



The Consequences of Legalization Versus Mass Deportation in Colorado

Findings and Methodology

Dr. Raúl Hinojosa-Ojeda August 2012

Center for American Progress



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The effects of mass deportation versus legalization in Colorado

What would happen to Colorado's economy were it to drive out all of its undocumented immigrants? Conversely, what would the impact be if all of Colorado's undocumented immigrants acquired legal status? Our analysis finds that Colorado would stand to see significant gains if legalization occurs, and significant losses if mass deportation became a reality.

Colorado fast facts

4,887,000
Total population in 2010

180,000
Total undocumented in 2010
(3.7% of total population)

Current contributions of undocumented workers

111,000
Total undocumented workers

\$1.3 billion
Tax revenue from undocumented workers

3.6%
Of total workers are undocumented

\$7.4 billion
Gross state product of undocumented workers

Mass deportation versus legalization in Colorado

Total wages

\$924 million

increase if 100% legalization occurs



\$3.6 billion

decrease if 100% deportation occurs



Tax revenue

\$297 million

increase if 100% legalization occurs



\$1.3 billion

decrease if 100% deportation occurs



20,000

Jobs created if 100% legalization occurs

\$7.4 billion

Decrease in gross state product if 100% deportation occurs

What could Colorado do with an extra \$297 million in tax revenue?



Give **121 days** of free school lunch to every K-12 student in the state.



Fund the yearly salary of over **6,600** K-12 teachers in the state.



Fund over **53,500** Pell Grants at the maximum level.



Fund the salaries of close to **4,300** Registered Nurses.



Fund **118,800** Colorado GEAR UP Scholarships at the maximum level.



Increase the school budgets of all K-12 schools in Colorado by over **\$165,000**.

By Raúl Hinojosa-Ojeda, Director of the North American Integration and Development Center, UCLA

These results have been calculated using the IMPLAN system. For the complete Colorado findings and methodology, visit our website at: <http://www.americanprogress.org/issues/immigration/report/2012/08/29/35249/>

Introduction

Debates about the economic and fiscal benefits and drawbacks of immigrants typically oversimplify the role that immigrants play in our economy. When one looks more closely, they will find that the impact immigrants (or any group for that matter) have on the economy is multifaceted and complex.

Immigrants are not just workers; they are also consumers and taxpayers. The effects of their labor and consumption on economic growth and fiscal health must be factored in as we consider how to address the situation of having a large undocumented workforce.¹

In this report we describe the direct impacts of either deporting or legalizing undocumented workers. In reality, the effects would be much larger. Mass deportation, for example, would result in an indirect negative impact on local businesses because there would be less money circulating in the local economy, which would lead to further job losses.² The estimates reported here should thus be considered conservative rather than exhaustive.³

We estimate the economic contributions of immigrants, both documented and undocumented, for seven states: Arizona, Colorado, Florida, Nevada, New Mexico, Texas, and Virginia. These seven states have some of the largest populations of unauthorized immigrants, and have played and will continue to play a pivotal role in elections as swing states. We then report the negative fiscal impact of four different deportation scenarios—namely what would happen if 15, 30, 50, or 100 percent of undocumented immigrants were removed from the state. Finally, we explore the positive economic outcomes that would result from legalizing undocumented immigrants in each of the seven states. (For a detailed explanation of the methodology used, please see the appendix on page 9.)

Overall we find that each of the seven states would gain significantly from legalizing their unauthorized immigrants, both in terms of raised wages for all workers in the state, new jobs created, and additional tax revenue generated. Conversely, deporting even a portion of the unauthorized immigrants would lead to significant losses in gross state product, worker wages, and tax revenues. The benefits of immigration are clear, and states stand to prosper through positive immigration policies, or lose out with harsh and restrictive ones.

Economic contribution of immigrants in Colorado

Colorado has a total population of 4.9 million people, of which 321,000, or 6.6 percent, are foreign born. The state has 180,000 undocumented immigrants, comprising 3.7 percent of the total population.⁴ (See table 1)

TABLE 1
Foreign-born residents

Thousands

	State of Colorado	Share of total population
Total population	4,887	100%
Legal foreign-born residents	141	2.9%
Undocumented immigrants	180	3.7%
Total foreign-born residents	321	6.6%

Immigrant workers as a whole added over \$21.6 billion to Colorado’s gross state product—the total value added by workers to the state—in 2010, the latest year such data was available. The undocumented workforce by itself accounted for over \$7.4 billion of this GSP.⁵ Immigrant workers produce even more by way of goods and services created, with a total state output of \$43.8 billion, including \$17.1 billion from undocumented immigrants alone. (see Table 2)

TABLE 2

The economic importance of immigrants in the labor force

	Employment (thousands)	Percent of total employment	Gross state product* (in millions)	Output** (in millions)	Employee compensation*** (in millions)
Total	3,131	100%	\$269,297	\$441,623	\$140,075
Legal foreign-born residents	171	5.5%	\$14,179	\$26,749	\$7,914
Undocumented immigrants	111	3.6%	\$7,432	\$17,079	\$3,551
Total foreign-born residents	282	9.0%	\$21,611	\$43,828	\$11,465

*Gross state product or value added includes employee compensation, proprietary income, other property income, and indirect business tax.

**Output represents the value of the total production of goods and services by industry in the regional economy—whether such output is consumed or not. Output could also be thought as the total value of sales plus or minus inventory.

*** Income received by workers, including benefits and before taxes.

Immigrant workers also pay billions of dollars of taxes to the state treasury. Just like the native born, immigrants pay personal taxes, such as income tax and property tax, business taxes (among them corporate profits taxes, dividends, and property taxes), and sales taxes. Our analysis estimates that immigrants on the whole paid \$3.5 billion in taxes to Colorado in 2010 with undocumented immigrants contributing approximately \$1.3 billion. (see table 3)

TABLE 3

The tax revenues immigrants pay

Local and state taxes

	Personal taxes (in millions)*	Business taxes (in millions)**	Sales taxes (in millions)	Total taxes (in millions)
Total	\$7,035	\$17,234	\$12,854	\$37,122
Legal foreign-born residents	\$405	\$1,049	\$786	\$2,241
Undocumented immigrants	\$219	\$617	\$463	\$1,298
Total foreign-born residents	\$624	\$1,666	\$1,249	\$3,539

*Personal taxes include income tax, motor vehicle license fees, property tax, and other nontax fines and fees.

**Business taxes include corporate profits tax, dividends, motor vehicle license fees, property tax, severance tax, and other taxes.

The economic consequences of mass deportation

So what would happen if all the undocumented immigrants were driven from the state?

Removing all of the undocumented immigrants from Colorado would have substantial, indeed devastating, consequences for everyone remaining in the state. Driving undocumented immigrants out of Colorado would lead to substantially diminished earnings, decreased gross state product, and lost tax revenue for the state government, which is already reeling from the recession and high unemployment—6.8 percent in 2010 (the base year for calculations) and 8.2 percent as of June 2012.

Our analysis shows that the contraction from rapidly removing undocumented immigrant workers would have severe ramifications for the state. If all undocumented workers were expelled, Colorado would lose close to \$3.6 billion in employee compensation, defined as pretax salary and wage earnings. While it is likely that some of these positions would be filled by other workers, if even 15 percent of unauthorized immigrant jobs go unfilled, the state stands to lose \$533 million in employee compensation.⁶ (see Table 4) As that worker income decreases, the earnings that would otherwise be spent in the state's economy, for example, on groceries, clothes, and housing, are lost.

There is ample reason to suspect that at least a portion of these jobs would not be readily taken by other workers. Immigrants tend to live clustered in certain communities, where there may not be a ready supply of other workers to fill the openings they would leave behind.⁷ Additionally, undocumented workers tend to have skill sets that are specific to the industries they work in (for example, construction, home health services, etc.) that often do not match those of the native-born unemployed.⁸

TABLE 4
Mass deportation, mass income losses

Employee compensation in millions

	Total employee compensation	Direct employee compensation*
State of Colorado	\$140,075	–
15 percent deportation	–	-\$533
30 percent deportation	–	-\$1,065
50 percent deportation	–	-\$1,775
100 percent deportation	–	-\$3,551

* Change in employee compensation as a result of the direct removal of undocumented individuals from the regional economy.

This cycle of diminished earnings, consumption, and demand would shrink Colorado’s economy. Our analysis indicates that Colorado’s gross state product would be reduced by more than \$7.4 billion if the entire undocumented population were driven from the state. And even if a proportion of these unauthorized jobs go unfilled—say 15 percent—that would decrease GSP by \$1.1 billion. (see Table 5)

TABLE 5
Devastating Colorado’s economy

The effects of deporting undocumented immigrant workers on state domestic product

Gross state product, or GSP, in millions

	Total GSP	Direct GSP impact*
State of Colorado	\$269,297	–
15 percent deportation	–	-\$1,115
30 percent deportation	–	-\$2,230
50 percent deportation	–	-\$3,716
100 percent deportation	–	-\$7,432

* Change in employee compensation as a result of the direct removal of undocumented individuals from the regional economy.

Finally, mass deportation would also significantly decrease the state’s tax revenue, stalling the state’s economic recovery and forcing painful choices between cutting back services or implementing new tax increases. Altogether, Colorado would lose close to \$1.3 billion were mass deportation to become a reality. (see Table 3)

The next section details why doing just the opposite—requiring undocumented immigrants to register and work legally—would have precisely the opposite effect.

The benefits of legalizing undocumented immigrants in Colorado

Our analysis shows that bringing all undocumented workers legally into the Colorado workforce would be unquestionably beneficial to the state economy and all its residents. Ultimately, only the federal government can resolve the status of the undocumented. But for the purposes of our analysis we examine in this section of the paper what would happen if Colorado’s workforce were legalized.

Undocumented immigrant workers earn about 18 percent less in wages than legal workers.⁹ A program that required all undocumented immigrants to earn legal status would increase employment compensation and employment in the state by closing the wage gap between documented and undocumented workers. We estimate that legalizing the undocumented workers in Colorado would increase employment compensation in the state by more than \$924,000. (see Table 6)

TABLE 6
Legalization: Raising Colorado

The effects of legalizing undocumented workers on employment compensation and employment in Colorado

	Employment compensation increase (in millions)	Direct employment gain (in thousands)*
Colorado**	\$140,075	–
Legalization	\$924	20

*Direct employment gain is the increase in employment caused by the legalization of all undocumented immigrants in the regional economy.

**IMPLAN base data. This case represents the economy without any changes in employment or other values.

Note: Totals may not sum due to rounding error.

As the legalized workers and their families spend the increased earnings on new clothes, a down payment on a car, or a new apartment, the effect reverberates throughout the economy. Clothing stores, car dealers, and rental agencies boost their sales and hire more staff. In other words, the increase in economic output and consumer spending would precipitate a spike in demand for goods and services.

Instead of the downward spiral produced by extracting these workers from the state’s economy, requiring them to earn legal status would start a virtuous cycle of growth in jobs and revenue into motion. Our modeling shows that legalizing these workers—and thus increasing their spending power, which would lead to greater economic demand for goods and services—would add 20,000 jobs to Colorado’s economy (see Table 6) and increase the state’s tax revenues by \$297 million.¹⁰ (see Table 7)

TABLE 7
Legalization: Boosting tax revenues by the millions

The effects of legalizing undocumented workers on tax state revenue in Colorado, direct effects

Taxes in millions

	Personal taxes*	Business taxes**	Sales taxes	Total taxes	Total tax gain	Percentage change
Colorado***	\$7,035	\$17,234	\$37,122	\$38,718	–	–
Legalization	\$52	\$140	\$105	\$297	\$297	0.8%

*Personal taxes include income tax, motor vehicle license fees, property tax, and other non-tax fines and fees.

**Business taxes include corporate profits tax, dividends, motor vehicle license fees, property tax, severance tax, and other taxes.

***IMPLAN base data. This case represents the economy without deportation changes.

Appendix: Methodology

This study uses the term “undocumented” immigrants to describe those individuals who are not U.S. citizens or legal residents. Overall and foreign-born population estimates are derived from the American Community Survey’s five-year data for 2006-2010, as well as the Pew Hispanic Center on the number of unauthorized immigrants in a given state. To calculate the number of undocumented workers in each state, we discounted the total number of undocumented workers in the labor force from Pew data by the unemployment rate for foreign-born workers in the state at the time the data were collected.¹¹

About IMPLAN

This study uses the IMPLAN input-output models of each state’s economy, which allow researchers to calculate the impacts resulting from changes in policy and economic activity. The study estimates the impacts on economic output and employment in each industry, and the resulting impact on tax contributions, given a range of assumed changes to migration-related policies. The model allows identification of direct economic effects in affected industries, indirect effects in related industries, and induced effects that cascade through the economy. Only direct economic effects are utilized in this study.

The IMPLAN input-modeling approach—IMPLAN stands for “IMpact analysis for PLANning”—is most useful and appropriate in analyzing the short-term shock to a state economy that would be immediately felt from a significant policy change—either a mass deportation or a mass legalization. The IMPLAN modeling approach is thus well suited to analyze the immediate and regionally specific impacts resulting from abrupt policy shifts.¹²

IMPLAN data

The dataset used is a 2010 data file by state containing 509 industries. For this study, the 2010 IMPLAN data files were aggregated down to 36 industries. A bridge was created between the 509 industries in the IMPLAN files and the 13 industries in the U.S. Census Bureau's industry tables to create compatibility between the U.S. Census data and the IMPLAN datasets. It is important to note that in this study we are using constant 2010 dollar figures provided by the IMPLAN database.

Undocumented worker estimates

The number of undocumented workers was estimated using Pew Center estimates for each state, adjusted to account for the unemployment rate among foreign-born workers. We then applied the number of undocumented workers to each industry using foreign-born worker percentage estimates for the economies of each region (see next section), since specific estimates of unauthorized immigrants by sector are not available. For instance, if there were an estimated 100 undocumented workers in a given region and estimates for foreign-born workers in the construction industry in that region were 23 percent, then 23 undocumented workers were added to the construction industry and the rest were distributed using the same method.

Undocumented workers by industry

In “The Characteristics of Unauthorized Immigrants in California, Los Angeles County and the United States,” the authors provide estimates of the percentage of undocumented workers in 13 aggregated industries.¹³ Because no similar breakdown exists for Colorado, we used the California distributions to estimate Colorado's share of undocumented workers by industry.

Undocumented worker value-added contribution by industry

In order to estimate the undocumented worker contributions to gross state product in each industry, we applied the following calculation:

$$- \text{TVA} * U_j = (\text{TVA} / \text{TE}) * U_j$$

Where:

- U—Undocumented workers in industry j
- J—Any given industry
- TVA—Total value added
- TE—Total employment

Deportation scenarios

In this study, we calculate the impacts resulting from the deportation of 15 percent, 30 percent, 50 percent, and 100 percent of undocumented workers. These calculations were performed by estimating the number of undocumented workers by industry and running the IMPLAN model to calculate the exact impact of these workers (all else equal).

The model provides a good estimate of changes in economic activity important to this study. The main economic impacts analyzed are: employment impacts; output impacts; value-added impacts; labor-income impacts; and tax impacts.

Wage differences between legal and undocumented workers

This study assumes undocumented workers' wages are 18 percent lower than those of legal workers. To assure that our figures are the most conservative estimates possible, we have placed a cap for wages of undocumented workers in high-wage industries. These industries are: utilities, refined energy, transport equipment, and electronic equipment. The cap consists of two times the median worker income of unauthorized immigrants ($\$36,000 \times 2 = \$72,000$), and in industries where the median wage was higher than the cap, undocumented workers' wages were reduced by 50 percent instead of 18 percent.¹⁴ Based on this assumption, we estimated legal and undocumented workers' wages using

IMPLAN base employee compensation. Next, we “legalized” those workers, increasing their wages to the prevailing market wage.

When all workers across the state economy earn the same wages, the labor wage bill increases, as does output based on the increases in wage-based demand. Based on previous experiences of legalization (such as the impact of the Immigration Reform and Control Act of 1986), we assume labor productivity grows in commensurate proportion to wage increases due to legalization and a constant wage elasticity of labor demand, thus resulting in a stable employment rate.

Fiscal analysis

Tax impacts for this study are calculated in two parts. The first part is calculated by extracting total population tax contributions for the base year (IMPLAN base year data). The second part is calculated by extracting the different percentages of undocumented workers from the economy and then comparing the results to the original IMPLAN data. The difference in tax revenue is the undocumented worker contribution.

About the Author

Professor Raúl Hinojosa-Ojeda is the founding director of the North American Integration and Development Center and associate professor in the Division of Social Sciences and the César E. Chávez Department of Chicana and Chicano Studies at the University of California, Los Angeles. Born in Mexico and raised in Chicago, he received a B.A. in economics, an M.A. in anthropology, and a Ph.D. in political science at the University of Chicago. Professor Hinojosa-Ojeda has held various academic and policy research positions in a variety of universities and public institutions, including the World Bank, InterAmerican Development Bank, the White House Council of Economic Advisers, the United States Trade Representative, Stanford University, and the University of California, Berkeley. Professor Hinojosa-Ojeda founded the North American Integration and Development Center at UCLA in 1995, dedicated to developing innovative research agendas and policy pilot projects concerning globalization and development.

Endnotes

- 1 In order to have the most accurate data, we use the American Community Survey five-year estimates for total state population (2006-2010), which pools the data collected over multiple years and is less prone to sampling error. See "When to use 1-year, 3-year, or 5-year estimates," available at http://www.census.gov/acs/www/guidance_for_data_users/estimates/.
- 2 For example, with fewer people around to spend their wages, local businesses will lose customers and profits, and will likely be unable to sustain as many jobs, leading to further economic troubles.
- 3 Previous reports released by the Center for American Progress in conjunction with the Immigration Policy Center have included direct, indirect, and induced effects of legalization or deportation of undocumented workers. For more information, please see Raul Hinojosa-Ojeda and Marshall Fitz, "A Rising Tide or a Shrinking Pie: The Economic Impact of Legalization Versus Deportation in Arizona" (Washington: Center for American Progress, 2011) available at http://www.americanprogress.org/issues/2011/03/pdf/rising_tide.pdf, and "Revitalizing the Golden State: What Legalization Over Deportation Could Mean to California and Los Angeles County" (Washington: Center for American Progress, 2011), available at http://www.americanprogress.org/issues/2011/04/pdf/ca_immigration.pdf.
- 4 Demographic data from "American Community Survey 5 year data, 2006-2010"; Passel and Cohn, "Unauthorized Immigrant Population."
- 5 The number of employed undocumented workers was calculated by discounting the Pew Hispanic Center numbers for the size of the undocumented workforce (which includes employed and unemployed people,) by the state unemployment rate for foreign-born noncitizens, 7.1 percent in 2010, the base year for calculations. See "American Community Survey 5-year estimates, 2006-2010"; Passel and Cohn, "Unauthorized Immigrant Population."
- 6 A 100 percent deportation scenario, where all jobs disappear and no native workers replace the undocumented is clearly the worst-case scenario. We have included multiple deportation scenarios (15 percent, 30 percent, 50 percent, and 100 percent,) to illustrate what would happen if even a portion of these jobs evaporate. And economic research backs the claim that, as the Immigration Policy Center puts it, "There is no direct correlation between the presence of recent immigrants and unemployment levels at the regional, state, or county levels." In general native-born workers and recent immigrant workers compliment, rather than conflict with one another, and are not easily substitutable, generally having different work and skill histories, and living in different locations. See: Immigration Policy Center, "The Economic Blame Game"; and Immigration Policy Center, "Not in Competition." Immigrant workers also sustain workers in other sectors, with the U.S. Department of Agriculture estimating that each farm job sustains three other jobs in "upstream" occupations, such as transportation or manufacturing. See Holt, Testimony before the Committee on Agriculture.
- 7 For example, after the passage of Georgia's immigration law H.B. 87 which drove many undocumented workers out of the state, a survey by the Georgia Restaurant Association found that half (49 percent) of respondents experienced labor shortages, and a whopping 88 percent were concerned with experiencing future labor shortages. See Georgia Restaurant Association, "Georgia Immigration Reform: Restaurant Impact Study."
- 8 Hagan, Lowe, and Quingla, "Skills on the Move"; Lowe, Hagan, and Iskander, "Revealing talent."
- 9 Bureau of International Labor Affairs, Effects of the Immigration Reform and Control Act.
- 10 Tax effects in IMPLAN are derived from wage increases resulting from the legalization of undocumented workers. This tax analysis represents the estimated increase in tax revenue generated by a change in final demand, reflecting only the direct impacts of increasing wages to undocumented workers.
- 11 "American Community Survey 5 year data, 2006-2010"; Passel and Cohn, "Unauthorized Immigrant Population."
- 12 For more information on the IMPLAN system, see: MIG, inc.'s IMPLAN website, available at <http://implan.com/V4/Index.php>. For other immigration and economic modeling uses of IMPLAN, see, for example: Randy Capps, Kristen McCabe, and Michael Fix, "Profile of Immigrants in Napa County" (Washington: Migration Policy Institute, 2012), available at <http://www.migrationpolicy.org/pubs/Napa-Profile.pdf>.
- 13 Karina Fortuny, Randy Capps, and Jeffrey S. Passel, "The Characteristics of Unauthorized Immigrants in California, Los Angeles County, and the United States" (Washington: The Urban Institute, 2007), available at http://www.urban.org/uploadedpdf/411425_characteristics_immigrants.pdf.
- 14 Note: For the Colorado State figures, the wages of undocumented workers in the industry category of "Refined Energy" still crossed the \$72,000 threshold even after discounting the wages by 50 percent; for this category alone we discounted the overall wages by 60 percent to ensure the most conservative results.

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