy.³⁹ In light of the COVID-19 pandemic and its disproportionate impacts on New York's Black and Latino populations, investments into this initiative and similar programs should expand to include culturally and linguistically competent outreach efforts. These programs should also guarantee the use of virtual training and access to necessary technology so that New York's most vulnerable communities of color can safely obtain digital skills and retrain for high-demand fields, both for the immediate and long-term future.

Texas

Texas is home to over 10 million Latinos who make up 39.2 percent of the state's overall population. While Latinos in Texas make up 39 percent of the state population, Latinos in Texas make up only 26 percent of the state's population with a college degree or certificate. Of the Latino workforce in Texas, 57.1 percent of them work in the following four industries: education and health services (16.9 percent), construction (16.3 percent), wholesale and retail trade (13.7 percent) and leisure and hospitality (10.2 percent).

Compared to the overall state workforce, Texas' Latino population is particularly overrepresented in the leisure and hospitality industries and construction which hold a combined 26.5 percent of Texas' Latino workforce. In the construction industry, Latino workers represent a 4.8 percentage point surplus compared to the overall share of Texas' workforce (See Table 2). Latinos remain underrepresented in education and health services.

The leisure and hospitality and construction sectors have been identified by previous research as industries where job displacement is a high risk due to the increasing digitalization of tasks reducing the demand for physical labor.⁴⁰ The Midwest Economic Policy Institute projects that in construction specifically, 49 percent of all tasks remain susceptible to digitalized automation, threatening job security for many of this industry's workers.⁴¹ Meanwhile, Latino workers in Texas remain underrepresented in education and health services, which has a digital score of 44, by 2.9 percentage points and in professional and business services, which has a digital score of 55, by 1.1 percentage points (see Table A6 in Appendix for detailed occupational data in Texas).

Texas' employers and educators need to find innovative ways to address this digital divide and ensure their future workforce is well equipped with the digital literacy required in today's economy. In Houston, Upskill Houston is an employer-led initiative that creates pipelines for workers to pursue career pathways requiring skills beyond high school, but less than a 4-year college degree.⁴² The state of Texas should consider implementing a similar initiative state-wide in an effort to bridge the digitalization gap.

POLICY RECOMMENDATIONS

As technological innovations spread to industrial sectors with low levels of digitalization, the simultaneous overrepresentation of Latino workers in industrial sectors with low digital scores and underrepresentation in sectors with high scores puts them at a disproportionate risk of job displacement. The following policy recommendations have been identified to reform the labor market and prepare the future Latino workforce to upskill digital proficiency and leverage matriculation into the more stable occupations of a 21st-century American economy:

1. Modernize unemployment insurance programs to expand eligibility to all workers and fund worker retraining initiatives.
 - As the COVID-19 pandemic accelerates the digitalization of the economy and displaces Latino workers from vulnerable occupations, policies must be implemented to expand eligibility by making more part-time, seasonal, and intermittent workers eligible for coverage.⁴³
 - Create self-employment assistance programs in Latino-populated states to allow unemployed workers to receive benefits while starting a business. State-level self-employment assistance programs were first implemented to help workers displaced by the implementation of the North American Free Trade Agreement (NAFTA). These programs helped many workers in states like New York and Oregon become self-employed and generate stable income by starting their own businesses.⁴⁴
 - Support displaced workers who retrain for in-demand fields through government-subsidized vouchers and stipends to help workers cover tuition and fees in addition to basic living expenses, such as food and rent. This kind of retraining support almost materialized in 2012 when the Obama Administration proposed creating a Universal Displaced Worker Program to provide vouchers of up to \$8,000 over two years for retraining in high-growth, high-demand occupations.⁴⁵
2. Grow and design apprenticeship and career-pathways programs tailored to Latinos that provide employable and transferable skills, knowledge on job searching and hiring, and direct connections with potential employers.
 - Expand investment into preparation resources such as English classes, basic computer skills, job training, and career counseling. In New York, LaGuardia Community College offers free English classes, job training, and career counseling for low-income immigrants.⁴⁶ Expanding this sort of program to incorporate additional training with computer skills and include displaced low-wage workers would be optimal to accommodate the needs of Latinos and workers of color.
 - Subsidize childcare for parent workers attending job training.
 - Formulate partnerships between community colleges and employers to create pipelines that streamline workers directly from digital training programs into sustainable jobs that are not immediately threatened by digitalization.⁴⁷
 - Expand access to digital career pathways by investing in programs like Girls Who Code and Black Girls Code that expose young girls and underrepresented communities of color to digital skills and opportunities in applicable, high-demand fields ranging from IT and healthcare technology to management and business services.⁴⁸
 - Focused efforts should include women and people of color in IT training initiatives to expand and improve computer science instruction in higher education and K-12.⁴⁹ Computer science led initiatives such as Expanding Computing Education Pathways Alliance work to increase diversity of students in computing and promote state-level computer science educational reform with 22 states and Puerto Rico.⁵⁰

3. Invest in providing Latinos access to digital technologies and expanding broadband access.
 - Expand broadband internet access for technologically underserved communities to increase exposure to technology for Latino youth and expand access to upskilling digital proficiency for Latino adults. In 2020, Pew identified nine key states (California, Colorado, Maine, Minnesota, North Carolina, Tennessee, Virginia, West Virginia, and Wisconsin) as broadband pioneers who are expanding the number of connected residents and making broadband services affordable. In fact, Wisconsin is aiming to have universal broadband availability by January 1, 2025 which will be accomplished via several initiatives including state grants and digital literacy training programs.⁵¹
4. Increase Latino representation, retention, and graduation in institutions of higher education through affirmative action, robust financial aid, and integrated social welfare programs to support housing, food security, health care, and other service needs.

CONCLUSION

This analysis shows that Latino workers across the six most Latino-populated states – Arizona, California, Texas, Florida, Illinois, and New York – face a disproportionate risk of digitalized displacement due to their consistent overrepresentation in industries with low digital scores and underrepresentation in industries with high digital scores. Latino workers in these states remain concentrated in low-digital industries, including wholesale and retail trade, agriculture, manufacturing, construction, and leisure and hospitality. Latino workers in California, Texas, Florida, Illinois, and New York are estimated to bear 65% of total digitalized job displacements through 2030.⁵² The state-by-state comparison offered in this report displays the heterogeneity of Latino demographics and occupational distributions across the six most Latino-populated states. While in Florida, Latino workers are more likely to have higher levels of education and as a result, higher levels of income, Latinos in California and Texas face wide educational and income disparities. Future research should explore how additional factors such as immigrant demographics, local labor markets, and government policies impact occupational outcomes and economic mobility for Latino workers.

While no standard approach exists to mitigate the impacts of economic digitalization, lawmakers at all levels of government should tailor policy solutions to ease employment transition and adequately accommodate the demographic and occupational distributions of their workforces. Job digitalization and the reduction of jobs in labor-intensive industries are likely to accelerate further as a consequence of the COVID-19 pandemic, further amplifying the need to retrain workers more likely to be affected by job displacement and job digitalization, such as vulnerable Latino workers. This report identifies where and how changes need to be made to prepare Latino workers to learn the necessary skills to integrate into an increasingly digitalized workforce. Policy solutions must be implemented to ensure that vulnerable workers can rapidly adapt to changes brought by digitalization by acquiring the skills needed to succeed alongside the rest of the country in an evolving economic landscape.

APPENDIX– DETAILED OCCUPATIONAL DATA BY RACE AND ETHNICITY FOR THE SIX STATES WITH THE LARGEST LATINO POPULATIONS IN THE U.S.

Table A1. Number and Share of Active Workers by Occupation and Race or Ethnicity in Arizona

INDUSTRY (DIGITAL SCORE)	OVERALL N = 4,154,000 (100%)	WHITE N = 2,773,000	LATINO N = 1,077,000	AFRICAN-AMERICAN N = 159,000	ASIAN N = 145,000
PROFESSIONAL AND BUSINESS SERVICES (55)	516,764 (12.4%)	346,625 (12.5%)	124,932 (11.6%)	24,327 (15.3%)	20,880 (14.4%)
FINANCE AND INSURANCE (55)	339,984 (8.2%)	238,478 (8.6%)	68,928 (6.4%)	17,172 (10.8%)	15,370 (10.6%)
EDUCATION AND HEALTH SERVICES (44)	822,866 (19.8%)	574,011 (20.7%)	183,090 (17%)	33,867 (21.3%)	31,900 (22%)
INFORMATION AND COMMUNICATIONS TECHNOLOGY (44)	74,600 (1.8%)	55,460 (20%)	17,232 (1.6%)	1,908 (1.2%)	NA
WHOLESALE AND RETAIL TRADE (43)	584,567 (14.1%)	385,447 (13.9%)	165,858 (15.4%)	18,762 (11.8%)	14,500 (10%)
TRANSPORTATION AND UTILITIES (39)	250,611 (6.0%)	158,061 (5.7%)	68,928 (6.4%)	17,967 (11.3%)	5,655 (3.9%)
MINING, QUARRYING, AND OIL AND GAS EXTRACTION (37)	9,067 (.2%)	5,546 (.2%)	3,231 (.3%)	NA	290 (.2%)
OTHER SERVICES (37)	224,917 (5.4%)	144,196 (5.2%)	58,158 (5.4%)	4,293 (2.7%)	18,270 (12.6%)
MANUFACTURING (36)	285,640 (6.9%)	188,564 (6.8%)	70,005 (6.5%)	9,381 (5.9%)	17,690 (12.2%)
CONSTRUCTION (33)	357,231 (8.6%)	221,840 (8%)	126,009 (11.7%)	4,452 (2.8%)	4,930 (3.4%)
LEISURE AND HOSPITALITY (32)	406,417 (9.8%)	260,662 (9.4%)	115,239 (10.7%)	20,511 (12.9%)	10,005 (6.9%)
PUBLIC ADMINISTRATION (32)	224,342 (5.4%)	163,607 (5.9%)	50,619 (4.7%)	6,201 (3.9%)	3,915 (2.7%)
AGRICULTURE AND RELATED INDUSTRIES (16)	55,893 (1.3%)	33,276 (1.2%)	22,617 (2.1%)	NA	NA

Source: United States Department of Labor, 2018 Local Area Unemployment Statistics, [Available online](#).

Table A2. Number and Share of Active Workers by Occupation and Race or Ethnicity in California

INDUSTRY (DIGITAL SCORE)	OVERALL N = 24,548,000 (100%)	WHITE N = 13,435,000 (54.7%)	LATINO N = 6,953,000 (28.3%)	AFRICAN-AMERICAN N = 1,122,000 (4.5%)	ASIAN N = 3,038,000 (12.3%)
PROFESSIONAL AND BUSINESS SERVICES (55)	3,429,127 (14%)	1,934,640 (14.4%)	799,595 (11.5%)	126,786 (11.3%)	568,106 (18.7%)
FINANCE AND INSURANCE (55)	1,484,482 (6%)	873,275 (6.5%)	326,791 (4.7%)	50,490 (4.5%)	233,926 (7.7%)
EDUCATION AND HEALTH SERVICES (44)	4,839,204 (19.7%)	2,633,260 (19.6%)	1,209,822 (17.4%)	318,648 (28.4%)	677,474 (22.3%)
INFORMATION AND COMMUNICATIONS TECHNOLOGY (44)	573,261 (2.3%)	349,310 (2.6%)	104,295 (1.5%)	22,440 (2%)	97,216 (3.2%)
WHOLESALE AND RETAIL TRADE (43)	3,145,730 (12.8%)	1,679,375 (12.5%)	1,008,185 (14.5%)	160,446 (14.3%)	297,724 (9.8%)
TRANSPORTATION AND UTILITIES (39)	1,332,996 (5.4%)	671,750 (5%)	403,274 (5.8%)	90,882 (8.1%)	167,090 (5.5%)
MINING, QUARRYING, AND OIL AND GAS EXTRACTION (37)	20,388 (.08%)	13,435 (.1%)	6,953 (.1%)	NA	NA
OTHER SERVICES (37)	1,340,333 (5.4%)	698,620 (5.2%)	424,133 (6.1%)	50,490 (4.5%)	167,090 (5.5%)
MANUFACTURING (36)	2,286,034 (9.3%)	1,168,845 (8.7%)	688,347 (9.9%)	67,320 (6%)	361,522 (11.9%)
CONSTRUCTION (33)	1,800,910 (7.3%)	1,047,930 (7.8%)	639,676 (9.2%)	40,392 (3.6%)	72,912 (2.4%)
LEISURE AND HOSPITALITY (32)	2,606,954 (10.6%)	1,424,110 (10.6%)	848,266 (12.2%)	97,614 (8.7%)	236,964 (7.8%)
PUBLIC ADMINISTRATION (32)	1,056,584 (4.3%)	591,140 (4.4%)	236,402 (3.4%)	95,370 (8.5%)	133,672 (4.4%)
AGRICULTURE AND RELATED INDUSTRIES (16)	616,646 (2.5%)	335,875 (2.5%)	257,261 (3.7%)	2,244 (.2%)	21,266 (.7%)

Source: United States Department of Labor, 2018 Local Area Unemployment Statistics, [Available online](#).

Latino Workers and Digitalization

Table A3. Number and Share of Active Workers by Occupation and Race or Ethnicity in Florida

INDUSTRY (DIGITAL SCORE)	OVERALL N = 12,355,000 (100.0%)	WHITE N = 7,767,000 (62.9%)	LATINO N = 2,657,000 (21.5%)	AFRICAN-AMERICAN N = 1,618,000 (13.1%)	ASIAN N = 313,000 (2.5%)
PROFESSIONAL AND BUSINESS SERVICES (55)	1,597,763 (12.9%)	1,064,079 (13.7%)	324,154 (12.2%)	156,946 (9.7%)	52,584 (16.8%)
FINANCE AND INSURANCE (55)	926,883 (7.5%)	613,593 (7.9%)	178,019 (6.7%)	106,788 (6.6%)	28,483 (9.1%)
EDUCATION AND HEALTH SERVICES (44)	2,470,643 (20.0%)	1,499,031 (19.3%)	449,033 (16.9%)	454,658 (28.1%)	67,921 (21.7%)
INFORMATION AND COMMUNICATIONS TECHNOLOGY (44)	232,258 (1.9%)	139,806 (1.8%)	45,169 (1.7%)	38,832 (2.4%)	8,451 (2.7%)
WHOLESALE AND RETAIL TRADE (43)	1,871,681 (15.1%)	1,180,584 (15.2%)	414,492 (15.6%)	236,228 (14.6%)	40,377 (12.9%)
TRANSPORTATION AND UTILITIES (39)	759,663 (6.1%)	427,185 (5.5%)	193,961 (7.3%)	129,440 (8.0%)	9,077 (2.9%)
MINING, QUARRYING, AND OIL AND GAS EXTRACTION (37)	9,385 (0.07%)	7,767 (0.1%)	NA	1,618 (0.1%)	NA
OTHER SERVICES (37)	778,211 (6.3%)	473,787 (6.1%)	201,932 (7.6%)	71,192 (4.4%)	31,300 (10.0%)
MANUFACTURING (36)	595,770 (4.8%)	403,884 (5.2%)	124,879 (4.7%)	48,540 (3.0%)	18,467 (5.9%)
CONSTRUCTION (33)	1,125,821 (9.1%)	722,331 (9.3%)	321,497 (12.1%)	76,046 (4.7%)	5,947 (1.9%)
LEISURE AND HOSPITALITY (32)	1,346,946 (10.9%)	807,768 (10.4%)	292,270 (11%)	208,722 (12.9%)	38,186 (12.2%)
PUBLIC ADMINISTRATION (32)	509,195 (4.1%)	333,981 (4.3%)	82,367 (3.1%)	82,518 (5.1%)	10,329 (3.3%)
AGRICULTURE AND RELATED INDUSTRIES (16)	119,465 (1.0%)	85,437 (1.1%)	29,227 (1.1%)	3,236 (0.2%)	1,565 (0.5%)

Source: United States Department of Labor, 2018 Local Area Unemployment Statistics, [Available online](#).

Table A4. Number and Share of Active Workers by Occupation and Race or Ethnicity in Illinois

INDUSTRY (DIGITAL SCORE)	OVERALL N = 7,089,000 (100.0%)	WHITE N = 4,902,000 (69.1%)	LATINO N = 1,036,000 (14.6%)	AFRICAN-AMERICAN N = 772,000 (10.9%)	ASIAN N = 379,000 (5.3%)
PROFESSIONAL AND BUSINESS SERVICES (55)	894,653 (12.6%)	642,162 (13.1%)	118,104 (11.4%)	74,884 (9.7%)	59,503 (15.7%)
FINANCE AND INSURANCE (55)	498,887 (7.0%)	382,356 (7.8%)	43,512 (4.2%)	34,740 (4.5%)	38,279 (10.1%)
EDUCATION AND HEALTH SERVICES (44)	1,557,302 (22.0%)	1,039,224 (21.2%)	165,760 (16.0%)	242,408 (31.4%)	109,910 (29.0%)
INFORMATION AND COMMUNICATIONS TECHNOLOGY (44)	109,356 (1.5%)	83,334 (1.7%)	11,396 (1.1%)	12,352 (1.6%)	2,274 (0.6%)
WHOLESALE AND RETAIL TRADE (43)	941,373 (13.3%)	656,868 (13.4%)	146,076 (14.1%)	88,780 (11.5%)	49,649 (13.1%)
TRANSPORTATION AND UTILITIES (39)	476,756 (6.7%)	299,022 (6.1%)	68,376 (6.6%)	94,956 (12.3%)	14,402 (3.8%)
MINING, QUARRYING, AND OIL AND GAS EXTRACTION (37)	15,742 (0.2%)	14,706 (0.3%)	1,036 (0.1%)	NA	NA
OTHER SERVICES (37)	328,399 (4.6%)	220,590 (4.5%)	50,764 (4.9%)	31,652 (4.1%)	25,393 (6.7%)
MANUFACTURING (36)	871,260 (12.3%)	583,338 (11.9%)	181,300 (17.5%)	69,480 (9.0%)	37,142 (9.8%)
CONSTRUCTION (33)	461,189 (6.5%)	338,238 (6.9%)	105,672 (10.2%)	12,352 (1.6%)	4,927 (1.3%)
LEISURE AND HOSPITALITY (32)	620,221 (8.7%)	392,160 (8.0%)	120,176 (11.6%)	76,428 (9.9%)	31,457 (8.3%)
PUBLIC ADMINISTRATION (32)	77,909 (1.1%)	19,608 (0.4%)	18,648 (1.8%)	33,968 (4.4%)	5,685 (1.5%)
AGRICULTURE AND RELATED INDUSTRIES (16)	54,972 (0.8%)	49,020 (1.0%)	5,180 (0.5%)	772 (0.1%)	NA

Source: United States Department of Labor, 2018 Local Area Unemployment Statistics, [Available online](#).

Latino Workers and Digitalization

Table A5. Number and Share of Active Workers by Occupation and Race or Ethnicity in New York

INDUSTRY (DIGITAL SCORE)	OVERALL N = 10,460,000 (100.0%)	WHITE N = 6,591,000 (63.0%)	LATINO N = 1,543,000 (14.8%)	AFRICAN-AMERICAN N = 1,420,000 (13.5%)	ASIAN N = 906,000 (8.7%)
PROFESSIONAL AND BUSINESS SERVICES (55)	1,288,885 (12.3%)	889,785 (13.5%)	172,816 (11.2%)	132,060 (9.3%)	94,224 (10.4%)
FINANCE AND INSURANCE (55)	860,377 (8.2%)	566,826 (8.6%)	97,209 (6.3%)	99,400 (7.0%)	96,942 (10.7%)
EDUCATION AND HEALTH SERVICES (44)	2,791,382 (26.7%)	1,707,069 (25.9%)	353,347 (22.9%)	512,620 (36.1%)	218,346 (24.1%)
INFORMATION AND COMMUNICATIONS TECHNOLOGY (44)	241,673 (2.3%)	177,957 (2.7%)	24,688 (1.6%)	22,720 (1.6%)	16,308 (1.8%)
WHOLESALE AND RETAIL TRADE (43)	1,178,796 (11.3%)	738,192 (11.2%)	175,902 (11.4%)	140,580 (9.9%)	124,122 (13.7%)
TRANSPORTATION AND UTILITIES (39)	660,870 (6.3%)	309,777 (4.7%)	124,983 (8.1%)	149,100 (10.5%)	77,010 (8.5%)
MINING, QUARRYING, AND OIL AND GAS EXTRACTION (37)	6,591 (0.1%)	6,591 (0.1%)	NA	NA	NA
OTHER SERVICES (37)	533,834 (5.1%)	296,595 (4.5%)	109,553 (7.1%)	72,420 (5.1%)	55,266 (6.1%)
MANUFACTURING (36)	601,600 (5.8%)	435,006 (6.6%)	80,236 (5.2%)	38,340 (2.7%)	48,018 (5.3%)
CONSTRUCTION (33)	717,116 (6.9%)	474,552 (7.2%)	151,214 (9.8%)	59,640 (4.2%)	31,710 (3.5%)
LEISURE AND HOSPITALITY (32)	1,025,670 (9.8%)	593,190 (9.0%)	194,418 (12.6%)	132,060 (9.3%)	106,002 (11.7%)
PUBLIC ADMINISTRATION (32)	481,543 (4.6%)	336,141 (5.1%)	46,290 (3.0%)	61,060 (4.3%)	38,052 (4.2%)
AGRICULTURE AND RELATED INDUSTRIES (16)	78,131 (0.7%)	65,910 (1.0%)	10,801 (0.7%)	1,420 (0.1%)	NA

Source: United States Department of Labor, 2018 Local Area Unemployment Statistics, [Available online](#).

Table A6. Number and Share of Active Workers by Occupation and Race or Ethnicity in Texas

INDUSTRY (DIGITAL SCORE)	OVERALL N = 17,797,000 (100%)	WHITE N = 10,459,000 (58.8%)	LATINO N = 4,912,000 (27.6%)	AFRICAN-AMERICAN N = 1,706,000 (9.6%)	ASIAN N = 720,000 (4.0%)
PROFESSIONAL AND BUSINESS SERVICES (55)	2,045,878 (11.5%)	1,234,162 (11.8%)	491,200 (10%)	180,836 (10.6%)	139,680 (19.4%)
FINANCE AND INSURANCE (55)	1,213,095 (6.8%)	763,507 (7.3%)	275,072 (5.6%)	112,596 (6.6%)	61,920 (8.6%)
EDUCATION AND HEALTH SERVICES (44)	3,503,660 (19.7%)	2,029,046 (19.4%)	830,128 (16.9%)	462,326 (27.1%)	182,160 (25.3%)
INFORMATION AND COMMUNICATIONS TECHNOLOGY (44)	240,973 (1.4%)	156,885 (1.5%)	44,208 (0.9%)	34,120 (2%)	5,760 (0.8%)
WHOLESALE AND RETAIL TRADE (43)	2,427,835 (13.6%)	1,453,801 (13.9%)	672,944 (13.7%)	213,250 (12.5%)	87,840 (12.2%)
TRANSPORTATION AND UTILITIES (39)	1,089,683 (6.1%)	617,081 (5.9%)	289,808 (5.9%)	151,834 (8.9%)	30,960 (4.3%)
MINING, QUARRYING, AND OIL AND GAS EXTRACTION (37)	374,148 (2.1%)	230,098 (2.2%)	103,152 (2.1%)	22,178 (1.3%)	18,720 (2.6%)
OTHER SERVICES (37)	988,520 (5.5%)	564,786 (5.4%)	299,632 (6.1%)	80,182 (4.7%)	43,920 (6.1%)
MANUFACTURING (36)	1,475,477 (8.3%)	868,097 (8.3%)	407,696 (8.3%)	126,244 (7.4%)	73,440 (10.2%)
CONSTRUCTION (33)	2,035,680 (11.4%)	1,150,490 (11%)	800,656 (16.3%)	66,534 (3.9%)	18,000 (2.5%)
LEISURE AND HOSPITALITY (32)	1,547,780 (8.7%)	857,638 (8.2%)	501,024 (10.2%)	141,598 (8.3%)	47,520 (6.6%)
PUBLIC ADMINISTRATION (32)	685,335 (3.8%)	407,901 (3.9%)	157,184 (3.2%)	110,890 (6.5%)	9,360 (1.3%)
AGRICULTURE AND RELATED INDUSTRIES (16)	34,384 (.2%)	NA	34,383 (.7%)	NA	NA

Source: United States Department of Labor, 2018 Local Area Unemployment Statistics, [Available online](#).

ENDNOTES

¹ Gould, E. and Heidi Shierloz, "Not everybody can work from home. Black and Hispanic workers are much less likely to be able to telework." Economic Policy Institute. March 19, 2020.

<https://www.epi.org/blog/black-and-hispanic-workers-are-much-less-likely-to-be-able-to-work-from-home/>

² Millán, I. et al. "US Hispanic and Latino lives and livelihoods in the recovery from COVID-19." McKinsey and Company. September 2, 2020. <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/us-hispanic-and-latino-lives-and-livelihoods-in-the-recovery-from-covid-19>

³ Ibid

⁴ Muro, M. et al. Digitalization and the American Workforce. The Metropolitan Policy Program at Brookings. November 2017.

https://www.brookings.edu/wp-content/uploads/2017/11/mpp_2017nov15_digitalization_full_report.pdf

⁵ Lund, S. et al. *The Future of Work in America: People and Places, Today and Tomorrow*. McKinsey Global Institute. July 2019. <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-in-america-people-and-places-today-and-tomorrow>

⁶ Ibid

⁷ Ibid

⁸ Civilian Labor Force Participation Rate. U.S. Bureau of Labor Statistics. July 2020.

<https://www.bls.gov/charts/employment-situation/civilian-labor-force-participation-rate.htm>

⁹ Fienup, M. et al. LDC U.S. Latino GDP Report, 2019. Latino Donor Collaborative. September 2019.

¹⁰ United States Bureau of Labor Statistics. *Economic News Release: Employment Situation Summary Table A. Household data, seasonally adjusted*. United States Department of Labor. July 2, 2020.

<https://www.bls.gov/news.release/empsit.a.htm>

¹¹ The Occupational Information Network (O*NET) Database is a project funded by the United States Department of Labor's Employment and Training Administration to provide comprehensive information about every occupation in the U.S. economy. O*NET surveys incumbent workers in every occupation to obtain detailed, job-specific information on workers' education, training, experience, and skill-related work requirements. See *The O*NET Content Model*, O*NET Resource Center, available at

<https://www.onetcenter.org/content.html>

¹² Local Area Unemployment Statistics. *Geographic Profile of Employment and Unemployment, 2018*. United States Department of Labor. 2018. <https://www.bls.gov/opub/geographic-profile/home.htm>

¹³ Bohn, S., and Thorman, T. *Income Inequality in California*. Public Policy Institute of California. January 2020.

<https://www.ppic.org/publication/income-inequality-in-california/>

- ¹⁴ Paredes, R. *The State of Latino Education: Texas Association of Chicanos in Higher Education*. February 18, 2019. <http://www.theccb.state.tx.us/DocID/PDF/12210.PDF>
- ¹⁵ Ura, A. and Wang, E. *Poverty in Texas drops to lowest levels in more than a decade*. The Texas Tribune. September 31, 2018. <https://www.texastribune.org/2018/09/13/texas-poverty-census-2017-lowest-levels-decade/>
- ¹⁶ Nichols, A., and Schak, J. *Degree Attainment for Latino Adults: National and State Trends*. The Education Trust. 2017. https://edtrust.org/wp-content/uploads/2014/09/Latino-Degree-Attainment_FINAL_4-1.pdf
- ¹⁷ Ceballos, J. *Updated Degree Attainment Profiles Released For All 67 Florida Counties and Local College Access Networks*. Florida College Access Network. February 21, 2019. <http://floridacollegeaccess.org/research-and-data/fcan-releases-new-degree-attainment-profiles-for-all-67-florida-counties/>
- ¹⁸ Noe-Bustamante, L. *Key facts about U.S. Hispanics and their diverse heritage*. Pew Research Center. September 16, 2019. <https://www.pewresearch.org/fact-tank/2019/09/16/key-facts-about-u-s-hispanics/>
- ¹⁹ Flores, A. Noe-Bustamante, L., and Shah, S. *Facts on Hispanics of Cuban origin in the United States, 2017*. Pew Research Center. September 16, 2019. <https://www.pewresearch.org/hispanic/fact-sheet/u-s-hispanics-facts-on-cuban-origin-latinos/>
- ²⁰ Flores, A. Noe-Bustamante, L., and Shah, S. *Facts on Hispanics of Cuban origin in the United States, 2017*. Pew Research Center. September 16, 2019. <https://www.pewresearch.org/hispanic/fact-sheet/u-s-hispanics-facts-on-cuban-origin-latinos/>
- ²¹ Román, S. *Latinos in the Sunshine State: Building a Brighter Economic Future*. National Council of La Raza. May 2016.
- ²² Nickel R. and Roig V. "Doubling Arizona's Economic Growth: The Potential Fiscal and Social Gains From Increasing Postsecondary Attainment." *College Success Arizona*. January 2016. <https://collegesuccessarizona.org/wp-content/uploads/2016/01/Doubling-Arizona's-Economic-Growth-No-Large-Photos.pdf>
- ²³ Ciaramella, S. *Upskilling Arizona's Workforce*. Chamber Business News. March 21, 2019. <https://chamberbusinessnews.com/2019/03/21/upskilling-arizonas-workforce/>
- ²⁴ Kolodner, M. "College degree gap grows wider between whites, blacks, and Latinos." *The Hechinger Report*. January 7, 2016. <https://hechingerreport.org/25368-2/>
- ²⁵ Maxim, R. et al. *Automation and Artificial Intelligence: How machines are affecting people and places*. The Metropolitan Policy Program at Brookings. January 24, 2019. https://www.brookings.edu/wp-content/uploads/2019/01/2019.01_BrookingsMetro_Automation-AI_Report_Muro-Maxim-Whiton-FINAL-version.pdf
- ²⁶ Ibid
- ²⁷ *Workforce and Economic Development*. California Community Colleges Chancellor's Office. 2020. <https://www.cccco.edu/About-Us/Chancellors-Office/Divisions/Workforce-and-Economic-Development>

Latino Workers and Digitalization

²⁸ Muro, M. et al. *Digitalization and the American Workforce*. The Metropolitan Policy Program at Brookings. November 2017.

https://www.brookings.edu/wp-content/uploads/2017/11/mpp_2017nov15_digitalization_full_report.pdf

²⁹ Maxim, R. et al. *Automation and Artificial Intelligence: How machines are affecting people and places*. The Metropolitan Policy Program at Brookings. January 24, 2019. https://www.brookings.edu/wp-content/uploads/2019/01/2019.01_BrookingsMetro_Automation-AI_Report_Muro-Maxim-Whiton-FINAL-version.pdf

³⁰ CareerSource Florida. 2020. <https://careersourceflorida.com/about-us/>

³¹ Ibid

³² Kolodner, M. *College degree gap grows wider between whites, blacks, and Latinos*. The Hechinger Report. January 7, 2016. <https://hechingerreport.org/25368-2/>

³³ Muro, M. et al. *Digitalization and the American Workforce*. The Metropolitan Policy Program at Brookings. November 2017.

https://www.brookings.edu/wp-content/uploads/2017/11/mpp_2017nov15_digitalization_full_report.pdf

³⁴ Maxim, R. et al. *Automation and Artificial Intelligence: How machines are affecting people and places*. The Metropolitan Policy Program at Brookings. January 24, 2019. https://www.brookings.edu/wp-content/uploads/2019/01/2019.01_BrookingsMetro_Automation-AI_Report_Muro-Maxim-Whiton-FINAL-version.pdf

³⁵ Gov. Pritzker and Coursea Launch New Workforce Recovery Initiative Offering Virtual Career Training for Unemployed Illinois Residents. Alpha Media. June 8, 2020. <https://www.wjol.com/gov-pritzker-and-coursea-launch-new-workforce-recovery-initiative-offering-virtual-career-training-for-unemployed-illinois-residents/>

³⁶ Ibid

³⁷ Kolodner, M. *College degree gap grows wider between whites, blacks, and Latinos*. The Hechinger Report. January 7, 2016. <https://hechingerreport.org/25368-2/>

³⁸ Maxim, R. et al. *Automation and Artificial Intelligence: How machines are affecting people and places*. The Metropolitan Policy Program at Brookings. January 24, 2019. https://www.brookings.edu/wp-content/uploads/2019/01/2019.01_BrookingsMetro_Automation-AI_Report_Muro-Maxim-Whiton-FINAL-version.pdf

³⁹ Governor Cuomo Announces 32nd Proposal of the 2020 State of the State: Expanding New York's \$175 Million Workforce Development Initiative to Meet Emerging Job Demand. New York State Department of Labor. January 7, 2020. <https://labor.ny.gov/pressreleases/2020/january-07-2020-1.shtm>

⁴⁰ Maxim, R. et al. *Automation and Artificial Intelligence: How machines are affecting people and places*. The Metropolitan Policy Program at Brookings. January 24, 2019. https://www.brookings.edu/wp-content/uploads/2019/01/2019.01_BrookingsMetro_Automation-AI_Report_Muro-Maxim-Whiton-FINAL-version.pdf

⁴¹ Ibid

⁴² Upskill Houston. Greater Houston Partnership. 2020. <https://www.houston.org/upskillhouston>

⁴³ Ibid

⁴⁴ Gould-Werth, A. et al. *A Study of the Self-Employment Assistance Program: Helping Unemployed Workers Pursue Self-Employment*. Mathematica Policy Research. January 11, 2017.
<https://www.dol.gov/sites/dolgov/files/OASP/legacy/files/SEA-Study-Report.pdf>

⁴⁵ Fitzpayne, A. et al. *Automation and a Changing Economy, Part 2: Policies for Shared Prosperity*. The Aspen Institute Future of Work Initiative. April 2019.
https://assets.aspeninstitute.org/content/uploads/2019/04/Automation-and-a-Changing-Economy_Policies-for-Shared-Prosperity_April-2019.pdf?_ga=2.2892851.2081541770.1576804372-1848140130.157616946

⁴⁶ Ibid

⁴⁷ Ibid

⁴⁸ Muro, M. et al. *Digitalization and the American Workforce*. The Metropolitan Policy Program at Brookings. November 2017. https://www.brookings.edu/wp-content/uploads/2017/11/mpp_2017nov15_digitalization_full_report.pdf

⁴⁹ Ibid.

⁵⁰ Code.org et al. *2019 State of Computer Science Education Equity and Diversity*.
https://advocacy.code.org/2019_state_of_cs.pdf. September 2019.

⁵¹ The Pew Charitable Trusts. *How States are Expanding Broadband Access*.
https://www.pewtrusts.org/-/media/assets/2020/03/broadband_report0320_final.pdf. February, 2020.

⁵² Lund, S. et al. *The Future of Work in America: People and Places, Today and Tomorrow*. McKinsey Global Institute. July 2019. <https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-in-america-people-and-places-today-and-tomorrow>



UCLA Latino Policy &
Politics Initiative

 [UCLAlatino](#)
 [UCLAlatino](#)
latino.ucla.edu