

# The Economic and Fiscal Effects of Immigration Legislation Strengthening US Border and Internal Security Policies

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## Introduction

The 109<sup>th</sup> Congress passed the Secure Fence Act of 2006 (Public Law No: 109-367) on October 26, 2006. This legislation mandated the construction of additional barriers along the U.S.-Mexico border to prevent undocumented migration. The 110<sup>th</sup> Congress is expected to take up more comprehensive immigration reform. In particular, some in the 110<sup>th</sup> Congress would like to pass legislation similar to the “border first” immigration enforcement approach approved by the House of Representatives last year. Such an approach to immigration reform would limit policy changes to significantly improved immigration controls along the country’s borders and, perhaps, inside U.S. businesses. Other policy makers are interested in augmenting this approach with a true temporary worker program.

This Center for Data Analysis (CDA) *Report* has two objectives—to highlight the likely economic effects of changing the nation’s immigration policies and to motivate a more informed debate about the future of immigration. It specifically analyzes how a border security and workplace inspection bill that does not contain a temporary worker program would affect economic performance. The “Border Protection, Antiterrorism, and Illegal Immigration Control Act of 2005” (H.R. 4437) from the 109<sup>th</sup> Congress, hereinafter referred to as the Illegal Immigration Control Act, functions as the model legislation for this analysis.

We assume that enactment of the Illegal Immigration Control Act would effectively deter unauthorized migrants from entering the United States and reduce the unauthorized settled migrant population through strengthened detention and removal policies and a national employment verification check system. Specifically, we assume that the Illegal Immigration Control Act is effectively implemented and that it reduces new unauthorized arrivals by 60 percent and the settled population of unauthorized migrants by 50 percent between 2007 and 2016.

The Global Insight short-term U.S. macroeconomic model is used to simulate the economic and budget effects of strong border and internal security policies.<sup>1</sup> We find that the Illegal Immigration Control Act would likely have an adverse effect on the nation’s economy, largely because it does not contain provisions that would increase the number of legal work visas (through either current visa classifications or a true temporary worker program). According to our simulations, between 2007 and 2016:

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<sup>1</sup> The Global Insight model is used by private-sector and government economists to estimate ways in which important changes in the economy and public policy are likely to affect major economic indicators. It contains several policy variables that can be used to simulate changes in tax policy. The methodologies, assumptions, conclusions, and opinions presented here are entirely the work of analysts at The Heritage Foundation’s Center for Data Analysis. They have not been endorsed by, and do not necessarily reflect the views of, the owners of the Global Insight model.

- Real (inflation-adjusted) gross domestic product (GDP) falls by an annual average amount of over \$50 billion.
- Total non-farm payrolls decline by an annual average of almost 2.1 million.
- The removal of undocumented workers from the labor force reduces the unemployment rate falls by an average of nearly a full percentage point annually.
- Real wages and salaries are not higher. Those with jobs may earn slightly more but the overall wage bill declines.
- Real personal consumption is on average lower over the 10-year period
- Non-residential investment declines by an annual average of roughly \$30 billion over the 10-year period.
- Economic theory suggests, everything else being equal, that a reduction in investment spending means that over time we would expect lower labor productivity and real wages.

These findings suggest that an immigration policy that relies solely on securing the border and strict internal enforcement could result in less economic activity and fewer jobs for Americans. A true temporary worker program designed to allow immigrants to fill temporary jobs legally and return to their country of origin could help offset these negative economic effects.

### Legislative Background

The debate over U.S. immigration policy was a major political issue during the 2006 congressional elections and continues to be prevalent in the 110<sup>th</sup> Congress. At the very center of the current debate is permeable southern border that is far too frequently crossed by undocumented migrants. Not only does this permeability worry those Americans alarmed by the substantial increase in immigration over the last 20 years, but it also raises questions about how secure we are from terrorists and other enemies of the U.S. who might enter the country from the south.

During the 109<sup>th</sup> Congress, the House of Representatives was the first congressional chamber to move immigration reform legislation. The House bill, the Border Protection, Antiterrorism, and Illegal Immigration Control Act of 2005 (H.R. 4437), planned to allay undocumented immigration concerns by

- Funding the construction of hundreds of miles of new border fencing,
- Significantly increasing the border and port patrols and the immigration inspectors,
- Increasing the number of Border Patrol agents to 10,000,
- Increasing penalties for being unlawfully present in the country,
- Tightening rules for legally entering and remaining in the United States,
- Strengthening detention and removal policies for aliens, and
- Creating a national employment verification check system.

The Senate bill, the Comprehensive Immigration Reform Act of 2006 (S. 2611), would increase the number of Border Patrol agents while granting amnesty to most of the millions unlawfully present in the United States.

Unable to reconcile the differences between the House and Senate bills, the 109<sup>th</sup> Congress passed the Secure Fence Act of 2006 (H.R. 6061). President Bush signed the Act, which directs the Department of Homeland Security to build additional fences and barriers along the U.S.-Mexico border to prevent undocumented migration.

Now that the 110<sup>th</sup> Congress is in session, lawmakers are still grappling with comprehensive immigration reform. Advocates of reduced immigration will likely reintroduce some or all of the enforcement measures included on the previous House bill.

## Methodology Overview

For the purposes of this analysis, the tough border and internal security bill without a guest worker program passed by the House of Representatives during the 109<sup>th</sup> Congress is assumed to have been agreed to by the Senate and signed into law by the president. Further, the legislation is assumed to effectively deter undocumented migration, thus reducing the nation's labor supply.

A heightened focus on workplace enforcement combined with greater border security measures is anticipated to deliver on a promise to reduce the inflow of illegal immigrants while increasing the security of our borders and ports. Indeed, many opinion leaders on this issue believe that policies like those embodied in the Illegal Immigration Control Act will staunch the in-bound flow of undocumented workers.<sup>2</sup> The fiscal and economic benefits that they expect to come from fewer illegal immigrants include lower government spending on emergency medical care, education, and housing and greater economic opportunities for low-income, native-born Americans who many believe lose their jobs to immigrants who will work for lower wages.

While advocates of the Illegal Immigration Control Act have spared few resources in informing the general public about these benefits, they have paid less attention to the economic effects of these expanded immigration controls. Except for an economic analysis by the Congressional Budget Office of a related but significantly different bill in the Senate,<sup>3</sup> little analytical work using macroeconomic models has been published. This hiatus is unfortunate, since it deprives policy makers of a major tool for assessing the effects of their policy moves. This CDA *Report* is a step toward rectifying this deficiency in the analytical foundation for policy change.

To estimate the economic effects of a reduced labor supply, CDA analysts made several projections. First, they estimated the number of unauthorized migrant and

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<sup>2</sup> See David C. Iglesias, "Stop Alien Smuggling", *The Washington Times*, February 27, 2006 at [www.washtimes.com/functions/print.php?StoryID=20060226-092923-7883r](http://www.washtimes.com/functions/print.php?StoryID=20060226-092923-7883r); Jack Kemp, "Keep the Front Door of Legal Immigration Open", *Human Events* (Op Ed), December 25, 2006; editorial, *Dallas Morning News*, January 26, 2006; Lee Hamilton, "Calm Heads Must Break Immigration Impasse," *Indianapolis Star*, January 20, 2006; and Michael A Fletcher and Darryl Fears, "Analysts: Crackdown Won't Halt Immigration," *Washingtonpost.com*, December 18, 2005 at [www.washingtonpost.com/wp-dyn/content/article/2005/12/17/AR200512170082\\_pfd](http://www.washingtonpost.com/wp-dyn/content/article/2005/12/17/AR200512170082_pfd).

<sup>3</sup> See, Congressional Budget Office, "S. 2611, Comprehensive Immigration Reform Act of 2006," May 16, 2006, at <http://www.cbo.gov/ftpdocs/72xx/doc7208/s2611.pdf>.

unauthorized migrant civilian workforce populations living in the United States from 2007 to 2016. As a baseline, CDA analysts projected the growth in the total unauthorized migrant and unauthorized migrant civilian workforce populations from 2006 to 2016 assuming that U.S. Immigration policy remained unchanged.

Second, they projected undocumented migration from 2007 to 2016 assuming that that the Illegal Immigration Control Act was signed into law during the 109<sup>th</sup> Congress. Projections of the total unauthorized migrant and unauthorized migrant civilian workforce populations are based on the exit of settled unauthorized migrants and changes in the inflow and outflow of newly arrived unauthorized migrants. The projections assume that an aggressive deportation program removes 25 to 50 percent of the settled unauthorized migrant population between 2007 and 2009. They also assume that increased border security reduces the inflow of new unauthorized migrants by 40 to 80 percent over the same 3 year period.

The following four scenarios are considered:<sup>4</sup>

- 50 percent reduction in settled unauthorized migrants and 60 percent reduction in inflow of new unauthorized migrants (main case);
- 25 percent reduction in settled unauthorized migrants and 60 percent reduction in inflow of new unauthorized migrants;
- 50 percent reduction in settled unauthorized migrants and 80 percent reduction in inflow of new unauthorized migrants;
- 25 percent reduction in settled unauthorized migrants and 80 percent reduction in inflow of new unauthorized migrants;

Third, the unauthorized migrant worker population residing in the United States from 2007 to 2016 is estimated based upon the main and alternative scenarios. For the simulations, the unauthorized migrant worker population is assumed to be 64.9 percent of the total unauthorized migrant population.<sup>5</sup>

Fourth, CDA analysts used the Global Insight (GI) U.S. short term Macroeconomic Model to simulate the economic and budget effects based on the assumptions underlying the migrant population projections. The simulations are run against a baseline GI-model forecast that reproduces the Congressional Budget Office's (CBO's) January 2006 published baseline economic and budgetary projections. That baseline forecast also includes the implications of CBO's current-law assumptions for key macroeconomic variables such as personal

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<sup>4</sup> Future unauthorized migrant populations were estimated under two additional scenarios. In the first, increased internal security reduces the settled unauthorized migrant population by 50 percent. At the same time, increased border security reduces the inflow of new unauthorized immigrants by 40 percent. In the second, increased internal security reduces the settled unauthorized migrant population by 50 percent while increased border security again reduces the inflow of new unauthorized immigrants by 40 percent. In both scenarios, we assume that polices are implemented in 2007 but not fully effective until 2009.

<sup>5</sup> Of the 11.1 million unauthorized migrants living in the U.S. in 2005, the Pew Hispanic Center estimates that 7.2 million (64.9 percent) participated in the civilian workforce. . See Jeffrey S. Passel, "The Size and Characteristics of the Unauthorized Migrant Population in the U.S.; Estimates Based on the March 2005 Current Population Survey," Pew Hispanic Center Research Report, March 7, 2006, p. 2, at <http://pewhispanic.org/files/reports/61.pdf> (October 2, 2006).

consumption, investment, employment, and the components of national income and products accounts (NIPA) personal income.

## Projecting Future Immigration

Projecting the number of unauthorized migrants living in the United States is difficult. This is because the U.S. government does not produce an official count or estimate of this population. To obtain an estimate of the unauthorized migrant population, researchers have used the "residual method."<sup>6</sup> The residual method uses decennial Census data or the Current Population Survey (CPS), a monthly survey of about 50,000 households conducted by the Bureau of the Census, to estimate the size of the foreign-born population. The unauthorized migrant population is derived by subtracting an independent estimate of the legal resident foreign-born population from the total foreign-born population. This residual, or difference, provides an estimate of the unauthorized migrant population.

Using the residual method, the Pew Hispanic Center estimates that in March 2006 there were 11.5 to 12 million unauthorized migrants living in the United States.<sup>7</sup> This estimate was derived by subtracting the legal, foreign-born population, based on data from the U.S. Department of Homeland Security, from the estimated total foreign-born population. The Pew Hispanic Center estimates that 11.1 million unauthorized immigrants resided in the U.S. in March 2005.

In 2000, there were an estimated 8.4 million unauthorized migrants living in the U.S.<sup>8</sup> From 2000 to 2005, the average annual growth in the unauthorized migrant population was 500,000 per year.<sup>9</sup> Assuming that the annual growth rate was the same from 2005 to 2006, the Pew Hispanic Center estimates that 11.5 to 12 million unauthorized migrants resided in the U.S. in March 2006.<sup>10</sup>

Of the 11.1 million unauthorized migrants living in the U.S. in 2005, the Pew Hispanic Center estimates that 7.2 million (64.9 percent) participated in the civilian workforce.<sup>11</sup> Holding the unauthorized migrant civilian workforce participation rate at 64.9 percent for 2006, approximately 7.8 million unauthorized migrants are in the civilian workforce.

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<sup>6</sup> See Karen A. Woodrow and Jeffery S. Passel, "Post-IRCA Undocumented Immigration to the United States: An Assessment Based on the June 1988 CPS," in *Undocumented Migration to the United States: IRCA and the Experience of the 1980s*, eds. Frank D. Bean, Barry Edmonston, and Jeffery S. Passel, (Washington, D.C.: The Urban Institute Press, 1990), pp. 33-72.

<sup>7</sup> See Jeffrey S. Passel, "The Size and Characteristics of the Unauthorized Migrant Population in the U.S.; Estimates Based on the March 2005 Current Population Survey," Pew Hispanic Center Research Report, March 7, 2006 <http://pewhispanic.org/files/reports/61.pdf>, p. 2, at <http://pewhispanic.org/files/reports/61.pdf> (October 2, 2006).

<sup>8</sup> See Jeffery S. Passel, Jenifer Van Hook, and Frank D. Bean, "Estimates of Legal and Unauthorized Foreign Born Population for the United States and Selected States," Based on Census 2000, Report to the Census Bureau, Washington, D.C.: Urban Institute, June 1, 2004, at [http://www.sabresys.com/whitepapers/EMS\\_Deliverable\\_1\\_020305.pdf](http://www.sabresys.com/whitepapers/EMS_Deliverable_1_020305.pdf) (October 2, 2006).

<sup>9</sup> See Jeffrey S. Passel, "The Size and Characteristics of the Unauthorized Migrant Population in the U.S." p. 2.

<sup>10</sup> See Jeffrey S. Passel, "The Size and Characteristics of the Unauthorized Migrant Population in the U.S." p. 2.

<sup>11</sup> See Jeffrey S. Passel, "The Size and Characteristics of the Unauthorized Migrant Population in the U.S." p. 9.

Projecting the Unauthorized Migrant Population, 2006-2016. This CDA report assumes a 2006 unauthorized population of 12 million. Based on this assumption, CDA analysts project the size of the unauthorized migrant population between 2006 and 2016. The baseline scenario assumes that U.S. immigration policy remains unchanged, while the remaining scenarios assume that increased internal and border security will have varying impacts on reducing unauthorized migration.

The baseline projection assumes that U.S. immigration policy remains unchanged and that the unauthorized migrant population expands by 500,000 per year. Under this scenario, the unauthorized migrant population is estimated to be 17 million in 2016.

The number of unauthorized migrants participating in the civilian workforce is assumed to be 64.9 percent of the total unauthorized migrant population. With an estimated annual growth in unauthorized migrants of 500,000 per year from 2006 to 2016, the estimated unauthorized migrant civilian workforce is expected to grow from just under 7.8 million in 2006 to over 11 million in 2016.

The four increased border and internal security scenarios assume major changes to U.S. immigration policy. First, greater than before security is assumed to be provided on the U.S.-Mexico border and at other points of entry. The projections assume that any new border security program will not stop all unauthorized migrations, but will still reduce the number of new unauthorized migrants entering the country compared to the recent annual growth of the population.

Second, an employment verification system is assumed to reduce the settled unauthorized migrant population by effectively deterring the hiring of unauthorized migrant workers. Gordon Hanson proposes that an employer monitoring program will likely be more effective at reducing unauthorized migration than increased border security.<sup>12</sup> Each year, a single Immigration and Customs Enforcement (ICE) agent can inspect dozens of firms employing thousands of workers, while a sole Border Patrol agent can only capture relatively few unauthorized migrants crossing the border.<sup>13</sup> The projections assume that a rigorously enforced worker verification program with stiff employer sanctions is implemented and that a deportation program is successful in reducing the number of unauthorized migrants settled in the United State.

Third, a large-scale program to deport apprehended unauthorized migrants is assumed to be implemented. For deportations, the scenarios assume that deportees do not illegally return to the United States.

We vary the impact of the border and internal security policies on unauthorized migration. The projected total unauthorized migrant and unauthorized migrant civilian workforce populations are based on the exit of settled unauthorized migrants and changes in the inflow and outflow of newly arrived unauthorized migrants. The estimates assume that

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<sup>12</sup> See Gordon H. Hanson, "Commentary," in *Controlling Immigration: A Global Perspective*, eds. Wayne A. Cornelius, Yaheyuki Tsuda, Phillip L. Martin, and James F. Hollifield, (Stanford, Cal.: Stanford University Press, 2<sup>nd</sup> edition, 2004), pp. 86-90.

<sup>13</sup> See Gordon H. Hanson, "Commentary."

an aggressive deportation program removes 25 to 50 percent of the settled unauthorized migrant population between 2007 and 2009. They also assume that increased border security reduces the inflow of new unauthorized migrants by 60 to 80 percent over the same period.

In our main scenario, increased internal enforcement is assumed to reduce the settled unauthorized migrant population by 50 percent between 2007 and 2009. The settled unauthorized migrant population is estimated to be 12 million in 2007. Thus, aggressive deportation and an employment verification system are assumed to reduce this population to 6 million by 2009 (see Table 1).<sup>14</sup>

Increased border security is also assumed to reduce the inflow of new unauthorized migrants by 60 percent during the first three years of implementation and then settling down to a constant and lower annual growth. From 2007 to 2009, the inflow is projected to drop from 500,000 to 200,000 unauthorized migrants. From 2008 to 2016, the estimated annual growth is anticipated to stabilize and projected to be 200,000 per year—300,000 less per year than the baseline.

In addition to estimating the annual inflow, this projection assumes that a portion of new unauthorized migrants will return home each year. Using data from the Mexican Migration Project, Fernando Riosmena created multiple-decrement life tables to compute duration-specific probabilities of Mexican unauthorized migrants returning to Mexico after a spell in the United States.<sup>15</sup> Based on the life tables, the annual probability of return migration from 1980 to 1996 ranged from 0.3391 to 0.0913.<sup>16</sup> Giving each year equal weight, the average annual return migration probability is 0.241. Thus, this projection assumes the probability of new unauthorized migrants returning home in the first year is 0.241. Otherwise, these new unauthorized migrants are assumed to permanently settle in the United States. The literature on migration has commonly found that migrants to the U.S. frequently return to their home countries.<sup>17</sup> For example, George Borjas estimates that 25.9 percent of legal Mexican immigrants who entered the U.S. between 1970 and 1974 had returned home by 1980.<sup>18</sup> Except for the baseline projection, all of the estimates assume that 24.1 percent of new unauthorized migrants will return home in their first year in the United States. Those remaining will settle permanently in the United States.

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<sup>14</sup> Similar tables for the remaining three scenarios are excluded from this report. Copies of these tables are available upon request.

<sup>15</sup> See Fernando Riosmena, "Return Versus Settlement Among Undocumented Mexican Migrants, 1980 to 1996" in *Crossing the Border: Research from the Mexican Migration Project*, eds. Jorge Durand and Douglas S. Massey, New York: Russell Sage Foundation, 2004, pp. 265-280.

<sup>16</sup> See Fernando Riosmena, "Return Versus Settlement Among Undocumented Mexican Migrants, 1980 to 1996," Table 13.1, p. 270.

<sup>17</sup> See Manuela Angelucci, "U.S. Border Enforcement and the Net Flow of Mexican Illegal Migration," Institute for the Study of Labor, *IZA Discussion Paper* No. 1642, June 2005, pp. 1-39; Sherrie A. Kossoudji, "Playing Cat and Mouse at the U.S.-Mexican Border," *Demography*, Vol. 29, No. 2, May 1992, p. 159-180; Belinda I. Reyes, "U.S. Immigration Policy and the Duration of Undocumented Trips," in *Crossing the Border: Research from the Mexican Migration Project*, eds. Jorge Durand and Douglas S. Massey (New York: Russell Sage Foundation, 2004), pp. 299-320; and Fernando Riosmena, "Return Versus Settlement Among Undocumented Mexican Migrants, 1980 to 1996."

<sup>18</sup> See George J. Borjas and Bernt Bratsberg, "Who Leaves? The Outmigration of the Foreign-Born," *Review of Economics and Statistics*, Vol. 78, February, 1996, pp. 165-176.

In 2007, 120,500 of the 500,000 new unauthorized migrants are assumed to return home. In 2008, 76,200 of the 316,300 recently arrived unauthorized migrants will return home. After 2008, the number of return migrants stabilizes at 48,200 per year.

<Table 1 about here.>

Unauthorized Migrant Population Estimates, 2006-2016 Under a baseline that assumes no substantial changes to U.S. immigration policy, the unauthorized migrant population increases from 12 million in 2006 to 17 million in 2016.

*50 percent reduction in settled unauthorized migrants, 60 percent reduction in inflow of new unauthorized migrants.* Under our main scenario, the estimated total number of unauthorized migrants will decrease from 12 million in 2006 to 7.2 million in 2016—a difference of 9.8 million fewer unauthorized migrants than projected in the baseline in 2016.

Correspondingly, the number of unauthorized migrant workers in the absence of U.S. immigration policy reform will increase from 7.8 million in 2006 to 11 million in 2016. Under the first scenario, the estimated total number of unauthorized migrant workers will decrease from 7.8 million in 2006 to 4.7 million in 2016—a difference of 6.3 million fewer unauthorized migrant workers than projected in the baseline in 2016.

*25 percent reduction in settled unauthorized migrants, 60 percent reduction in inflow of new unauthorized migrants.* Under the second scenario, the estimated total number of unauthorized migrants will decrease from 12 million in 2006 to 10.2 million in 2016—a difference of 6.8 million fewer unauthorized migrants than projected in the baseline in 2016. The estimated total number of unauthorized migrant workers will decrease from 7.8 million in 2006 to 6.6 million in 2016—a difference of 4.4 million fewer unauthorized migrant workers than projected in the baseline in 2016.

*50 percent reduction in settled unauthorized migrants, 80 percent reduction in inflow of new unauthorized migrants.* Under the third scenario, the estimated total number of unauthorized migrants will decrease from 12 million in 2006 to 6.6 million in 2016—a difference of 10.4 million fewer unauthorized migrants than projected in the baseline in 2016. The estimated total number of unauthorized migrant workers will decrease from 7.8 million in 2006 to 4.3 million in 2016—a difference of 6.7 million fewer unauthorized migrant workers than projected in the baseline in 2016.<sup>19</sup>

*25 percent reduction in settled unauthorized migrants, 80 percent reduction in inflow of new unauthorized migrants.* Under the fourth scenario, the estimated total number of unauthorized migrants will decrease from 12 million in 2006 to 9.6 million in 2016—a difference of 7.4 million fewer unauthorized migrants than projected in the baseline in 2016. The estimated total number of unauthorized migrant workers will decrease from 7.8 million in 2006 to 6.2

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<sup>19</sup> Assuming a 40 percent (rather than an 80 percent) reduction in the inflow of new unauthorized migrants, the estimated total number of unauthorized migrants declines from 12 million in 2006 to 7.8 million in 2016. The estimated total number of unauthorized migrant workers drops from 7.8 million in 2006 to 5.0 million in 2016.

million in 2016—a difference of 4.8 million fewer unauthorized migrant workers than projected in the baseline in 2016.<sup>20</sup>

## Simulating the Economic and Fiscal Effects of Stronger Border and Internal Security Policies

The Global Insight (GI) U.S. short term Macroeconomic Model is used to simulate the economic and budget effects of adopting a policy increasing U.S. border security. The GI model is a large-scale macroeconometric model. It imposes the long-run structure of a neo-classical growth model but makes short-run fluctuations in aggregate demand a focus of analysis. Thus, in our simulations, we can consider the effects of the border security policy on not just disposable income and consumption in the short run but also the economy's long-run potential.

The simulations are run against a baseline GI-model forecast that reproduces the Congressional Budget Office's (CBO's) January 2006 published baseline economic and budgetary projections. That baseline forecast also includes the implications of CBO's published projections for key macroeconomic variables such as personal consumption, investment, employment, and the components of national income and products accounts (NIPA) personal income.

CBO produces what is called a current-law baseline.<sup>21</sup> A current-law baseline embodies the rules and conventions governing a current services federal budget. This means that over the 10-year budget period the GI-model forecast that we use as our starting point (baseline) for gauging the economic and budget effects of the proposed border security policy assumes no change in tax provisions or tax rates other than those already specified in current law. It also assumes the continuation of current levels of spending.<sup>22</sup>

**Key Model Inputs and Assumptions.** A number of key model inputs and assumptions underlie our simulations. These include:

- *Unauthorized Migrant Population Projections.* We project the unauthorized migrant population and the unauthorized migrant worker population through 2016 under both current law and a proposed border security policy. We base our current-law projections on Pew Hispanic Center estimates of the total number, annual inflow, and labor force participation of unauthorized migrants in 2005 and 2006. The findings discussed in the paper assume that the proposed border security policy quickly reduces the *inflow* of unauthorized migrants by 60 percent and the *number* of settled unauthorized migrants by

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<sup>20</sup> Assuming a 40 percent (rather than an 80 percent) reduction in the inflow of new unauthorized migrants, the estimated total number of unauthorized migrants declines from 12 million in 2006 to 10.8 million in 2016. The estimated total number of unauthorized migrant workers drops from 7.8 million in 2006 to 7.0 million in 2016.

<sup>21</sup> For additional details, see Christopher Williams, "What Is a Current-Law Economic Baseline?", Congressional Budget Office Economic and Budget Issue Brief, June 2, 2005, at [www.cbo.gov/ftpdocs/64xx/doc6403/EconomicBaseline.pdf](http://www.cbo.gov/ftpdocs/64xx/doc6403/EconomicBaseline.pdf).

<sup>22</sup> Thus, a current-law baseline assumes the 2010 expiration (or "sunset") of the tax relief provisions enacted under the 2001 Economic Growth and Tax Relief Reconciliation Act (EGTRRA). However, it excludes any anticipated increases in federal spending that are not already set by current polices.

50 percent. They also assume that under the proposed border security policy 24.1 percent of new unauthorized migrant workers return home each year.

A border security policy that reduces the inflow of unauthorized migrants by 60 percent and the number of settled unauthorized migrants by 50 percent is assumed to reduce the total population aged 16 years and older by roughly 9.8 million by 2016. Assuming a labor force participation rate of 64.9 percent, this means that the border security policy removes an average of around 6.4 million unauthorized migrant workers from the labor force by 2016.

- *Labor Demand Elasticity.* We assume a point estimate for the elasticity for the demand for labor of 0.3.<sup>23</sup> This means that these simulations assume that a 1 percent decrease in the size of the labor force increases the wages of competing workers by 0.3 percent.
- *Federal Spending Estimates.* We estimate the impact on federal outlays by budget function using the CBO's conventional cost estimates of the Border Protection, Antiterrorism, and Illegal Immigration Control Act of 2005 (H.R. 4437) and the Comprehensive Immigration Reform Act of 2006 (S.2611).<sup>24</sup>

The proposed border security policy increases outlays in two federal budget functions—Social Security (650) and Administration of Justice (750). We use an automated routine developed by Global Insight (henceforth, the GI translator) to convert changes in outlays by federal budget function into changes in the GI model's NIPA federal spending variables (see Tables 2 and 3).

<Tables 2 and 3 about here.>

Initially, the change in unified federal spending implied by the GI translator (after converting all changes in outlays to changes in NIPA federal spending variables) did not exactly match our estimate of the total change in federal outlays by budget function. Rather, it fell some \$5 billion short of our projection of roughly \$28 billion over the 10-year budget period. We revised the GI translator to eliminate that \$5 billion discrepancy. Specifically, we revised the GI translator so that it allocates (on a share basis) any discrepancy across those GI-model federal spending variables affected by the change in federal outlays.<sup>25</sup>

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<sup>23</sup> See James P. Smith and Barry Edmonston, editors., "The New Americans: Economic, Demographic, and Fiscal Effects of Immigration", Washington, DC: National Academy Press, 1997, pp. 219-220. We weight the elasticity for the demand for labor by a ratio of average earnings per week for foreign born non-citizens and average earnings per week.

<sup>24</sup> See Congressional Budget Office, "H.R. 4437 Border Protection, Antiterrorism, and Illegal Immigration Control Act of 2005," December 13, 2005, at <http://www.cbo.gov/ftpdocs/69xx/doc6954/hr4437.pdf> (November 28, 2006). Also see Congressional Budget Office, "Additional Information on the Estimated Budgetary and Economic Effects of S.2611," May 16, 2006, at <http://www.cbo.gov/ftpdocs/72xx/doc7208/s2611.pdf> (November 22, 2006).

<sup>25</sup> AREMOS is Global Insight's proprietary econometric analysis and modeling software. It is used in the programming of the GI translator.

- *Monetary Policy.* We use an econometrically-estimated reaction function in the GI model that adjusts the effective interest rate on federal funds in response to changes in the unemployment rate and the rate of consumer price index (CPI) inflation. We impose the GI model's equivalent of the Taylor rule from the first quarter of 2007 through the fourth quarter of 2016.<sup>26</sup>

*Simulation Methodology.* Our simulation methodology consists of four separate steps. In Step 1, we simulate the basic economic and budget effects of the proposed border security policy. In Steps 2 through 4, we fine tune the results of our first simulation so that they are consistent with our assumptions about the effects of the border security policy on labor supply and personal saving.

*Step 1.* We simulate the basic economic and budget effects of the border security policy by:

- Reducing the baseline levels of the GI model's variables for the total population and the total population aged 16 and older,
- Adjusting the GI model's variable for the employment cost index (ECI) for private-sector wages and salaries,<sup>27</sup> and
- Increasing the GI model's NIPA federal spending variables using output from the GI translator.

Reducing the baseline levels of total population and population aged 16 years and older is a relatively simple matter. Both NP and NP16A are exogenous variables in the GI model. In step 1, we simply decrease the projected levels of both variables so that their differences from baseline are consistent with our projections of the (net) reduction in the unauthorized migrant population attributable to full enforcement of the proposed border security policy.

Adjusting the GI model's variable for the ECI for private-sector wages and salaries (JECIWSP) is not much more involved. JECIWSP is a stochastic variable in the GI model. We therefore exclude (exogenize) JECIWSP and replace it with (impose) an alternative that reflects a slight increase in wage rates.

That increase in wage rates is calculated using our assumed elasticity for the demand for labor and our projections of the (net) reduction in unauthorized migrant workers. It is broadly consistent with CBO's analysis of the wage effects of the guest worker program proposed under S.2611.<sup>28</sup> For example, the proposed border security policy discussed in the paper removes an average of around 6.4 million unauthorized migrant workers from the labor force by 2016. In the simulations, this corresponds to just under a 1 percent increase in

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<sup>26</sup> We impose the GI model's equivalent of the Taylor rule by setting the federal funds reaction function lever to 1.

<sup>27</sup> Initially, adjusting the GI model's variable for unit labor costs (TJULCNF) seemed like alternative approach. However, TJULCNF is defined using an identity in the GI model. The ECI for private-sector wages and salaries is stochastic variable of which unit labor costs are a function.

<sup>28</sup> See Congressional Budget Office, "Additional Information on the Estimated Budgetary and Economic Effects of S.2611," May 16, 2006, pp. 6-8, at <http://www.cbo.gov/ftpdocs/72xx/doc7208/s2611.pdf> (November 22, 2006).

JECIWSP. The Congressional Budget Office (CBO) estimates that the 3 million workers likely to be added to the labor force by 2016 under S.2611 would reduce wage rates by about 0.4 percent in 2016.<sup>29</sup>

Finally, increasing NIPA federal spending using output from the GI translator requires that we adjust a number of variables in the GI model. The GI translator converts higher outlays in budget functions 650 and 750 into increases in NIPA federal spending on federal non-defense consumption, federal transfer payments, federal aid to state and local governments, and federal non-defense gross investment (see Table 3).

We first exclude several stochastic federal spending variables and replace their baseline levels with output from the GI translator. Those variables include real (inflation-adjusted) federal non-defense consumption of fixed capital, the cyclical component of federal transfer payments to persons, federal Old Age, Survivors, and Disability Insurance (OASDI) payments, and federal non-Medicare and Social Security full-employment federal transfer payments.<sup>30</sup>

We then replace the projected levels of several exogenous federal spending variables with output from the GI translator. Those variables include real federal non-defense gross investment, real federal non-defense personnel outlays, real federal non-defense consumption excluding depreciation and personnel, real Medicare payments on behalf of individuals, real federal non-Medicaid grants to state and local governments, real federal Medicaid grants to state and local governments, and federal government social insurance payments to the rest of the world.

We solve the baseline GI model after inputting all changes in the GI model's population, wage, and federal spending variables.<sup>31</sup> We save the result as an alternative (non-baseline) forecast and proceed to Step 2.

*Step 2.* We next adjust the levels of the full-employment labor supply and the actual labor supply in the alternative forecast from Step 1. Such an adjustment is needed because the alternative forecast overstates the effects of the border security policy on full-employment GDP. It does so because the labor supply variables in the GI model are functions of the total population aged 16 to 64 years. In the alternative forecast, they move almost one-for-one with the simulated change in the population. However, we assume a labor force participation rate for unauthorized migrants of only around 64.9 percent.

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<sup>29</sup> This 0.4 percent drop in wage rates assumes that private saving and capital flows do not adjust fully to the additional supply of labor (what CBO calls its low investment assumption). CBO assumes that wage rates remain at base levels if private saving and capital flows adjust fully.

<sup>30</sup> We also exclude the GI model's stochastic variable for real federal defense consumption of fixed capital (GFMLCKFR). The GI translator indicates that the proposed border security policy does not affect nominal federal outlays for defense consumption of fixed capital. However, GFMLCKFR is excluded in Step 1 to hold real federal outlays for the same at baseline levels throughout the simulation.

<sup>31</sup> Before solving, we exclude the GI model variable TXBASEF to hold the federal personal income tax base at baseline levels. The GI model implies counterintuitive changes in the federal personal income tax base and, thus, in the disposable income and personal consumption if we do not exclude TXBASEF in Step 1 of the simulation.

To compensate, two stochastic variables are excluded in Step 2—the full-employment labor force and the actual labor force aged 16 to 64 years. The forecast levels of both labor supply variables are replaced with alternatives that are consistent with our projections of the impact of the proposed border security policy on the unauthorized migrant worker population.

Before solving the alternative (non-baseline) GI model from Step 1, we first exclude a second set of stochastic variables related to labor—billions of hours in private non-farm establishments and total non-farm payrolls. We do so to hold both stochastic variables and their subcomponents<sup>32</sup> at levels that are consistent the basic economic and budget effects of the proposed border security policy simulated in Step 1.

We solve the alternative GI model from Step 1 after inputting all changes in the GI model's labor supply variables. We save the simulation results as a new alternative (non-baseline) forecast and continue to Step 3.

*Step 3.* We next adjust the balance between personal consumption and saving in the alternative forecast from Step 2. Our simulations assume that the households most affected by the proposed border security policy (low earners) are likely to save at low rates. Saving responses in the GI model can be problematic if the policy being considered is likely to impact households whose saving rates vary from the average for the population as a whole.<sup>33</sup> If the saving response is not managed, the change in real personal consumption can easily outstrip the change in real disposable income. The result is an unrealistic change in real personal saving and the personal saving rate.

For example, for the simulations summarized in the paper, real disposable personal income declines an average of \$28.9 billion in 2016. However, real personal consumption climbs an average of \$2.7 billion, and real personal saving drops an average of \$49.8 billion, from -\$65.1 billion to -\$114.9 billion. Concomitantly, the personal saving rate slips from -0.6 percent to -1.1 percent of personal disposable personal income.

We add factor the GI model's stochastic variable for disposable income less free financial services and government medical payments (YPDADJ) to shift the balance between personal consumption and saving. Doing so reduces the simulated level of personal consumption and increases the simulated level of personal saving. The economic and budget effects of the proposed border security policy will change as the balance between personal consumption and personal saving changes. This is because the GI model is a macroeconometric model. Thus, GDP, income, employment, etc. will be sensitive to the

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<sup>32</sup> We also exclude and hold at baseline levels a number of “temporary” stochastic variables used to determine sectoral employment levels. Those variables include tenrm21, tecon, tenrm1133, tewst42, teret441, teret447, teret445, tereto, tetaw, teuti22, teinf511, teinfo, tefin52, tefin53, tepbs54, tepbs55, tepbs5613, tepbs560, teehs61, teehs62, telhs71, telhs72, teots, temd321, temd327, temd331, temd332, temd333, temd334, temd335, temd336, temd337, temd339, temn312, temn313, temn314, temn315, temn316, temn322, temn323, temn324, temn325, temn326, and temn311.

<sup>33</sup> The same problem can arise when simulating cuts in taxes on individual capital gains realizations. In this case, one could assume that the households primarily affected by tax cut would have personal saving rates that exceed a national average.

short-run effects of policy (and model other) changes on disposable income and personal consumption.

We iteratively solve the alternative GI model from Step 2 using different values for the add factor on YPDADJ. We save the simulation results as a new alternative (non-baseline) forecast and continue to Step 4 only when the proposed border security policy has a negligible impact on the aggregate personal saving rate. Specifically, we target a change in the personal saving rate (from baseline levels) of roughly 0.01 or slightly less in absolute value.<sup>34</sup> Finding the add factors that yields this outcome is a time consuming process.

*Step 4.* We complete the simulations by re-including all GI model variables that were excluded in Steps 1 through 3. We then solve the alternative GI model from Step 3 but when doing so limit ourselves to calculating new implicit add factors for those stochastic variables that were excluded. The resulting alternative (non-baseline) forecast gives the economic and fiscal effects of the proposed border security policy discussed in the next section.

### Economic and Fiscal Effects Stronger Border and Internal Security Policies

We assume that stronger border and internal security policies are implemented in the first quarter of 2007. Our main case assumes that these policies reduce the inflow of new unauthorized migrants by 60 percent and the number of settled unauthorized migrants by 50 percent. By 2016, we project that the border security policy if effectively enforced removes about 6.4 million unauthorized migrant workers from the labor force, or almost 4.1 percent of the projected baseline total labor force aged between 16 and 64 years.<sup>35</sup>

Our simulation results (summarized in Tables 4, 5 and 6) indicate that the overall losses to the economy of adopting stronger border and internal security policies would be considerable. Between 2007 and 2016, total non-farm payrolls are down an average of nearly 2.1 million jobs annually, and real (inflation-adjusted) gross domestic product (GDP) slips an average of roughly 0.4 percent below projected baseline levels. Real non-residential investment accounts for roughly half of that drop in real GDP, slipping an average of just over 1.5 percent, or about \$30 billion, below baseline levels. The resulting decline in the potential capital stock, when combined with the removal of a sizeable share of the potential (full-employment) labor force, diminishes the economy's long-run productive capacity. By 2016, potential GDP is 2.8 percent off baseline levels. Annually, it is an average of 1.3 percent off baseline levels over 10 years.

<Table 4 about here.>

**Short-run Aggregate Demand Effects.** The economic effects of removing unauthorized migrant workers from the labor force are not as severe over the first 5 years

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<sup>34</sup> In Step 3, we prefer a slight increase in personal saving to a slight decrease.

<sup>35</sup> The proposed border security policy is assumed to reduce the full-employment civilian labor force and the actual civilian labor force aged between 16 and 64 years by equal amounts. In our simulations, unauthorized migrant workers make up approximately 5 of both the total civilian labor force and the civilian labor force aged between 16 and 64 years in 2006.

the border security policy is in place. This is because the border security policy is phased in over a 3 year period ending in 2009. Over the first 2 years, the reduction in the annual inflow of new authorized migrants is less than the 300,000—and the reduction in the total number of settled unauthorized migrants is less than the 6 million—assumed under full implementation of the proposed border security policy (see Table 1). No reduction in either the inflow of new unauthorized migrants or the number of settled unauthorized migrants is assumed until 2008. The total labor force aged between 16 and 64 years declines in 2007 only because roughly 24.1 percent of new unauthorized arrivals are assumed to return home within the first year of entering the U.S. illegally.

This phase in of the border security policy is evident in a number of macroeconomic indicators. For example, the civilian unemployment rate changes little in 2007 and 2008 and is less than a third of a percentage point below baseline levels in 2009. It drops an average of only half a percentage point annually between 2007 and 2011. Total non-farm employment and real GDP similarly hover near baseline levels in 2007. Total job losses average less than 1.6 million annually between 2007 and 2011. Real GDP declines an average less than 0.2 percent annually over the same period.

Real personal consumption and real non-residential investment overwhelmingly account for any GDP losses over the first 5 years. In the GI model, changes in real personal consumption, which average around -0.2 of a percentage point between 2007 and 2011, are in large part the product of changes in real disposable personal income.

The border security policy does not affect all components of disposable personal income equally. Real wage and salary incomes are lower. This is because a small increase in the Employment Cost Index (ECI) for private-sector wages and salaries is offset by an overall decrease in hours worked in private non-farm establishments.<sup>36</sup> Thus, those with jobs may earn slightly more. But the overall wage bill declines because the number of labor hours demanded is lower. The decline in the number of labor hours demanded in private non-farm establishments primarily reflects the border security policy's removal of unauthorized migrant worker households from the total population.

On the other hand, real personal interest income is higher. Higher personal interest income is largely the result of the assumption made about how the Federal Reserve responds to the economic effects of the border security policy. In these simulations, the Federal Reserve is assumed to adjust the federal funds rate in response to changes in the rate of civilian unemployment and the rate of consumer price index (CPI) inflation.<sup>37</sup> Changes in the

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<sup>36</sup> The small increase in the ECI for private sector wages and salaries reflects a slight increase in wage rates that is imposed as part of the simulation. That slight increase in wage rates is calculated by multiplying an elasticity for the demand for labor by a projected (net) reduction in unauthorized migrant workers under the border security policy. The ECI for total private compensation is also higher under the proposed border security policy. However, the percent increase in the ECI for private sector wages and salaries exceeds the simulated percent increase in ECI for total private compensation. This is because of a slight reduction in the ECI for private-sector benefits under the proposed border security policy.

<sup>37</sup> The Federal Reserve Board is assumed to follow historic patterns of behavior. We implement this assumption in the Global Insight model using an econometrically-estimated function that adjusts the effective interest rate on federal funds in response to changes in the unemployment rate and the rate of CPI inflation. Alternatively, we could assume a passive Federal Reserve. A passive Federal Reserve would allow the federal funds rate to adjust endogenously with non-borrowed reserves.

rate of CPI inflation are minimal between 2007 and 2016. However, changes in the civilian unemployment rate are substantial because reductions in the size of the civilian labor force exceed (in absolute value) employment losses by an average of nearly 40 percent over the first 5 years and 50 percent over 10 years.<sup>38</sup>

This means that even within the first 5 years the interest rate effects of adopting the border security policy are noticeable. Between 2007 and 2011, the Federal Reserve raises the federal funds rate an average of well over half a percentage point. Concomitantly, the 3-month Treasury bill rate climbs an average of around half a percentage point, the 10-year Treasury bond rate an average of just under a third of a percentage point, and the triple-A corporate bond rate an average of just over 0.4 of a percentage point. By 2011, the federal funds rate is 6.1 percent—more than 1.4 percentage points above a baseline neutral rate of roughly 4.7 percent. In the same year, the triple-A corporate bond rate is 7.7 percent—more than 0.8 of a percentage point above its baseline level.

Higher interest rates have competing economic effects. They help boost real personal interest income and hence real personal consumption. Between 2011 and 2013, the federal funds rate is anywhere from about 1.4 percentage points to almost 1.7 percentage points above its baseline neutral rate. Over the same period, gains in real personal interest income offset losses in other components of disposable personal income, including real non-farm proprietors' income and real personal dividend income, and help put real personal consumption just above baseline levels.<sup>39</sup>

It is frequently the case that investment spending by businesses reinforces gains in household consumption. However, in our simulations, higher interest rates also raise the cost of funds for new investment spending by businesses. In 2011, the cost of capital to business is almost 3.5 percent above baseline levels. It climbs even further above baseline levels in every quarter that follows, driven by double digit percent increases in the cost of debt capital.<sup>40</sup> As a result, the impact of higher interest rates on real non-residential investment is more pronounced in the final 5 years of the simulation.

Reductions in real personal consumption and real non-residential investment are not offset by gains in real government consumption.<sup>41</sup> Adopting the border security policy requires roughly \$25 billion (excluding non-defense gross investment) in new federal spending between 2007 and 2016.<sup>42</sup> That new federal spending is directed primarily toward non-defense personnel outlays (wages and salaries), non-defense (other) consumption of goods and services, and federal grants in aid to state and local governments.

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<sup>38</sup> The civilian unemployment rate is calculated using the GI model's variable for employment as measured by the household survey, not the GI model's variable for total non-farm payrolls.

<sup>39</sup> Real wage and salary income is slightly above baseline levels between the fourth quarter of 2010 and the first quarter of 2013. This is in large part because reductions in the number of hours worked in private non-farm establishments are offset by increases in the ECI for private sector wages and salaries over this period.

<sup>40</sup> In comparison, the cost equity capital is little changed from baseline levels.

<sup>41</sup> Both real residential investment and real net exports contribute very little to the overall change in real GDP from baseline levels over 10 years.

<sup>42</sup> Tables 5 and 6 report a change in national income and product accounts (NIPA) federal spending of \$28.4 billion over 10 years. That \$28.4 billion includes roughly \$3.6 billion allocated to non-defense gross investment.

However, it is offset by much larger cuts in personnel outlays by state and local governments. The GI-model forecast that we use as the starting point for these simulations assumes that state and local governments are generally subject to balanced budget requirements. Simulations run using this forecast adjust state and local government outlays if lower levels of GDP and incomes reduce the level of state and local government current receipts.<sup>43</sup> They do so to keep state and local government budgets roughly in slight surplus or deficit positions.

In the GI model, this means a cut in spending on wages and salaries for personnel. Thus, real federal purchases of goods and services are between 0.2 and 0.3 percent higher in every year between 2008 and 2016. However, real state and local consumption purchases (including consumption of fixed capital, consumption of goods and services, and personnel outlays) fall approximately 1 percent in almost every quarter over the same period. Declines in state and local outlays for personnel are largely responsible.

Between 2012 and 2016, the border security policy is fully phased in and the economic effects of removing unauthorized migrant workers from the labor force are more pronounced. Real GDP is an average almost 0.6 percent, or \$86 billion, below baseline levels annually. Real personal consumption is an average of nearly 0.1 percent, or over \$9 billion, lower. However, an average of nearly 2 percent, or over \$40 billion, in baseline real non-residential investment is lost annually. Total non-farm employment is off by an average of over 2.6 million jobs, although the size of the civilian labor force falls sufficiently to keep the unemployment rate well over 1 percentage point below baseline levels.

Long-run Potential Output Effects. The border security policy also depresses the economy's long-run potential (see Table 5). In our simulation, the potential labor force shrinks by an average of 4.5 million workers between 2007 and 2016 and by an average of over 5.8 million workers between 2012 and 2016. Losses in the potential capital stock attributable to declines in real non-residential investment compound the effects of the border security policy on the potential supply of labor. Economic theory suggests, everything else being equal, that over time we would expect lower labor productivity and real wages. Between 2007 and 2016, potential GDP is annually an average of 2 percent below baseline levels. Between 2012 and 2016, when the border security policy is fully phased in, it is an average of 2.6 percent below baseline levels.

<Table 5 about here.>

Fiscal Effects. The border security policy yields a slight deterioration of the federal government's fiscal position (see Table 6). It adds almost \$312 billion to the unified deficit over 10 years. Concomitantly, privately-held debt as a share of GDP rises slightly, from an average of 34.1 percent of GDP under baseline to 34.8 percent of GDP under the border security policy.

On the spending side, federal Medicare and Social Security payments are lower. In fact, declines in federal Medicare and Social Security payments are within \$2.6 billion of offsetting the new federal spending (\$24.8 billion) needed to implement the border security

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<sup>43</sup> State and local transfer payments to individuals are slightly lower under the proposed border security policy.

policy between 2007 and 2016. However, government interest payments increase almost \$210 billion over the same period. Taking into account other changes in federal expenditures, the total increase in unified (budget) outlays is over \$185 billion over 10 years.

On the revenue side, federal payroll taxes are almost \$93 billion dollars lower as a result of the border security policy's effects on the civilian labor force and non-farm payrolls. Federal corporate income tax collections also fall. However, federal personal income tax revenues are little changed. This is primarily because the households affected by the border security policy—either those being removed from the tax base or those remaining to benefit from slightly higher wages and salaries—are likely to be low earners and are therefore unlikely to pay a significant amount of federal personal income tax. Overall, total unified tax revenues are over \$125 billion lower as a result of implementing the border security policy.

<Table 6 about here.>

**Sensitivity Analysis.** We conducted some sensitivity analysis of the results reported in Table 4. Specifically, we considered alternative assumptions about monetary policy and the effectiveness of the border security policy.

Beginning with the latter, the simulation results summarized above assume a 60 percent reduction in new unauthorized arrivals and a 50 percent reduction in settled unauthorized migrants. We also considered alternative border security policies, reducing either the number of new unauthorized arrivals by 80 percent or the number of settled unauthorized migrants by 25 percent. Specifically, we considered:

- a 60 percent reduction in new unauthorized arrivals and a 25 percent reduction in settled unauthorized migrants,
- a 80 percent reduction in new unauthorized arrivals and a 50 percent reduction in settled unauthorized migrants,
- a 80 percent reduction in new unauthorized arrivals and a 25 percent reduction in settled unauthorized migrants.

In general, our results were most sensitive to the assumption made about the reduction in *settled* unauthorized migrants. They varied little in response to changes in the assumption made about the reduction in *new* unauthorized arrivals (see Tables 7, 8, and 9).

We also tested the sensitivity of our results to our assumption about monetary policy. We initially suspected that the simulation results may be sensitive to whether we assumed an active or a passive Federal Reserve. We therefore ran some early simulations assuming a passive Federal Reserve. A passive Federal Reserve here is one that does not actively adjust the federal funds rate in response to changes in the unemployment rate and the rate of CPI inflation. Instead it allows the federal funds rate to adjust endogenously with non-borrowed reserves.<sup>44</sup>

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<sup>44</sup> Thus, the GI model's federal funds reaction function lever is set to 0.

The change in the federal funds rate and, hence, the 3-month Treasury bill rate and the 10-year Treasury bond rate was much smaller in these simulations than if the Federal Reserve was assumed to follow a Taylor rule.<sup>45</sup> The economic and budget effects of the proposed border security policy were in turn much smaller and in some cases changed sign. After some consultation with GI, we concluded that the movements in the interest rates were too small and assumed a more active Federal Reserve in our simulations.

<Tables 7, 8, and 9 about here.>

## Conclusion

While no macroeconomic model ever captures all of the economic and fiscal effects of policy change, the results of our simulations using the Global Insight U.S. Macroeconomic Model appear to confirm what most economists would expect. Significantly reducing the number of undocumented migrant workers without a complementary increase in migrants with work visas comes at an economic cost.

We simulate a policy that limits cross-border access to the U.S. and deports a high percentage of resident undocumented workers. The result is a substantial drop in the size of the total US labor force aged between 16 and 64 years and a reduction in the level and pace of overall economic activity. Specifically, we simulate:

- Nearly a full percentage point or more decline in the unemployment rate in every year following full implementation of the stronger border and internal security policies.
- A drop in non-farm employment of almost 4 million in 2016
- Slightly lower real personal consumption on average over the 10-year period.
- An overall decline in the wages and salaries.
- A decline in real GDP of over \$180 billion by 2016;
- A decline in non-residential investment of \$60 billion by 2016.
- A decline in the economy's stock of productive capital and long-run potential output.
- Deterioration in the government's fiscal position. Outlays fall for those public services that undocumented workers and their families would use. However, a slower economy implies a larger drop in federal tax revenues.

Adding a temporary worker program to the Secure Border legislation could help offset the adverse economic effects of stronger border and internal security policies. As a result, we would likely see the simulated economy perform at something closer to the level and pace of the baseline economy.

Policy makers also should appreciate that analysis of likely policy changes that use economic models only indicate the range and direction of economic effects that their policy moves may produce. They do not exhaust the number or variety of economic and social consequences of policy change.

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<sup>45</sup> In some cases, the federal funds rate did not deviate significantly from baseline levels.

Even so, the messages of model based analysis should not be ignored simply because the models are limited in scope. Models like the one employed in this *Report* reflect mainstream economic theory and econometric research. Our use of this model speaks to the central economic questions before members of Congress as they debate the future of immigration policy, though we do not answer either completely: What are the economic effects of a border and work-place security program that lacks a true temporary worker element and how many new workers are needed to offset the adverse effects that occurs without them?

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Table 1.

Table A1: 50% Reduction in Settled Unauthorized Migrants and 60% Reduction in Inflow of New Unauthorized Migrants

| Year | Baseline                        |               |  | Impact of Increased Border and Internal Security |                          |   |                               |   |                                    |           | Total Unauthorized Migrant Workforce | Reduction in Unauthorized Migrant Workforce |
|------|---------------------------------|---------------|--|--|--------------------------|---|-------------------------------|---|------------------------------------|-----------|--------------------------------------|---|
|      | Unauthorized Migrant Population | Annual Growth | Unauthorized Migrant Worker Population | Decrease in Inflow of All Unauthorized Migrants  | Return Migration Outflow | Net change in New Unauthorized Migrants | Settled unauthorized migrants | Total Settled and New Unauthorized Migrants | Reduction in Unauthorized Migrants |           |                                      |   |
| 2006 | 12,000,000                      |               | 7,788,000                              |  |                          |   |                               | 12,000,000                                  | 0                                  | 7,788,000 |                                      |   |
| 2007 | 12,500,000                      | 500,000       | 8,112,500                              | 500,000  | 120,500                  | 379,500                                 | 12,000,000                    | 12,379,500                                  | 120,500                            | 8,034,296 |                                      |   |
| 2008 | 13,000,000                      | 500,000       | 8,437,000                              | 316,288  | 76,225                   | 240,063                                 | 8,485,281                     | 8,725,344                                   | 4,274,656                          | 5,662,748 | 2,773,596                            |   |
| 2009 | 13,500,000                      | 500,000       | 8,761,500                              | 200,000  | 48,200                   | 151,800                                 | 6,000,000                     | 6,151,800                                   | 7,348,200                          | 3,992,518 | 4,768,982                            |   |
| 2010 | 14,000,000                      | 500,000       | 9,086,000                              | 200,000  | 48,200                   | 151,800                                 | 6,000,000                     | 6,303,600                                   | 7,696,400                          | 4,091,036 | 4,994,964                            |   |
| 2011 | 14,500,000                      | 500,000       | 9,410,500                              | 200,000  | 48,200                   | 151,800                                 | 6,000,000                     | 6,455,400                                   | 8,044,600                          | 4,189,555 | 5,265,045                            |   |
| 2012 | 15,000,000                      | 500,000       | 9,735,000                              | 200,000  | 48,200                   | 151,800                                 | 6,000,000                     | 6,607,200                                   | 8,392,800                          | 4,288,073 | 5,404,127                            |   |
| 2013 | 15,500,000                      | 500,000       | 10,059,500                             | 200,000  | 48,200                   | 151,800                                 | 6,000,000                     | 6,759,000                                   | 8,741,000                          | 4,386,591 | 5,372,409                            |   |
| 2014 | 16,000,000                      | 500,000       | 10,384,000                             | 200,000  | 48,200                   | 151,800                                 | 6,000,000                     | 6,910,800                                   | 9,089,200                          | 4,485,109 | 5,434,091                            |   |
| 2015 | 16,500,000                      | 500,000       | 10,708,500                             | 200,000  | 48,200                   | 151,800                                 | 6,000,000                     | 7,062,600                                   | 9,437,400                          | 4,583,627 | 6,154,773                            |   |
| 2016 | 17,000,000                      | 500,000       | 11,033,000                             | 200,000  | 48,200                   | 151,800                                 | 6,000,000                     | 7,214,400                                   | 9,785,600                          | 4,682,146 | 6,551,254                            |   |

Source: Center for Data Analysis, The Heritage Foundation

Table 2.  
Change in Federal Outlays by Budget Function, Millions of Dollars

| FY    | Social Security<br>(650) | Administration of<br>Justice (750) | Total    |
|-------|--------------------------|------------------------------------|----------|
| 2006  | 7.8                      | 148.2                              | 156.0    |
| 2007  | 45.5                     | 966.0                              | 1,011.5  |
| 2008  | 29.0                     | 2,649.6                            | 2,678.6  |
| 2009  | 58.9                     | 2,910.1                            | 2,969.0  |
| 2010  | 45.5                     | 3,032.7                            | 3,078.3  |
| 2011  | 47.8                     | 3,227.4                            | 3,275.3  |
| 2012  | 50.1                     | 3,302.1                            | 3,352.3  |
| 2013  | 52.4                     | 2,932.7                            | 2,985.1  |
| 2014  | 55.2                     | 2,863.8                            | 2,919.0  |
| 2015  | 58.0                     | 2,948.0                            | 3,006.0  |
| 2016  | 60.7                     | 3,032.3                            | 3,093.0  |
| Total | 511.1                    | 28,012.9                           | 28,524.0 |

Notes: FY = fiscal year

Source: Center for Data Analysis, The Heritage Foundation

Table 3.  
Change in NIPA Federal Spending Variables, Millions of Dollars

| FY    | Non-defense<br>Consumption<br>Spending | Transfers to<br>Residents and the<br>Rest of the World | Federal Grants-in-<br>Aid to State & Local<br>Government | Non-defense Gross<br>Investment | Total    |
|-------|--|--|--|---------------------------------|----------|
| 2006  | 115.7                                  | 7.2  | 13.9   | 19.2                            | 156.0    |
| 2007  | 754.1                                  | 42.0   | 90.2   | 125.2                           | 1,011.5  |
| 2008  | 2,069.7                                | 26.8   | 238.3  | 343.8                           | 2,678.6  |
| 2009  | 2,272.8                                | 54.4   | 264.3  | 377.6                           | 2,969.0  |
| 2010  | 2,368.8                                | 42.1   | 273.9  | 393.5                           | 3,078.3  |
| 2011  | 2,520.9                                | 44.2   | 291.4  | 418.8                           | 3,275.3  |
| 2012  | 2,579.2                                | 46.3   | 298.3  | 428.5                           | 3,352.3  |
| 2013  | 2,290.5                                | 48.4   | 265.7  | 380.5                           | 2,985.1  |
| 2014  | 2,236.7                                | 51.0   | 259.8  | 371.6                           | 2,919.0  |
| 2015  | 2,302.4                                | 53.5   | 267.5  | 382.5                           | 3,006.0  |
| 2016  | 2,368.2                                | 56.1   | 275.3  | 393.4                           | 3,093.0  |
| Total | 21,878.9                               | 472.1  | 2,538.5  | 3,634.5                         | 28,524.0 |

Notes: NIPA = national income and product accounts; FY = fiscal year

Source: Center for Data Analysis, The Heritage Foundation

Table 4.  
Economic Effects of a 60 Percent Reduction in New Unauthorized Arrivals and a 50 Percent Reduction in Settled Unauthorized Migrants

|  | (Fiscal Year Averages)          |           |             |
|--|---------------------------------|-----------|-------------|
|  | 2007-2011                       | 2012-2016 | 2007 - 2016 |
| <b>Gross Domestic Product</b>            |                                 |           |             |
| Forecast                                 | 12,616.5                        | 14,420.6  | 13,518.5    |
| Baseline                                 | 12,637.4                        | 14,506.2  | 13,571.8    |
| Difference                               | -21.0                           | -85.6     | -53.3       |
|  | -0.2                            | -0.6      | -0.4        |
| <b>Total Employment</b>                  |                                 |           |             |
|  | In Thousands of Jobs            |           |             |
| Forecast                                 | 140,033.5                       | 145,062.9 | 142,548     |
| Baseline                                 | 141,590.7                       | 147,672.3 | 144,632     |
| Difference                               | -1557.3                         | -2609.5   | -2,083      |
| <b>Unemployment Rate</b>                 |                                 |           |             |
|  | Percent of Civilian Labor Force |           |             |
| Forecast                                 | 4.6                             | 4.0       | 4.3         |
| Baseline                                 | 5.1                             | 5.2       | 5.2         |
| Difference                               | -0.5                            | -1.2      | -0.8        |
| <b>Disposable Personal Income</b>        |                                 |           |             |
| Forecast                                 | 9,181.6                         | 10,333.3  | 9,757.5     |
| Baseline                                 | 9,197.8                         | 10,324.8  | 9,761.3     |
| Difference                               | -16.2                           | 8.5       | -3.8        |
| <b>Personal Consumption Expenditures</b> |                                 |           |             |
| Forecast                                 | 8,861.6                         | 10,001.7  | 9,431.7     |
| Baseline                                 | 8,879.1                         | 10,011.1  | 9,445.1     |
| Difference                               | -17.5                           | -9.3      | -13.4       |
|  | -0.2                            | -0.1      | -0.1        |

Notes: All forecast and baseline levels are shown in billions of inflation-adjusted dollars (indexed to the 2000 price level) unless otherwise indicated. Baseline levels are consistent with the Congressional Budget Office's January 2006 baseline economic and budgetary projections.

Source: Center for Data Analysis, The Heritage Foundation

Table 4.  
Economic Effects of a 60 Percent Reduction in New Unauthorized Arrivals and a 50 Percent Reduction in Settled Unauthorized Migrants, Cont'd.

|  | (Fiscal Year Averages)       |           |             |
|--|------------------------------|-----------|-------------|
|  | 2007-2011                    | 2012-2016 | 2007 - 2016 |
| <b>Gross Private Domestic Investment</b> |                              |           |             |
| Forecast                                 | 2,245.8                      | 2,712.0   | 2,478.9     |
| Baseline                                 | 2,259.2                      | 2,749.1   | 2,504.2     |
| Difference                               | -13.4                        | -37.1     | -25.3       |
| <b>Non-Residential Investment</b>        |                              |           |             |
| Forecast                                 | 1,668.2                      | 2,118.9   | 1,893.6     |
| Baseline                                 | 1,683.9                      | 2,161.1   | 1,922.5     |
| Difference                               | -15.7                        | -42.2     | -28.9       |
| <b>Consumer Price Index</b>              |                              |           |             |
|  | Percent Change from Year Ago |           |             |
| Forecast                                 | 2.1                          | 2.2       | 2.1         |
| Baseline                                 | 2.2                          | 2.2       | 2.2         |
| Difference                               | -0.1                         | 0.0       | 0.0         |
| <b>Treasury Bill, 3 Month</b>            |                              |           |             |
|  | Annualized Percent           |           |             |
| Forecast                                 | 4.9                          | 5.5       | 5.2         |
| Baseline                                 | 4.4                          | 4.4       | 4.4         |
| Difference                               | 0.5                          | 1.1       | 0.8         |
| <b>Treasury Bond, 10 Year</b>            |                              |           |             |
|  | Annualized Percent           |           |             |
| Forecast                                 | 5.5                          | 5.7       | 5.6         |
| Baseline                                 | 5.2                          | 5.2       | 5.2         |
| Difference                               | 0.3                          | 0.5       | 0.4         |
| <b>Federal Funds Rate</b>                |                              |           |             |
|  | Annualized Percent           |           |             |
| Forecast                                 | 5.2                          | 6.0       | 5.6         |
| Baseline                                 | 4.6                          | 4.7       | 4.6         |
| Difference                               | 0.5                          | 1.3       | 0.9         |

Notes: All forecast and baseline levels are shown in billions of inflation-adjusted dollars (indexed to the 2000 price level) unless otherwise indicated. Baseline levels are consistent with the Congressional Budget Office's January 2006 baseline economic and budgetary projections.

Source: Center for Data Analysis, The Heritage Foundation

Table 5.  
Effects of a 60 Percent Reduction in New Unauthorized Arrivals and a 50 Percent Reduction in Settled Unauthorized Migrants on Potential GDP

|                                      | <b>(Fiscal Year Averages)</b> |                |                |
|--------------------------------------|-------------------------------|----------------|----------------|
|                                      | <b>2007-11</b>                | <b>2012-16</b> | <b>2007-16</b> |
|                                      | <b>Percent Change</b>         |                |                |
| <b>Full Employment GDP</b>           | -1.3                          | -2.6           | -2.0           |
|                                      | <b>In Thousands of Jobs</b>   |                |                |
| <b>Full Employment Labor Force</b>   | -3,302                        | -5,842         | -4,572         |
|                                      | <b>Percent Change</b>         |                |                |
| <b>Full Employment Capital Stock</b> | -0.3                          | -1.1           | -0.7           |

Notes: GDP = gross domestic product. All results are shown as differences from the Congressional Budget Office's January 2006 baseline economic and budgetary projections.

Source: Center for Data Analysis, The Heritage Foundation

Table 6.  
Fiscal Effects of a 60 Percent Reduction in New Unauthorized Arrivals and a 50 Percent Reduction in Settled Unauthorized Migrants

|  | (Fiscal Year Totals) |           |             |
|--|----------------------|-----------|-------------|
|  | 2007-2011            | 2012-2016 | 2007 - 2016 |
| <b>Unified Federal Tax Revenue</b>   |                      |           |             |
| Forecast   | 13,802.8             | 18,567.6  | 32,370.5    |
| Baseline   | 13,822.4             | 18,673.4  | 32,495.8    |
| Difference   | -19.6                | -105.8    | -125.4      |
| <b>Unified Federal Spending</b>  |                      |           |             |
| Forecast   | 14,969.6             | 18,543.7  | 33,513.3    |
| Baseline   | 14,929.0             | 18,398.0  | 33,327.0    |
| Difference   | 40.6                 | 145.7     | 186.3       |
|  |                      |           | 0.559       |
| <b>Unified Federal Surplus/Deficit</b>                                     |                      |           |             |
| Forecast   | -1,166.8             | 24.0      | -1,142.8    |
| Baseline   | -1,106.6             | 275.4     | -831.2      |
| Difference   | -60.2                | -251.5    | -311.7      |
| <b>Privately Held Federal Debt Share (% of GDP)</b> (Fiscal Year Averages) |                      |           |             |
| Forecast   | 37.0                 | 32.5      | 34.8        |
| Baseline   | 36.7                 | 31.4      | 34.1        |
| Difference   | 0.3                  | 1.1       | 0.7         |

Notes: GDP = gross domestic product. Baseline and forecast levels are given in billions of dollars (not adjusted for inflation) unless otherwise indicated. Baseline levels are consistent with the Congressional Budget Office's January 2006 baseline economic and budgetary projections.

Source: Center for Data Analysis, The Heritage Foundation

Table 7.  
Economic Effects of a 60 Percent Reduction in New Unauthorized Arrivals and a 50 Percent Reduction in Settled Unauthorized Migrants

|  | (Fiscal Year Averages)                       |         |         |
|--|--|---------|---------|
|  | 2007-11                                      | 2012-16 | 2007-16 |
|  | <b>Percent</b>                               |         |         |
| <b>Real GDP</b>                          | -0.2   | -0.6    | -0.4    |
| <b>Disposable Personal Income</b>        | -0.2   | 0.1     | 0.0     |
| <b>Wages and Salaries</b>                | -0.4   | -0.5    | -0.5    |
| <b>Personal Consumption</b>              | -0.2   | -0.1    | -0.1    |
|  | <b>Percent of Disposable Personal Income</b> |         |         |
| <b>Personal Saving Rate</b>              | 0.0  | 0.0     | 0.0     |
|  | <b>Percent of Civilian Labor Force</b>       |         |         |
| <b>Unemployment Rate</b>                 | -0.5   | -1.2    | -0.8    |
|  | <b>In Thousands of Jobs</b>                  |         |         |
| <b>Total Employment</b>                  | -1,557                                       | -2,609  | -2,083  |
|  | <b>Percent Change</b>                        |         |         |
| <b>Gross Private Domestic Investment</b> | -0.6   | -1.4    | -1.0    |
| <b>Non-Residential Investment</b>        | -0.9   | -2.0    | -1.5    |

Notes: CBO = Congressional Budget Office

Results shown in Table B3 are expressed as a change from CBO's January 2006 baseline economic and budgetary projections.

Source: Center for Data Analysis, The Heritage Foundation

Table 8.  
Economic Effects of a 60 Percent Reduction in New Unauthorized Arrivals and a 25 Percent Reduction in Settled Unauthorized Migrants

| (Fiscal Year Averages)                   |         |  |         |
|--|---------|--|---------|
|  | 2007-11 | 2012-16                                      | 2007-16 |
|  |         | <b>Percent</b>                               |         |
| <b>Real GDP</b>                          | -0.1    | -0.4   | -0.3    |
| <b>Disposable Personal Income</b>        | -0.1    | -0.1   | -0.1    |
| <b>Wages and Salaries</b>                | -0.3    | -0.5   | -0.4    |
| <b>Personal Consumption</b>              | -0.1    | -0.2   | -0.2    |
|  |         | <b>Percent of Disposable Personal Income</b> |         |
| <b>Personal Saving Rate</b>              | 0.0     | 0.0  | 0.0     |
|  |         | <b>Percent of Civilian Labor Force</b>       |         |
| <b>Unemployment Rate</b>                 | -0.3    | -0.7   | -0.5    |
|  |         | <b>In Thousands of Jobs</b>                  |         |
| <b>Total Employment</b>                  | -974    | -1,974                                       | -1,474  |
|  |         | <b>Percent Change</b>                        |         |
| <b>Gross Private Domestic Investment</b> | -0.4    | -1.0   | -0.8    |
| <b>Non-Residential Investment</b>        | -0.6    | -1.3   | -1.0    |

Notes: CBO = Congressional Budget Office

Results shown in Table B4 are expressed as a change from CBO's January 2006 baseline economic and budgetary projections.

Source: Center for Data Analysis, The Heritage Foundation

Table 9.  
Economic Effects of an 80 Percent Reduction in New Unauthorized Arrivals

|                                   | <b>(Fiscal Year Averages)</b> |                |                |
|-----------------------------------|-------------------------------|----------------|----------------|
|                                   | <b>2007-11</b>                | <b>2012-16</b> | <b>2007-16</b> |
|                                   | <b>Percent</b>                |                |                |
| <b>Real GDP</b>                   |                               |                |                |
| <b>25 Percent</b>                 | -0.1                          | -0.5           | -0.3           |
| <b>50 Percent</b>                 | -0.2                          | -0.6           | -0.4           |
| <b>Disposable Personal Income</b> |                               |                |                |
| <b>25 Percent</b>                 | -0.1                          | -0.1           | -0.1           |
| <b>50 Percent</b>                 | -0.2                          | 0.1            | 0.0            |
| <b>Personal Consumption</b>       |                               |                |                |
| <b>25 Percent</b>                 | -0.1                          | -0.2           | -0.1           |
| <b>50 Percent</b>                 | -0.2                          | -0.1           | -0.1           |
|                                   | <b>In Thousands of Jobs</b>   |                |                |
| <b>Total Employment</b>           |                               |                |                |
| <b>25 Percent</b>                 | -1,005                        | -2,102         | -1,553         |
| <b>50 Percent</b>                 | -1,586                        | -2,703         | -2,145         |
|                                   | <b>Percent</b>                |                |                |
| <b>Full Employment GDP</b>        |                               |                |                |
| <b>25 Percent</b>                 | -0.8                          | -1.8           | -1.3           |
| <b>50 Percent</b>                 | -1.3                          | -2.7           | -2.0           |

Notes: CBO = Congressional Budget Office

Results shown in Table B5 are expressed as a change from CBO's January 2006 baseline economic and budgetary projections.

Source: Center for Data Analysis, The Heritage Foundation