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A Rising Tide or a Shrinking Pie

The Economic Impact of Legalization Versus Deportation in Arizona

Raul Hinojosa-Ojeda and Marshall Fitz March 2011

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Introduction and summary

Our national debate over urgently needed immigration reform is now careening through our state legislatures, city halls, and town councils due to political gridlock at the federal level. And nowhere is that debate more contentious than in Arizona, where in April of last year the state's legislature sought to rid the state of undocumented immigrants with passage of S.B. 1070. The law is specifically designed to trigger a mass exodus of undocumented immigrants from the state by making "attrition through enforcement the public policy of all state and local government agencies in Arizona."[1]

S.B. 1070 remains unenforced due to legal challenges to its constitutionality by the U.S. Department of Justice, yet nearly a year later the Arizona State Senate appears intent on doubling down on that strategy by passing even more restrictive immigration measures.[2] Among other things, the new push would unconstitutionally require K-12 students to prove citizenship, evict public housing tenants if an undocumented person resides there, and make it a crime to operate a vehicle while undocumented.

This crackdown may play well politically for some local elected officials but is it in the best economic interests of the state? The purpose of this report is to arm state legislators and their constituents across the country with an answer to that basic question. If S.B. 1070-type laws accomplish the declared goal of driving out all undocumented immigrants, what effect would it actually have on state economies? And conversely, what would the impact be on state economies if undocumented immigrants acquired legal status?

The economic analysis in this report shows the S.B. 1070 approach would have devastating economic consequences if its goals were accomplished. When undocumented workers are taken out of the economy, the jobs they support through their labor, consumption, and tax payments disappear as well. Particularly during a time of profound economic uncertainty, the type of economic dislocation envisioned by S.B. 1070-type policies runs directly counter to the interests of our nation as we continue to struggle to distance ourselves from the ravages of the Great Recession.

Conversely, our analysis shows that legalizing undocumented immigrants in Arizona would yield a significant positive economic impact. Based on the historical results of the last legalization program under the Immigration Reform and Control Act of 1986, our analysis shows a similar program would increase wages not only for immigrants but also for their native-born co-workers. This would generate more tax revenue and more consumer and business spending, supporting additional jobs throughout the economy.

Public debate over the wisdom of laws such as S.B. 1070 is heated but generally lacking in substance. The proponents of S.B. 1070 and related legislation now under debate in other cities and states claim to be acting in the best economic interests of native-born Americans, but as this report demonstrates, their claim is wholly unsubstantiated.

These are important findings. In the pages that follow, we estimate and compare the short-term shock to a state economy that would be immediately felt due to mass deportation and then compare it to the competing policy alternative—legalization. Our analysis evaluates the changes in economic output, employment, and tax contributions to the Arizona economy arising from these two divergent policy approaches to immigration reform.

The analysis demonstrates unequivocally that undocumented immigrants don't simply "fill" jobs; they create jobs. Through the work they perform, the money they spend, and the taxes they pay, undocumented immigrants sustain the jobs of many other workers in the U.S. economy, immigrants and native-born alike. Were undocumented immigrants to suddenly vanish, the jobs of many Americans would vanish as well. In contrast, were undocumented immigrants to acquire legal status, their wages and productivity would increase, they would spend more in our economy and pay more in taxes, and new jobs would be created (see Figures 1 and 2).

FIGURE 1

Mass deportation versus mass legalization

Costs and consequences

Deportation effects in Arizona

- Decrease total employment by 17.2 percent
- Eliminate 581,000 jobs for immigrant and native-born workers alike
- Shrink state economy by $48.8 billion
- Reduce state tax revenues by 10.1 percent

Legalization effects in Arizona

- Increase total employment by 7.7 percent
- Add 261,000 jobs for immigrant and native-born workers alike
- Increase labor income by $5.6 billion
- Increase tax revenues by $1.68 billion

FIGURE 2

Boosting jobs, boosting tax revenues

What Arizona could do with $1.68 billion in additional tax revenues by legalizing undocumented workers

- Fully fund the Department of Corrections, Community College System, School Facilities Board, Department of Public Safety, and Department of Health Services for fiscal year 2011 ending in September of this year.[3]
- Pay off the $974 million projected budget shortfall for FY 2012.[4]
- Build 145 new hospitals.[5]
- Fully recoup lost tax revenues, spending, earnings, and economic output from future and already canceled conferences resulting from the passage of S.B. 1070—with money left over.[6]
- Pay for every in-state student to attend Arizona State University for two years.[7]
- Hire more than 7,500 new high school teachers, and pay their salaries for five years.[8]
- Provide meals for the 18,116 homeless individuals in Arizona for more than five years.[9]
- Build 1,679 new community centers.[10]

Simply put, Arizona's current approach to immigration policy is economically self-destructive. The more forward-looking approach of putting all workers on a legal, even footing offers opportunity for a costless stimulus to local economies that improves fiscal balances.

Economic impact of immigrants in Arizona today

Debates about the economic and fiscal impact of undocumented immigrants typically oversimplify the role they play in our economy when the reality is multifaceted and complex. Undocumented 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 a large undocumented workforce.

This section of the report examines the economic and fiscal impact immigrants—documented and undocumented—currently make in Arizona. Although the ostensible goal of S.B. 1070 was to drive undocumented immigrants from the state, the effect has been to create an inhospitable environment for all immigrants. As such, we assess the overall contributions immigrants make to the Arizona economy in addition to the specific contributions made by undocumented immigrants. (See the Appendix on page 17 for a detailed explanation of the methodology used in this report.)

Immigrants account for a significant share of Arizona's population. First-generation immigrant Americans as a whole accounted for nearly 15 percent of the state's population, with undocumented immigrants accounting for 7 percent in 2008, the last year for which complete data are available (see Table 1). Of course, given that immigrants are predominantly drawn to the United States in search of improved economic opportunity, large numbers of these immigrants are in the Arizona workforce. That, in turn, means they also contribute significantly to the state economy.

Immigrant workers as a whole added $47.1 billion to Arizona's gross state product—the total value added by workers of goods and services produced in the state—in 2008. The undocumented workforce by itself accounted for $23.5 billion of this GSP. Similarly, the economic output of immigrant workers in the state—the total value of all goods and services produced in the economy—was $84.6 billion, and the output of undocumented immigrant workers was more than $42 billion.

TABLE 1

Fifteen percent is a lot of people

Proportion of foreign-born residents in Arizona

	Arizona	Proportion of total population
Total population	6,343,952	100.00%
Legal foreign born*	500,226	7.90%
Undocumented	445,000	7.00%
Total foreign born	945,226	14.90%

Source: Pew Hispanic Center estimates; 2006-2008 American Community Survey estimates.

* Includes naturalized citizens.

Note: These figures represent the total population, not just estimates of those residents active in the labor force.

The undocumented estimates were constructed based on figures published by the Pew Hispanic Center. Passel and Cohn, "A Portrait of Unauthorized Immigrants in the United States."

The category "Legal foreign born" was obtained by subtracting the estimated undocumented population (Passel and Cohn, "A Portrait of Unauthorized Immigrants in the United States") from the estimated number of noncitizen residents in the 2006-2008 American Community Survey.

Of course, these workers are not only producing important goods and services but also earning money that they spend in the state and contribute to economic growth and job creation that way. And the pre-tax earnings of immigrant workers in Arizona were significant—almost $30 billion for all immigrant workers and nearly $15 billion for undocumented workers (see Table 2).

TABLE 2

The economic importance of immigrants

Gross state product, economic output, and labor income by documented and undocumented residents in Arizona

	Employment (thousands)	Percent of total labor force by immigration status	GSP (1) (millions)	Output (2) (millions)	Labor income (3) (millions)	Other income (4)
Arizona (5)						
Total workers	3,377	100%	$250,294	$449,953	$157,378	$89,652
Legal residents	318	9.40%	$23,569	$42,370	$14,815	$6,918
Undocumented immigrants	317	9.40%	$23,495	$42,237	$14,769	$6,896
Total foreign born	635	18.80%	$47,064	$84,608	$29,584	$13,814

(1) Value added includes employee compensation, proprietary income, other property income, and indirect business tax. It represents the contribution of each industry to gross state product, or GSP.

(2) Output represents the value of total production of goods and services by industries in the regional economy, including those for immediate consumption and those used for future production.

(3) Labor income is the pre-tax earnings of workers, including all benefits.

(4) Other income includes earnings from rents, royalties, and dividends.

(5) Arizona estimates constructed using Pew Hispanic Center's "Arizona: Population and Labor Force Characteristics 2008."

TABLE 3

Employment creation by immigrants

The direct, indirect, induced, and total employment effects of foreign-born workers in Arizona

Jobs in thousands

	Employment	Percent of total labor force by immigration status	Indirect employment impact (1)	Induced employment impact (2)	Total employment impact
Arizona (3)					
Total workers	3,377	100%	-	-	-
Legal residents	318	9.40%	115	150	583
Undocumented immigrants	317	9.40%	115	149	581
Total foreign born	635	18.80%	230	299	1,164

(1) Indirect employment impact is the effect on employment in one industry caused by a change in employment in another industry, as a result of the interaction between industries. For instance, when employment is reduced in a given industry (direct), transactions between that industry and others decrease, and thus more employees are laid off (indirect).

(2) Induced employment impact is the change in employment caused by a reduction in household spending, which happens when a drop in demand for goods and services causes a drop in an industry's demand for employment.

(3) Arizona estimates constructed using Pew Hispanic Center's "Arizona: Population and Labor Force Characteristics 2008."

The output and spending of all immigrant workers generated 1.2 million jobs in Arizona in 2008 while the output and spending of just undocumented workers generated 581,000 jobs. These output and spending calculations per job are based on the number of direct, indirect, and induced jobs related to the economic activities of immigrants in Arizona. Direct employment refers to the jobs that these workers fill. Indirect employment refers to the effect of employment in industries connected to the industries in which these workers are employed. And induced employment refers to the effect of household spending on employment across the economy (see Table 3).

Rounding out this snapshot of immigrants' present economic contributions to Arizona is the fact that immigrant workers pay billions of dollars of taxes to the state treasury. Just like native-born Arizonans, 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 $6 billion in taxes in 2008 while undocumented immigrants paid approximately $2.8 billion (see Table 4).

TABLE 4

The tax revenues immigrants pay

Estimated tax contributions of Arizonans by residency status

	Population (thousands)	Percent of total population by immigration status	Personal taxes (millions) (1)	Business taxes (millions) (2)	Sales taxes (millions)	Total taxes (millions)
Arizona (3)						
Total	6,344	100%	$5,948	$16,383	$18,136	$40,466
U.S. citizens (4)	5,399	85.10%	$5,061	$13,942	$15,434	$34,437
Legal residents	500	7.90%	$469	$1,291	$1,429	$3,189
Undocumented immigrants	445	7.00%	$417	$1,150	$1,273	$2,840
Total foreign born	945	14.90%	$886	$2,441	$2,702	$6,029

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

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

(3) Arizona estimates constructed using Pew Hispanic Center's "Arizona: Population and Labor Force Characteristics 2008."

(4) U.S. citizens include children born overseas to U.S. citizen parents and children born in Puerto Rico and other U.S. territories.

The upshot: Immigrants living and working in Arizona make significant contributions to the overall prosperity of the state. So what would happen if all the undocumented immigrants were driven from Arizona? To this question we now turn.

The economic impact of deporting Arizona's undocumented immigrants

Removing undocumented immigrants from Arizona would have substantial, indeed devastating consequences for those remaining in the state. Driving the undocumented immigrants out of Arizona would lead to significant losses of jobs for both native-born and foreign-born workers. It would trigger a significant contraction of the state economy as it struggles to grow its way past the Great Recession. And it would lead to substantial lost tax revenue for the state government which is already reeling from the recession and high unemployment.[11]

Viewed through a strict economic lens, it is indisputable that the goal of mass deportation behind S.B. 1070 and related proposals contravenes the most basic public interest in a stable and growing economy. Indeed, the simplistic narrative that driving undocumented workers from the state will free up jobs for native-born Arizonans and legal immigrants does not hold up to scrutiny. In fact, pushing those workers out of the state would shrink the state's economy and trigger significant additional job losses in a state already suffering from high unemployment and stagnant job growth.[12]

It is indisputable that the goal of mass deportation behind S.B. 1070 contravenes the most basic public interest in a stable and growing economy.

Why? Because, as the prior section highlighted, these workers are not one-dimensional economic actors. They operate within a complex and dynamic system. When workers of any background (or immigration status) are removed from the labor force, there are reverberating effects throughout the economy. If mass deportation policies are enacted, Arizona can expect to see the kind of economic devastation experienced by Riverside, NJ, after the township enacted an S.B. 1070-like city ordinance (see box).

Here's an example of what could happen in Arizona in just one industry—hotels. If undocumented immigrants working at hotels in the state are driven out of work and out of the state by an aggressive state crackdown, it will trigger a cascade of unintended economic consequences. The hotels, of course, are hurt. If they can't clean the rooms, they can't fill the rooms.

What happens when the immigrants leave?

The tale of Riverside, New Jersey

This small, working-class town on the banks of the Delaware River across from Philadelphia is a cautionary tale in the debate going on in Arizona about immigration reform.

Over the past decade, a renewed demand for construction workers created an influx of undocumented immigrants primarily from Brazil into the New Jersey city. From 2000 to 2005 the small town of 7,911 residents experienced an influx of an estimated 5,000 immigrants.[13]

In July 2006 the town adopted the "Riverside Township Illegal Immigration Relief Act," an ordinance that imposed heavy fines and possible jail sentences or revocation of business licenses for employers who hired undocumented immigrants and landlords who rented to them. The ordinance went further, penalizing for-profit enterprises who "aid or abet" undocumented immigrants anywhere in the United States such as franchised restaurants.[14]

Though never enforced, the ordinance proved to be economically, legally, and socially devastating. Feeling unwelcome and persecuted, 75 percent of Riverside's immigrant population moved away, resulting in 45 percent of businesses being boarded up just as they had been before the immigrants arrived.[15]

The loss of tax revenue was compounded by $82,000 in legal fees—the cost of defending the ordinance in court against two lawsuits. The costs put such a large strain on the town that services such as road projects or repairs to the town hall were delayed or prevented.[16] The ordinance was rescinded in 2007 but the damage had been done. The renewed prosperity and vibrancy of the town was lost and Riverside became a shell of a town with a bad reputation.

And if hotels can't fill their rooms, then the linen industry that cleans the sheets loses business as do hotel bars and restaurants. And if the diminished occupancy cuts into the overhead too much, then the hours of the gardeners who maintain the grounds and the servicemen who maintain the property also may get cut. Hiring new people costs money and takes time, and this eats into hotel profits, too.

Over time, some of those hotel jobs would be filled by currently unemployed workers and a measure of equilibrium would be restored. But the immediate consequences would be undeniably significant. What's more, many of the positions that opened up because of the departure of the undocumented workers will never be filled by unemployed U.S. workers, and other positions will take time to fill, leaving rooms uncleaned and unoccupied.

But the consequences of mass deportation are not limited to those workers and industries directly connected to the hotel industry. When undocumented immigrants working in the industry are plucked from the state, they stop paying rent, they stop buying groceries and gas, and they stop paying taxes to the state. And

TABLE 5

Mass deportation, mass income losses

The income effects of deporting undocumented workers in Arizona

Labor income in millions of dollars

	Total labor income	Direct labor income impact (1)	Indirect labor income impact (2)	Induced labor income impact (3)	Total labor income impact	Percentage change
State of Arizona (4)	$157,332	-	-	-	-	0%
15 percent deportation		-2,722	-1,346	-1,262	-5,330	-3.40%
30 percent deportation		-4,998	-2,199	-2,233	-9,430	-6.00%
50 percent deportation		-8,330	-3,665	-3,721	-15,716	-10.00%
100 percent deportation		-14,769	-7,331	-7,443	-29,543	-18.70%

(1) Direct labor income impact is the change in pre-tax earnings of undocumented workers, including all benefits, as a result of their removal from the regional economy.

(2) Indirect labor income impact is the change in pre-tax earnings of workers as a result of changes in employment caused by the interaction of industries affected by undocumented worker deportation. For example, when employment is reduced in a given industry (direct), transactions between that industry and others decrease, and thus more employees are laid off (indirect).

(3) Induced labor income impact is the change in pre-tax earnings of workers caused by the reduction in employment resulting from a reduction in household spending and a consequent drop in demand for goods and services.

(4) 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 that spending on deli meat and dessert declines, the need for truckers' services declines, which drives down demand for gas still further. As each of those industries suffers losses and shrinks, U.S. workers in the state are hurt, state revenues are lost, and the state economy contracts.

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, Arizona would lose $29.5 billion in labor income, defined as pre-tax salary and wage earnings (see Table 5). And as that income decreases, the earnings that would otherwise be spent in the state's economy, for example, on groceries, clothes, and housing, also are lost.

This cycle of diminished earnings, consumption, and demand would shrink Arizona's economy. Our analysis indicates that Arizona's gross state product would be reduced by $48.8 billion if the undocumented population was driven from Arizona (see Table 6). That is a catastrophic figure totaling nearly 20 percent of the state's economy.

TABLE 6

Devastating Arizona's economy

The effects of deporting undocumented immigrant workers on state domestic product

GSP in millions of dollars

	Total GSP	Direct GSP impact (1)	Indirect GSP impact (2)	Induced GSP impact (3)	Total GSP impact	Percentage change
State of Arizona	$250,294	-	-	-	-	
15 percent deportation		-$3,866	-$2,128	-$2,330	-$8,324	-3.30%
30 percent deportation		-$6,860	-$3,476	-$4,123	-$14,459	-5.80%
50 percent deportation		-$11,434	-$5,793	-$6,872	-$24,099	-9.60%
100 percent deportation		-$23,495	-$11,586	-$13,745	-$48,826	-19.50%

(1) Direct value-added impact is the change in value added caused by the removal of undocumented immigrants from the regional economy.
(2) Indirect value-added impact is the change in value added caused by the change in production in industries that interact with one another.
(3) Induced value-added impact is the change in value added caused by the reduction in household spending.
Note: Totals may not sum due to rounding error.

Unsurprisingly, the economic contraction would trigger job losses that affect all of Arizona's workers, native-born and foreign-born alike. And it is not just the industry in which the undocumented workers were employed that would be adversely affected. Transactions between that industry and other industries also would decrease, leading to additional layoffs. The decrease in household spending that would result from these layoffs keeps that downward cycle in motion and would trigger still further layoffs.

We estimate that if all undocumented workers were removed from the state, Arizona would lose 581,000 jobs. In Arizona, that translates into a stunning decrease in total employment of more than 17 percent. Table 7 shows the impact of mass deportation on direct, indirect, induced, and total employment in Arizona.

Our presentation of the consequences of mass deportation in Arizona's hotel industry is obviously germane here, too. Some jobs done by undocumented immigrants would be filled by currently unemployed workers, but some positions would take time to fill and others would never be filled. Small businesses in particular, which often operate close to the margin, would be hurt or forced to close down. The immediate consequences would be undeniably significant and the economy, even after recalibration, would be diminished.

Moreover, removing these people from the economy creates a significant hole in gross state product, regardless of corrective adjustments. No doubt businesses would make adjustments to their business organization—the amount of labor,

TABLE 7

Razing Arizona

The consequences of mass deportation on jobs in Arizona

Jobs in thousands

	Total employment	Direct employment impact (1)	Indirect employment impact (2)	Induced employment impact (3)	Total employment impact	Total employment impact as percent of total employment
State of Arizona	3,377	-	-	-	-	100%
15 percent deportation		-51	-22	-26	-99	-2.90%
30 percent deportation		-95	-35	-42	-172	-5.10%
50 percent deportation		-158	-58	-75	-291	-8.60%
100 percent deportation		-317	-115	-149	-581	-17.20%

(1) Direct employment impact is the change in employment caused by the removal of undocumented immigrants from the regional economy.

(2) Indirect employment impact is the effect on employment in one industry caused by a change in employment in another industry, as a result of the interaction between industries. For instance, when employment is reduced in a given industry (direct), transactions between that industry and others decrease, and thus more employees are laid off (indirect).

(3) Induced employment impact is the change in employment caused by a reduction in household spending, which happens when a drop in demand for goods and services causes a drop in an industry's demand for employment.

Note: Totals may not sum due to rounding error.

capital, and technology used—as a result of mass deportation. Nonetheless, removing these people from the economy creates a significant hole in gross state product even after considering these adjustments. In fact, using results from a national computational general equilibrium, or CGE, model that allows us to account for such adjustments, our earlier report determined that removal of the nation's entire undocumented population would trigger a $2.6 trillion loss in cumulative GDP over 10 years.

Operating for an extended time with a depleted workforce may mean the difference between keeping the doors to the business open or shutting them for good. And that goes for state government operations, too. Even in the best of economic times, no state governments can afford to pursue policies that lead to economic contraction and lost jobs. Amid the currently tepid economic recovery, a policy that would force the state to forego $4.2 billion in tax revenues is more than self-defeating—it is leadership malpractice (see Table 8).

TABLE 8

Mass deportation means lost tax revenues

The effects of deportation on state tax revenues

Millions of dollars

	Personal taxes (1)	Business taxes (2)	Sales taxes	Total taxes	Total tax change	Percent change
State of Arizona(3)	$5,948	$17,934	$18,136	$42,018	$0	0.00%
15 percent deportation	$5,850	$17,668	$17,864	$41,382	-$636	-1.50%
30 percent deportation	$5,753	$17,403	$17,592	$40,748	-$1,270	-3.00%
50 percent deportation	$5,624	$17,049	$17,230	$39,903	-$2,115	-5.00%
100 percent deportation	$5,300	$16,165	$16,324	$37,789	-$4,229	-10.10%

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

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

(3) IMPLAN base data. This case represents the economy without deportation changes.

This section of our report highlights the drastic economic and fiscal consequences awaiting Arizona if it proceeds with its efforts to drive out all of its undocumented immigrants. The next section details why doing just the opposite—requiring undocumented immigrants to register and work legally in Arizona—would have precisely the opposite effect.

The benefits of legalizing undocumented immigrants to work in Arizona

Undocumented workers in Arizona and elsewhere around the country operate on the margins of the economy and are unable to realize their full earning potential. Many of them are nonetheless deeply embedded in communities, often in nuclear families with legal residents and U.S. citizens. In fact, 62 percent have been living in the United States for more than 11 years.[17] Despite unprecedented federal enforcement efforts and historic numbers of deportations, the undocumented population has remained largely stable.[18] But legal issues aside, even if it were possible to expel every undocumented immigrant from Arizona, policies designed to achieve that end are economically self-defeating.

Alternatively, our analysis shows that bringing all undocumented workers legally into the Arizona workforce would be unquestionably beneficial to the state economy and all its residents. A state program that required undocumented immigrants to register, undergo background checks, pay taxes, and get right with the law would level the playing field for all workers and all employers.[19]

States acting on their own cannot, constitutionally speaking, enact these kinds of policies, although Utah has just passed legislation seeking federal permission to do just that—provide work permits to the state's undocumented immigrants. Ultimately, though, 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 Arizona's workforce was legalized.

The result: Reform would create jobs and raise wages for all workers.[20] And it would increase tax revenues for Arizona, which in 2010 faced a budget shortfall of $5.1 billion or 65 percent of the state's budget, a higher percentage than any other state in the country.[21] Rather than pursue a strategy that cuts against the state's economic and fiscal interests, the Arizona legislature should pressure Congress to enact pro-growth reforms.

A state program that required undocumented immigrants to register, undergo background checks, pay taxes, and get right with the law would level the playing field for all workers and all employers.

TABLE 9

Raising Arizona

The effects of legalizing undocumented workers on income and employment in Arizona

Jobs in thousands

	Labor income increase (millions)	Direct employment gain (1)	Indirect employment gain (2)	Induced employment gain (3)	Total employment gain	Total employment gain as percent of total employment
State of Arizona (4)	$157,332	-	-	-	-	3,377
Legalization	$5,550	131	61	69	261	7.70%

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

(2) Indirect employment gain is the increase in employment in one industry caused by a change in employment in another industry, as a result of the interaction between industries. For instance, when employment is increased in a given industry (direct), transactions between that industry and others increase, and thus more jobs are created (indirect).

(3) Induced employment gain is the increase in employment caused by an increase in household spending. As more jobs are created, demand for goods and services increases and increases an industry's demand for employment.

(4) 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.

Undocumented immigrant workers earn about 18 percent less in wages than legal workers.[22] A program that required all undocumented immigrants to get on the right side of the law would increase labor income and employment in the state by closing that wage gap between documented and undocumented workers. We estimate that legalizing the undocumented workers in Arizona would increase the state's labor income by $5.6 billion (see Table 9).

Given the increase in economic output and consumer spending from this rise in wages, Arizona would experience a spike in demand for goods and services. Instead of the downward spiral produced by expelling these workers from Arizona's economy, requiring them to earn legal status would precipitate a virtuous cycle of growth in jobs and revenue. Our modeling shows that legalizing these workers would add 261,000 jobs to the hard-hit Arizona economy (see Table 9) and increase the state's tax revenues by $1.68 billion (see Table 10).

TABLE 10

Boosting tax revenues by the millions

The effects of legalizing undocumented workers on state tax revenue in Arizona

	Personal taxes (1)	Business taxes (2)	Sales taxes	Total taxes	Total tax change	Percent change
State of Arizona(3)	$5,948	$17,934	$18,136	$42,018	$0	0.0%
Legalization	$258	$702	$715	$1,675	$1,675	4.0%

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

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

(3) IMPLAN base data. This case represents the economy without deportation changes.

The choice, then, between legalizing undocumented immigrants to work in Arizona or instead to deport them is really no choice at all from an economic standpoint. The stated goal of Arizona's S.B. 1070 is to drive the undocumented population out of the state. The proponents of this type of legislation claim to be acting in the best interests of native-born Americans but that's simply not true.

The economic analysis in this report demonstrates that if that goal were realized, then the exact opposite result would occur. Native-born Americans in Arizona would suffer devastating economic losses. If Arizona's law were implemented and successful in its objective, it would trigger a loss of 581,000 jobs, decrease total employment in the state by 17.2 percent, and reduce the state's tax revenues by 10 percent.

A sober analysis of the economic implications of S.B. 1070-style laws should lead state legislators of every political stripe to reject the approach. There is a practical, common-sense alternative that carries unequivocally positive economic impacts: a federal policy that requires undocumented immigrants to register, pay taxes, and earn legal status. The foregoing analysis shows that legalizing the undocumented population in Arizona would add 261,000 jobs and increase tax revenues by $1.68 billion.

Legalizing the undocumented population in Arizona would add 261,000 jobs and increase tax revenues by $1.68 billion.

If state legislators really intend to promote the best interests of their constituents, they should reject these counterproductive deportation initiatives and focus instead on holding their federal counterparts responsible for reforming our immigration laws.

Appendix: Methodology

This study uses the term "undocumented" immigrants to describe those individuals who are not U.S. citizens or legal residents. Estimates of the number of people in each of these immigrant groups come largely from studies performed by the Pew Hispanic Center using the so-called "residual methodology" developed by Jeffrey Passel, a senior demographer at Pew and the leading national expert on the demographics of the undocumented population.

This methodology estimates "undocumented" residents (or workers) by subtracting the number of estimated legal residents from total foreign-born population based on data from the Department of Commerce, Census Bureau Current Population Survey. The difference between total foreign-born residents and those residing legally are known as "unlawful," "unauthorized," or "illegal" immigrants. The methodology controls for temporary workers, international students, and other foreign-born residents who may affect the accuracy of the estimates. It also controls for omitted surveys and other possible reporting errors.

About IMPLAN

This study uses so-called IMPLAN input-output models of the Arizona 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.

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

TABLE A1

General sources and assumptions used in this report

Source	Basic assumption	Impacts
U.S. Department of Labor, 1996	Undocumented workers earn 18 percent less than authorized workers	Legalization would benefit not only undocumented workers but also would raise legal worker wages
Pew Hispanic Center	Foreign-born people represent an important portion of the labor force, ranging from 30 percent to 40 percent.	
Myers, Pitkin, and Park[24]	From 2005 to 2030 population growth will be 6.1 million in Arizona. Nearly 40 percent of that increase will be in the foreign-born population.	Foreign-born workers as a proportion of the total worker population will grow approximately 1 percent per year from 2010 to 2020.

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.

Other modeling approaches, such as computable general equilibrium models, assume full adjustment in national product and factor markets over long periods of time, and thus lessen the shock that abrupt policy changes such as mass deportation can inflict on economies. Nonetheless, as our prior report conclusively demonstrated, even after such adjustments are accounted for, removal of all of these workers from the nation's economy would create a massive hole in GDP. Our report concluded that over 10 years, it would lead to a cumulative loss of $2.6 trillion in GDP.[23]

IMPLAN data

The dataset used is a 2008 data file containing 442 industries. For this study, both the 2006 and 2008 IMPLAN data files were aggregated down to 34 industries. A bridge was created between the 509 and 442 industries in the IMPLAN files and the U.S. Census Bureau's industry tables. It is important to note that in this study we are using constant 2006 dollar figures provided by the IMPLAN database (see Table A1).

Undocumented worker estimates

The number of undocumented workers was estimated using Pew Center estimates for Arizona. We then applied the number of undocumented workers to each indus-

try using foreign-born worker percentage estimates for the economies of each region (see next section). 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.

Note: Because undocumented workers tend to be attracted by specific industries (construction, leisure, and hospitality), it is extremely important that they are distributed in the corresponding industries. Failure to do so could result in perverse results once the IMPLAN model is run.

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.[25] Because no similar breakdown exists for Arizona, we used the California distributions to estimate Arizona's share of undocumented workers by industry. Part of the original Table 18 in their book is displayed below in Table A2.

TABLE A2

Estimated Census Bureau industry aggregations and share of undocumented workers by industry in Arizona

Industry	Arizona estimated
Agriculture, forestry, fishing/hunting	22%
Mining	0%
Construction	15%
Manufacturing	14%
Wholesale and retail trade	8%
Transportation and utilities	8%
Information	8%
Financial activities	3%
Professional and business services	10%
Educational and health services	3%
Leisure and hospitality	17%
Other services	12%
Public administration	0%

Source: Arizona estimate based on California analysis by Fortuny, Capps and Passel (tabulations of CPS 2003 and 2004 files).

This study used the above percentages to estimate the number of undocumented workers in each industry and subsequently run the IMPLAN model to estimate economic impacts.

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:

$$TVA_{Uj} = (TVA / TE)*Uj$$

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 how many jobs could be created or lost given the output contribution in each industry, as well as other 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. Based on this assumption, we estimated legal and undocumented workers' wages using IMPLAN base Labor Income. 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.[26] Using the IMPLAN model, we considered output an indicator for economic activity, measuring output before and after the rise in wages to understand the impacts.

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.

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Endnotes

1 *Support Our Law Enforcement and Safe Neighborhoods Act*, Arizona State Senate Bill 1070, April 19, 2010. As the law states: "The provisions of this act are intended to work together to discourage and deter the unlawful entry and presence of aliens and economic activity by persons unlawfully present in the United States." Among other things, S.B. 1070 requires state and local law enforcement agencies to check the immigration status of individuals they encounter and makes it a state crime for noncitizens to not carry proper immigration documents. Although a district court judge prevented the harshest provisions of S.B. 1070 from taking effect, the bill has inspired imitators around the country.

2 Arizona State Senate Bill 1611, February 21, 2011. The law unconstitutionally requires any person enrolling a K-12 student in school for the first time to present proof of the pupil's citizenship. Furthermore, S.B. 1611 declares unlawful the operation of motor vehicles by undocumented immigrants. If undocumented immigrants are convicted of unlawful driving, their car will be seized and sold, and they will face a minimum of 30 days in jail and have to pay the cost of their incarceration. The bill also required cities to evict undocumented immigrants from public housing and requires the attorney general to suspend the licenses of any businesses that do not use the federal electronic employment verification system.

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4 Elizabeth McNichol, Phil Oliff, and Nicholas Johnson, "States Continue to Feel Recession's Impact" (Washington: Center on Budget and Policy Priorities, 2011).

5 "Hospital (2-3 Story) Construction Cost Estimate for Phoenix, Arizona," available at http://www.reedconstructiondata.com/rsmeans/models/hospital/arizona/phoenix/.

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10 "Community Center Construction Cost Estimate for Phoenix, Arizona," available at http://www.reedconstructiondata.com/rsmeans/models/community-center/arizona/phoenix/.

11 Arizona has been one of the states hardest hit by the economic recession. From 2008 to 2009, Arizona's GSP shrunk from $261.5 billion to $254.1 billion, a decrease of 3.9 percent. Furthermore, the state had a total budget shortfall in 2010 of $5.1 billion, representing 65 percent of its budget, a percentage higher than any other state. Bureau of Economic Analysis, "Economic Downturn Widespread Among States in 2009," News release, November 18, 2010, available at http://www.bea.gov/newsreleases/regional/gdp_state/2010/gsp1110.htm; McNichol, Oliff, and Johnson, "States Continue to Feel Recession's Impact."

12 Arizona's unemployment rate has increased one percentage point since the passage of S.B. 1070 from 8.8 percent in December 2009 to 9.8 percent in December 2010. Meanwhile, the state has created only 12,000 jobs since 2009, according to testimony by Todd Landfried of the Arizona Employers for Immigration Reform, or AZEIR.

13 Jennifer Moroz, "A Struggle to Plant Roots While Living in Constant Fear," *The Philadelphia Inquirer*, October 11, 2005, available at http://articles.philly.com/2005-10-11/news/25442592_1_brazilian-community-agents-target-fugitives; U.S. Bureau of Census, "2009 new Jersey Place and County Subdivision" (2010), available at http://factfinder.census.gov/servlet/GCttable?_bm=y&-geo_id=04000US34&-_box_head_nbr=GCt-t1&-ds_name=PeP_2009_e5t&-_lang=en&-format=St-9&-_sse=on XX DEAD LINK XX

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21 McNichol, Oliff, and Johnson, "States Continue to Feel Recession's Impact."

22 Division of Immigration Policy and Research, *Characteristics and Labor Market Behavior of the Legalized Population Five Years Following Legalization*.

23 Hinojosa-Ojeda, "Raising the Floor for American Workers."

24 Myers, Pitkin, and Park, "California Demographic Futures."

25 Fortuny, Capps, and Passel, "The Characteristics of Unauthorized Immigrants in California, Los Angeles County, and the United States."

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