EXHIBIT 4

The Impact of Immigration on U.S. Population Growth
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Abstract

The primary factor driving U.S. population growth is international migration. Immigrants from abroad add directly to the nation’s population by their arrival and by the children they have after they come. Because the fertility of American women has been at or below replacement level for many years — 2.1 children per woman — absent immigration there would be very little long-term population growth in the United States. Census Bureau projections published in 2014 indicate that, because of future immigration, the U.S. population will be 95 million larger in 2060 than it otherwise would be absent immigration. This report will demonstrate the enormous impact that immigration policy has had and will have on the future size of the U.S. population. It will also discuss how federal agencies might go about estimating the population impact of policy changes and comply with the National Environmental Policy Act.

Introduction

Immigration policy determines the number of immigrants admitted, as well as the level of resources devoted to controlling illegal immigration. There is no question that immigration policies have added enormously to the U.S. population. Census Bureau data indicates that more than one million new immigrants (legal and illegal) settle in the country each year, and that there are about 800,000 births to immigrants annual. Between just 2000 and 2014, the most recent year for which data is available, the United States gave 15.4 million immigrants permanent residency status (green cards). In addition, the United States admits long-term temporary visitors such as guest workers and foreign students; there is also illegal immigration. Moreover, there are changes in regulations and enforcement priorities that admit into the country people who would not otherwise be allowed in and allow others to stay who otherwise would leave. All of this adds to the size of the U.S. population.

It is possible to project the impact of policies and the level of immigration on the future size of the U.S. population. Projections by the U.S. Census and non-governmental organizations show the impact of immigration on future U.S. population growth. There is consensus among demographers that immigration is the primary factor driving future U.S. population growth. We can see the enormous impact of immigration by looking backward to estimate how much immigration has added to the U.S. population, and also by projecting its impact forward into the future. The Census Bureau uses the term “foreign born” for those who arrive in the United States and are not U.S. citizens at birth. The terms immigrant and foreign born are used synonymously in this report.
Analyzing Immigration’s Impact Retrospectively

**DHS Population Estimates.** Based primarily on administrative data, the Department of Homeland Security periodically puts out estimates of the number of immigrants of various kinds living in the United States. For example, DHS estimated in January 2013, that there were 13.1 million lawful permanent residents (green card holders) residing in the United States. In January 2012, DHS estimated there were 1.9 million “non-immigrants” living in the country — primarily guest workers and foreign students. The government uses the term “non-immigrant” to describe those entering or living in the country on temporary visas. Homeland Security has also estimated the number of illegal immigrants in the country. These estimates indicate that it is certainly possible to measure the number of temporary, permanent, and illegal immigrants in the country.

**The Impact of Recent Immigration.** A more comprehensive estimate of immigration’s impact on the size of the U.S. population would include not just the immigrants themselves but their descendants as well. The impact of recent immigration is readily apparent by examining Census Bureau data. In a forthcoming report, a colleague and I used the Bureau’s American Community Survey (ACS) to estimate that new immigration and births to immigrants added 8.3 million people to the country from 2010 to 2014. This was equal to 87 percent of U.S. population growth over this time period. This kind of analysis is straightforward and easy to calculate because the Census Bureau asks immigrants what year they came to the United States, and minor children generally live with their parents.

Taking a longer view, the Pew Research Center reported in 2015 that 72 million post-1965 immigrants and their children and grandchildren lived in the country, accounting for the majority of U.S. population growth in the last five decades. The nation’s total population would have been 252 million in 2015 rather than the 324 million it actually was had there been no immigration after 1965. One of the primary reasons that immigration added so much to the population was changes to immigration policies in the 1960s. These changes added enormously to the U.S. population.

Joseph Chamie, formerly of the United Nations Population Division, takes an even longer view and estimates that since 1776 immigration added about 176 million people to the U.S. population by 2006. Very long term retrospective analysis reminds us that the impact of immigration on population size can be truly enormous. Of course, there was a time when the native-born had large families, and as a result, immigration accounted for a modest share of population growth. In fact, because of the relatively low level of immigration from 1930 to 1970, the immigrant population actually declined by 4.6 million or 32 percent even though the overall U.S. population grew by two-thirds (80.4 million). But since the 1970s, the fertility of American women has been at or below the level needed to replace the existing population (2.1 children per women). And immigration levels have been much higher. As a result, immigration has come to account for all the long-term growth in the nation’s population.
Immigrants and their descendants in the country are here as a direct result of immigration policies of the past. In addition to examining the impact of past immigration, we can also project the impact of immigration to the future to see how much larger the U.S. population will be. This kind of analysis is probably the most relevant to National Environmental Policy Act.

Projecting the Impact of Immigration on the U.S. Population

Census Bureau Projections. The U.S. Census Bureau produces the most well-known and commonly cited population projections. In recent years, these projections have shown the population out to 2060. In 2012, the bureau published projections of the U.S. population and included different immigration scenarios. We can see the impact of immigration on the nation’s population size by examining the bureau’s “high” and “low” immigration projections. Their low scenario assumes net immigration of about 35 million between 2015 and 2060, and a total U.S. population in 2060 of 398.2 million. The high immigration scenario assumes net immigration of about 67 million by 2060, and projects a total population of 442.4 million. In sum, the high scenarios assumes net immigration that is 32 million more over a 45-year period than the low scenario, and this results in a U.S. population that 44.2 million larger in 2060 than the low projections.

Immigration’s impact is not simply additive because immigrants have children. The relatively high fertility of immigrants means they add more to the population than simply the number that arrive. In addition to fertility, projections also take into account the changing
composition of new immigrants, deaths, and outmigration. Different levels of immigration have profound and important impacts on the size of the U.S. population.

The most recent projections published by the Census Bureau are from 2014. Unfortunately, these projections do not include different immigration scenarios. However, as part of a continuing project, myself and several colleagues at Decision Demographics have replicated the Bureau's 2014 projections, which allows us to then vary the Bureau’s immigration assumptions and measure its impact.14 Figure 1 reports the Census Bureau baseline projection for 2014, and also what would happen if there was no immigration after 2015. In its 2014 projections, the Bureau assumes net immigration of 64.1 million from 2015 to 2060, producing a total U.S. population of 416.8 million. Keeping all other Census Bureau assumptions the same, except assuming zero net immigration, results in a U.S. population of 321.9 million in 2060 — a difference of 94.9 million between the two projections. This means immigration will add about 95 million people to the U.S. population by 2060. Although the Census Bureau made somewhat different assumptions in its population projections in 2014 compared to its 2012 projects, the impact of immigration is similar.

The bureau’s immigration assumptions are based partly on past trends, such as a slow steady increase in arrivals. They also use past patterns to estimates emigration rates as well.15 Included in the projections are the bureau's projections of changes in fertility and mortality as well. What is important to understand about Figure 1 is that the Census Bureau shows just how much immigration adds to the size of the U.S. population. If there were no immigration, the U.S. population would be significantly smaller in the future. In fact, without immigration in about two decades the U.S. population would stop increasing and then begin to decline very slightly. Immigration is the determinate factor in future U.S. population growth.

It is even possible to project the size of the U.S. population out longer than 45 years. If one takes the Census projections from 2014 and projects the population out to 2100 using the Bureau’s assumptions for 2060 carried out another 40 years, the nation’s population would reach 471.2 million in 2100 — 201 million more than if there was no immigration.

Incremental Increases in Immigration. There is no question that immigration adds to the U.S. population and we can estimate the incremental impact of immigration in the future. So, for example, if a regulatory change were to increase new arrivals by 5,000 people it is possible to estimate how much this would add to the population both short-term and long-term.

The top two rows of Table 1 report how many more people there would be in the United States if there was a one-time increase of 5,000 or 10,000 new immigrants. The first row of the table reads as follows, a onetime increase of 5,000 new immigrants entering the country would increase the population of the United States five years later by 5,763; by 7,610 in 25 years; and by 8,953 residents in 45 years. The second column in the table shows the impact of a one-time increase of 10,000 people. These figures are based on the Census Bureau assumptions about the demographic composition of immigrants who arrived in 2015, as well as mortality, deaths, and
outmigration. One way to think about the numbers is that for each immigrant admitted in 2015 it increases the size of the U.S. population by 1.5 residents in 25 years and 1.8 residents in 45 years. So for example if 100,000 additional immigrants were admitted in the first year, but only that year, it would result in about 180,000 more people in the country in 45 years.

The lower portion of the table shows the impact of 5,000 or 10,000 additional immigrants if that number is added every year. If, for example, an additional 5,000 immigrants were admitted every year as a result of a policy change, it would add nearly 335,000 additional residents to the U.S. population in 45 years. While the table uses the Census Bureau assumptions about the composition of future immigrants, it is certainly possible to change these assumptions to project the impact of a particular policy change.

Hispanics have somewhat higher fertility than other immigrant groups. So if the policy change might increase the share of immigrants who come from that region, then the projections can be adjusted to reflect this fact. Alternatively, if a regulatory change might result in additional immigrants who are young or more female those changes can be accounted for in a projection model as well. It is also possible to make projections assuming that a regulatory change might change out migration rates. All population projections make assumptions about the composition of immigrants, and these assumptions can be changed to reflect a policy change.

It would certainly be possible for federal agencies to create a population projection model and alter the parameters to estimate the population impact of different regulatory changes. The Census Bureau’s Population Division already has a model that they are regularly updating. Other parts of the federal government, such as the Congressional Budget Office and Social Security Administration, also project the population. Once a model is created, it is not that difficult to vary the demographics of the immigration component, and report the impact on the size of the nation’s population out to whatever year is desired. Projections of any kind, whether for the economy, a budget or the population, contain an element of uncertainty, but that does not negate their value.

**Conclusion**

That immigration adds to the U.S. population is not just common sense, it is undeniable based on the all the evidence. All of the evidence shows that it has accounted for the majority of U.S. population growth in recent years and will do so moving forward. Some immigrants come...
and some leave every year, but a very large number stay permanently and add to the population. For years, demographers have measured the impact of immigration on the size and composition of the U.S. population. In fact, there has never been more data available to do so than there is today. Projections are commonly used by both government and non-government researchers to estimate the future size of the U.S. population. It would be a relatively straightforward matter for federal agencies to use a projections model to estimate the impact of policy changes on immigration levels and the size of the U.S. population. The expertise to do so already exists inside the federal government. Once a model is created, it can be updated regularly and used to project the population impact of different federal policies.

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1 In 2014, the most recent year for which data is available, the public-use file of the American Community Survey showed that 782,814 immigrant women had children.
3 As defined by the Census Bureau, the foreign-born are those who are not U.S. citizens at birth and include legal permanent immigrants (green card holders), naturalized citizens, temporary visitors and illegal immigrants. It is well established that both legal and illegal immigrants respond to Census Bureau surveys.
7 The above figures do not include the 20 million naturalized U.S. citizens in the country based on the 2014 American Community Survey.
11 Census Bureau table, “Nativity of the Population and Place of Birth of the Native Population: 1850 to 1990” Source: U.S. Bureau of the Census
13 The Census Bureau’s 2012 projections, including their methodology can be found here. http://www.census.gov/population/projections/data/national/2012.html The summary tables including their high and low immigration series can be found here. http://www.census.gov/population/projections/data/national/2012/summarytables.html
Curriculum Vita

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EDUCATION:

University of Virginia  
Ph.D. Policy Analysis, May 1997

University of Michigan  
ICPSR Summer statistics program, 1994

University of Pennsylvania  
M.A. in Comparative Politics, August 1988

Juniata College  
Bachelor of Arts, May 1987

RELEVANT EMPLOYMENT:

Center for Immigration Studies  
Director of Research, 2000 to present  
Resident Scholar, 1996 to 2000

Census Bureau/Sabre Systems  
Lead Researcher evaluating data for the U.S. Census Bureau  
2000 to 2007

EXPERT WITNESS:

Fish v. Kobach, No. 2:16-cv-02105. I analyzed registration and voting data for the defendant — the Kansas Secretary of State — to deter the effect on of a proof-of-citizenship requirements pass in 2013 by the state. Also examined data presented by the plaintiff’s experts.

Civil Action No. 2:14-CV-00026-AM-CW American Civil Rights Union was the plaintiff, Tax Assessor-Collector Cindy Rivera was the defendant. Analyzed registration and voting data from 2000 to 2013 for plaintiffs and submitted a written report showing that the number of registered voters in Zavala County, Texas exceeded or was implausibly high relative to the size of the voting-age and citizen population in the county. 2015

The United States of America v. The State of North Carolina (State board of Elections, Kim Strach), (U.S. District Court for the Middle District of North Carolina). Analyzed registration and
voting data and submitted a written report looking at the impacted of a recent change in state law on black turnout. 2014.

**Manuel de Jesus Ortega Melendres, et al. v. Joseph M. Arpaio, et al., (U.S. District Court for District of Arizona).** Conducted a Hispanic surname analysis of traffic stops and wrote report for Maricopa County, Arizona to determine if Hispanics were being targeted by law enforcement. 2009-2012.

**Pedro Lozano et al. v. City of Hazleton (U.S. District Court for the Middle District of Pennsylvania)**


**OUTSIDE REVIEWER FOR FOLLOWING REFEREED JOURNALS:**


**SELECTED PUBLICATIONS:**

**US Census Bureau (Sabre System Inc. contract):**

*Examining the American Community Survey Data Collection Process for Sources of Non-Sampling Error: Findings from Focus Groups of Survey Interviewers 2001.*


*Evaluation of Subnational ACS Foreign-Born Data* with Jeffery Capizzano 2005.

**Journals/book chapters**

“How the Terrorists Get In” *The Public Interest,* Fall 2002


Written Congressional Testimony:

The Impact of Large-Scale Immigration on American Workers March 16, 2016
Testimony Prepared for Senate Committee on the Judiciary Subcommittee on Immigration and the National Interest.

The Fiscal and Economic Impact of Administrative Amnesty March 17, 2015
Testimony Prepared for the National Security Subcommittee and Subcommittee on Health Care, Benefits and Administrative Rules House Committee on Oversight and Government Reform

The Fiscal and Economic Impact of Immigration on the United States May 8, 2013
Testimony Prepared for the Joint Economic Committee of Congress.

Why Less-Skilled Immigration and Amnesty Are so Costly to Taxpayers April 22, 2013
Testimony Prepared for Senate Committee on the Judiciary.

The Dream Act June 28, 2011
Testimony Prepared for Senate Committee on the Judiciary Subcommittee on Immigration, Refugees, and Border Security.

Immigrant Gains and Native Losses in the U.S. Job Market, 2000 to 2010 March 10, 2011
Testimony Prepared for House Judiciary Committee, Subcommittee on Immigration, Border Security, and Claims

Immigration and the U.S. Economy September 30, 2010
Testimony before the House Judiciary Committee Subcommittee on Immigration, Citizenship, Refugees, Border Security and International Law.

Immigration’s Impact on U.S. Workers November 19, 2009
Testimony before the House Judiciary Committee Subcommittee on Immigration, Citizenship, Refugees, Border Security, and International Law.

The H-2B Visa Program and a "Shortage" of American Workers April 16, 2008
Testimony before the House Judiciary Committee Subcommittee on Immigration, Citizenship, Refugees, Border Security, and International Law.

Testimony before the House Judiciary Committee, Subcommittee on Immigration and Claims.

Immigration’s Impact on American Workers May 9, 2007
Testimony before the House Judiciary Committee, Subcommittee on Immigration and Claims.

*Immigration's Impact On American Workers* August 29, 2006
Testimony before House Judiciary Committee, Subcommittee on Immigration and Claims.

*Immigration's Impact on Public Coffers, Federal and Local* August 24, 2006
Testimony before the House Judiciary Committee Subcommittee on Immigration and Claims.

*Immigration's Impact on Public Coffers* July 26, 2006
Testimony before House Ways and Means Committee.

*Analysis of the Senate Amnesty Plan: S2611 Repeats Many of the Mistakes of the Past* July 18, 2006
Testimony before House Judiciary Committee Subcommittee on Immigration, Border Security, and Claims.

*The Impact of Non-Citizens on Congressional Apportionment* December 6, 2005.
Testimony before the House Committee on Oversight and Government Reform Subcommittee on Federalism and the Census.

*Immigrant Job Gains and Native Job Losses 2000 to 2004* May 4, 2005
Testimony before House Judiciary Committee Subcommittee on Immigration, Border Security, and Claims.

*What's Wrong With the Visa Lottery?* April 29, 2004
Testimony before the U.S. House Subcommittee on Immigration, Border Security, and Claims.

*Impact of Immigration On American Workers* October 30, 2003
Testimony before the U.S. House Subcommittee on Immigration, Border Security, and Claims.

*Threats to National Security: The Asylum System, The Visa Lottery, and 245(i)* October 9, 2002
Testimony before the U.S. House Subcommittee on Immigration, Border Security, and Claims.

*Making Interior Enforcement Work* June 19, 2002
Testimony before the U.S. House Judiciary Committee Subcommittee on Immigration and Claims.

*Immigration and Terrorism* October 12, 2001
Testimony before the U.S. Senate Committee on the Judiciary Subcommittee on Technology Terrorism and Government Information.

*The Impact of Immigration on U.S. Population Growth* August 2, 2001
Testimony before the U.S. House Subcommittee on Immigration, Border Security, and Claims.

Testimony before the U.S. House Subcommittee on Immigration, Border Security, and Claims.

**Selected Center for Immigration Studies Publications:**

*61 Million Immigrants and Their Young Children Now Live in the United States*, with Karen Zeigler, March 2016
The High Cost of Resettling Middle Eastern Refugees November 2015.

One in Five U.S. Residents Speaks Foreign Language at Home, with Karen Zeigler October 2015

Welfare Use by Legal and Illegal Immigrant Households September 2015

Comparing Immigrant and Native Abortion Rates April 2015

Who Got the Jobs in Georgia? with Karen Zeigler, September 2014.

All Employment Growth Since 2000 Went to Immigrants, with Karen Zeigler, June 2014.

Is There a STEM Worker Shortage? A look at employment and wages in science, technology, engineering, and math, with Karen Zeigler, May 2014.


Who Voted in 2012? Results from the Census Bureau’s November Voting and Registration Supplement May 2013.


Immigrants in the United States, 2010: A Profile of America’s Foreign-Born Population, August 2012

Projecting the 2012 Hispanic Vote: Shares Nationally and in Battleground States, with Karen Zeigler, August 2012.


Remaking the Political Landscape: The Impact of Illegal and Legal Immigration on Congressional Apportionment, October 2003.


Selected Conference Papers/Poster Presentations:


"The Wage Consequences of Immigration for the Native-born Poor," Annual Meeting of the New York State Political Science Association, April 1995