

**Understanding the Economic and Fiscal  
Impacts of Immigration Reform**  
*A Guide to Current Studies and Possible Expansions*

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## Framing the Economic and Fiscal Impacts of Immigration Reform

In the past few years, there has been a fierce debate about what type of immigration policy best fits the interests and character of the United States. A milestone in this debate was the Senate’s passage of the Border Security, Economic Opportunity, and Immigration Modernization Act (S. 744) in June 2013. This comprehensive bill contains a strategy for legalizing the approximately 11 million undocumented immigrants in the United States—one of the most controversial elements of reform. It also includes measures that would tighten border security, increase worker visas, balance skills credentials with family reunification principles, and shorten the visa backlog.

Impacts on the economy and government budgets have become central to immigration reform discussions. Since the beginning of 2013, several studies have been published addressing the economic and fiscal impacts of immigration for the United States (see annotated bibliography). The studies differ in scope, methodology, and findings. Yet given the influence of these studies on the continuing debate on immigration reform, it is important to understand what these studies say about fiscal and economic impacts and how differences in analytic approaches influence findings, as well as to develop a general framework for assessing future studies.

We assess six key studies and provide a guide for considering the impacts of immigration. We also highlight the questions that remain unanswered. This framework could be used to assess future studies of the consequences of immigration reform and discussions about reform’s economic and fiscal impacts—including the treatment of immigrants in government programs, possible burdens to states, the planning of workforce development programs for the legalized population, and demand for health and human services.

From our assessment of the six studies, we conclude the following:

- **Studies address different policies and use varying methodologies and assumptions.** As a result, policymakers should take great care in comparing and contrasting study findings. For instance, the Congressional Budget Office (CBO) cost estimate of S. 744 considers all the provisions of the bill (such as increased worker visas and reduced illegal immigration due to increased enforcement), not just legalization. The CBO cost estimate finds that the bill would reduce the federal deficit (2013a). By contrast, the study by Rector and Richwine from the Heritage Foundation (2013) examines only the effects of legalization but considers those effects

for state and local governments as well as the federal government, finding large negative fiscal impacts. Because these studies measure different things and on different scales, their results are not directly comparable.

- **Studies agree that legalization and increased legal immigration would expand the economy and boost tax revenues.** Findings show that gross domestic product (GDP) will grow, the legalized will pay more taxes, and immigrants will add tax revenue and economic activity. GDP gains range from 0.3 percent to 0.8 percent per year (\$83 to \$150 billion), depending on the labor force growth stimulated by immigration reform and the increase in earnings of the undocumented immigrants who would be legalized.
- **Economic impact studies tend to agree, while fiscal impact studies do not.** While economic impact studies tend to show positive effects, fiscal impact studies considering both revenues and outlays show varied results.
- **Studies do not report per capita figures, with the exception of the CBO economic impact study.** As a result, there is very little information about how immigration reform will affect the income or tax bill of the average person.
- **Further analysis of the net fiscal impacts of legalization at the federal, state, and local levels is needed.** Only the Heritage report addresses federal, state, and local net fiscal impacts of legalization, but its static view of households over a 50-year span leaves room for further analysis.
- **Differences in time horizon can drive differences in findings.** Over time, immigrants become eligible for different government benefits, the children of immigrants become adults, new immigrants enter the country, and older immigrants retire from the labor force. When the time horizon is longer, more of these changes have to be taken into account. The time horizon used by each study examined is different, and the changes considered over time vary.
- **Studies vary in how precisely they identify changes that are unique to the policy intervention.** Changes brought about by immigration reform scenarios have to be estimated relative to changes under the counterfactual, or the current law. For instance: across time and even without legalization, the children of undocumented immigrants will have access to public education and, some of the would-be legalized would have become legal permanent residents. A failure to properly account for the current law when evaluating the reform scenario can affect the economic and fiscal impacts.

- **The effects of legalization pale in comparison to the economic impacts of other policy changes that would increase the number of legal immigrants.** S. 744 will increase legal immigration according to the CBO cost estimate (2013a, b). The legalized are only 35 percent of all the new legal residents under immigration reform and are, on average, less skilled than other immigration groups. Increased immigration under the proposed bill is an important driver of the federal deficit reductions in the CBO cost estimate.
- **Despite the large number of studies, important knowledge gaps remain.** For instance, though evidence from the Immigration Reform and Control Act of 1986 (IRCA) is a good guide to start thinking about the effects of legalization, there are large differences between IRCA and the current proposal. Further, today’s undocumented immigrants may differ from and those in 1986. Current studies focus on undocumented immigrants when considering economic gains from immigration, but possible benefits to the families are not considered. Nor have studies quantified how the impacts of immigration reform are spread across different groups—such as US residents or lower-skilled workers—or assessed the impact of legalization on labor productivity. Finally, there is little inquiry about alternative policy scenarios, such as allowing the would-be legalized to receive government benefits before 13 years, as stipulated in the current proposal.

## Six Studies Relevant for the Immigration Reform Debate

In this review, we examine six studies measuring the fiscal and economic impacts of immigration. For a list of other relevant studies, refer to the annotated bibliography. To clarify the debate, we focus on studies that simulate immigration reform proposals similar to those Congress is currently discussing or that provide methodological guidance relevant to this debate. Our assessment focuses on the differences and similarities in analytical scope, methodological approaches, and underlying assumptions among the six studies. The selected studies provide diversity in terms of methods and policy scenarios.

The economic impact studies selected are

1. Hinojosa-Ojeda’s 2010 study, *Raising the Floor for American Workers: The Economic Benefits of Comprehensive Immigration Reform* (hereafter the IPC study);

2. Lynch and Oakford’s 2013 study, *The Economic Effects of Granting Legal Status and Citizenship to Undocumented Immigrants* (hereafter the CAP study); and
3. the Congressional Budget Office 2013 study, *The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act* (hereafter the CBO economic impact study).

In the IPC and CAP studies, we focus on the scenarios most closely resembling the proposals contained in the Senate bill. In the IPC study, this refers to scenario 1: legalization and future immigration driven by US labor demand. In the CAP study, it is scenario 3: legalization with citizenship after 10 years.

For the fiscal impact assessment, we selected studies that measure **net fiscal impacts**—that is, government revenues minus government outlays. The fiscal impact studies selected are

1. the July 2013 Congressional Budget Office cost estimate of S. 744 (hereafter the CBO cost estimate);
2. Rector and Richwine’s 2013 study, *The Fiscal Cost of Unlawful Immigrants and Amnesty to the U.S. Taxpayer* (hereafter the Heritage report); and
3. The National Research Council 1997 study (in Smith and Edmonston 1997), “The Future Fiscal Impacts of Current Immigration” (hereafter the NRC study).

Note that the NRC study is not on immigration reform, but on net fiscal impacts of immigrants residing in the United States in 1994–95 and their descendants. We included this study because it has become the standard reference in this literature. It provides methodological guidelines and various findings under different scenarios that are relevant to current discussions.

## What Do These Studies Measure?

Economic impact studies measure the effects of immigration on such national economic aggregates as gross domestic product (GDP), employment, wages, and investment. The main features of the selected studies are listed in tables 1 and 2 and are as follows:

- The IPC study measures the effect of legalization and labor demand–driven immigration on employment, GDP, and wages for immigrants, higher-skill natives, and lower-skill natives. The

time horizon is 10 years. Changes in GDP are relative to those predicted in CBO baseline models—that is, yearly predictions of economic aggregates made by the Congressional Budget Office.

- The CAP study measures the effect of legalization and citizenship on changes in GDP and employment. The time horizon is 15 years: 10 for legalization and 5 for citizenship. Changes in GDP are compared with those predicted in CBO baseline models.
- The CBO economic impact study measures the effect of the legislation’s changes in labor force and legalization on GDP, average wages, per capita GNP, and relative wages by skill level. The time horizon is 20 years, separated into two 10-year periods. All effects are measured in comparison to the current law (or status quo) determined by CBO’s baseline models.

With regard to the fiscal impact studies:

- The CBO cost estimate measures the net fiscal impact for the federal government associated with S. 744. The time horizon is 20 years, divided into two periods of 10 years. All fiscal impact figures refer to the entire bill with no separate information presented for the legalization proposal. All the effects of the bill are presented relative to the current law (or status quo) obtained from CBO baseline models of revenues, outlays, and deficit projections. The analysis is based on individual-level data for the immigrant and his or her offspring (second generation).
- The NRC study calculates the net fiscal impacts at the federal, state, and local levels of immigrants who were present in the United States in 1995–96. The NRC’s assessment includes the costs and contributions both of immigrants during their lifetimes and of generations of their descendants born in the United States covering a time horizon of up to 300 years. The NRC study presents fiscal impacts categorized by immigrants’ age at arrival and educational level as well as by generation and level of government. The analysis is based on individual-level data for the “composite immigrant” or a hybrid of the immigrant and his or her descendants. Estimates are presented by generation, educational level, and age of arrival to the United States.
- The Heritage report analyzes the net fiscal impacts (at the federal, state, and local levels) of legalizing undocumented immigrants under terms similar to those defined in S. 744. The time horizon is 51 years divided into three phases: an interim period for the first 13 years, full amnesty for the next 20 years, and retirement for 18 years. The analysis is based on data for the

household. Impacts are presented by educational level and immigration status of the householder during the first two phases and for the elderly immigrant during the third.

## Main Findings on Economic Impacts

Table 1 summarizes the main features and findings of the selected economic impact studies. To make figures more comparable across studies with different time horizons and policy scenarios, the table also shows per immigrant/per year figures.

All three economic impact studies conclude that immigration reform will increase GDP and that economic gains per impacted immigrant will be positive. The CBO economic impact study estimates that the number of legally residing immigrants will grow by 18 million by 2023, of which only 35 percent are formerly undocumented immigrants. The CAP study does not consider any change in the labor force, and the IPC study assumes a small increase in the number of immigrants. The CBO economic impact study finds a reduction in per capita income and wages in the first decade, followed by increases in both these measures in the second decade. The CAP and IPC studies find that GDP and the wages of all workers will increase. The CAP and IPC studies' estimated effects on GDP are larger than the CBO economic impact study's, even when the latter estimates larger increases in the labor force because of all the provisions of S. 744. Considering the different scenarios and according to our calculations, the economic contribution per immigrant per year would be \$10,000 according to the CAP study, \$12,000 according to the CBO economic impact study, and \$17,000 according to the IPC study.

Although these studies are not directly comparable because the simulated scenarios are different, it is possible that, considering their more restrictive immigration scenarios, the relatively high economic benefits estimated by the CAP and IPC studies are driven by the following assumptions:

- **High wage increases for the legalized.** As table 1 shows, the CAP study assumes a 15 percent growth in five years and the CBO economic impact study assumes 12 percent in 10 years. The IPC study states that “this scenario uses the parameters of the IRCA experience to simulate the effect of the higher wages that newly legalized workers would earn,” but it is unclear what specific figure was used.
- **All wage increases of the legalized would stem from productivity.** But the wage increase might also result from employers' compliance with minimum-wage laws. So, rather than

signaling an increase in productivity, the wage increases might be a transfer of income from employers to workers. The possible transfer from employers to workers is considered in the CBO economic impact study.

- **High expected number of undocumented immigrants would become legalized.** The CAP and IPC studies assume that virtually all the approximately 8 million working-age undocumented will be legalized. The CBO economic impact study assumes that a much lower number will become legal residents.
- **Legalization would not have negative effects on the wages of resident workers.** The CBO economic impact study assumes negative, albeit small, effects on current U.S. workers.

**Table 1. Main Features and Findings of Economic Impact Studies**

	IPC study	CAP study	CBO economic impact study
<b>BACKGROUND</b>			
Scope	Legalization and labor demand-driven immigration	Legalization of the undocumented Citizenship after 10 years	All the immigration provisions of S. 744
Time horizon	10 years	10 years	20 years
Assumptions	Not stated	15% increase in wages of legalized in 5 years, all due to productivity Spending multiplier of 1.2 Income/GDP constant at 2011 level	+6 million in labor force in 2023 +9 million in labor force in 2033 12% increase in wages of the legalized in 10 years 1% increase in productivity
Estimation technique	Computable general equilibrium model	Spending multiplier with a fixed income/GDP ratio	Macroeconomic models
Number of immigrants considered	8.4 million unauthorized in the workforce <sup>a</sup> 285,000 new legal immigrants per year	8 million unauthorized in the workforce	18.5 million new legal immigrants and their children by 2023, 12.7 million by 2018; 7.2 million (or 57%) in the labor force by 2018 <sup>b</sup>
<b>FINDINGS</b>			
Impact on GDP	Ten years: \$1.5 trillion Per year: \$150 billion	Ten years: \$832 billion Per year: \$83.2 billion	2014–23: \$864 billion <sup>c</sup> Per year: \$86.4 billion
Percent change in GDP per year <sup>d</sup>	0.8%	0.4%	0.3%
Impact on labor force <b>size</b>	285,00 new legal immigrants	None	6 million or 3.5% increase in labor force by 2023 9 million or 5% increase in labor force by 2033
Impact on per capita GDP/GNP	Not stated	Not stated	In 2023: –0.7% In 2033: 0.2%
Impact per immigrant worker per year <sup>d</sup>	\$17,271 (\$150 billion/(8.4 million legalized+285,000 new immigrants))	\$10,400 (\$83.2 billion/8 million legalized in the labor force)	\$12,000 (\$86.4 billion/7.2 million legal permanent residents in the labor force)
Impact on wages	Immigrants: \$4,405 to \$6,185 Natives: \$74 to \$162 per year	15% increase for the legalized in five years	2023: 0.1% decrease in average wages, all workers 2033: 0.5% increase in average wages, all workers
Impact on employment	83,500 additional jobs per year <sup>d</sup>	121,000 additional jobs per year	Same as labor force increase: 2014–23: 600,000 additional jobs per year
Redistributive effects	Positive wage impacts on all workers especially the lower educated	Increase in the aggregate wage bill	By 2033 workers in the lowest and highest wage quintiles will see their wages, relative to the general wage level, go down by 0.3 percent Relative wages in the middle will increase by 0.5 percent

a. This figure is not explicit in the IPC study. It is assumed based on the reference provided in footnote 9 of the report.

b. The 57 percent figure is an assumption based on figures presented in the study. The CBO cost estimate assumes a population increase of 10.4 million by 2023 and a labor force increase of 6 million, or 57 percent. The 18.5 million refers to new legal permanent residents and includes the newly legalized. It is not a net increase in labor force because legalized immigrants were already residing in the United States.

c. This figure was calculated by the authors. The CBO economic impact study finds that real GDP will be 3.3 percent higher in 2023 relative to the baseline. The CBO economic impact study refers to February 2013 Economic Outlook baselines figures. GDP in 2013 in this publication is \$18.30 trillion in 2005 prices and \$26.1 trillion in current prices. A 3.3 percent increase over the real figure would mean \$604 billion in 2005 prices. Using the inflation factor implied in the current to real GDP figures, we calculated that GDP in current dollars in 2023 would be \$864 billion higher than the current law.

d. Average yearly figures were calculated by the authors based on reported 10-year figures of 750,000 to 900,000.

## Main Findings on Fiscal Impacts

The net fiscal impacts in the studies reviewed range from positive to negative (see table 2). The CBO cost estimate presents the most positive fiscal impact: the Senate bill, as passed, reduces the deficit by an average of \$16 billion per year during the first decade and \$68 million per year in the second decade. However, the CBO cost estimate does not separate the net fiscal impact of the legalization provision of S. 744 from the other components of the bill. The Heritage report analysis of net fiscal impacts of legalization presents the most negative estimates: a cost of \$5.3 trillion over current law. The NRC study conclusions are both positive and negative. Over a lifetime, the average immigrant (including descendants) brings \$80,000 more in revenues than in costs to the government, but this contribution mainly comes from the descendants. Immigrants themselves have a lifetime negative fiscal impact of \$3,000.<sup>1</sup> In year-by-year calculations, fiscal impact is not positive until after 22 years.<sup>2</sup>

In addition to the different scenarios and methods, the different results of these studies could be associated with the following factors:

- **Level of government.** The CBO cost estimate does not consider state and local impacts. The NRC study and Heritage report consider the federal, state, and local levels.
- **Number of legalized immigrants.** The CBO cost estimate assumes that only about 7.7 million immigrants will legalize while the Heritage report assumes over 10 million.
- **Time horizon.** The longer time horizon of the Heritage report and the NRC study means the retirement phase is included in their analyses. By contrast, the CBO cost estimate does not consider this phase in its calculations.
- **Labor force.** Only the CBO cost estimate considers increases in the labor force. More immigrants results in more taxpayers and a net positive fiscal impact because the use of government benefits by these immigrants is lower than their tax contributions. Only 35 percent of the new legal immigrants by 2023 are formerly undocumented. The legalization scenario in the Heritage report does not consider labor force increases. The NRC study's additions to the labor force stem from differences in the fertility rates of immigrants and natives.
- **Second generation.** The NRC study incorporates the second generation as both children and adults. The CBO cost estimate considers the second generation as children and as they grow up,

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<sup>1</sup> From table 7.5 of the NRC study.

<sup>2</sup> From p. 342 of the NRC study and Figure 7.14.

but the impact over a 20-year period is modest. Heritage considers the second generation as children only when they are living with their parents. Children in these households do not age to become contributors. For instance, during the 20 years of the full implementation period when the legalized are eligible for benefits, the Heritage report still assumes that the average undocumented household receives \$13,627 via the benefit of public education, which is the same amount as in the years of the interim period. As parents age and collect Social Security, children are not allowed to contribute and offset the costs of their elderly parents

- **Modeling of the current law.** In the context of fiscal impacts, the current law (or status quo) represents what the revenues and outlays would be if no immigration reform or legalization is adopted. During the retirement phase of its model, the Heritage report assumes very few elderly undocumented immigrants under the current law. In reality, the undocumented will not all go back to their country of origin at retirement ages, and many of them could become legal in the 50-year time horizon, especially through a visa petition by their adult children.<sup>3</sup> Increasing the number of elderly immigrants who would collect Social Security and Medicare during retirement increases the cost of the status quo estimated by Heritage and reduces the negative fiscal impact of legalization. Similarly, the cost of public education to states cannot be costs associated with legalization; these costs will also be incurred under the current law because states provide access to K–12 education to all children regardless of immigration status.

## Assessing Methodological Practices

The six studies considered here use different methodologies. To assess the strength of these studies and guide future analysis, we assess the methodological practices they used to measure the impact of immigration reform. We highlight the most reliable approaches, recognizing that these methodologies can also be difficult to implement and are constrained by available data.

### *Assumptions and Their Impact on Findings*

Economic models generally rely on assumptions to generate results. These assumptions are important since they can drive study findings. The underlying assumptions vary, but there are large differences in how clearly the studies state them.

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<sup>3</sup> The Heritage report mentions this issue but does not consider it in its calculations.

Assumptions across the six studies often differ widely. Both the CBO studies assume that only 7.7 million undocumented immigrants of all ages will legalize by 2018. However, the CAP study, which focuses on would-be legalized workers, and the Heritage report, which focuses on all undocumented immigrants, assume 8 million and 10 million, respectively, will become legal. Regarding wages for legalized immigrants, the CAP study assumes an increase of 15 percent in 5 years, the CBO economic impact study assumes a 12 percent increase in 10 years, and the Heritage report assumes a one-time increase of 5 percent. Studies using the most rigorous estimation technique—comparing the change in wages of those legalized through IRCA to a group not affected by legalization—show increases of from 4 to 10 percent (see annotated bibliography). Of all six studies, the CBO cost estimate and the CBO economic impact study make the greatest effort to use the best available evidence in their assumptions. However, some key assumptions in the CBO studies are not explicit (such as those concerning the future earnings and program use of immigrants), while the Heritage report and NRC study clearly state all their assumptions.

**Table 2. Main Features and Findings of Fiscal Impact Studies**

	NRC study	CBO cost estimate	Heritage report
<b>BACKGROUND</b>			
Scope	Federal, state, and local net fiscal impacts of immigrants and their descendants	Federal net fiscal impacts of S. 744 as passed	Federal, state, and local net fiscal impacts of legalization of undocumented immigrants
Level of analysis	Individuals	Individuals	Households by immigration status and educational level of the head for the first 33 years, retirees for the next 18 years
Estimation technique	Accounting model with dynamic changes across time	Microsimulation modeling and macroeconomic projections	Accounting model
Comparison scenario	Natives, different groups of immigrants	Current law (status quo), as modeled in CBO baseline economic projections	Current law (status quo) of no legalization
Time horizon	300 years from 1996	10–20 years from 2014	50 years from 2013
Emigration	30% over lifetime	Not specified	5% over lifetime
Future tax earnings of immigrants	Converge from 2014 to 2023 2024 onwards, stay fixed relative to natives	12% increase in earnings of legalized (2014–23), offsetting effects from decline in corporate profits when wages increase	5% increase (period not stated, likely in five years)
Future use of government benefits	Same as baseline year	Same as baseline models	Same as households headed by legal immigrants with similar education levels
Percent not paying taxes	Not stated	No specific figure stated	55% before legalization 95% after legalization
Increase in labor force	From differential fertility rates of immigrants and natives	9.6 million by 2023 14.9 million by 2033	None
Second generation considered	Yes	Yes	Partially (when living in households headed by an undocumented immigrant)
<b>FINDINGS</b>			
Net fiscal impact as shown in report	\$80,000 per composite immigrant (immigrants and their descendants)	\$158 billion total deficit reduction (2014–23) above current law \$685 billion total deficit reduction (2024–33) above current law	–\$6.26 trillion in 50 years –\$5.28 trillion above current \$592,000 per legalized immigrant \$499,000 per legalized immigrant above current law
Net fiscal impact in 2010 prices	\$116,000 per composite immigrant <sup>a</sup>	\$147 billion 2014–33 \$639 billion 2024–33 <sup>a</sup>	–\$6.26 to –\$5.28 trillion in 51 years
Per immigrant, per year, in 2010 prices	–\$2,400 (2014–23) <sup>b</sup> –\$2,400 (2024–33) Positive dollar amounts beginning in 2034	\$2,251 per new legal immigrant per year (2014–23) <sup>c</sup> \$4,873 per new legal immigrant per year (2024–33)	+\$785 above current law during interim phase (per legalized immigrant) <sup>d</sup> –\$7,902 in full implementation phase

a. Calculations by the authors based on Bureau of Labor Statics (BLS) Consumer Price Index (CPI) inflation calculator.

b. These are the numbers reported in figure 7.14 of the NRC study.

c. The CBO cost estimate of S. 744 as passed (CBO 2013b) does not report population increases for the mid-decade years of 2018 and 2028. The original bill does report these population increases (CBO 2013a). We took the ratio of the final year to mid-decade years in table 2 of CBO (2013a) and applied it to the population estimates from CBO (2013b), which was 9.6 million in 2023 and 14.9 million in 2033. We calculated 6.528 million for 2018 and 13.212 million for 2028 and calculated the “per immigrant” figures based on these numbers.

d. Calculations by the authors based on figures from table 8 and 10,574,324 legalized immigrants implied in table 11 (CBO 2013a).

The review of the six studies suggests that the most important assumptions in estimating the fiscal and economic impacts of immigration are the

1. change in the size of the labor force,
2. effects of immigrants on the wages of resident workers,
3. effect of immigrants on productivity,
4. projected future earnings of the new immigrants,
5. number of undocumented immigrants expected to legalize,
6. effect of legalization on the earnings of the would-be legalized,
7. share of the legalized who do not report their earnings to the IRS, and
8. use of government benefits by the legalized and new comers.

One technique to assess the importance of assumptions is sensitivity analysis. For a sensitivity analysis, the fiscal and economic impacts are re-estimated using a different numerical value for one key assumption (e.g., the effect of legalization on earnings). However, only the NRC study performs a sensitivity analysis.

### *Average and Per Capita Figures versus Aggregate Impacts*

Immigration reform proposals increase the size of the labor force, and such increases almost indisputably increase the size of the economy and tax collections. The CBO cost estimate suggests that S. 744 will increase the labor force by 6 million people by 2023. Though the effects would not be immediate, the workforce will grow when the would-be legalized become legal permanent residents and citizens and can petition visas for their relatives abroad. Legalization could also increase the size of the labor force if it reduces the emigration of the otherwise undocumented. Changes in immigration laws affect current and future immigrants as well as workers already residing in the United States in multiple ways. For these reasons, it is useful to report economic and fiscal benefits in terms of per capita figures, such as changes in per capita income, changes in the average annual wage, and per capita taxes. Only two studies discussed use per capita indicators: the CBO economic impact study reports GNP per capita and average wages, and the NRC study reports fiscal impacts per immigrant and his or her descendants.

## *Choice of Estimation Technique*

The choice of estimation technique depends largely on the data at hand and the question to be answered, but some generalizations can be made about what is desirable in the different methodologies. In economic impact studies, such methodologies as macroeconomic models and input-output models (also called computable general equilibrium models)—both of which consider the interrelationships between economic aggregates—provide good estimates about impacts on the overall economy. In addition, macroeconomic models consider the historical relationship between variables using data for many points in time. In contrast, input-output models are based on data for one point in time and are very sensitive to underlying assumptions.<sup>4</sup> In assessing fiscal impacts, microsimulation models that use individual-level data and gauge how individuals react to policy changes can increase our understanding of the fiscal impacts of immigration reform because these models calculate program use and taxes based on the particular situation of the individual and can simulate how policy changes affect the outcomes of interest. However, microsimulation models do not consider all of the interrelationships of the economy and may miss out on some of the economy-wide effects of immigration reforms. Though promising, microsimulation modeling has not been used to estimate net fiscal impacts at the federal, state, and local levels.

## *Defining the Immigration Intervention and the Counterfactual*

To estimate the fiscal and economic impacts of immigration reform, studies have to define the experiment or the *intervention*. The research method has to clearly delineate what would happen to the outcomes without immigration reform, compared with what would happen under the simulated immigration reform intervention. The basic scenario with no intervention is the counterfactual, and it is often referred to in these studies as the current law, baseline, or status quo. In the context of economic impacts, the effect of immigration reform would be, for instance, the change in GDP under the current law versus the change in GDP under immigration reform. In the context of fiscal impacts, it means the net fiscal impacts (revenues minus outlays) under the current law versus the net fiscal impacts under the immigration reform scenario. When looking at impacts across time both, the current law and the intervention have to be modeled year by year.

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<sup>4</sup> In the study by Chojnicki and colleagues (2011), results are quite different when a CES production function is used instead. Sensitivity to the assumed production function is also reported by Ross R. McKittrick in “The Econometric Critique of Computable General Equilibrium Modeling: The Role of Functional Forms,” *Econometric Modeling* 15, No. 4 (1998): 543–73.

Both CBO studies model current law versus the immigration reform scenario most clearly compared with the other studies. In the CBO studies, the current law and the changes brought about by the immigration reform scenario are modeled across time. In the CBO studies, the cost estimates and economic impacts of S. 744 reported for 2014 to 2033 are all with respect to the current law, which refers to the baseline economic projections. For instance, the CBO economic impact study finds that with immigration reform, real GDP will be 3.3 percent higher than current law. The CAP study models the earnings growth of legalized immigrants and estimates impacts on the economy, but it does not account for immigrants who would become legal (through status adjustment or the Dream Act) in its current law scenario.

At some points, the Heritage report muddles the cost of the current law and the cost of the legalization intervention. For instance the report states that “if amnesty is enacted, the average adult unlawful immigrant would receive \$592,000 more in government benefits over the course of his remaining lifetime than he would pay in taxes” (p. vii). But this includes almost \$14,000 per year per household for the education of the children of undocumented households, even when most of these costs are also incurred without legalization. While the costs of educating the children of the undocumented can be associated with undocumented immigration, it is not a cost in the legalization experiment because K–12 education is not denied to the children of the undocumented. Similarly, the Heritage report’s cost of retirement in its legalization scenario is artificially high because it does not attribute any of this cost to the current law.

### *The Appropriate Time Horizon*

The time horizon is important not only methodologically, but conceptually, particularly in assessing fiscal impacts. As stated by the NRC study, states and local government invest more on children while the federal government invests most on the elderly. The costs of children are paid off later in life as children become taxpayers. Longer time horizons can better account for these shifts in cost patterns to present a more complete view of the fiscal and economic impacts of immigration.

## **Opportunities for Further Research**

Despite the large number of studies, important knowledge gaps remain that limit our understanding of the consequences of immigration reform. Future studies can fill these gaps and enhance our understanding of immigration reform by exploring the net fiscal impacts of legalization, the

distribution of gains, productivity gains from legalization, alternative scenarios not included in S. 744, differences between IRCA and S. 744, and the effect on families.

- **The net fiscal impacts of legalization.** To date, the only study that has calculated net fiscal impacts of legalization at the federal, state, and local levels is the Heritage report. Additional studies are needed to better understand the fiscal impacts of legalization, including federal, state, and local revenues and outlays.
- **The distribution of gains from immigration reform.** Some of the gains from immigration reform will accrue to the new immigrants and the would-be legalized. The benefit to workers already residing in the United States is seldom addressed. Some U.S. workers may experience gains while others may experience losses. Of the six studies examined here, the NRC study distinguishes between immigrant and native-born worker gains. Further research could examine impacts by the nativity and skills of resident workers. Neither the CBO cost estimate nor the Heritage report estimates the fiscal burden or the gain of immigration reform on current residents. The consequences of immigration reform for different groups should be considered to better develop policies that ameliorate any possible negative impacts.
- **Productivity gains from legalization.** Empirical research is needed to identify productivity increases produced by legalization. Legalized workers' wages may rise both because of increases in productivity as well as through transfers from capital to labor as a result of employers paying fair wages. Though there are studies that discuss potential productivity gains, none have addressed quantification.
- **Alternative scenarios not included in S. 744.** Under S. 744, the would-be legalized do not have access to the major federal government benefits, such as SNAP, SSI, and ACA exchange subsidies, for at least 13 years after becoming a provisional registered immigrant. Future studies could model the costs and benefits of providing more immediate access to these programs.
- **Barriers to legalization and estimates of how many undocumented would legalize.** The size of the would-be legalized population affects the estimates of economic and fiscal impacts. Not all undocumented individuals will choose to become legal; thus, it is important to assess whether provisions embedded in current proposals could prevent immigrants from applying for registered provisional immigrant status.
- **Differences between IRCA and S. 744.** The large differences between IRCA and S. 744 mean that IRCA should not be used as strict guide for determining possible gains from legalization, as

most current studies do. These differences are not addressed in current studies and have implications for the economic benefits of legalization. For instance, those legalized under IRCA could become permanent residents in 18 months, but under S. 744, that process will take 10 years. Further examination of these differences can help our understanding of the possible gains from legalization.

- **Effects on families.** Undocumented immigrants live with natives, naturalized citizens, and legal permanent immigrants alike. A family perspective can add to our understanding of consequences of immigration reform. This perspective can be especially useful for the integration of the would-be-legalized in state and local areas to sort out the service needs of legalized immigrants and their families.

## Annotated Bibliography

### *Recent Studies of Economic and Fiscal Impacts of Immigration and Immigration Reform*

#### Studies of Current Immigration Reform

Congressional Budget Office. 2013a. “Cost Estimate of S. 744, Border Security, Economic Opportunity, and Immigration Modernization Act, as reported by the Senate Committee on the Judiciary on May 28, 2013.” <http://www.cbo.gov/sites/default/files/cbofiles/attachments/s744.pdf>.

Examines net federal and national fiscal impacts. Finds a deficit reduction of \$197 billion in 10 years and of \$690 billion after an additional 10 years.

———. 2013b. “Cost Estimate of S. 744, Border Security, Economic Opportunity, and Immigration Modernization Act, as passed by the Senate on June 27, 2013.” <http://www.cbo.gov/sites/default/files/cbofiles/attachments/s744aspassed.pdf>.

Examines net federal and national fiscal impacts. Finds a deficit reduction of \$158 billion in 10 years and of \$685 billion after an additional 10 years. This report considers the changes introduced with the passage of S. 744.

———. 2013c. *The Economic Impact of S. 744, the Border Security, Economic Opportunity, and Immigration Modernization Act*. <http://cbo.gov/sites/default/files/cbofiles/attachments/44346-Immigration.pdf>.

Examines national economic impacts. Finds that, adjusted for inflation, there will be an increase in GDP of 3.3 percent by 2023; a 0.5 percent decline in wages and 0.7 percent decline in per capita income by 2023; and an increase in wages, per capita income, and GDP by 2033.

Holtz-Eakin, Douglas. 2013. “Immigration Reform, Economic Growth, and the Fiscal Challenge.” Washington, DC: American Action Forum.

Examines national fiscal federal economic impacts. Finds that the increase in labor force of 3.2 percent, would, in 10 years, cause GSP increase of .25 percent annually, a \$1,700 increase in per capita income, and a \$2.7 trillion reduction in the deficit.

Institute of Taxation and Economic Policy. 2013. “Undocumented Immigrants’ State and Local Contributions.” Washington, DC: Institute of Taxation and Economic Policy.

Examines fiscal impacts on state and local tax revenues. Finds that legalization increases tax revenues by \$2 billion (one-year estimate).

Kallick, David Dyssegaard. 2013. “Three Ways Immigration Reform Will Make the Economy More Productive.” New York, NY: Fiscal Policy Institute.

Examines the fiscal impacts on tax revenues in New York state. Finds an \$11 million increase in tax revenues (in one year) from legalization.

Lynch, Robert, and Patrick Oakford. 2013a. “The Economic Effects of Granting Legal Status and Citizenship to Undocumented Immigrants.” Washington, DC: Center for American Progress.

Examines the national economic impacts. Finds an \$832 billion increase in GDP in 10 years from legalization with citizenship after 10 years.

———. 2013b. “National and State-by-State Economic Benefits of Immigration Reform.” Washington DC: Center for American Progress.

Examines the economic impacts of legalization in 24 states. Finds positive economic impacts ranging from \$4 billion in Arkansas to \$144 billion in Texas over 10 years.

Rector, Robert, and Jason Richwine. 2013. “The Fiscal Cost of Unlawful Immigrants and Amnesty to the U.S. Taxpayer.” Domestic Policy Studies Department Special Report 133. Washington DC: The Heritage Foundation.

Examines the net national, federal, state, and local fiscal impacts of legalization. Finds fiscal costs of \$6.3 trillion over 50 years.

### Studies of Prior Immigration Proposals

Dixon, Peter B., and Maureen T. Rimmer. 2009. “Restriction or Legalization? Measuring the Economic Benefits of Immigration Reform.” *Trade Policy Analysis* 40. Washington, DC: CATO Institute.

Examines national economic impacts. Finds a \$170 billion (1.19%) increase in GDP in 15 years and that the guest worker program will increase productivity.

Hinojosa-Ojeda, Raúl. 2010. “Raising the Floor for American Workers: The Economic Benefits of Comprehensive Immigration Reform.” Washington, DC: Immigration Policy Center and Center for American Progress.

Examines the national economic impacts. Finds a \$1.5 trillion increase in GDP in 10 years from legalization and labor demand-driven immigration.

### Studies of General Immigration Impacts

Chojnicki, Xavier, Frédéric Docquier, and Lionel Ragot. 2011. “Should the U.S. Have Locked the Heaven’s Door? Reassessing the Benefits of the Postwar Immigration.” *Journal of Population Economics* 24(1): 317–59.

Examines the national economic impacts. Finds that post-World War II immigration cause a decrease per capita GDP .1 percent and decreased the transfer-to-GDP ratio 0.3 percent.

OECD. 2013. “Fiscal Impact of Immigration on OECD Countries.” *Migration Outlook 2013*, OECD Publishing.

Examines the net fiscal impacts for OECD countries. Finds a direct net fiscal impact of \$8,272 in one year for the United States

Peri, Giovanni. 2012. “The Effect of Immigration on Productivity: Evidence from U.S. States.” *Review of Economics and Statistics* 94(1): 348–58.

Examines the national economic impacts of immigration. Finds that immigration accounts for a 0.7 to 1 percent increase in productivity since 1960.

Smith, James P., and Barry Edmonston, eds. 1997. *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration*. Washington, DC: National Academies Press.

Chapter four examines the national economic impacts. Finds a 0.2 percent increase in GDP—a \$14 billion dollar increase in one year.

Chapter seven examines the net national, federal, state, and local fiscal impacts. Finds an \$80,000 increase per immigrant and descendant in a period of up to 300 years.

## *Findings on the Effects of IRCA Legalization: Studies Using Comparison Groups and Difference-in-Difference Approach*

Amuedo-Dorantes, Catalina, Cynthia Bansak, and Steven Raphael. 2007. "Gender Differences in the Labor Market: Impact of IRCA's Amnesty Provisions." *American Economic Review* 97(2): 412–16.

Uses a difference-in-difference estimate of IRCA with Hispanic natives as comparison group. Finds, among men, a 5.4 percent decrease in employment and a 9.3 percent increase in wages from 1987 to 1992. Among women, finds a 7.1 percent decrease in employment and a 21 percent increase in wages from 1987 to 1992.

Barcellos, Silvia Helena. 2010. "Legalization and the Economic Status of Immigrants." Working Paper WR-754. Santa Monica, CA: RAND Corporation.

Uses difference-in-difference estimates of immigrants with 8–18 years in the United States in 2000 and 1990. Finds that wages of IRCA immigrants are 5.4 percent higher than the comparison group.

Kaushal, Neeraj. 2006. "Amnesty Programs and the Labor Market Outcomes of Undocumented Workers." *Journal of Human Resources* 41(3): 631–47.

Uses difference-in-difference estimates of Nicaraguan Adjustment and Central American Relief Act of 1996 (NACARA) with non-affected immigrants as a comparison group. Finds that, among men, there was no statistically significant increase in hourly wages between 1996 and 2002, but there was a 4.1 percent increase in weekly earnings.

Kossoudji, Sherrie A., and Deborah A. Cobb-Clark. 2002. "Coming out of the Shadows: Learning about Legal Status and Wages from the Legalized Population." *Journal of Labor Economics* 20(3): 598–628.

Uses a difference-in-difference estimate of IRCA with Hispanic natives as a comparison group. Finds that five years after legalization, there was 6 percent increase in wages among men.

Pan, Ying. 2012. "The Impact of Legal Status on Immigrants' Earnings and Human Capital: Evidence from the IRCA 1986." *Journal of Labor Research* 33(2): 119–42.

Uses a regression discontinuity design with eligibility for legalization by year of entry. Finds a 10 percent wage increase for men, but no change in employment, by 1990. For women, there was no wage increase, but there was a 12 percent increase in employment, by 1990. Legalization did not create an increase in wages or earnings by 2000 for men or women.