



COLORADO CENTER  
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# Immigrants strengthen Colorado's economy, generating \$42 billion of activity in 2011

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## Executive Summary

The foreign-born population is a growing presence in Colorado, representing 1 in 10 of the state's residents. Immigrants are a rising proportion of the labor force and contribute significantly to Colorado's total economic output. In fact, immigrants contribute approximately \$42 billion dollars in total output to the Colorado economy.

Using economic modeling software in conjunction with American Community Survey data about the foreign-born population in Colorado, this report quantitatively measures the impact of the immigrant population on the Colorado economy. It documents the characteristics of immigrants who live in the state, their contributions to Colorado's labor force, and the industries that depend on immigrant workers. The report illustrates that the economic contributions of immigrants are critical to Colorado's economy.

## Key Findings

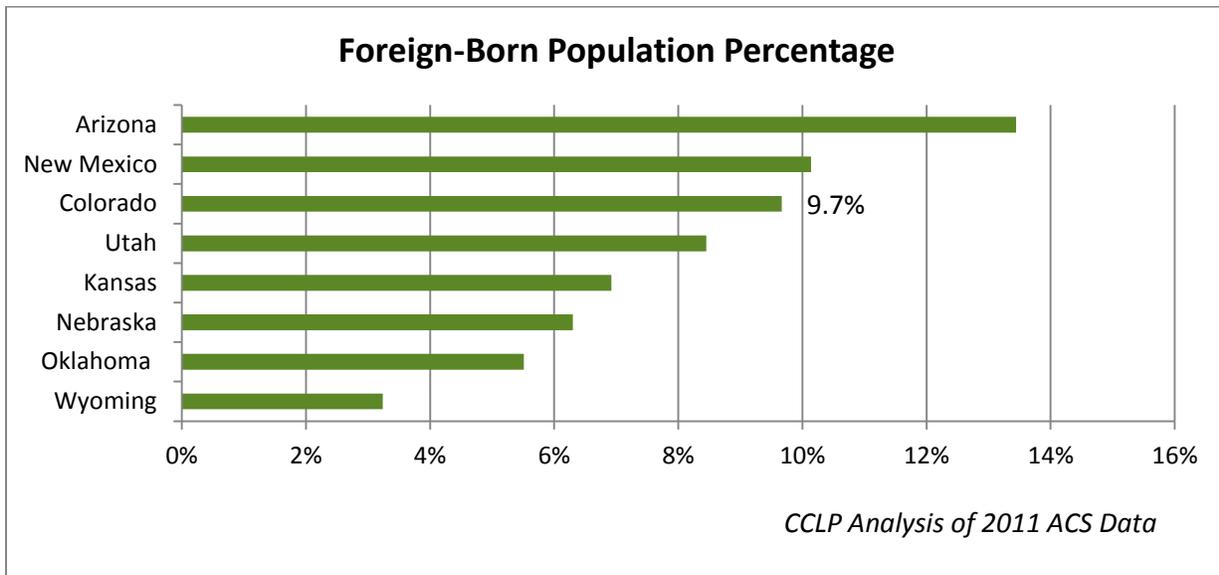
- For every 10 immigrants employed in Colorado, an additional seven jobs are created. Therefore the spending and production of immigrants in Colorado accounts for an additional 212,000 jobs.
- Immigrant workers contribute 8.5 percent of the gross state product in Colorado.
- Colorado's immigrant population makes substantial contributions to the labor force particularly in certain sectors. Immigrant labor accounted for 18.1 percent of total construction employment; 16 percent of the entertainment, hotel and services industry; and 8 percent of the manufacturing sector.
- Immigrants initiate substantial entrepreneurial activity, accounting for 9 percent of Colorado's entrepreneurs.
- In 2011, the foreign-born population generated \$42 billion of total production for Colorado's economy.

## Introduction

The economic contribution of immigrants to Colorado's economy is often overlooked in policy debates. Immigrants in Colorado work, pay taxes and raise families. This report measures the contributions to the state's economy of the thousands of immigrants who live and work in Colorado. The data should help paint a clearer image of immigrants in Colorado while also better informing policymakers as they consider how to strengthen Colorado's economy.

### The immigrant population is a growing presence

A growing proportion of Colorado is foreign-born: 8.6 percent of the population was foreign-born in 2000, now 9.7 percent of the population is foreign-born. Colorado's immigrant population has grown faster in the last decade than in the nation as a whole. Colorado's 34 percent growth in the foreign-born population from 2000 to 2011 is slightly above the national rate of 30 percent. Colorado's total population grew by 815,000 people from 2000 to 2011, and more than 15 percent of that population growth was attributable to the foreign-born.



During the recent recession, the flow of immigrants into Colorado slowed compared to the national pace. Foreign-born population growth was 2.5 percent in Colorado. The national immigrant population growth rate was 5 percent. While the total number of immigrants in Colorado still grew during the recession, the rate of growth was much slower than in prior years. This reflects the fact that many immigrants left Colorado when the jobs dried up during the recession. In fact, the Pew Hispanic Center estimates that 30,000 undocumented immigrants left Colorado from 2007 to 2010.

**Immigrants have a big influence on Colorado's work force** In Colorado, immigrants make up 9.7 percent of the population, but they constitute a greater share of the labor force at 11.4 percent. Immigrants in Colorado work in a wider range of occupations than is commonly understood. Many work in retail, education, manufacturing, construction, and finance. Only 2 percent of immigrants work in agriculture. Immigrants are more likely to be employed in a blue-collar job than U.S.-born residents while U.S.-born workers are more likely to occupy white-collar jobs than foreign-born workers. The chart below shows the percentages of U.S.-born and foreign-born workers in the industrial categories.

Industries most supported by immigrant workers		
	U.S.-Born	Foreign-Born
Construction	6.3%	13.1%
Manufacturing	6.7%	8.9%
Transportation and warehousing, and utilities	4.8%	4.4%
Agriculture, forestry, fishing and hunting, and mining	2.5%	2.4%
<b>Total Blue-Collar Jobs</b>	<b>20.3%</b>	<b>28.8%</b>
Educational services, and health care and social assistance	21.1%	14.2%
Professional, scientific, and management, and administrative and waste management services	13.2%	14.6%
Retail trade	11.7%	9.4%
Finance and insurance, and real estate and rental and leasing	7.5%	3.7%
Public administration	5.6%	2.3%
Information	3.2%	2.3%
Wholesale trade	2.7%	2.2%
<b>Total White-Collar Jobs</b>	<b>65%</b>	<b>49%</b>
Arts, entertainment, and recreation, and accommodation and food services	9.5%	17.0%
Other services (except public administration)	5.2%	5.4%
<b>Total Service Jobs</b>	<b>14.7%</b>	<b>22.4%</b>

### **Immigrants make a critical contribution to Colorado’s economy**

Immigrant workers contribute 8.5 percent of the entire economic activity in Colorado.<sup>1</sup> Colorado’s immigrants also contribute significantly to the entrepreneurial activity, accounting for 9 percent of Colorado’s entrepreneurship.<sup>2</sup> This means that immigrants are creating small businesses and taking the risk of directly creating jobs for Colorado at the same rate that the U.S.-born population does.

The industry with the heaviest dependence upon immigrant labor is the construction industry. In 2011, 18.1 percent of construction workers in Colorado were immigrants. Before the recession began, that number was even higher. In 2007, 19.4 percent of the construction industry was foreign-born. The construction industry currently employs 220,000 Coloradans, of which 180,000 construction workers are U.S.-born, working alongside and benefitting from the work provided by immigrant construction workers.

<sup>1</sup> Immigrant contributions to Colorado’s GDP were calculated using 2011 industry-specific GDP information from the Bureau of Economic Analysis. These figures were applied to the percentages of immigrant workers in each industry using ACS data. Once immigrant GDP contributions per sector were found, the figures were aggregated to the state level to calculate the immigrant percentage of total gross domestic product.

<sup>2</sup> CCLP’s analysis of 2011 ACS PUMS Data

The entertainment, hotel and service industry also depends heavily upon the immigrant work force, with 16 percent of service employees foreign-born. Approximately 52,000 immigrants are employed in restaurants, ski resorts, and hotels across Colorado. As Colorado has a large tourism industry, immigrant labor is a huge contributor. Approximately 27,000 immigrants work in Colorado’s manufacturing industry, which accounts for 8 percent of Colorado’s gross state product. The agriculture and mining industries employ 7,300 immigrants. Those immigrants work alongside the 71,000 U.S.-born farming and mining workers.

<b>Immigrant contributions to Colorado’s economy</b>		
	Gross Domestic Product (in millions)	Immigrant Percentage of Industry
Finance and insurance, and real estate and rental and leasing	48,581	5.0%
Professional, scientific, and management, and administrative and waste management services	39,671	10.5%
Public administration	33,952	4.2%
Information	22,652	7.1%
Manufacturing	20,595	12.4%
Educational services, and health care and social assistance	18,631	6.7%
Retail trade	15,150	7.9%
Wholesale trade	13,746	8.0%
Agriculture, forestry, fishing and hunting, and mining	13,529	9.3%
Arts, entertainment, and recreation, and accommodation and food services	11,921	16.0%
Transportation and warehousing, and utilities	9,814	8.9%
Construction	9,462	18.1%
Other services (except public administration)	6,605	9.9%

*Source: 2011 Bureau of Economic Analysis; American Community Survey Data*

### **Calculating Total Impact**

As immigrants produce goods, provide services and earn wages, their activity creates “ripple effects” of economic activity that moves through the Colorado economy. To quantify all of those “ripple effects” and thus conduct an economic impact study of the immigrant population in Colorado, CCLP employs input/output modeling. Input/output models describe the economy as a series of interconnected industries or sectors. A change to one sector, such as additional immigrant employment in the service sector, then affects all other sectors to varying degrees. Using American Community Survey data to describe the occupations of foreign-born workers and the Colorado specific input/output matrices, CCLP was able to model and quantify the economic contributions of the foreign-born population. (See the methodology section for more details.)

Approximately 305,000 immigrants work in Colorado. The direct labor production output of immigrant workers accounts for \$42.5 billion of economic activity in Colorado. In addition to the direct effect on Colorado’s employment and output, the production and spending of Colorado’s immigrants creates all sorts of ancillary business benefits that are captured in the indirect effects and induced effects.

- **Direct Effects:** Represents the primary wave of employment, income, and production. The number of immigrants

<b>Total Economic Impact of Colorado’s Immigrants</b>		
<b>Impact Type</b>	<b>Employment</b>	<b>Output</b>
Direct Effect	305,044	\$42.5 billion
Indirect Effect	92,909	\$14.5 billion
Induced Effect	119,661	\$15.3 billion
<b>Total Effect</b>	<b>517,614</b>	<b>\$72.5 billion</b>
<b>Multiplier</b>	<b>1.69</b>	<b>1.70</b>
<i>CCLP’s calculations using IMPLAN</i>		

employed in Colorado represents the direct employment impact. The direct economic output is the value of the goods and services immigrants produce.

- **Indirect Effects:** Measures the secondary effects of the direct impact. Indirect effects capture the activity of the suppliers and the interconnected sectors that provide inputs to the direct effect. For example, it includes the impact of increased production of concrete used by an immigrant construction worker.
- **Induced Effect:** Captures the tertiary effects of the direct impact. It measures the extra spending in the economy as those who are employed directly and those who are employed indirectly spend their wages across the Colorado economy. For example, the immigrant doctor spends her wages on groceries. That spending induces production and employment in the grocery store chain.
- **Total Effect:** The sum of the direct, indirect, and induced effects.
- **Multiplier:** The ratio of total impact to direct impact. It is a method for quantifying the per-job and per-dollar impact. The 1.7 employment multiplier for immigrants means that every immigrant working in Colorado results in another 0.7 jobs in the states because of the “ripple effects.” Therefore, in addition to the 305,000 jobs that immigrants currently occupy, their spending and the effects of their production are responsible for 212,000 additional jobs in Colorado.

<b>Number of immigrant workers by industry</b>	
	<b>Employment</b>
Food services and drinking places	57,759
Wholesale trade businesses	24,598
Real estate establishments	16,036
Construction of other new nonresidential structures	15,970
Construction of other new residential structures	15,970
Offices of physicians, dentists, and other health	14,178

practitioners	
Management, scientific, and technical consulting services	12,733
Services to buildings and dwellings	12,444
Retail Stores - Food and beverage	12,074
Hospitals	11,853
<i>CCLP's calculations using IMPLAN</i>	

## Conclusion

A review of the statistics demonstrates clearly that immigrants contribute significantly to Colorado's economy. The foreign-born population in Colorado is highly represented in the state's labor force; immigrants own small businesses and generate economic activity as entrepreneurs at the same rate as the U.S. born population; and the wages that immigrants earn and jobs that they create produce additional economic activity. It is imperative that any discussion of policies related to immigrants be informed by these facts, a recognition that Colorado's immigrants are vital to the state's economy.

## Methodology

Estimates for the economic output and employment gains associated with immigrants in Colorado are calculated using IMPLAN economic impact modeling software.<sup>3</sup> The software uses empirically derived regional input/output accounting to enable modeling of local industry changes. Calculations are derived in five steps:

1. Begin with the number of immigrants employed in the Colorado in 2011 from U.S. Census data.
2. Determine the percentage of immigrants working in each occupation sector using American Community Survey's Public Use Microdata Set. (PUMS). Apply the percentages to the total from step 1 to get the number of immigrants in each occupation using North American Industry Classification System (NAICS) labels.
3. Apportion major industry totals to detailed IMPLAN sectors. This involves converting the NAICS occupation labeling into the detailed sector employment ranges that IMPLAN understands.
4. Convert IMPLAN sector employment totals to IMPLAN industry activity levels. The input/output software converts employment totals in each sector into industry activity levels (in dollars) for each sector.
5. Model the effects of combined industry activity. Once inputs are associated with immigrant employment in Colorado, the input/output software estimates economic impacts.

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<sup>3</sup> For more information, see the IMPLAN website: <http://implan.com/v3/>.