# (UN)WELCOME GUESTS: EXAMINING THE ECONOMIC DETERMINANTS OF IMMIGRATION POLICY PREFERENCES IN THE UNITED STATES.

by

# **ADAM HERBERS**

#### A THESIS

Presented to the Department of Economics and to the Robert D. Clark Honors College in partial fulfillment of the requirements for the degree of Bachelor of Arts

October 2018

#### An Abstract of the Thesis of

Adam Herbers for the degree of Bachelor of Arts In the Department of Economics to be taken December 2018

Title: (UN)WELCOME GUESTS: EXAMINING THE ECONOMIC DETERMINANTS OF IMMIGRATION POLICY PREFERENCES IN THE UNITED STATES.

Approved: _		
	Anca Cristea	

Given the recent ascent of immigration issues to the forefront of American political discourse, this investigation attempts to identify the economic factors that determine whether an individual will favor more liberal or conservative immigration policies in the United States. This investigation follows the lead of previous literature in this area by employing a series of probit models in order to evaluate how varying economic and social indicators affect the probability that an individual will favor more liberal or conservative immigration policies. However, unlike previous works in this body of literature, this paper explores a pooled cross-section data set that spans over twenty years of survey respondents. This more expansive data set allows for the exploration of shifts in American attitudes over time, an area which has previously been underexplored. Ultimately, this investigation demonstrates that in addition to key social factors, such as age, race, and education, time is also a key determinant of immigration policy attitudes, with more recent respondents demonstrating far more liberal attitudes towards immigration policies than respondents from older survey years.

# Acknowledgments

I would like to thank Dr. Anca Cristea for her support of me throughout this process. She has shown an incredible amount of patience with me and has gone above and beyond to ensure that I stayed on track and followed the project through to completion. I also would like to thank Dr. Ocean Howell and Dr. Glen Waddell for serving on my committee and offering their support. I also want to extend my sincerest thanks to Dr. Karen Schwartzrock, whose generous contribution allowed me to complete the project as it was intended and not be forced to make concessions based on the inability to access data critical to the investigation.

# **Table of Contents**

Introduction	1
Theoretical Background and Literature Review	5
Data	13
Econometric Analysis	17
Estimation Results	27
Discussion	34
Conclusion	37
Appendices	.38
Bibliography	.49

#### 1. Introduction

#### 1.1: Background

As one of the oldest forms of globalization, immigration has consistently garnered significant attention from economists who continue to take interest in its effects on a myriad of economic outcomes, including labor market outcomes in the destination country, access to public goods by both natives and immigrants, and crime rates. This interest in the effects of immigration is particularly relevant in the United States, whose immigrant population, since 1900, has consistently numbered above ten million, making up between five and fifteen percent of the entire population at any given time. While this large immigrant population has garnered the United States the distinction of being a 'melting pot' and a 'nation of immigrants,' it has also led to domestic strife, inciting anti-immigrant attitudes which have historically manifested themselves as harsh rhetoric and outright violence against immigrants into the United States.

While opposition to immigration into the United States has been an omnipresent aspect of American history and has affected immigrants of all racial, religious and ethnic backgrounds, the recent rise in nationalist ideologies to the forefront of American politics has brought issues surrounding immigration into the forefront of the political discussion. President Trump's campaign promises to build a wall between the United States and Mexico, re-examine immigration policies, and push back on international agreements, such as NAFTA, represent the ideologies of an increasingly vocal sect of

<sup>&</sup>lt;sup>1</sup> Migration Policy Institute. "U.S. Immigrant Population and Share over Time, 1850-Present." migrationpolicy.org. http://www.migrationpolicy.org/programs/data-hub/charts/immigrant-population-over-time (accessed April 19, 2017).

the United States population that is in staunch opposition to all forms of globalization.<sup>2</sup> This investigation is in many ways a response to this rise in anti-globalization sentiments, as it seeks to examine what factors cause individuals to form preferences for or against immigration – one particular type of globalization. While the presence of cultural and racial attitudes must be accounted for within the scope of this investigation, I will primarily be examining the economic factors that contribute to the formation of preferences for or against immigration, as these have come to become some of the major talking points for individuals in and around the Trump administration. This is apparent upon the examination of the rhetoric of Attorney General Jeff Sessions, who, in addition to garnering notoriety for his staunch opposition to illegal immigration, has also advocated for the reduction of legal immigrants into the United States, citing the fact that American workers are facing unemployment rates greater than their foreign counterparts who have come into the United States to live and work.<sup>3</sup> While this sort of statement is contested among economists, it represents the prevailing viewpoint that has come to the forefront of the political sphere under the Trump administration.

The purpose of this investigation is not to attempt to verify or disprove the views of anti-globalization politicians. Though there exists a significant body of literature examining whether the actual effects of immigration disadvantage the American worker, that will not be discussed at length here. Rather, this investigation will attempt

<sup>2</sup> 

<sup>&</sup>lt;sup>2</sup> Katie Allen, "Trump's Economic Policies: Protectionism, Low Taxes and Coal Mines," *The Guardian*, November 9, 2016, https://www.theguardian.com/us-news/2016/nov/09/trumps-economic-policies-protectionism-low-taxes-and-coal-mines/ (Accessed April 22, 2017)

<sup>&</sup>lt;sup>3</sup> "Jeff Sessions Takes Strong Anti-Immigration Views to Justice Department." Narrated by Robert Siegel. All Things Considered. *National Public Radio*, February 9, 2017. http://www.npr.org/2017/02/09/514365597/jeff-sessions-takes-strong-anti-immigration-views-to-justice-department.

to explain the widespread opposition to immigration and determine what factors are the most significant predictors of whether an individual will be against, or in support of reduced immigration into the United States. It is important to note that there has been a great deal of work done examining the effects of and attitudes towards specifically legal or illegal immigration. However, the data I will be incorporating in this investigation does explicitly refer to either legal or illegal immigration in the way that the question is framed. As such, any reference to immigration in this paper will likely be made based on respondents whose interpretations of the question was slightly varied. Ultimately, the goal of this investigation is to contribute to the body of literature on immigration policy preferences by incorporating the most up to date data and a wide array of explanatory theories. In doing this, my contributions have the potential to influence better informed immigration policy outcomes.

# 1.2: Methodology

This paper will draw on past works that have used short term or cross-sectional analysis of varying surveys in varying years to examine the probability that an individual is in support of or opposed to decreases in immigration into the United States. In a similar fashion to previous works, this investigation will employ a probit model to explore the probabilistic relationships between economic and social characteristics and the probability that an individual favors restrictive immigration policy. In order to differentiate this investigation, I will employ a long-term sample from a previously underutilized survey. Additionally, this investigation will explore previously unexplored variables, such as whether exposure to imports plays a role in

shaping policy attitudes, or whether we can observe time-dependent variation in attitudes.

#### 1.3: Implications and Structure

This paper will attempt to provide new contributions to the existing literature by exploring the significance of varying economic and social characteristics on the probability that an individual will favor more restrictive immigration policy. By incorporating varying models and strategies that have been employed in a host of different papers and concentrating them to study a long-term pooled cross-sectional data set, this investigation hopes to provide a highly comprehensive look at the findings presented in the current body of literature. This investigation will begin with an exploration into the body of literature that exists on this topic as well as a discussion of each of the primary economic theories that will be explored in this paper. Following that, this investigation will examine the variables used throughout this investigation and how they have been constructed and discuss in further depth the regression techniques that will be used in order to explore the determinants of individual immigration policy preferences. Finally, the investigation will conclude with a discussion of the results of the regressions and a discussion of the primary conclusions that can be reached as a result.

#### 2. Theoretical Background and Literature Review

In order to determine how individuals form preferences about immigration, this investigation will draw from several economic theories that exist, which predict how individuals should be affected by immigration given their personal, demographic, and economic characteristics. This section will examine these theories and, under the assumption that an individual will form preferences towards immigration based on their own economic self-interest, discuss how each theory predicts an individual should respond. Additionally, this section will also address the influence of noneconomic factors in the formation of preferences, which has been a central component of the existing research examining the determinants of individual attitudes toward immigration.

## 2.1: <u>Factor-Proportions Analysis (FPA) Model</u>

The first theory under consideration, and the one most commonly described in the literature and the political sphere, is the Factor-Proportions Analysis Model (FPA). The FPA model assumes a fixed national output that employs both relatively skilled and unskilled workers. As Scheve and Slaughter (2001) contend in their discussion of the model, this implies that an influx of skilled (unskilled) labor through immigration will lower the relative wage of skilled (unskilled) labor in the host country. This occurs due to the fact that, since national output is fixed, there is a specific amount of skilled and unskilled workers required in order to fulfill the production of a country's output. Thus, an increase in the relative supply of either type of labor will lower the relative wage of that type of labor. The direct hypothesis of this theory holds fairly straightforward

<sup>&</sup>lt;sup>4</sup> Kenneth F. Scheve and Matthew J. Slaughter, "Labor Market Competition and Individual Preferences Over Immigration Policy," *Review of Economics and Statistics* 83, no. 1 (February 2001): 133–45.

implications for the expected formation of individual preferences towards immigration, suggesting that relatively low-skilled (high skilled) workers should oppose immigration if the immigrants are also primarily low-skilled (high-skilled) and support immigration if the immigrants are relatively high-skilled (low-skilled), as similarly skilled immigrants will drive down the relative wage of natives while oppositely skilled immigrants will place upward pressure on the relative wages of natives.

The influence of this model on the formation of preferences has been tested in numerous papers that have yielded strikingly different results. Scheve and Slaughter (2001) assume that, given the recent trend of relatively unskilled immigrants entering the United States, survey respondents will work under the assumption that immigrants into the United States are relatively unskilled. This paper will utilize this assumption throughout the investigation as well. Under this assumption and using education level as a measure of skill level, Scheve and Slaughter find a strong, positive correlation between education level and preference for increased immigration, suggesting that individuals do take short term labor market outcomes into their formation of attitudes towards immigration.<sup>5</sup> In addition to Scheve and Slaughter, Espenenshade and Hempstead (1996) have also concluded that skill level is a significant determinant of an individual's attitude towards immigration, suggesting that the individual preferences are in fact shaped by the results of the Factor-Proportions Analysis Model. 6 However, more recent papers have brought into question the results of these papers, suggesting that the demographic effects of education levels need be more effectively controlled for.

<sup>&</sup>lt;sup>5</sup> *Ibid*.

<sup>&</sup>lt;sup>6</sup>Thomas J. Espenshade and Katherine Hempstead, "Contemporary American Attitudes Towards US Immigration," *The International Migration Review* 30, no. 2 (Summer 1996): 535–70.

Hainmueller and Hiscox (2010), as well as Facchini and Mayda (2009) have both suggested that while labor market outcomes may still be relevant aspects of the decision-making process, they have been distorted in the data due to insufficient controls for noneconomic factors as well as the failure to incorporate other major economic models that predict different outcomes.<sup>7, 8</sup>

### 2.2: <u>Heckscher-Ohlin (HO) Model:</u>

The Heckscher-Ohlin Model (HO) of international trade is extremely similar to the Factor-Proportions Analysis model except for a few key features. It also describes an economy with two factors of production, which in this case are low and high skilled workers, but rather than assume a fixed national output, the HO model predicts that in the long run, as a result of international trade, countries may adjust their national output to match their relative supply of each input. This implies that unless a country's supply has a direct effect on world price (In the context of this model, this is called being a "large" country), the shift in labor supply will not result in long term wage effects. 9

Conversely, if the country is large, its effects will mirror those predicted by the Factor-Proportions Analysis Model. This model has not been explored extensively in the scope of the literature, as it is difficult to analyze, given that if individuals are making decisions based off of this model, then the coefficient relating immigration preferences to skill level will be statistically insignificant if the country is small, and similar to the

<sup>&</sup>lt;sup>7</sup>Jens Hainmueller and Michael J Hiscox, "Attitudes toward Highly Skilled and Low-Skilled Immigration: Evidence from a Survey Experiment," *The American Political Science Review* 104, no. 1 (February 2010): 61–84.

<sup>&</sup>lt;sup>8</sup> Anna Maria Mayda and Giovanni Facchini, "Does the Welfare State Affect Individual Attitudes Toward Immigrants? Evidence Across Countries," *The Review of Economics and Statistics* 91, no. 2 (2009): 295–314.

<sup>&</sup>lt;sup>9</sup> Scheve and Slaughter, "Labor Market Competition and Individual Preferences Over Immigration Policy."

Factor-Proportions Analysis Model if the country is large. Thus, while it is important to recognize the presence of the HO model in the discussion of this theoretical background, this paper will not be directly testing for it in the data.

#### 2.3: Area Analysis Model:

Another variation on the FPA Model that will be incorporated into this investigation is the Area Analysis Model. The Area Analysis Model is identical to the FPA Model in its specifications, except that it assumes several local labor markets rather than a single national one, with "gateway communities" carrying more pronounced effects of immigration. <sup>10</sup> Gateway communities are defined as regions where immigrants are more highly concentrated than in the rest of the country. Thus, per this theory, counties with higher populations of immigrants will experience a stronger formation of attitudes towards immigration than counties with low levels of immigration. Though Hainmuller and Hiscox (2010) have tested this theory and don't find support of it in their investigation, it represents an avenue of investigation that this paper will be testing a variation of. <sup>11</sup>

#### 2.4: Fiscal Burden (FB) Model:

The Fiscal Burden (FB) Model, described and tested in the works of Hainmueller and Hiscox (2010), Facchini and Mayda (2009), and Hanson, Scheve and Slaughter (2007), assumes that low skill immigrants will tend to be net consumers of public goods, such as welfare and public services, while high skill immigrants will be

8

<sup>&</sup>lt;sup>10</sup> Hainmueller and Hiscox, "Attitudes toward Highly Skilled and Low-Skilled Immigration: Evidence from a Survey Experiment."

<sup>&</sup>lt;sup>11</sup> Ibid.

net contributors, paying more in taxes than they consume in public goods. <sup>12, 13, 14</sup> Thus, an increase in the number of low-skilled immigrants- assuming that the government will respond to a shortage in revenue by increasing taxes, rather than reducing its expenditure on welfare and public goods- will result in increased taxes, placing the biggest burden on high-skilled natives, who will be left to pay for much of the shortfalls in public revenue that come about as a result of this budget deficit. Similarly, an increase in high-skilled immigration will result in the reduction of taxes which will in fact benefit both low and high skilled natives, with high-skilled natives being the most benefitted.

Based on the hypotheses of the Fiscal Burden Model, high skill natives should strongly oppose the increase of low skill immigrants under the assumption that the government will solve the revenue shortage by increasing tax rates. Conversely, low skill natives will more staunchly oppose low skill immigration under the assumption that the government will solve its revenue shortage through cutting its provision of public goods. These three papers by Hainmueller and Hiscox (2010), Facchini and Mayda (2009), and Hanson, Scheve and Slaughter (2007), have expressed their findings that the fiscal burden model, particularly the fiscal burden model with the assumption that the wealthy will be left to bear the financial brunt of immigration, is a highly relevant determinant of individual attitudes towards immigration policy.

12

<sup>&</sup>lt;sup>12</sup>Ibid

<sup>&</sup>lt;sup>13</sup> Mayda and Facchini, "Does the Welfare State Affect Individual Attitudes Toward Immigrants? Evidence Across Countries."

<sup>&</sup>lt;sup>14</sup> Kenneth F. Scheve, Matthew J. Slaughter, and Gordon H. Hanson, "Public Finance and Individual Preferences Over Globalization Strategies," *Economics and Politics* 19, no. 1 (March 2007): 1–33.

#### 2.5: Noneconomic Factors:

The treatment of non-economic variables is an aspect of the investigations that varied greatly across studies, with authors such as Citrin et al (1997) and Espenshade and Hempstead (1996) emphasizing their predictive effects. <sup>15</sup> <sup>16</sup> This paper will be controlling for factors such as political affiliation, race, and age in this investigation. Though the treatment of these types of variables varies between papers, there is consensus in the belief that the incorporation of some type of demographic controls are needed to fully explore this type of question. Though this paper does not have data concerning racial biases, it is interesting to note that Dustmann and Preston managed to demonstrate the effects of racial bias by asking questions regarding immigrants from specific countries, and found that individual support of immigration was strongly correlated with the origin country of the immigrants. <sup>17</sup> By controlling for each of these variables, I will be able to determine the relevance of these demographic factors in shaping how individuals form preferences toward immigration outside of the realm of purely economic considerations.

#### 2.6: Additional Hypotheses:

In addition to the predictions of the economic theories that have been presented, this paper will add to the debate several new insights regarding possible factors that may influence respondents' attitudes towards immigration:

<sup>&</sup>lt;sup>15</sup> Jack Citrin et al., "Public Opinion Toward Immigration Reform: The Role of Economic Motivations," *The Journal of Politics* 59, no. 3 (August 1997): 858–81.

<sup>&</sup>lt;sup>16</sup> Espenshade and Hempstead, "Contemporary American Attitudes Towards US Immigration."

<sup>&</sup>lt;sup>17</sup> Christian Dustmann and Ian Preston, "Racial and Economic Factors in Attitudes to Immigration," *B E Journal of Economic Analysis & Policy* 7, no. 1 (2007): 1–39.

*i). Exposure to macroeconomic shocks:* Large events, such as 9/11, or the financial crisis, are likely to foster protectionist sentiments among respondents. By including time fixed effects, this paper will capture general trends in the economy as a whole towards immigration. This will allow for investigation of the evolution of trends over time and identify any significant changes, particularly in periods following significant events, that may shape how individuals think about globalization, and by extension, immigration.

ii). Rapid pace of globalization: The incorporation of more specialized metrics that determine how susceptible various industries are to offshoring and to import competition also seems relevant to this investigation. Both of these measures of different types of globalization should be significant determinants of immigration preferences. This paper claims that it would follow that individuals whose jobs are likely to be taken by other forms of globalization are more likely to oppose immigration, as it represents another type of globalization through which their livelihood could be damaged. This investigation expects this hypothesis to play a more prominent role in recent years given the rapid growth of China as an expanding power in the global economy. To that end, this investigation will incorporate data that looks directly at whether the individual respondents live in a state that has been heavily inundated with Chinese imports in a particular year. The reasoning is that individuals in states that have been disproportionately affected by a hot button import issue, such as Chinese imports, will have stronger opinions surrounding globalization and by extension, immigration.

Ultimately, the lack of consensus surrounding the relative importance of determinants of immigration policy preferences in the literature comes from the variability in models and assumptions that differ so sharply between papers. As such, this paper will attempt to add to the existing body of literature by testing several of the previously described economic models with a single dataset. In addition to incorporating these economic theories into a single investigation, this paper will be adding to the literature in three distinct ways. The first of these is incorporating a pooled cross-section dataset that is significantly larger than any other investigations on this subject up to this point. In addition to an increased number of respondents, this data will also cover a large number of years, with the first respondents from 1996 up through the most recent GSS data release from 2016. As described in the discussion of other hypotheses, this investigation will also be incorporating year dummies into the model in order to examine if there are any macroeconomic trends in immigration attitudes that can be observed over this twenty-year period. Finally, this paper will include a metric to account for the susceptibility of each respondent's occupation to globalization in order to provide a more appropriate measure of how individuals form preferences based on perceived labor market outcomes at the individual level. By doing each of these things, this investigation will attempt to contribute to what is already a very developed body of literature by exploring multiple theories in a single investigation.

#### 3. Data

#### 3.1: Datasets in the Literature

Discerning individual attitudes can be a difficult and inexact process, with the most successful papers in this particular body of literature all relying on survey data to provide direct indicators on individual preferences regarding immigration. The nature of these surveys varies greatly across studies however, with different surveys providing different insights into various facets of immigration attitudes. One of the most notable surveys referenced in the literature is the American National Election Survey (ANES), used by Hanson Scheve and Slaughter (2007), Citrin et al (1997), and Scheve and Slaughter (2001). 18, 19, 20 All three of these papers have been highly influential in the development of the subfield and opt to use ANES data because of the wide array of information it provides on top of direct attitudes towards immigration. This includes not only demographic factors such as race, gender and income, but also attitudes towards the economy as a whole, various racial groups, and political parties. By including these variables in the analysis, these authors are more readily able to control for noneconomic variables that may hold influence in determining attitudes towards immigration, exhibiting the benefits of the ANES dataset.

There are other datasets which have featured prominently in multiple works within the body of literature. One of the most notable attributes of some of these surveys that provides a new element to the analysis is distinguishing between the types

<sup>&</sup>lt;sup>18</sup> Scheve, Slaughter, and Hanson, "Public Finance and Individual Preferences Over Globalization Strategies."

<sup>&</sup>lt;sup>19</sup>Scheve and Slaughter, "Labor Market Competition and Individual Preferences Over Immigration Policy."

<sup>&</sup>lt;sup>20</sup> Citrin et al., "Public Opinion Toward Immigration Reform: The Role of Economic Motivations."

of immigrant entering the country, whether by country of origin or by relative skill level. The British Social Attitudes Survey, and the Cognitive Styles Survey, used by Dustmann and Preston (2007), and Hainmueller and Hiscox (2010) respectively, allow for a more precise analysis of the effects determining the formation of attitudes towards immigration policy because it allows for the assumption that all respondents are thinking of low skilled immigration to be relaxed. Additionally, the International Social Survey Program and World Value Survey, used in Mayda's works, distinguish attitudes towards trade and immigration across countries, providing a new element to the analysis of the formation of immigration preferences by controlling for nationality. Ultimately, each of the surveys used throughout these works has characteristics that give them an advantage over other surveys in some areas, while being weaker in others. The selection of which surveys to investigate was largely dependent on the type of relationship that each author was trying to test.

#### 3.2: Data in this Investigation

This investigation will break from the body of literature and use General Social Survey (GSS) data for a number of reasons. First and foremost, this dataset is extremely valuable due to the fact that it has been administered consistently for decades, with recent surveys being conducted on a bi-yearly basis. While this is true of many other national and international surveys, GSS is unique in that it has kept the phrasing of its question regarding immigration preferences consistent over that time period as well.

\_

<sup>&</sup>lt;sup>21</sup> Dustmann and Preston, "Racial and Economic Factors in Attitudes to Immigration."

<sup>&</sup>lt;sup>22</sup> Hainmueller and Hiscox, "Attitudes toward Highly Skilled and Low-Skilled Immigration: Evidence from a Survey Experiment."

<sup>&</sup>lt;sup>23</sup> Mayda, "Who Is Against Immigration? A Cross-Country Investigation of Individual Attitudes toward Immigrants."

<sup>&</sup>lt;sup>24</sup> Mayda and Facchini, "Does the Welfare State Affect Individual Attitudes Toward Immigrants? Evidence Across Countries."

This question reads "Do you think the number of immigrants to America nowadays should be..." with answers "1. Increased a lot" "2. Increased a little." "3. Remain the same as it is." "4. Reduced a little." "5. Reduced a lot." The continuity in this question and answer not only provides direct insight into an individual's attitudes towards the number of immigrants being admitted into the United States, but also allows for a large pooled cross-sectional analysis, whereby survey respondents from different years are all incorporated into the same regression with dummy variables included for each survey year in order to capture any nationwide trends in attitudes towards immigration that may have been present in a particular year. This technique is particularly relevant in the scope of this investigation, as it will capture any sort of shift in the nationwide attitude towards immigration in the past twenty years.

In addition to the continuity of the question establishing preferences on the level of immigration into the United States, the GSS has also consistently reported key demographic variables over the past twenty-six years. These variables include racial identity, fixed income, county of residence, age, education level, occupation, and political preferences, among others.

In addition to GSS data, this investigation will also incorporate other datasets in order to provide a more nuanced investigation into the factors shaping American attitudes towards immigration. This includes a metric that will address the import penetration of Chinese imports into an individual's state of residence and susceptibility to offshoring of an individual's particular occupation. The former will be constructed utilizing US Census import data which specifies the amount of imports coming to each state from China in each survey year, starting in 2008. The

latter will be constructed using data from O\*Net, which describes and scores the prevalence and importance of various skills in conducting each of the occupations described in the United States Census. This paper will use this data in a manner parallel to Oldenski and Raunch (2011) by using the score for "making decisions and solving problems" as a proxy for complexity and hence, offshorability. As discussed in the hypothesis section, an individual whose occupation is highly susceptible to these forms of globalization is more likely to oppose policies which take a more liberal stance toward the acceptance of globalization. This analysis also includes a metric described by Hanson, Scheve, and Slaughter (2007) that assesses whether an individual's tax rate or access to public goods is likely to be heavily affected by the effect of an inflow of immigrants. Hanson, Scheve and Slaughter do this by measuring which states lie above the mean taken from all states in terms of the percentage of population that are immigrants, (based on US Census data), and which states lie above the "national median in terms of state spending on public assistance per native, as measured by the US Census of Governments."<sup>25</sup> By including this variable, this investigation will assess whether individuals are making their decision in line with the predictions of the fiscal burden model.

<sup>-</sup>

<sup>&</sup>lt;sup>25</sup> Scheve, Slaughter, and Hanson, "Public Finance and Individual Preferences Over Globalization Strategies."

#### 4. Econometric Analysis

#### 4.1: <u>Regression Analysis</u>

In this investigation, as in the bulk of the existing literature on this topic, I will use a probit model to gauge the explanatory effects of the presented variables on the probability that an individual will be in favor of enacting more restrictive immigration policy. The unit of observation in this investigation is an individual surveyed in a particular year, who lives in a particular county, and works a particular occupation. Within the regression, each individual respondent will be indexed by *i*, the county that each individual lives in will be indexed by *l*, the year the individual was questioned will be indexed by *t*, and the individual's occupation will be denoted by *k*. A full description of each of the variables present in this investigation can be found in Table 1 of the Appendices. The following is an example of the regression model that I will be using throughout this investigation. Though I will be using various sets of explanatory variables throughout the construction of these regressions, all variables under investigation are included within the following regression model.

 $anti\_immig_{itlk} = \beta_0 + \beta_1 years_t + \beta_2 white_{it} + \beta_3 black_{it} + \beta_4 hispanic_{it} + \\ + \beta_5 age_{it} + \beta_6 liberal_{it} + \beta_7 conservative_{it} + \beta_8 college\_grad_{it} + \beta_9 jc\_grad_{it} + \\ \beta_{10} hs\_grad_{it} + \beta_{11} Complexity_{itk} + \beta_{12} FBExposure_{itl} * Complexity_{itk} + \\ \beta_{13} high\_income_{it} + \beta_{14} low\_income_{it} + \beta_{15} immigrant\_parent_{it} + \varepsilon_{itlk}$  (1)

By regressing the *anti\_immig* indicator variable on all the right hand side variables described in the regression model, this paper can control for demographic factors that may account for noneconomic attitudes towards immigration levels, while also systematically testing for each of the economic hypotheses laid out in the theoretical background.

Among the variables laid out in Table 1, several are responsible for capturing demographic or noneconomic factors that might play a role in determining the probability that an individual favors a reduction in immigration into the United States. Race dummy variables, including *white*, *black*, *and hispanic* describe how the individual identifies themselves. These variables are significant in explaining the noneconomic factors that contribute to individual decision making. Given their representation as a dummy variable, their corresponding coefficient describes the change in probability that a respondent favors reducing the number of immigrants into the United States given a particular racial identity.

Other key noneconomic variables that are included in the regression include *age* and the political ideology variables, *liberal* and *conservative*. With *age*, this paper is able to control for whether or not older individuals are more likely to favor restrictive immigration policies than their younger counterparts. Given that this paper has represented *age* as a continuous variable, the associated coefficient with *age* indicates the direction of the marginal change in probability that an individual favors more restrictive immigration. The political ideology variables, *liberal* and *conservative*, are an attempt to account for the fact that over the last two decades immigration has become a highly politicized issue that has fallen largely along partisan lines with

regards to the level of restrictions on immigration that an individual is in favor of. In the context of this investigation, it would be expected that a negative coefficient be associated with *liberal* and a positive coefficient associated with *conservative*. This is because based on the political climate in the United States over the past two decades, an individual identifying as politically liberal should strongly decrease the probability they support restrictive immigration policies, while an individual who identifies as politically conservative should have a significantly increased probability of supporting these types of policies.

The set of education variables included in this set of regressions serves a number of purposes, both economic and non-economic. It has been suggested by researchers such as Hainueller and Hiscox (2010)<sup>26</sup> that college graduates as a demographic are more likely to be in support of immigration as a result of their exposure to differing thoughts and ideas through higher education. Education also serves as a valuable metric for estimating the skill-level of the worker, with more educated workers typically employed in occupations that require a higher skill level. In the context of this investigation, education has been divided into four dummy variables, *dropout*, for individuals who did not complete high school, *hs\_grad*, for individuals who completed their high school diploma but nothing further, *jc\_grad*, for individuals who have completed a two year degree, and *college\_grad*, for individuals who have completed a four year degree or higher.

<sup>&</sup>lt;sup>26</sup> Hainmueller and Hiscox, "Attitudes toward Highly Skilled and Low-Skilled Immigration: Evidence from a Survey Experiment."

Within this investigation, these education variables will be valuable proxies for assessing the skill-level of workers and for determining the merit of theories such as those predicted by the FPA and Fiscal Burden models. Under the hypotheses of the FPA model, one would expect a negative relationship between <code>anti\_immig</code> and <code>college\_grad</code>, as highly educated, and thus highly skilled, individuals are less likely to have their jobs put at risk by an influx of lower skilled immigrants. In fact, as discussed in the description of the FPA model, we would tend to see an increase in the relative wage of high skilled workers due to the influx of more low-skilled workers into the economy, driving down the relative wages of low-skilled workers. Thus, high-skilled workers should actually favor an increase in immigration, leading to the expected negative coefficient. Similarly, we would expect a positive relationship between <code>anti\_immig</code> and <code>dropout</code> and <code>hs\_grad</code>, as individuals with less education are more inclined to oppose low-skilled immigration, as it would tend to put their jobs at risk and lower the relative wages of low-skilled workers.

However, under the Fiscal Burden Model we would expect a different set of results. Under this model, highly-skilled workers are made to bear more of the tax burden of low-skilled immigrants, leading to an expectation that highly-skilled workers, characterized by belonging to the *college\_grad* category, would actually be positively related to *anti\_immig*, implying an expected positive coefficient associated with *college\_grad*. Though intuitive, it would then make sense that low skilled natives should then have the opposite behavior and favor an increase in immigration, yielding a negative correlation between *hs\_grad* and *anti\_immig*. Given that under the Fiscal Burden Model, an increase in low-skill immigrants will increase taxes across the board,

we would still expect lower-skilled individuals to be worse off than they would be without the immigration, implying that under the hypotheses of the Fiscal Burden Model we still expect to see an opposition to immigration, but to a lower magnitude than the coefficient associated with the highly-skilled individuals.

The set of year dummies included in this regression is meant to capture the effects of nationwide trends in attitudes towards immigration that occur as a result of macroeconomic trends. In particular, this investigation predicts that the variables *year2008* and *year2010* may have positive coefficients, implying a positive relationship with *anti\_immig* relative to our base year, *year2016*. This is due to the fact that in the wake of a recession, individuals are more likely to harbor protectionist sentiments, resulting in a nationwide trend of support on the limitation of immigrants into the United States. This is merely one hypothesis associated with the presence of the year dummies, but they are also useful in characterizing larger trends in attitude that may also be present within the data. This will be one characteristic of the data that will be monitored particularly closely for possible trends.

The *FBExposure* variable is designed to test whether the effects of the Fiscal Burden Model are amplified in states that have both high exposure to immigration and especially generous welfare systems. It is a dummy variable that is equal to 1 in states which have both above average levels of immigration and above average levels of welfare expenditures, and 0 otherwise. According to the work of Hainmueller and Hiscox (2007)<sup>27</sup>, this variable, when interacted with variables that indicate the skill level of a worker should result in an amplified magnitude, as the effects of the Fiscal

<sup>&</sup>lt;sup>27</sup> Ihid

Burden Model should be more amplified in regions where individuals are more heavily exposed to its predicted effects. As such, when interacted with skill level variables such as *high\_income* or *college\_grad*, it is expected that the coefficient will still be negative with a magnitude greater than that of the un-interacted skill level variable.

This examination includes several other variables which can represent skill level and serve as a metric with which to test the hypotheses laid out by the Fiscal Burden and FPA models. This investigation includes a pair of dummy variables, <code>low\_income</code> and <code>high\_income</code>, which represent the bottom and top quartiles of respondents by income, respectively. Given that the <code>low\_income</code> and <code>high\_income</code> variables can be used as a proxy for low and high skilled workers respectively, we would expect <code>low\_income</code> to have a positive coefficient under the FPA model and a positive coefficient under the Fiscal Burden model. Conversely, <code>high\_income</code> would be expected to have a negative coefficient under the FPA model and a positive coefficient under the Fiscal Burden model.

Another variable of interest, *Complexity*, is constructed using the O\*Net metric that assigns a score from one to five based on the amount of complex decision making required to perform an occupation. This metric scores 1 as the least intensive and 5 as the most intensive. Thus, *Complexity* also represents an applicable proxy for skill level. Individuals whose occupation is at risk of being offshored due to not being highly skill-intensive also face competition from low-skilled immigrant workers, suggesting that *Complexity* should exhibit the same characteristics as other skill variables, with a negative coefficient suggesting that as the skill level of an individual's occupation increases they are less likely to foster anti-immigrant attitudes given the assumptions of

the FPA model. Under the Fiscal Burden model, we would expect a positive coefficient, as a high skill level should lead to increased anti-immigration attitudes, based on the Fiscal Burden model's hypotheses.

The final variable included in the regression estimations is logChinese\_Imports\_PC which denotes the log of the value of Chinese imports per capita into each state during each year. This investigation included this variable in an attempt to explore whether larger globalization trends, such as Chinese imports, a hot button issue, play a role in determining how individuals feel about immigration as a whole. Given the divisive rhetoric surrounding Chinese imports in the United States, this paper hypothesizes that states with a high concentration of imports from China may have overly hostile views on immigration solely given its role as a form of globalization, leading to a positive coefficient. However, this effect is not associated with a particular economic theory and remains a point of speculation.

#### 4.2: <u>Summary Statistics and Regression Breakdown</u>

Prior to examining the results of any regression estimation, this paper will first present the summary statistics and describe the manner in which this investigation will be breaking up the analysis. This investigation will be divided into three distinct regression groups in an attempt to explore several different effects that were only available in certain subsets of years. The set of summary statistics depicted in Table 2 describes the set of variables that are included in the first regression that includes survey responses from the years 1996, 2004, 2008, 2010, 2012, 2014, and 2016. Given that the meaning of all the variables that have been included in the regression have previously

been established, this section will be used to describe the strengths and weaknesses of this set of data for its regression purposes. This set of data has the largest number of responses, increasing its explanatory power, yet lacks certain variables that are highly significant to include in trying to determine the probability that an individual will support more restrictive immigration policies. In fact, this size of sample is significantly larger than similar examination conducted in other papers. Hanson, Scheve, and Slaughter(2007)<sup>28</sup>, which this investigation builds off of, only worked with sample sizes up to 3000 observations, demonstrating how powerful a long term sample like this can be in capturing explanatory effects. Despite the large size of the sample, the restrictions on data available in 1996 provide several limitations. In particular, the lack of data to construct the Fiscal Burden and import variables in 1996 make trying to glean any new conclusions difficult. Additionally, given the high density of immigrants to the United States from Latin American countries, the lack of a designated Hispanic variable in the 1996 GSS survey has the potential to be problematic, as any explanatory power that the Hispanic variable would have could easily be picked up by other variables, skewing the results.

As can be observed from the listed variables in Table 2, the majority are dummy variables taking the value of 0 or 1. Thus, the mean value of each dummy variable is also the percentage of the respondents who fell into that particular response category. Only *Complexity* and *age* broke this trend and are continuous, thus depicting the statistical mean of the sample with their mean values. While the 1996-2016 sample provides the largest time span and survey size and provides an interesting baseline for

<sup>&</sup>lt;sup>28</sup> Scheve, Slaughter, and Hanson, "Public Finance and Individual Preferences Over Globalization Strategies."

effects captured by the progression of time, it has several inherent problems that prevent it from being the only period of analysis for this investigation.

The second set of summary statistics presented in Table 3 explore the variables included in the regression that will include responses in the set of years 2004, 2008, 2010, 2012, 2014, and 2016. While this set of data contains fewer respondents and fewer years, it makes up for this by including several variables which were not available for the sample that included variables from 1996 onward. In particular, this sample includes a variable for Hispanic respondents as well as the data necessary to construct the Fiscal Burden variable, one of the central economic theories this paper sought out to test. To motivate the importance of this, examine the .135 mean associated with the new *hispanic* variable. The fact that 13.5% of respondents identify as Hispanic speaks to the importance of including this variable in the investigation. Furthermore, though this investigation does make sacrifices in the N value, over 5000 respondents is still incredibly strong and dwarfs the sample size of comparable investigations.

The last set of variables depicted in Table 4 includes only respondents to the survey from the years 2008, 2010, 2012, 2014, and 2016. Though it again reduces the number of respondents, it is able to add an additional variable that was not available for respondents in 1996 and 2004, while still retaining a sample size of almost 5000 respondents. Import data specifying country of origin and county of destination was only available from the US Census beginning in 2008, and as such can only be explored from 2008 onward. Though this places limitations on the number of respondents and years under investigation, exploring the effects of imports on immigration preferences presents a new opportunity for exploration.

Given the large dependence on demographic variables in this investigation, we must necessarily establish which sets of variables are strongly correlated with one another in an attempt to ensure that correlations are being adequately accounted for. These are captured in the correlation tables depicted in Table 5. One of the key demographic variables to investigate in this correlation table is the effect of racial variables on variables that would generally be considered more purely economic variables. Take the *high income* and *low income* variables as an example. From Table 5 we can see that the *low income* variable is negatively correlated with *white*, at -.138, while being positively correlated with black and hispanic, with the coefficients .1019 and .0915 respectively. Additionally, these income variables are also heavily correlated with whether or not an individual has graduated from college (college grad). The low income variable is negatively correlated with college grad with a correlation coefficient of -.2117, while high income is positively correlated with college grad, with a correlation coefficient of .282. What this demonstrates in particular is that the inclusion of multiple variables which are all highly correlated with high income and *low income* may provide effects that will need to be accounted for in the analysis.

#### 5. Estimation Results

The first pair of regressions described in Table 6, while far from comprehensive, does provide some interesting insights into the theories that were directly addressed in the introduction. One of the contributions this paper sought to make to the existing body of literature was to explore the effects of American attitudes towards immigration over an extended period of time. As demonstrated in the initial regression, when we use 2016 as the baseline year, we see positive coefficients which increase in magnitude the further away from 2016 the year gets. This can be observed in the first regression, where the coefficients begin for *year1996* with .549 and decrease as the years progress towards 2016 with year 2004 at .280, a slight jump back up in year 2008 to .295, year2010 at .237, year2012 at .140, and year2014 at .135. When the Complexity variable is introduced in the second regression, we see some slight variation, but the general trend and, in fact, the coefficient values themselves associated with these variables, remain essentially unchanged. Furthermore, given that these associated year coefficients are significant at the 5% confidence level or better across both regressions, this suggests that anti-immigration perspectives are actually becoming less prevalent with the passage of time. When we look at the decreasing magnitude and positive signs associated with each of these results, it becomes clear that compared to 2016, all respondents in all years prior to 2016 had an increased probability of favoring more restrictive immigration policy, but that this increase in probability has become less pronounced as the years come closer to 2016.

Another key variable that is incorporated in the second column of this set of regressions depicted in Table 6 is the *Complexity* variable, which ranks census

occupations on a scale from 1 to 5, with 5 being the most intensive in complex decision making and 1 being the least. The incorporation of this variable produces a statistically significant coefficient of -.0846, demonstrating that the more complex an individual's occupation is, the less likely they are to favor more restrictive immigration policy. This suggests that the predictions of the FPA model may in fact be an effective tool at predicting whether or not an individual will favor restrictive immigration policies, as under the predictions of the FPA model, highly skilled individuals would actually favor increases in immigration, as the increase in low-skill labor would drive up their relative wages.

The distinct lack of significance of the income variables, high\_income and low\_income does provide some insight into whether the Fiscal Burden model provides a passable explanation for whether or not individuals take into account the effects of access to public services when they form their policy preferences regarding immigration. While the FBExposure variable is unavailable for this time frame, the insignificant negative coefficients associated with the low\_income and high\_income variables come back as expected, with low\_income at -.0538 and high\_income at -.0234 in the first regression and -.0644 and -.0155 in the second. Under the assumptions of the Fiscal Burden model we know that high income individuals should be relatively more averse to increased immigration, as they will be made to bear the majority of the tax burden imposed by these individuals. This is corroborated by sign and magnitude of the results which show higher income individuals have a less negative coefficient, indicating a relatively smaller reduction in the probability that an individual will favor restrictive immigration policies. However, given the low or non-existent significance of

these variables, we must take the results as inconclusive, meaning we are unable to conclude anything regarding the significance of the Fiscal Burden Model for this sample.

Another interesting effect that can be observed in this regression set is the strongly negative sign associated with individuals who have completed a bachelor's degree or higher. This particular effect is interesting for a number of reasons. As has been stated in the previous literature, by authors such as Hanson, Scheve and Slaughter, the effects of education are tricky to pin down, as completion of a bachelor's degree or higher does tend to imply that the respondent works in an industry that tends to be highskill, but college educated individuals are inherently more likely to belong to wealthier families and be exposed to more liberal ideas during their time at university. Thus, it is important to incorporate demographic variables such as *liberal* and *conservative* in order to try and distinguish these effects. Notably, the coefficient associated with college grad does drop from -.378 to -.338 after the introduction of the Complexity variable, suggesting that even when the effects of complexity of one's occupation and income effects are included, there still exists a strong negative coefficient associated with *college grad*, demonstrating that an individual who attended college is significantly less likely to support more restrictive immigration policy, even once the effects of income and *Complexity* have been corrected for. This suggests that attending college ought to be thought of more as a demographic effect and that it is the exposure to different ideas, rather than the increased earning potential that is the driving factor behind this effect.

The set of regressions described in Table 7 utilizes the set of respondents described in the second set of summary statistics. That is, these respondents are all from the years 2004, 2008, 2010, 2012, 2014, and 2016. The first thing to observe is the significance of coefficients of the two variables we were able to include in this model due to the reduced sample size. That is *hispanic* and *FBExposed*. As we see from the results, *hispanic* comes back as highly significant, indicating that there is strong rationale for including it in the data set in exchange for reducing the total number of respondents in the data set. Conversely, the *FBExposed* variable, designed to capture whether high skilled workers in states where they would be highly exposed to the effects of immigration are more opposed to immigration than their counterparts in lower exposure states, came back as insignificant, demonstrating that though skill level is significant in determining the probability that an individual will support restrictive immigration policies, it does not necessarily fall in line with the expectations of the Fiscal Burden Model.

The first observation to be made with Table 7 concerns the magnitude of the coefficients of the year variables in this set of regressions. Once again, we see almost no variation of the year coefficients between the three regressions within the set with all results coming back highly significant. In this set of regressions, we have *year2004* at .301, *year2008* at .316, *year2010* at .241, *year2012* at .221, and *year2014* at .157, with all the coefficients experiencing virtually no change when *FBExposure* and *Complexity* are introduced in the second and third regressions in the table. While we observe the same general trend within the year coefficients that we did in the first set, with the positive magnitudes that decrease each year, save for a slight increase in 2008,

the general magnitude of the coefficients in this set of regressions is reduced as compared to the set which included 1996. However, given the reduction in sample size, this does not appear too out of the ordinary and the fact that the general trend is maintained suggest strongly that this is a trend worth discussing further in the analysis.

The coefficients of the *Complexity* variable in Table 7 corroborate with the results that came out of the first set of regressions, demonstrating that individuals with more highly complex occupations are less likely to favor a more restrictive immigration policy. Though the magnitudes do not exactly line up, with the set of regressions in Table 7 boasting a slightly higher magnitude at -.0982 in the second regression and -.0965 in the third, as compared to -.0846 in Table 6, the continuity in sign and significance demonstrate that this effect is an important determinant of policy preference in both models. However, the *FBExposure* variable, one of the primary reasons to restrict the sample to this time period, comes out as insignificant, further diminishing the effects of the Fiscal Burden model, demonstrating that individuals who are more exposed to the fiscal effects of immigration are no more or less likely to favor restrictive immigration policy than those who are less exposed to its effects.

The last key variable that was introduced in this set of regression is the *hispanic* variable, which was added in an effort to capture the demographic effects of individuals who come from Hispanic or Latino backgrounds. The associated coefficient of -0.232 varies only slightly in the second and third regressions and, given that the coefficients for *hispanic*\_ each came back as highly significant, illustrates that individuals from Hispanic and Latino backgrounds are significantly less likely to support restrictive immigration policies.

The final set of regressions in this investigation, depicted in Table 8, explores whether or not the prevalence of Chinese imports into the respondent's state of residence has a significant effect on the probability that an individual will have stronger feelings for or against more restrictive immigration policies. The rationale here is that if individuals come from states experiencing larger amounts of other types of globalization, they may have stronger feelings towards immigration by extension. However, upon inspection of the regression results, it becomes evident that imports are not a major influence on the probability that an individual is in support of more restrictive immigration policy being adopted in the United States.

Further reiterating the results of Table 6 and Table 7, Table 8 also demonstrates that the coefficients for the year dummies come back as highly significant and demonstrate a pattern that is in line with the one depicted in both of the previous sets of regressions, with positive coefficients that decrease in magnitude the closer the years get to 2016. In this set of regressions, we see the first regression taking the coefficients for *year2008* at .305, *year2010* at .229, *year2012* at .210, and *year2014* at .145. Again, these coefficients remain virtually unchanged even when other variables are introduced, signaling that there are in fact strong time trends associated with the probability that an individual is in support of more restrictive immigration policy.

The next coefficient of interest that is important to discuss in the context of these results is *Complexity* and how its effects are changed under the new sample. While the magnitude and sign of *Complexity* do not change dramatically, as it produces a coefficient of -.877, similar in sign and magnitude to the results described in Tables 6 and 7, the fact that the results no longer come back as statistically significant at the 5%

level is a significant change that must be considered in the analysis of these results. Though the *FBExposed* came back as statistically insignificant when it was tested in Table 7, it was included in Table 8 as well in order to explore whether these effects would change under a different sample. However, just as in Table 7, *FBExposed* came back as statistically insignificant, demonstrating the fact that exposure to the fiscal effects of immigration did not affect the probability that an individual would favor more restrictive immigration policies.

The last variable of interest to be introduced in the set of regressions depicted in Table 8 is *logChinese\_Imports\_PC*, which essentially takes the log value of Chinese Import per capita by state and attempts to use that as a proxy for an individual's exposure to other forms of globalization. The goal is to determine whether such exposure may shape how an individual forms preferences regarding immigration policy. While the coefficients came back at .000907 in the third regression and .00199 in the fourth, respectively, suggesting that individuals who are more exposed to Chinese Imports do in fact face an increased probability of supporting more restrictive immigration policies, the fact that these results were insignificant, even at the 10% level, demonstrates that exposure to Chinese Imports does not actually affect the probability that an individual will form preferences in a particular way regarding immigration policy.

#### 6. Discussion

This paper sought out to examine a variety of theories that have been addressed in the body of literature and whether these theories were viable means of predicting the likelihood that an individual would either be in support of or opposed to an increase in the levels of immigration into the United States. Additionally, it sought to demonstrate whether other factors, such as time, imports, or how offshorable an individual's occupation was, were significant determinants. Through the exploration of a large, previously underexplored dataset over an extended period of time, this investigation has reached conclusions about the effectiveness of each of these theories and effects.

The primary model covered by economic theory and explored throughout the body of literature is the Factor-Proportions Analysis Model. According to this model we should see a trend where higher skilled individuals are more inclined to not oppose increases in immigration, under the assumption that the general perception is that the majority of immigrants entering the United States are going to be working low skilled jobs. This plays out consistently in the results section where we observe strong negative relationships between <code>anti\_immig</code> and both <code>Complexity</code> and <code>college\_grad</code>, respectively, demonstrating that highly skilled individuals are significantly less likely to be in favor of limiting immigration than their lower skilled counterparts.

The other primary economic theory that this investigation sought to examine was the Fiscal Burden Model. Under the Fiscal Burden model, individuals who are more highly skilled should oppose generally low skilled immigration, as they will be made to bear more of the costs associated with immigration through taxation. These effects are expected to be more pronounced in states where individuals are more

exposed to immigration and who live in states with more generous welfare programs.

Ultimately, the effects were not borne out in the results and it would be safe to say, given all three sets of regressions, that the predictions of the Fiscal Burden Model does not significantly predict the probability that an individual will be in support of reducing the number of immigrants into the United States.

Apart from the existing theories which address how individuals are expected to feel about increases or decreases in immigration into the United States, this investigation also sought to test a number of other factors to determine whether they had any bearing on how individuals felt about immigration policy. The first of these was to test whether or not the increases in globalization over the last decades, particularly as it pertains to imports from China, would be a significant predictor of how individuals would feel about immigration policy. In both regressions in which the variable capturing the imports per capita of each respondents' home state was included, the coefficient came back as statistically insignificant, suggesting that although globalization and more specifically, Chinese imports, have been a hot button topic over the past couple decades, their effects have not significantly swayed Americans to form opinions on immigration.

The final hypothesis this investigation sought to test concerned the effects of macroeconomic shocks on how probable it was for individuals to form anti-immigration preferences. Though specific effects such as the effects surrounding such significant events did not come to the forefront, there were significant results demonstrating the fact that, perhaps surprisingly, individual preferences towards immigration have become increasingly less anti-immigrant as the past two decades have progressed.

The strong significance of these results paired with the fact that they appear in all three regression sets demonstrate that as a whole, Americans have become less anti-immigrant over the past two decades, despite what the divided rhetoric in the media may have one believe.

### 7. Conclusion

Ultimately, immigration is an issue which possesses numerous social implications that undoubtedly appear in the results of this investigation, as we see factors such as political leanings, race, and immigrant families playing a large role in determining whether an individual will be opposed to increases in immigration into the United States. However, this investigation has also demonstrated strong support that the Factor Proportions Analysis model as an effective tool for predicting whether an individual will be in support of limiting immigration into the United States.

Additionally, this investigation has also demonstrated that opinions in the United States have been changing over time and the average individual today is less likely to have anti-immigrant sentiments than an individual in the past, demonstrating a definitive shift in the perceptions of United States citizens as time has progressed.

# 8. Appendices

## Table 1:

Variable Name	Description	Range of Values
anti_immig	Indicates respondent thinks	1: Respondent
	immigration should either be	expressed anti-
	"reduced a little" or "reduced a	immigration beliefs
	lot"	0: Respondent did not express anti-
		immigration beliefs
dropout	Education dummy that	1: Respondent falls in
	indicates respondent did not	this category.
	graduate from high school.	0: Respondent is not in
		this category.
hs_grad	Education dummy that	1: Respondent falls in
	indicates respondent's highest	this category.
	degree is from high school.	0: Respondent is not in
		this category.
jc_grad	Education dummy that	1: Respondent falls in
	indicates respondent achieved a	this category.
	two-year associate's degree but	
	no further degree.	

0: Respondent is not in this category.

aallaga guud	Education dynamics that	1. Dogwood days falla in
college_grad	Education dummy that	1: Respondent falls in
	indicates respondent achieved a	this category.
	four-year bachelor's degree or	<b>0:</b> Respondent is not in
	further degree	this category.
age	Indicates the respondent's age.	18-89: Respondent's
		age
black	Indicates if the respondent	1: Respondent is Black
	identifies as Black.	
		<b>0:</b> Respondent is not
		Black
hispanic_	Indicates if the respondent	1: Respondent is
	identifies as Hispanic and/or	Hispanic/Latino
	-	Trispanie/ Latino
	Latino.	<b>0:</b> Respondent is not
		Hipanic/Latino
liberal	Indicates if the respondent	1: Respondent is liberal
	views themselves as "Liberal"	<b>0:</b> Respondent is not
	or "Extremely Liberal" on the	liberal
	political spectrum.	

conservative	Indicates if the respondent	1: Respondent is
	views themselves as	conservative
	"Conservative" or "Extremely	<i>0:</i> Respondent is not
	Conservative" on the political	conservative
	spectrum.	
year	A set of dummy variables	1: Respondent
	representing each survey year	interviewed in the
	under investigation:	indicated year.
	Eg) year1996, year2004 etc.	0: Respondent was not
		interviewed in the
		indicated year
high_income	Measures whether an individual	1: Respondent is in the
	was in the top quarter of fixed	top quartile
	income among all respondents	<b>0:</b> Respondent is not in
	in a particular year.	the top quartile
, .	M	1. D 1
low_income	Measures whether an individual	1: Respondent is in the
	was in the bottom quarter of	bottom quartile
	fixed income among all	<b>0:</b> Respondent is not in
	respondents in a particular year.	the bottom quartile

FBExposure	This is the variable described	1: The respondent does
	by Hanson, Scheve and	live in a state that meets
	Slaughter (2007) that will	these conditions.
	determine whether the	<b>0:</b> The respondent does
	respondent lives in a state that	not live in a state that
	has both above average levels	meets these conditions.
	of immigrant population and of	
	government expenditure on	
	public assistance per resident. <sup>29</sup>	
Complexity	Indicates how susceptible the	Continuous 1 to 5 scale
	respondent's occupational	with 1 being the least
	industry is to offshoring and	complex and 5 the
	import penetration.	most.
logChinese_Imports_PC	Indicates the log of Chinese	All data points exist in
	imports per capita in the state	the range from 4.5 to
	of residence of the respondent	8.3 in this dataset.
	in the year the interview was	
	conducted.	

<sup>&</sup>lt;sup>29</sup> Scheve, Slaughter, and Hanson, "Public Finance and Individual Preferences Over Globalization Strategies."

Table 2:

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
age	7,650	47.46	16.80	18	89
pro_immig	7,650	0.133	0.340	0	1
year1996	7,650	0.124	0.329	0	1
year2004	7,650	0.0931	0.291	0	1
year2008	7,650	0.135	0.341	0	1
year2010	7,650	0.143	0.350	0	1
year2012	7,650	0.130	0.337	0	1
year2014	7,650	0.178	0.382	0	1
year2016	7,650	0.198	0.398	0	1
anti_immig	7,650	0.499	0.500	0	1
conservative	7,650	0.192	0.394	0	1
liberal	7,650	0.158	0.365	0	1
white	7,650	0.773	0.419	0	1
black	7,650	0.144	0.351	0	1
college_grad	7,650	0.285	0.452	0	1
jc_grad	7,650	0.0833	0.276	0	1
hs_grad	7,650	0.517	0.500	0	1
dropout	7,650	0.115	0.319	0	1
low_income	7,650	0.209	0.407	0	1
high_income	7,650	0.231	0.421	0	1
immigrant_parent	7,650	0.189	0.392	0	1
Complexity	7,650	3.046	0.456	1.880	4.190

Table 3:

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
age	5,534	47.41	16.83	18	89
pro_immig	5,534	0.148	0.355	0	1
year2004	5,534	0.102	0.303	0	1
year2008	5,534	0.148	0.355	0	1
year2010	5,534	0.163	0.370	0	1
year2012	5,534	0.154	0.361	0	1
year2014	5,534	0.205	0.403	0	1
year2016	5,534	0.227	0.419	0	1
anti_immig	5,534	0.455	0.498	0	1
conservative	5,534	0.188	0.391	0	1
liberal	5,534	0.169	0.374	0	1
white	5,534	0.745	0.436	0	1
black	5,534	0.156	0.363	0	1
college_grad	5,534	0.310	0.463	0	1
jc_grad	5,534	0.0853	0.279	0	1
hs grad	5,534	0.497	0.500	0	1
dropout	5,534	0.107	0.310	0	1
low income	5,534	0.194	0.395	0	1
high income	5,534	0.236	0.425	0	1
immigrant parent	5,534	0.223	0.416	0	1
hispanic	5,534	0.135	0.341	0	1
FBExposed	5,534	0.303	0.459	0	1
Complexity	5,534	3.061	0.460	1.880	4.190

Table 4:

	(1)	(2)	(3)	(4)	(5)
VARIABLES	N	mean	sd	min	max
age	4,968	47.73	16.89	18	89
pro_immig	4,968	0.154	0.361	0	1
year2008	4,968	0.165	0.371	0	1
year2010	4,968	0.182	0.386	0	1
year2012	4,968	0.172	0.377	0	1
year2014	4,968	0.228	0.419	0	1
year2016	4,968	0.253	0.435	0	1
anti immig	4,968	0.449	0.497	0	1
conservative	4,968	0.187	0.390	0	1
liberal	4,968	0.174	0.379	0	1
white	4,968	0.741	0.438	0	1
black	4,968	0.160	0.367	0	1
college grad	4,968	0.311	0.463	0	1
jc_grad	4,968	0.0841	0.278	0	1
hs_grad	4,968	0.497	0.500	0	1
dropout	4,968	0.108	0.311	0	1
low income	4,968	0.188	0.391	0	1
high income	4,968	0.232	0.422	0	1
immigrant parent	4,968	0.225	0.417	0	1
hispanic	4,968	0.139	0.346	0	1
FBExposed	4,968	0.305	0.460	0	1
Complexity	4,968	3.059	0.461	1.880	4.190
logChinese_Imports_PC	4,968	6.907	0.754	4.558	8.277

Table 5:

	age	anti_immig	FBExposed	conservative	liberal	white	black	hispanic_	college_grad
age	1								
anti_immig	0.0862	1							
FBExposed	-0.0147	-0.0661	1						
conservative	0.103	0.1221	-0.0748	1					
liberal	-0.043	-0.152	0.1077	-0.22	1				
white	0.1572	0.1194	-0.0527	0.0968	-0.0482	1			
black	-0.0895	-0.0393	-0.0555	-0.0677	0.0172	-0.7387	1		
hispanic	-0.1659	-0.1287	0.1615	-0.0765	0.0004	-0.1744	-0.1246	1	
college grad	0.047	-0.1251	0.0918	0.005	0.1113	0.1015	-0.1109	-0.1328	1
je grad	-0.0426	0.0251	-0.0053	0.0031	-0.0355	0.0021	0.0139	-0.0379	-0.2036
hs grad	-0.0458	0.107	-0.0919	-0.0067	-0.0853	-0.0337	0.0851	-0.0056	-0.6675
dropout	0.0418	-0.0082	0.016	0.0006	0.0031	-0.099	0.0158	0.2407	-0.2339
low income	-0.0347	0.0112	-0.0093	-0.0315	0.0233	-0.138	0.1019	0.0915	-0.2117
high_income	0.008	0.0071	0.0984	0.0466	-0.0162	0.1202	-0.123	-0.0883	0.282
Immigrant parent	-0.0578	-0.1895	0.2105	-0.0966	0.0476	-0.2079	-0.0931	0.4839	0.0062
Complexity	0.0927	-0.0538	0.0515	0.0503	0.0414	0.1438	-0.1387	-0.1446	0.4591
logChinese Import PC	-0.0243	-0.0541	0.3027	-0.0391	0.0321	-0.0542	-0.0234	0.159	0.0182

	jc_grad	hs grad	dropout	low income	high income	Immigrant_ parent	Complexity	logChi~C
			•	_	~ -			-
jc_grad	1							
hs_grad	-0.3012	1						
dropout	-0.1055	-0.3459	1					
low_income	-0.0399	0.0665	0.2443	1				
high_income	0.0036	-0.1691	-0.1513	-0.2642	1			
Immigrant_parent	-0.0085	-0.1007	0.1606	0.0413	-0.0306	1		
Complexity	0.0264	-0.2842	-0.2503	-0.2716	0.2887	-0.0295	1	
logChinese_Import_PC	-0.0126	-0.0388	0.0467	-0.0162	0.0307	0.1766	0.0085	1

Table 6:

	(1)	(2)
VARIABLES	anti immig	anti immig
year1996	0.549***	0.549***
•	(0.0573)	(0.0573)
year2004	0.280***	0.283***
	(0.0611)	(0.0611)
year2008	0.295***	0.296***
	(0.0555)	(0.0555)
year2010	0.238***	0.236***
	(0.0545)	(0.0545)
year2012	0.152***	0.152***
	(0.0560)	(0.0560)
year2014	0.138***	0.138***
	(0.0518)	(0.0518)
Complexity		-0.0846**
		(0.0384)
high_income	-0.0234	-0.0115
	(0.0408)	(0.0411)
low_income	-0.0538	-0.0644
	(0.0419)	(0.0422)
liberal	-0.389***	-0.388***
	(0.0427)	(0.0426)
conservative	0.182***	0.185***
	(0.0388)	(0.0389)
age	0.00495***	0.00513***
	(0.000910)	(0.000914)
white	0.292***	0.293***
	(0.0631)	(0.0631)
black	0.0661	0.0603
	(0.0724)	(0.0725)
college_grad	-0.378***	-0.334***
	(0.0555)	(0.0592)
jc_grad	0.0138	0.0407
1 1	(0.0689)	(0.0700)
hs_grad	0.0247	0.0373
, , ,	(0.0496)	(0.0499)
immigrant_parent	-0.542***	-0.544***
C = = t = t	(0.0430)	(0.0430)
Constant	-0.451***	-0.225
	(0.0909)	(0.138)
Observations	7,650	7,650
Cosci vations	1,030	7,030

Table 7:

	(1)	(2)	(3)
VARIABLES	anti_immig	anti_immig	anti_immig
year2004	0.301***	0.302***	0.301***
	(0.0687)	(0.0687)	(0.0687)
year2008	0.316***	0.317***	0.316***
	(0.0626)	(0.0626)	(0.0626)
year2010	0.241***	0.238***	0.238***
	(0.0608)	(0.0608)	(0.0608)
year2012	0.221***	0.221***	0.221***
	(0.0617)	(0.0618)	(0.0618)
year2014	0.157***	0.156***	0.155***
	(0.0579)	(0.0579)	(0.0580)
Complexity		-0.0982**	-0.0965**
		(0.0451)	(0.0454)
ComplexityFBExposed			-0.00515
			(0.0127)
high_income	-0.0318	-0.0178	-0.0160
	(0.0482)	(0.0486)	(0.0488)
low income	-0.0564	-0.0693	-0.0690
_	(0.0509)	(0.0513)	(0.0513)
liberal	-0.393***	-0.391***	-0.390***
	(0.0496)	(0.0496)	(0.0498)
conservative	0.213***	0.217***	0.216***
	(0.0458)	(0.0459)	(0.0459)
age	0.00429***	0.00445***	0.00446***
	(0.00107)	(0.00107)	(0.00107)
white	0.200***	0.201***	0.200***
	(0.0705)	(0.0706)	(0.0707)
black	-0.0146	-0.0225	-0.0238
	(0.0823)	(0.0825)	(0.0826)
hispanic_	-0.232***	-0.239***	-0.237***
	(0.0644)	(0.0644)	(0.0646)
college_grad	-0.409***	-0.359***	-0.358***
0 _0	(0.0675)	(0.0714)	(0.0715)
jc_grad	-0.0312	-0.00208	-0.00147
3	(0.0824)	(0.0834)	(0.0834)
hs grad	-0.00289	0.0109	0.0113
	(0.0608)	(0.0611)	(0.0611)
immigrant parent	-0.450***	-0.449***	-0.447***
<u> </u>	(0.0518)	(0.0518)	(0.0522)
Constant	-0.354***	-0.0859	-0.0874
	(0.110)	(0.166)	(0.166)
	` ,	,	` '
Observations	5,534	5,534	5,534

Table 8:

-	(1)	(2)	(3)	(4)
VARIABLES	anti_immig	anti_immig	anti_immig	anti immig
year2008	0.305***	0.305***	0.305***	0.306***
<i>y</i>	(0.0633)	(0.0633)	(0.0638)	(0.0638)
year2010	0.229***	0.226***	0.230***	0.227***
•	(0.0614)	(0.0614)	(0.0615)	(0.0616)
year2012	0.210***	0.210***	0.210***	0.210***
•	(0.0624)	(0.0624)	(0.0624)	(0.0625)
year2014	0.145**	0.144**	0.145**	0.143**
•	(0.0586)	(0.0587)	(0.0586)	(0.0587)
Complexity	, , ,	-0.0877*	,	-0.0877*
		(0.0479)		(0.0479)
ComplexityFBExposed		-0.00165		-0.00193
		(0.0134)		(0.0139)
high_income	-0.0121	0.00108	-0.0122	0.000913
	(0.0516)	(0.0522)	(0.0517)	(0.0523)
low_income	-0.0332	-0.0449	-0.0332	-0.0449
	(0.0548)	(0.0552)	(0.0548)	(0.0552)
liberal	-0.409***	-0.407***	-0.409***	-0.407***
	(0.0520)	(0.0522)	(0.0520)	(0.0522)
conservative	0.225***	0.228***	0.225***	0.228***
	(0.0485)	(0.0486)	(0.0485)	(0.0486)
age	0.00444***	0.00460***	0.00444***	0.00460***
	(0.00113)	(0.00113)	(0.00113)	(0.00113)
white	0.216***	0.216***	0.216***	0.216***
	(0.0743)	(0.0745)	(0.0743)	(0.0745)
black	-0.0168	-0.0250	-0.0168	-0.0251
	(0.0866)	(0.0869)	(0.0867)	(0.0869)
hispanic_	-0.214***	-0.220***	-0.214***	-0.220***
	(0.0678)	(0.0680)	(0.0680)	(0.0682)
college_grad	-0.375***	-0.329***	-0.375***	-0.329***
	(0.0716)	(0.0759)	(0.0716)	(0.0759)
jc_grad	-0.0302	-0.00344	-0.0302	-0.00332
	(0.0874)	(0.0885)	(0.0874)	(0.0885)
hs_grad	0.0104	0.0237	0.0105	0.0238
	(0.0645)	(0.0649)	(0.0645)	(0.0649)
immigrant_parent	-0.449***	-0.447***	-0.449***	-0.447***
1 61	(0.0549)	(0.0553)	(0.0551)	(0.0554)
logChinese_Imports_PC			0.000907	0.00199
	0.000	0.1.50	(0.0254)	(0.0264)
Constant	-0.392***	-0.152	-0.399*	-0.166
	(0.115)	(0.174)	(0.212)	(0.254)
	4.0.60	4.060	4.060	4.060
Observations	4,968	4,968	4,968	4,968

### 9. Bibliography

- Allen, Katy. "Trump's Economic Polices: Protectionism, Low Taxes and Coal Mines." *The Guardian*. November 9, 2016. https://www.theguardian.com/usnews/2016/nov/09/trumps-economic-policies-protectionism-low-taxes-and-coalmines/ (Accessed April 22, 2017).
- Costinot, Arnaud, Lindsay Oldenski, and James Raunch. "Adaptation and the Boundary of Multinational Firms" *The Review of Economics and Statistics*, MIT Press, 93, no.1 (February 2011).
- Citrin, Jack, Donald P. Green, Christopher Muste, and Cara Wong. "Public Opinion Toward Immigration Reform: The Role of Economic Motivations." *The Journal of Politics* 59, no. 3 (August 1997): 858–81.
- Dustmann, Christian, and Ian Preston. "Racial and Economic Factors in Attitudes to Immigration." *B E Journal of Economic Analysis & Policy* 7, no. 1 (n.d.): 1–39.
- Espenshade, Thomas J., and Katherine Hempstead. "Contemporary American Attitudes Towards US Immigration." *The International Migration Review* 30, no. 2 (Summer 1996): 535–70.
- Hainmueller, Jens, and Michael J Hiscox. "Attitudes toward Highly Skilled and Low-Skilled Immigration: Evidence from a Survey Experiment." *The American Political Science Review* 104, no. 1 (February 2010): 61–84.
- "Jeff Sessions Takes Strong Anti-Immigration Views to Justice Department." Narrated by Robert Siegel. All Things Considered. *National Public Radio*, February 9, 2017. http://www.npr.org/2017/02/09/514365597/jeff-sessions-takes-strong-anti-immigration-views-to-justice-department.
- Mayda, Anna Maria. "Who Is Against Immigration? A Cross-Country Investigation of Individual Attitudes toward Immigrants." *The Review of Economics and Statistics* 88, no. 3 (2006): 510–30.
- Mayda, Anna Maria, and Facchini. "Does the Welfare State Affect Individual Attitudes Toward Immigrants? Evidence Across Countries." *The Review of Economics and Statistics* 91, no. 2 (2009): 295–314.
- Migration Policy Institute. "U.S. Immigrant Population and Share over Time, 1850-Present." migrationpolicy.org. http://www.migrationpolicy.org/programs/data-hub/charts/immigrant-population-over-time (accessed April 19, 2017).
- Scheve, Kenneth F., and Matthew J. Slaughter. "Labor Market Competition and Individual Preferences Over Immigration Policy." *Review of Economics and Statistics* 83, no. 1 (February 2001): 133–45.

Scheve, Kenneth F., Matthew J. Slaughter, and Gordon H. Hanson. "Public Finance and Individual Preferences Over Globalization Strategies." *Economics and Politics* 19, no. 1 (March 2007): 1–33.