

Attitudes towards Immigration in the United States

Chen Niu

Major paper submitted to the
Department of Economics in the Faculty of Social Sciences
In partial fulfillment of the requirements
for Master's of Arts in Economics

Supervisor: Professor Pierre R. Brochu

Department of Economics
Faculty of Social Sciences
University of Ottawa

© Chen Niu, Ottawa, Canada, 2010

ABSTRACT

This paper examines attitudes towards immigration in the United States. Specifically, I explore the determinants of attitudes towards immigrants using the 1996 and 2004 American General Social Survey data. The richness of attitudinal questions in the General Social Survey makes it possible to address such a question. I analyze both pro-immigrant and anti-immigrant sentiments. When analyzing the anti-immigrant perspective, I find the results are more significant than the pro-immigrant perspective both economically and statistically. Also I find that both economic and non-economic determinants play a role in shaping the attitude of immigration in America. Individuals that have more anti-immigrant opinion tend to be less educated, favour right wing parties and have parents that are both American citizens.

1. Introduction

Immigration has been a major source of population growth and cultural change throughout much of American history. As of 2006, the United States has accepted more legal immigrants, i.e. 37.5 million, than any other country in the world (Terrazas and Batalova 2009). In addition to legal immigration, Immigration and Naturalization Service report that there was a dramatic increase in undocumented (illegal) immigrants, which by the end of the 1990s had grown to over 8 million.

Immigration has always been an important political and social issue not only in United States but all around the world. So it is natural that such a topic attracts many sociologists' and economists' attention. Clark *et al.* (2002) investigated where the United States Immigrants came from and why they came to the United States. Dustmann and Preston (2004) studied the immigrants impact on the whole nation's economy. The effect on wages and employment has been a particular strong focus of attention (Borjas 1994; Friedberg and Hunt 1995). Roemer (2006) researched the effect of immigration on global welfare. Marasini and Migliorati (2006) examined the characteristics of immigrant people.

Recently, a literature has evolved to address the formation of opinion and attitudes towards immigrants and immigration. Huddle (1993) worked on the both sentiments such as: economic cost and benefits immigrants bring to the nation. Prior researchers focus mostly on anti-immigrant attitudes (e.g. Scheve and Slaughter 2001; Kessler and Freeman 2005; Mughan and Paxton 2006). The unsettling feeling of American citizens comes from not only the fear of losing jobs in labour market when competing with

immigrants but also worrying about their culture being threatened by foreign influence. Espenshade and Calhoun (1993) found that older individuals often consider immigrants to be more costly than beneficial to the community, and they naturally favour greater restrictions on immigration. Why do Americans have the pro or anti immigrant attitude? What factors shape these views of immigrants?

I address these questions by empirically analyzing attitudes towards immigrants, using the 1996 and 2004 General Social Survey. By using United States data, I replicate Facchini and Mayda (2008) approach. [1] Unlike the other academic reports that focused exclusively on pro-immigrant or anti-immigrant sentiments, I analyze both. I investigate this issue by using three different models Linear Probability, Probit, and Ordered Probit.

I find evidence suggesting that both anti and pro immigrant sentiments are helpful in understanding the United States individuals' attitudes towards immigrants. I use a Probit model to study the anti-immigrant sentiment. The advantages are that it is easy to understand the meanings of estimated coefficients and these estimated coefficients are both economically and statistically significant. This is consistent with Facchini and Mayda (2008) who used Ordered Probit to analyse pro-immigrant sentiment. I do discover that there is a negative relationship between higher education and anti-immigrant attitude. Also, the individual whose both parents are American citizens or belong to the right wing party will have more chance of having anti-immigrant attitude.

The paper is divided into five sections. The first section reviews the extensive literature analyzing opinion formation towards immigrants. The second section gives a brief

¹ Facchini and Mayda (2008) use the ISSP for 34 countries including the United States. When they did the regression they used the Ordered Probit model analyzing pro-immigrant opinion.

description and overview of the data. The third explores the core factors that shape the opinions using three econometric models: the LPM, the Probit and the Ordered Probit models. The fourth section carries out robustness checks, and the final section discusses the implications of the findings.

2. Literature Review

The literature analyzing opinion on immigration and immigrants is growing rapidly, especially in Europe and North America. It can be divided into two branches: the anti-immigrant sentiment and pro-immigrant sentiment.

2.1. Anti-Immigrant Sentiment

The majority of the researchers examine the anti-immigrant sentiment. The dominant explanation for the hostility towards immigrants is the group threat theory. I first present the theory, and then the empirical works that test theoretical predictions of the model.

The Group Threat theory dates back to Blumer's (1958) racial group conflict which was expanded by Bobo's (1983; 1988) realistic conflict theory. Realistic conflict theory hold that the limited resources would lead the conflict in different groups and this kind of conflict is the direct reason for social discrimination. Group threat theory (Blalock 1967; Hardin 1995) suggests that the dominant native group feels threatened by the immigrants, since they may fear losing their material and economic sources such as jobs, social welfare and political power.

The group threat theory in economics can be divided into two general types, the

individual theory and the collective theory. The former one analyses micro-level, while the latter is concerned with macro-level. Both theories presume that different public opinions are formed depending on the state of economy (Kehrborg 2007). The collective theory suggests that the individuals will hold a negative view against immigrants when the economy is in bad time. But the individual theory pay more attention to the individual's economic situation such as its real income, employment state and social class.

Labour market competition theory is particularly useful in understanding the individual theory. For employees, the low-skilled immigrants will take jobs away from the less-skilled and less-educated native citizens because they are willing to work at lower wages (Scheve and Slaughter 2001). So the low-skilled and blue-collar workers would have more negative attitude towards immigrants (Dustmann *et al.* 2004; Card 2005). The same is not true for employers. Moreover, they pay immigrants lower wages than native-born employee because immigrants have fewer skill or limited English ability to get more benefits (Borjas 1988).

For the collective theory, Kessler and Freeman (2005) provide a good illustration of the mechanism in place. They used Eurobarometer Survey data for 1988, 1993, 1997 and 2000 to investigate the attitudes towards immigrants in 15 European Union countries. [2] They found that anti-immigrant opinion peaked in the mid-1990s. They concluded that respondents would take anti-immigrants attitudes when the economic condition worsened and had more friendly attitudes as the economy recovered.

² The attitudes towards immigration was measured by the following question: "Generally speaking, how do you feel about people living in your country who are not nationals of the European Community/Union countries: are there too many, a lot but not too many or not many?"

Blendon *et al.* (2005) discussed the current attitudes of immigration based mainly on a survey by the National Public Radio in 2004, a nationally representative sample of 1,888 adults, which include 1,104 non-immigrants and 784 immigrants in the United States. They found that Americans welcome immigrants, but a majority believe that illegal immigrants have hurt the economy and increased terrorism. The public strongly feels that the government should stem the flow of immigrants, in particular illegal migrants, because of job loss and the higher cost of illegal immigrants to tax payers.

2.2. Pro-Immigrant Sentiment

A minority of researchers have analyzed theories of pro-immigrant sentiment. The contact theory (Allport 1954; Pettigrew 1998; Dixon 2006) was used to interpret the pro-immigrant opinion. Additionally, positive attitudes towards immigrants have been explained also using the concepts of cosmopolitanism (Chandler and Tsai 2001) or "global worldview" (Espenshade and Hempstead 1996). Each of these concepts will be explained below.

The contact theory states that both individual and societal differences shape inter-group contact effects. When there is more contact, the groups will understand each other better and have positive feelings for each other. Based on this theory we can understand why people living in the metropolitan areas would feel more group threat since there is less contact between different groups (Oliver & Wong 2003).

Bean (1995) defined cosmopolitans as people having more open opinion with respect to others. Those people can embrace different cultures and traditions and they believe the idea that all of humanity belongs to a single mental community.

Haubert and Fussell (2006) analyze theories of pro-immigrant sentiment based on the 1996 United States General Social Survey. Their framework focuses on how material and social interests of workers may explain pro-immigrant sentiment. They find evidence that cosmopolitans generally support multiculturalism. Their result shows that college education, white-collar employment, and the rejection of ethnocentrism are all related to a more positive view on immigrants. However, there is one important drawback in their empirical work. They use Ordinary Least Squares (OLS), yet the dependent variable is divided into five categories. There is no reason to define an exact number for each category since we cannot observe the gaps between categories. For example, there is a large gap between "reduce a lot" and "reduce a little" as compared to "reduce a little" and "stay as the same". All that matters is ranking and not the exact choice of numbers. Yet, OLS is sensitive to the choice of numbers.

Facchini and Mayda (2008) used the 1996 and 2004 rounds of the General Social Survey ISSP module, consisting of a repeated cross nation data. They investigate the economic and non-economic determinants of individual attitudes towards immigration. The data set includes 33 OECD and developing countries. They measure the attitudes towards immigration based on the respondents' answers in the two rounds of the ISSP survey to the following question: "Do you think the number of immigrants to (respondent's country) nowadays should be: (a) reduced a lot, (b) reduced a little, (c) remain the same

as it is, (d) increased a little, or (e) increased a lot." They show that individual's opinions to immigrants varie across countries over the years. They identily three main channels that affect public opinion: labour market channel, welfare states channel and efficiency channel. Their analysis supports the role played by these three economic channels. In particular, individual skills and income have opposite effects on individual attitudes towards immigrants. For example, the high-skill and high-income employee will feel unthreatened by the low-skill and low-income new immigrants because they can hire these immigrants in low wages and benefit. However, from it the welfare state channel would hurt them since they have to pay more taxes to support these low-income immigrants.

Card *et al.* (2005) use the first round of the 2002 to 2003 European Social Survey (ESS) data, a cross section data set of 24 countries. They investigate the publics' views about immigration and its impact on the economy, and on the public and private life of individuals. Card *et al.* (2005) find that the attitudes vary across European countries and across different demographic and socio-economic backgrounds. For the cross countries perspective, differences in economic conditions and differences in the number of immigrants already present in the country, seem to explain different attitudes with respect to immigration. Better economic conditions may release the stresses leading to anti-immigrant attitudes of individual. Within countries, the two key variables are age and educational attainment. There is a strong correlation between completing higher education and having more favorable views toward immigration. The natives desire the immigrants come from rich countries instead of poor countries. Finally, the public's views are also shaped by the desire of social contact with other people.

3. Data

3.1. General Social Survey (GSS)

The data used in this paper comes from the widely used United States General Social Survey (GSS) which was carried out by the National Opinion Research Center at the University of Chicago. The GSS collects both demographic information and respondent's opinions. Every survey year, they choose different respondents to answer the questionnaire so the data they obtain is cross sectional in nature.

Although there are other surveys that contain questions relating to immigration, the GSS is unique in that it asks respondents their opinions on a large variety of issues. In addition to the standard questions, the GSS also introduces modules that focus on particular topics. The International Social Survey Programme National Identity (ISSP-NI) module was asked both in 1996 and 2004. It focuses on opinions towards immigrants. There were almost 3,000 respondents in 1996 and 2,812 respondents in 2004.

Of interest for this paper is the attitude of United States citizens towards immigrants. The 1996 and 2004 ISSP-NI module asked the following: "There are different opinions about immigrants from other countries living in (respondent's country). By "immigrants" we mean people who come to settle in (respondent's country). Do you think the number of immigrants to (respondent's country) nowadays should be: (a) reduced a lot, (b) reduced a little, (c) remain the same as it is, (d) increased a little, or (e) increased a lot".

There are also other questions related to views towards immigrants in the ISSP. Questions such as "How much do you agree or disagree with each of the following

statements? : 1. Immigrants increase crime rates. 2. Immigrants are generally good for America's economy. 3. Immigrants take jobs away from people who were born in America. 4. Immigrants make America more open to new ideas and cultures". Respondents rated their agreement or disagreement on a scale of one to five with (1) strong agreement, (2) agree, (3) neither agree nor disagree, (4) disagree and (5) strong disagreement. Finally, the GSS also gathers socioeconomic characteristics which I will use as controls in my regression analysis.

I impose the following sample restrictions: first, I exclude individuals with missing information; and second, I exclude those who did not have an opinion towards immigrants, e.g. had "can't choose" and "not available" responses. After imposing my restrictions, I am left with a total sample of 1,509 observations.[3] It should be noted that my sample is about a quarter the original sample. The questions in the ISSP module were asked to only a sub-sample of respondents. Self-selection should not be an issue in this case because the sub-sample was chosen randomly.

3.2. Data Description

I define my pro-immigrant variables (Pro Immigrant Opinion and Pro Immigrant Dummy) as in Facchini and Mayda (2008). They used answers to the immigration question "Do you think the number of immigrants to (respondent's country) nowadays should be : reduced a lot, reduced a little, remain the same as it is, increased a little, increased a lot". The Pro Immigrant Dummy equals 1 if Pro Immigrant Opinion is

³ The number of observations for some variables is less. For example, the question about "Immigrants make America more open to new ideas and cultures" was not asked in 2004.

“increased a little” and “increased a lot”, and 0 otherwise. Anti Immigrant Opinion equals 1 if Pro Immigrant Opinion is “reduce a lot” and “reduce a little”, and 0 otherwise.

Tables 1 and 2 presents a general view on immigration attitude in the United States in 1996 and 2004, respectively. I chose to do a breakdown by year for tow reasons. One, that is what Facchini and Mayda (2008) did, and two, I do observe differences across time which will be discussed below. My findings are consistent with those of Facchini and Mayda (2008).

Table 1 provides the percentage of each different attitude (reduced a lot, reduced a little, remain the same as it is, increased a little, increased a lot) to the questions asked by ISSP in 1996, including the missing values, together with the mean and median of the answers. There were few Americans willing to increase the number of immigrants in 1996. About 6.13% individuals agreed there should be more immigrants to American with only 1.85% respondent thought this kind of increasing should be a lot. Over half citizens were very opposed to immigration. Not surprisingly, the average of Pro Immigrant Opinion is 2.13 with the median is 2 over the whole sample, which means the immigrants now days should reduce a little.

Table 2 presents the same information for 2004. [4] There was a change in attitude in 2004. Over 8% individuals agreed that the number of the immigrants should increase a little or lot. More citizens maintain the neutrality opinion (“remain the same as it is”). Also, the missing observations were less than half of its in 1996, which informs us that more individuals willing to answer this question. Moreover, the average and the median

⁴ The question related to attitude towards immigration were asked in 2004 are exactly the same as in 1996. The GSS does not give explanation to the changes between 1996 and 2004.

education year show us the education improved a little in 10 years. The survey sample I used in Table 1 and Table 2 exclude non-citizens. My summary statistics are very similar those to Facchini and Mayda (2008).

Table 3 shows the summary statistics of other observed variables together with their means and standard deviations by years. For more details, see Appendix. Gender is represent as a male binary variable (MALE). CITIZEN is defined as a binary variable which equals 1 if the respondent is an American citizen, and 0 otherwise. PARICIT presents parents' citizenship which is divided into three categories: parents are U.S. citizens; one of parents is citizen and neither of parents has U.S. citizenship. EDUC is highest year of school completed. LRincome is the real income of the respondent. Pcrime, Pculture and Pleco are binary variables which reflects the opinion towards immigrants, based on responses to the following questions: "How much do you agree or disagree with the following statement? (1) Immigrants increase crime rates, (2) Immigrants make America more open to new ideas and cultures, and (3) Immigrants are generally good for America economy," respectively. UPsclass and UNION are also binary variables which implies whether belong to an upper social class and be a member of trade union respectively. POLITICAL measures the respondent's political affiliation. RELIGIOUS shows the frequency of respondent attending religious services.

For the general background, only AGE and EDUC record major changes between two years. The average age of respondents increased from 42.86 in 1996 to 44.53 in 2004. The average year of education increased by over 0.5 years in eight years. There is no obvious difference for socioeconomic background between year 1996 and 2004. The

estimated coefficients for the opinion on whether immigrants leads to a higher crime rate (PIcrime) increased from 0.3618 in 1996 to 0.4426 in 2004, which denotes more individuals disagree that immigrants increase the crime rate. We can see a jump from the opinion in economy (PIeco) from 1996 to 2004. About 50% respondents believed immigrants were good for whole country's economy in 1996, while this percent increased to 67.88% in 2004. That is somewhat surprising considering September 11 and the negative relation to immigrants that followed it.

4. Econometric Models and Estimation Methods

To better understand the determinants of attitudes towards immigrants, I use three econometrics approaches. Starting with a Linear Probability model, I then use a Probit model and finally, I complete my analysis of attitude determination by using an Ordered Probit model.

What is worth mentioning is that I use the population weight in all of my regressions which deal with the sample problems which includes the non random sample and small sample size. It corrects the sample design and non response bias.

4.1. The Linear Probability Model (LPM)

The LPM takes the following form:

$$Pr(Y_{it} = 1 | X_{it}, W_{it}, Z_{it}) = X_{it}\beta_x + W_{it}\beta_w + Z_{it}\beta_z \quad (1)$$

where Y_{it} is a Pro Immigrant Dummy for individual i in year t .

The **X** vector includes general background like age (AGE), a male dummy (MALE), a citizen dummy (CITIZEN), parents' citizenship (PARCIT), years of education (EDUC) and the log of real income (LRincome). **W** is a vector that includes opinion on whether immigrants increase crime rate (PIcrime), bring new idea and culture (PIculture) and are good for the economy (PIecon). Finally, **Z** is a vector that relates to the socioeconomic background: whether belong to an upper social class (Upsclass), be a member of trade union (UNION), the political affiliation (POLITICAL), and the number of times attending religious activities every year (RELIGIOUS).

I estimated Equation (1) by introducing the control variables sequentially. To start, I regress the model just including **X**. In the next specification I add **W**. The final specification includes all three vectors of controls, i.e. **X**, **W** and **Z**. The parameters of interest are β_x , β_w and β_z , which are the marginal effects.

Table 4 reports the estimated marginal effect (coefficient) of each explanatory variables and their standard errors for Equation (1), separated into the three specifications, and for 1996 and 2004 separately.

In Table 4, I find that there is no significant effect of age on pro-immigrant attitudes in both years. Since the coefficients are economically and statistically insignificant.^[5] This result is not constant with previous works (Kessler and Freeman 2005). An interesting trend is observed in gender effect. Males have a higher chance of having pro-immigrant attitude than female in 1996 since the estimated coefficients of MALE in Specification (1), (2) and (3) were 0.0213, 0.447 and 0.199 respectively. While the probability of

⁵ Economically significant means the size of the effects worth noticed.

taking a pro-immigrant view is higher for female than for male in 2004 because that all the signs of estimated coefficients of MALE changed into positive showing in Specifications (1'), (2') and (3'). It should be noted these findings are statistically insignificant which is in line with the findings of Facchini and Mayda (2008) who find no gender effect at all.

Being a United States citizen decreases the chance of taking a pro-immigrant attitudes. But CITIZEN and PARCIT are different variables. If individual's parents are foreigners, so that the individual has an immigration background, is also related with pro-immigrant opinion. The findings are consistent with the group threat theory that Mughan and Paxton (2006) explains for anti-immigrant sentiment. Education does not affect the chance being pro-immigrant since the coefficients are statistically insignificant in this work, which disobey the correlation between higher rates of education and pro-immigrant sentiment (Espenshade and Hempstead 1996).

In Specification (2) and (2') of Table 4, three variables are added into the model, PICrime, PICulture and Pieco, which measure the perceived impact of migration from respectively a crime, a cultural and a nation-wide economic view. Logically, if individual strongly feels that the immigrants do not increase crime rate of the country, the chance of he or she holding pro-immigrant attitudes will increase. But I do not see very well from PICrime, showed in Specification (2), because the estimated coefficient of PICrime is -0.0419. However, the coefficient is insignificant probably due to the small range of the data set, which leads to most coefficients statistically insignificant.

The rest of the variables have positive signs, which match my expectation. If respondent think immigrants are good for nation's economy, he or she has a 12.82 percentage points

higher chance of being pro-immigrant in 1996, showing in Specification (2). American welcome immigrants if they believe immigrants can bring more new ideas and different culture to the United States and aware of the overall gain from migration.

In Specification (3) and (3'), I focus more attention on socioeconomic background. The upper social class and trade union member seem more important since they are economically significant. The chance of being pro-immigrant would be enhanced when individuals are members of trade union or belonging to a upper social class. Mayda (2006) did not find that being a trade union member has a significant effect on immigration preferences. In my paper, the individual's political affiliation in 1996 and the frequency of attending religious activities do not matter. However, there should be a negative relationship between pro-immigrant view and political affiliation with the right. Just like what Swyngedouw said in 2001: "By far the most important targets of contemporary right-wing radical populist resentment have been immigrants."

4.2. Endogeneity Problem

As I mentioned in the literature review, Haubert and Fussell (2006) analyzed the effect of material and social interests of knowledge workers on pro-immigrant sentiment. They treated opinion on immigrants increasing crime rate (PIcrime), opinion on immigrants bringing new idea and culture (PIculture) and opinion on immigrants good for economy (PIecon) as their outcome variables; in other words as dependent variables. So it is not unreasonable to believe that the unobserved factors in the error term of Equation (1) is also correlated with these three variables, i.e. there is an endogeneity problem. When an explanatory variable is endogenous, the ordinary least squares (OLS) result will be biased

and inconsistent. One approach when there are no obvious instruments is to omit it (e.g. Angrist and Pischke 2009). I follow this approach.

I have already showed in Specification of Table 4 the results when we drop the PIcrime, PIculture and PIEco variables. I can not see a large differences among the general background since most of the expected coefficients are similar between (1) and (1'); (3) and (3'). Even the signs of the expected parameters stay the same as what showed in Specification (2) and (2').

4.3. Probit Model

The LPM is simple to estimate and to use, but it has some shortcomings. It assumes that the marginal effect of any explanatory variable is constant. As such, the fitted probabilities can be less than zero or greater than one. In this section, I use the Probit model to overcome such a limitation of the LPM.

The latent variable representation of the Probit model takes the form:

$$Y_{it}^* = X_{it}\beta + \varepsilon \quad (2)$$

$$Y_{it} = 0 \text{ if } Y_{it}^* \leq 0 \quad (3)$$

$$Y_{it} = 1 \text{ if } Y_{it}^* > 0 \quad (4)$$

where Y_{it}^* is an unobserved (latent) continuous opinion variable. The research only observes the binary variable Y_{it} , where, for example, it equals 1 when the respondent thinks that immigration could be increased, and 0 otherwise. ε is assumed to be normally

distributed. The model shown in Equation (2)-(4) can also be express as follows:

$$Pr(Y_{it} = 1 | X_{it}, W_{it}, Z_{it}) = \Phi(X_{it}\beta_x + W_{it}\beta_w + Z_{it}\beta_z) \quad (5)$$

where Φ is the cumulative normal density. The choice of Φ ensures that the probability is strictly between zero and one. The **X**, **W** and **Z** are exactly the same set of explanatory variables as discussed earlier. Equation (5) shows the marginal effect of each explanatory variable **X**, **Y**, and **W**.

4.3.1. Pro-Immigrant Attitude

As before, Pro Immigrant Dummy is used as my dependent variable when seeing the attitude in pro-immigrant way.

Table 5 provides the estimated values of marginal effect of each explanatory variables and their standard errors for the Probit model, i.e. Equation (5), separated into three specifications for years 1996 and 2004 separately. Our main infect is to measure how the explanatory variables affect the probability of being pro-immigrant. There are no important changes between Table 4 and Table 5. In other words, the LPM and Probit model provide very similar results. All the predicted values keep the same signs as before except for age in Specification (2'). The fact that I find is in line with other in empirical works.

4.3.2. Anti-Immigrant Attitude

In this section, I examine the determinants of anti-immigrant attitudes. As explained in the section data, I create a new binary variable called Anti Immigrant Dummy, which

equals to 1 if Pro Immigrant Opinion is “reduce a lot” or “reduce a little”, and 0 otherwise. [6]

Table 6 reports the estimated values of the marginal effect of each explanatory variables and their standard errors for Equation (5), where the dependent variable is the Anti Immigrant Dummy. I estimate the same three specifications as before, and again by year. According to the results shown in Tables 4 and 5, PARCIT are my important factors, I expect to find negatively relationship between anti-immigrant attitudes and parents' foreign citizenship, since the respondents would have higher evaluation of immigrants if their parents are immigrants.

Table 6 shows that education is important actor when looking at anti immigration attitudes. The education coefficient in Specification (3) is -0.0457 which implies that an additional year of education would reduce the probability of being anti-immigrant by about 5 percentage points, holding other factors constant. This finding is not only economically significant but also statistically significant at the 1% level. This finding also holds for most of the specification (except Specification (2)).

The parents' citizenship is a key factor since the estimated coefficients are both statistically and economically significant, even though the data set is small. These results are consistent with the pro-immigrant findings in Table 5. As shown in Specification (1), if the individual has at least one of his or her parents are foreigners, the chance of becoming an anti-immigrant will decreased by 21.09 percentage points. Finally, older individuals

⁶ I also tried the LPM to analyze the anti-immigrant attitudes, and get the very similar results with Probit model.

have more anti-immigrant attitudes, while males are friendlier to immigrants, but neither are statistically significant.

When I introduce the variables PI_{crime} , $PI_{culture}$ and PI_{eco} in Specification (3) and (3'), the effects of $PARCIT$ and $EDUC$ have their significance. The three variables have large negative effects on anti-immigrant attitudes both in 1996 and 2004, since they are statistically significant at 1% level. Belonging to upper social class, trade union membership and frequency of attending religious activities do not have a significant impact on anti-immigrant attitudes both in 1996 and 2004. The coefficients of $POLITICAL$ are consistent with and statistically significant in both 1996 and 2004. Being a right wing party member increase the chance of having anti-immigrant opinion.

It is initially surprising to find that the choice of whether to look at pro or anti immigrant attitudes seems to matter. It may be explanatory variables affects the changes between "reduce a little" and "stay the same level". For example, according to previous works, old individuals would have more negative attitudes towards immigrants while the younger individual take a more neutral attitude. When measuring the marginal effect of age, the increase in age would affect the answer from "stay the same level" to "reduce a little", which will change the results.

Also, another possible explanation is that there is not much variation in the pro-immigration dependent variable. The number of respondents who choose "increase a lot" and "increase a little" are much smaller than these choosing "reduce a lot" and "reduce a little". There are only around 6% of respondents that think that immigration should be increased, while over 50% respondents thinking the immigrants should decrease.

Therefore more variations to be had when I regress the model with anti-immigrant sentiment as the dependent variable.

4.4. The Ordered Probit Model

In this section, I intimate a Ordered Probit model. I now treat the Pro Immigrant Opinion variable as a category variable as in Facchini and Mayda (2008) . The advantage of this approach is that it allows for the use of all the information in the data.

The main thing that Ordered Probit is better than using the Ordinary Least Squares method because the gap between each category is not the same. One may think that there is a large jump from "increase a little" to "increase a lot" is compared to "stay the same" and "increase a little".

The latent variable representation the Ordered Probit model takes the form:

$$Y_{it}^* = X\beta + \varepsilon \quad (6)$$

$$Y_{it} = 0 \text{ if } Y_{it}^* \leq \alpha_1 \quad (7)$$

$$Y_{it} = 1 \text{ if } \alpha_1 < Y_{it}^* \leq \alpha_2 \quad (8)$$

$$Y_{it} = 2 \text{ if } \alpha_2 < Y_{it}^* \leq \alpha_3 \quad (9)$$

$$Y_{it} = 3 \text{ if } \alpha_3 < Y_{it}^* \leq \alpha_4 \quad (10)$$

$$Y_{it} = 4 \text{ if } Y_{it}^* \geq \alpha_4 \quad (11)$$

where Y^* is an unobserved continuous opinion variable and the α 's are the unobserved split points for the five categories. The research only observes Y_{it} , which only takes on the value 0, 1, 2, 3 and 4. For example, Y_{it} is 1 when the respondent thinks the immigrants should reduce a lot, and Y_{it} is 4 when the respondent thinks the immigrants should increase a lot. So the model as shown in Equation (6) to (11) can be expressed as following:

$$\Pr(Y_{it} = 0 | X_{it}, W_{it}, Z_{it}) = \Phi(\alpha_1 - X_{it}\beta_X - W_{it}\beta_W - Z_{it}\beta_Z) \quad (12)$$

$$\Pr(Y_{it} = 1 | X_{it}, W_{it}, Z_{it}) = \Phi(\alpha_2 - X_{it}\beta_X - W_{it}\beta_W - Z_{it}\beta_Z) - \Phi(\alpha_1 - X_{it}\beta_X - W_{it}\beta_W - Z_{it}\beta_Z) \quad (13)$$

$$\Pr(Y_{it} = 2 | X_{it}, W_{it}, Z_{it}) = \Phi(\alpha_3 - X_{it}\beta_X - W_{it}\beta_W - Z_{it}\beta_Z) - \Phi(\alpha_2 - X_{it}\beta_X - W_{it}\beta_W - Z_{it}\beta_Z) \quad (14)$$

$$\Pr(Y_{it} = 3 | X_{it}, W_{it}, Z_{it}) = \Phi(\alpha_4 - X_{it}\beta_X - W_{it}\beta_W - Z_{it}\beta_Z) - \Phi(\alpha_3 - X_{it}\beta_X - W_{it}\beta_W - Z_{it}\beta_Z) \quad (15)$$

$$\Pr(Y_{it} = 4 | X_{it}, W_{it}, Z_{it}) = \Phi(\alpha_4 - X_{it}\beta_X - W_{it}\beta_W - Z_{it}\beta_Z) \quad (16)$$

where Φ is again the cumulative normal. My dependent variable Y is the Pro Immigrant Opinion observed for individual i in year t . I still use the same set of explanatory variables: general background \mathbf{X} , opinion on crime rate, culture and economy \mathbf{W} and socioeconomic background \mathbf{Z} as before.

Table 7 provides the estimated coefficients of each independent variables when treating Pro Immigrant Opinion as a dependent variable using OLS. Table 8 provides the exact same, except using Ordered Probit model. There are not large differences between Table 7 and Table 8. In short, I would only explain the result in Table 8. In general, I find both

economic and non-economic determinants play a role in shaping the attitude of immigrants in America.

In Table 8, I present the basic information on individual as independent variables in Specification (1) and (1'). The variable respondents' citizenship is not significant either. These contracts with previous research showed that the foreigners are more likely to be pro immigration (Facchini and Mayda 2008). Education takes an important place in effecting the opinion towards immigrants again, it is not only statistically significant but also economically significant. The individuals with higher education seem to take more friendly opinion towards immigrants. As before, the parents' citizenship is a key factor here, the immigrants are more welcomed by the people, whose parents are foreigners. The real income is positive related to education and it is reasonable to analyse them together. Usually they have positively and significant impact on pro-immigrant opinion. Education has a positive and significant effect in pro-immigrant attitudes, but real income is not significant in my work. Not surprisingly, the data sets I used is not larger enough and the standard errors are large.

In Specification (2), I add the three variables, P_{crime}, P_{culture} and P_{eco}. As previously discussed, I expect all three variables to be positively related to pro-immigrant attitudes. For Specification (2'), the GSS in 2004 did not examine the culture issues. All these three variables are important because they are both statistically and economically significant. Moreover, the results match my expectation.

In Specification (3) and (3'), I control for more variables related to socio-economic background, such as upper social class, trade union member , political affiliation with the

right and religious. In both years 1996 and 2004, individuals belonging to the upper social class have friendlier attitude, although the coefficients of UPsclass are economically significant but statistically insignificant. Being a trade union member has no effect on attitude towards immigration. The political affiliation is associated with negative views on immigrants.

5. Robustness Check

5.1. Sensitivity Check

In this sub-section, I verify the robustness of my findings to the definition of the independent variables. The key factors in my work are parents' citizenship (PARCIT), years of schooling complied (EDUC) and political affiliation (POLITICAL). I redefine them as binary variables and verified the sensitivity of my results.

For this analysis, I focus on Specification (3) and (3') in Equation 5 due to the endogeneity problem of P_icrime, P_iculture and P_ieco that has already been discussed in Section 4.2. The results are more statistically significant when I use Anti Immigrant Dummy as my dependent variable.

The parents' citizenship was divided into three categories in previous sections : "both parents are citizens", "only one of parents is citizen" and "neither parent is citizen". Instead, I define parents' citizenship as two different binary variables to verified sensitivity of parents' citizenship. First, I define PARCIT1 equals to 1 if respondent's both parents are citizen, and 0 otherwise. The regression is estimated using Equation (5), which includes **X** and **Z**, but PARCIT is replaced with PARCIT1. Then, I defined

PARCIT2 equals 1 if at least one of parents are citizen, and 0 otherwise. Equation (5) is regressed again while replacing PARCIT into PARCIT2 holding other variables unchanged.

Unlike Facchini and Mayda (2008) who measure education by years, I separate it into two groups: high school graduate or less and above. COLLAGE equals to 1 if respondent education level is above high school graduate, and 0 otherwise.

For political affiliation, the POLITICAL variable has been divided into 5 categories in previous sections. I will create a new binary variable called RIGHT to stand for right wing political party affiliation. I can check whether the right wing parties' member has more anti attitude towards immigration. RIGHT equals to 1 if individual think himself or herself as a Republican, and 0 otherwise.

Table 9 describes the estimated coefficients of original and new created independent variables in years 1996 and 2004 using Probit model, separated into two columns. In general, the estimated coefficients of new created variables in Specifications (2), (2'), (3) and (3') are more statistically and economically significant than that of original variables shown in Specifications (1) and (1'), which mean the independent variables I test are sensitive.

For parents' citizenship, the estimated value of PARCIT1 in Specification (2) is 0.3213, which means the individual whose both parents are America citizens has 32.13 percentage points higher chance of holding anti-immigrant attitude than other in 1996. Specification (3) indicates to us that the probability of being anti-immigrant is 36.09

percentage points higher for individuals having at least one of parents are American citizens in 1996. Individuals whose both parents are American citizens have a 27.06 percentage points higher chance of being anti-immigrant in 2004. Apparently, someone who holds the anti-immigrant opinion concentrate in a group, those individuals whose parents are both citizens.

It is clear that right wing party members have more negative attitude towards immigration, which can be seen from the estimated value of RIGHT in Specification (2'). If respondent think himself or herself as Republican, the chance of him or her being anti-immigrant will increase by 20.41 percentage points in 2004. In general, individuals on the right side of the political continuum tend to favour restricting immigrants than those on the left (Anderson 1996; McLaren 2001; Swyngedouw 2001).

Specifications (1) and (1') of Table 9 imply that one more year of education will decrease the chance of holding anti-immigrant attitudes by about five percentage points. As shown in Specifications (2) and (2'), the respondent whose education level is above high school graduate has 10.67 percentage and 7.06 percentage points less chance of holding anti-immigrant opinion respectively in 1996 and 2004.

After checking all three variables, I conclude that parents' citizenship, political affiliation and education level are not only important factors for shaping anti-immigrant opinion but also sensitive to small changes of definition.

5.2. Pro-immigrant Attitudes Check

Most of the estimated coefficients were statistically and economically insignificant in the analyzing of pro immigrant attitudes, e.g. Table 5. In this part, I want to find out whether this problem is due to small sample sizes which result in larger standard errors. I combine the two years data, and then check the possible differences when the sample doubles. Table 10 provides the estimated values of marginal effect of each explanatory variable and their standard errors for Equation (5). The independents variables are exactly the same as before (i.e. Table 5), except that I add one a year variable (Y1996).

Although the standard errors are much smaller than before, there are still very few statistically significant coefficients even after doubling the sample size. Parents' citizenship (PARCIT) is the most important factor in Table 10, this finding is consistent with the previous results, e.g. Table 4 and Table 5. The estimated coefficients of respondents' age, gender, citizenship, education level and real income are still statistically insignificant. Thus, the insignificant effects in Table 5 are not related to the issues of small sample sizes. The most possible reason of statistically insignificant is that analyzing the attitudes of immigrants in pro sentiment is not the best way.

6. Conclusions

In this paper, I have examined both pro and anti immigrant attitudes using GSS data. To identify the determinants of these attitudes, I relied on different econometric approaches: the LPM, the Probit model, the Ordered Probit model and OLS. I have drawn the following conclusions:

When analyzing the attitudes in anti-immigrant perspective, the results are more economically and statistically significant than the analysing of pro-immigrant perspective. Therefore, I think that analyzing anti attitudes is a better way of looking at attitudes towards immigrant using the independent variables in my models.

I also find that there is no relationship between individual's real income and anti-immigrant opinion. Higher educated individual will have less chance of being anti-immigrant. Those people whose both parents are the United States citizens and tend to favour right wing party are the main group who carries anti-immigrant sentiment.

Finally, it should be noted that my findings are not sensitive to the choice of econometric technique, but some of my findings are sensitive to the definition of variables. For example, the coefficients of the parents' citizenship (PARCIT) variables are more economically significant when treated as binary variables.

Bibliography

- Allport, G.W. (1954): *The Nature of Prejudice*, Doubleday, New York.
- Anderson, C. (1996): "Economics, Politics, and Foreigners: Populist Party Support in Denmark and Norway," *Electoral Studies*, 15(4), 497–511.
- Angrist, J.D. and J. Pischke (2009): *Mostly Harmless Econometrics: An Empiricist's Companion*, Princeton University Press, Princeton.
- Bean, C. (1995): "Determinants of Attitudes Towards Questions of Border Maintenance in Australia," *People and Places*, 4(3), 2–40.
- Blalock, H.M. (1967): *Toward a Theory of Minority-Group Relations*, Wiley, New York.
- Blendon, R.J., S.R. Pelletier, M. Brodie, J.M. Benson, E.C. Hamel, E. Raleigh, M.D.R. Osenbaum and D.E. Altman (2005): "Immigration and the US Economy, the Public's Perspective," *Challenge*, 48(2), 113-32.
- Blumer, H. (1958): "Race Prejudice as A Sense of Group Position," *The Pacific Sociological Review*, 1(1), 3– 7.
- Bobo, L. (1983): "Whites' Opposition to Bussing: Symbolic Racism or Realistic Group Conflict?" *Journal of Personality and Social Psychology*, 45(6), 1196–210.
- Bobo, L. (1988): *Group Conflict, Prejudice, and the Paradox of Contemporary Racial Attitudes, Eliminating Racism: Profiles in Controversy*, Plenum, New York.
- Borjas, G.J. (1994): "The Economics of Immigration," *Journal of Economic Literature*, 32(4), 1667-1717.
- Borjas, G.J. (1998): *In Help or Hindrance? The Economic Implications of Immigration for African Americans*, Russell Sage Foundation, New York.
- Card, D., C. Dustmann and L. Preston (2005): "Understanding Attitudes to Immigration: the Migration and Minority Module of the First European Social Survey," *CReAM Discussion Paper no.03/05*.
- Card, D. (2005): "Is the New Immigration Really So Bad?" *Economic Journal*, 115(507), F300–23.
- Chandler, C.R. and Y.M. Tsai (2001): "Social Factors Influencing Immigration Attitudes: An Analysis of Data from the General Social Survey," *The Social Science Journal*, 38(2), 177–88.

Clark, X., Hatton, T.J. and J.G. Williamson (2002): "Where Do U.S. Immigrants Come From, and Why?" *NBER Working Paper Series*, no. 8998.

Dandy, J. and R. Pe-Pua (2009): "Attitudes to Multiculturalism, Immigration and Cultural Diversity: Comparison of Dominant and Non-dominant Groups in Three Australian States," *International Journal of Intercultural Relations*, 34(1), 34–46.

Dixon, J.C. (2006): "The Ties That Bind and Those That Don't: Towards Reconciling Group Threat and Contact Theories of Prejudice," *Social Forces*, 84, 2179–204.

Dustmann, C. and I. Preston (2001): "Racial and Economic Factors in Attitudes to Immigration," *IZA Discussion Paper* no. 189.

Dustmann, C., F. Fabbri, I. Preston, and J. Wadsworth (2004): "The Local Labour Market Effects of Immigration in the UK," Unpublished Manuscript, United Kingdom Home Office.

Dustmann, C. and I. Preston (2004): "Is Immigration Good or Bad for the Economy? Analysis of Attitudinal Responses," *CREAM Discussion Paper Series* no. 06/04.

Espenshade, T.J. and K. Hempstead (1996): "Contemporary American Attitudes Towards U.S. Immigration," *International Migration Review*, 30(2), 535–70.

Espenshade, T.J. and C.A. Calhoun (1993): "An Analysis of Public Opinion Towards Undocumented Immigration," *Population Research and Policy Review*, 12(3), 189–224.

Facchini, G. and A.M. Mayda (2008): "From Individual Attitudes Towards Migrants to Migration Policy Outcomes," *CEPR Discussion Paper* no. 6835.

Friedberg, R.M. and J. Hunt (1995): "The Impact of Immigration on Host Country Wages, Employment and Growth," *Journal of Economic Perspectives*, 9(2), 23–44.

Hardin, R. (1995): *One for All: The Logic of Group Conflict*, Princeton, Princeton University Press.

Haubert J. and E. Fussell (2006): "Explaining Pro-Immigrant Sentiment in the U.S.: Social Class, Cosmopolitanism, and Perceptions of Immigrants," *International Migration Review*, 40(3), 489–507

Huddle, D. (1993): *The Costs of Immigration*, Washington, DC: The Carrying Capacity Network. Immigration and Naturalization Service (1999) Statistical Yearbook of the Immigration and Naturalization Service. Washington, DC.

Huntington, S.P. (2004): *Who are We? The Challenges to America's National Identity*, Simon and Schuster, New York.

Kehrberg, J.E. (2007): "Public Opinion on Immigration in Western Europe: Economics, Tolerance, and Exposure," *Comparative European Politics*, 5(3), 264–81(18).

Kessler, A.E. and G.P. Freeman (2005): "Public Opinion in the EU on Immigration from Outside the Community," *The JCMS Annual Review of the European Union in 2005*, 43(4), 825–50.

Kinder, D.R. and L.M. Sanders (1996): *Divided by Color: Racial Politics and Democratic Ideals*, Chicago, University of Chicago Press.

Lal, B.B. (1990): *The Romance of Culture in an Urban Civilization: Robert E. Park on Race and Ethnic Relations in Cities*, Routledge, London.

Marasini, D. and S. Migliorati (2006): "Combining Information from Several Groups in Estimating Characteristics of Immigrant People," *Statistical Methods and Applications*, 15, 107–27.

Mayda, A.M. (2006): "Who Is Against Immigration? A Cross-country Investigation of Individual Attitudes Towards Immigrants," *The Review of Economics and Statistics*, 88(3), 510-30.

McLaren, L.M. (2001): "Immigration and the New Politics of Inclusion and Exclusion in the European Union: The Effect of Elites and the EU on Individual-level Opinions Regarding European and Non-European Immigrants," *European Journal of Political Research*, 39(1), 81–108.

Meuleman, B., E. Davidov and J. Billiet (2008): "Changing Attitudes Towards Immigration in Europe, 2002-2007: A Dynamic Group Conflict Theory Approach," *Social Science Research*, 38(2), 352–65.

Mughan, A. and P. Paxton (2006): "Anti-Immigrant Sentiment, Policy Preferences and Populist Party Voting in Australia," *British Journal of Political Science*, 36, 341–58.

Oliver, J.E., and J. Wong (2003): "Intergroup Prejudice in Multiethnic Settings," *American Journal of Political Science*, 47(4), 567–82.

Park, R.E. (1950): *Race and Culture*, Glencoe, The Free Press.

Paxton, P. and A. Mughan (2006): "What's to Fear from Immigrants? Creating An Assimilationist Threat Scale," *Political Psychology*, 27(4), 549-68.

Pettigrew, T. (1998): "Intergroup Contact Theory," *Annual Review of Psychology*, 49(1), 65–85.

Roemer, J.E. (2006): "The Global Welfare Economics of Immigration," *Social Choice and Welfare*, 27(2), 311–25.

Scheve, K.F. and M.J. Slaughter (2001): "Labor-Market Competition and Individual Preferences Over Immigration Policy," *The Review of Economics and Statistics*, 83(1), 133-45.

Shibutani, T. and K.M. Kwan, (1965): *Ethnic Stratification*, Macmillan, New York.

Sniderman, P.M., P.E. Tetlock, and E.G. Carmines (1993): *Prejudice, Politics, and the American Dilemma*, Stanford University Press, Stanford.

Swyngedouw, M. (2001): "The Subjective Cognitive and Affective Map of Extreme Right Voters: Using Open-Ended Questions in Exit Polls," *Electoral Studies*, 20(2), 217-41.

Terrazas, A. and J. Batalova (2009): "Frequently Requested Statistics on Immigrants and Immigration in the United States," *Migration Policy Institute*.

Table 1: Summary Statistics of Individual Attitudes towards Immigration (ISSP 1996) and Country-level Variables

		Pro Immigrant Opinion						Average Pro Immigrant Opinion	median Pro Immigrant Opinion	Average Pro Immigrant Dummy	Average Education Year	Median Education Year
		Reduce a lot	Reduce a little	Stay the same	Increase a little	Increase a lot	missing					
Facchini and Mayda (2008)	US	29.69	25.19	21.83	4.58	2.14	16.57	2.09	2	0.08	13.43	13
Niu (2010)	US	27.25	22.97	20.26	4.28	1.85	23.32	2.13	2	0.08	13.49	13

Table 2 : Summary Statistics of Individual Attitudes towards Immigration (ISSP 2004) and Country-level Variables

		Pro Immigrant Opinion						missing	Average Pro Immigrant Opinion	median Pro Immigrant Opinion	Average Pro Immigrant Dummy	Average Education Year	Median Education Year
		Reduce a lot	Reduce a little	Stay the same	Increase a little	Increase a lot							
Facchini and Mayda (2008)	US	23.70	28.74	28.66	5.47	3.34	10.09	2.29	2	0.10	13.88	14	
Niu (2010)	US	23.72	28.77	28.68	5.49	3.34	10.02	2.31	2	0.10	13.89	14	

Table 3: Summary Statistics by Year: Mean and Standard Deviation

Variables	1996		2004	
	Mean	Observations	Mean	Observations
General Background				
AGE	42.8596 (15.9365)	740	44.5302 (16.1694)	767
MALE	.4979 (.5003)	741	.4493 (.4977)	768
CITIZEN	.9234 (.2662)	741	.9595 (.1972)	768
PARCIT	1.1934 (.5642)	741	1.2355 (.6247)	768
EDUC	13.4222 (2.6763)	741	13.9861 (2.7237)	768
LRincome	2.2254 (.4860)	740	2.2415 (.5318)	768
Socioeconomic Background				
UPsclass	.0372 (.1895)	550	.0280 (.1652)	500
UNION	.1483 (.3556)	741	.1035 (.3048)	768
POLITICAL	2.8009 (1.6297)	741	2.9329 (1.6751)	768
RELIGIOUS	3.6827 (2.6141)	741	3.8348 (2.6512)	768
Opinion on Immigrant				
PIcrime	.3618 (.4808)	741	.4426 (.4970)	768
PIculture	.7927 (.4057)	572	--	--
PIeco	.5087 (.5004)	482	.6788 (.4674)	533

Note: Standard deviations are in brackets

**Table 4: Using the LPM Model to Analyze Pro Immigrant Attitudes
(ISSP 1996 and 2004)**

LPM	(1)	(2)	(3)	(1')	(2')	(3')
	1996			2004		
	Pro Immigrant Dummy					
AGE	.0008 (.0009)	.0007 (.0013)	.0004 (.0090)	.0003 (.0013)	.0008 (.0018)	-.0004 (.0014)
MALE	.0213 (.0317)	.0447 (.0470)	.0199 (.0309)	-.0049 (.0315)	-.0134 (.0414)	-.0026 (.0325)
CITIZEN	-.0826 (.0841)	-.1362 (.1064)	-.0766 (.0839)	-.2620 (.1309)**	-.3233 (.1471)**	-.2478 (.1294)*
PARCIT	.0642 (.0369)*	.0151 (.0427)	.0622 (.0374)*	.0837 (.0398)**	.0663 (.0471)	.0797 (.0383)*
EDUC	.0030 (.0066)	-.0002 (.0097)	.0008 (.0066)	.0079 (.0067)	.0050 (.0083)	.0066 (.0070)
LRincome	-.0328 (.0413)	-.0587 (.0562)	-.0290 (.0425)	-.0474 (.0351)	-.0325 (.0470)	-.0440 (.0340)
PIcrime	--	-.0419 (.0537)	--	--	.0385 (.0474)	--
PIculture	--	.0438 (.0430)	--	--	--	--
PIeco	--	.1282 (.0497)***	--	--	.0626 (.0498)	--
UPsclass	--	--	.0940 (.0970)	--	--	.1821 (.1253)
UNION	--	--	.0190 (.0369)	--	--	.0330 (.0556)
POLITICAL	--	--	.0065 (.0087)	--	--	-.0238 (.0093)*
RELIGIOUS	--	--	.0047 (.0057)	--	--	.0008 (.0063)
Observations	484	484	484	455	455	455

Note: I used the population weight in the regressions

Standard errors are in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%.

**Table 5: Using the Probit Model to Analyze Pro Immigrant Attitudes
(ISSP 1996 and 2004)**

PROBIT	(1)	(2)	(3)	(1')	(2')	(3')
	1996			2004		
	Pro Immigrant Dummy					
AGE	.0009 (.0009)	.0007 (.0010)	.0005 (.0008)	.0004 (.0013)	-.0006 (.0017)	.0005 (.0012)
MALE	.0192 (.0295)	.0382 (.0383)	.0199 (.0282)	-.0070 (.0311)	-.0136 (.0395)	-.0011 (.0300)
CITIZEN	-.0661 (.0717)	-.1285 (.1109)	-.0566 (.0683)	-.1910 (.1210) **	-.2413 (.1444) **	-.1631 (.1161) *
PARCIT	.0450 (.0224) **	.0027 (.0279)	.0438 (.0224) **	.0634 (.0233) ***	.0440 (.0276)	.0560 (.0217) **
EDUC	.0028 (.0057)	-.0008 (.0075)	.0005 (.0056)	.0064 (.0057)	.0039 (.0073)	.0043 (.0053)
LRincome	-.0318 (.0311)	-.0417 (.0352)	-.0277 (.0315)	-.0427 (.0264)	-.0325 (.0391)	-.0396 (.0241) *
PIcrime	--	-.0280 (.0471)	--	--	.0414 (.0470)	--
PIculture	--	.0728 (.0473)	--	--	--	--
PIeco	--	.1120 (.0467) **	--	--	.0778 (.0495)	--
UPsclass	--	--	.0800 (.0859)	--	--	.1982 (.0241) **
UNION	--	--	.0154 (.0355)	--	--	.0403 (.0544)
POLITICAL	--	--	.0061 (.0082)	---	--	-.0224 (.0085) **
RELIGIOUS	--	--	.0054 (.0053)	--	--	.0002 (.0057)
Observations	484	484	484	455	455	455
Pseudo R2	0.0480	0.1282	0.0588	0.0964	0.1435	0.1361

Note: I used the population weight in the regressions

Standard errors are in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%.

**Table 6: Using the Probit Model to Analyze Anti Immigrant Attitudes
(ISSP 1996 and 2004)**

PROBIT	(1)	(2)	(3)	(1')	(2')	(3')
	1996			2004		
	Anti Immigrant Dummy					
AGE	.0026 (.0019)	.0066 (.0028) **	.0029 (.0019)	.0021 (.0021)	.0033 (.0031)	.0024 (.0022)
MALE	-.0113 (.0510)	.0059 (.0769)	-.0271 (.0512)	-.0213 (.0564)	.0053 (.0756)	-.0365 (.0565)
CITIZEN	-.0853 (.1135)	-.0279 (.1622)	-.0793 (.1147)	.3522 (.1431) **	-	.3356 (.1431) *
PARCIT	-.2109 (.0634) ***	-.0747 (.0714)	-.2038 (.0616) ***	-.1674 (.0604) ***	-.0663 (.0673)	-.1684 (.0577) ***
EDUC	-.0461 (.0098) ***	-.0170 (.0145)	-.0457 (.0099) ***	-.0471 (.0112) ***	-.0341 (.0153) **	-.0476 (.0115) ***
LRincome	.0974 (.0588) *	.0029 (.0763)	.0882 (.0603)	.0747 (.0544)	-.0120 (.0722)	.0658 (.0566)
PIcrime	--	-.1065 (.0763)	--	--	-.2265 (.0777) ***	--
PIculture	--	-.2799 (.0818) ***	--	--	--	--
PIeco	--	-.4114 (.0721) ***	--	--	-.3977 (.0714) ***	--
UPsclass	--	--	-.1989 (.1316)	--	--	.0562 (.1552)
UNION	--	--	-.0081 (.0632)	--	--	.0150 (.0858)
POLITICAL	--	--	.0299 (.0157) *	--	--	.0311 (.0170) *
RELIGIOUS	--	--	-.0056 (.0098)	--	--	-.0130 (.0110)
Observations	484	282	484	455	298	455
Pseudo R2	.0788	.3206	.0899	.0856	.2256	.0948

Note: I used the population weight in the regressions

Standard errors are in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%.

**Table 7: Using the OLS Model to Analyze Pro Immigrant Attitudes
(ISSP 1996 and 2004)**

OLS	(1)	(2)	(3)	(1')	(2')	(3')
	1996			2004		
	Pro Immigrant Opinion					
AGE	-.0029 (.0037)	-.0078 (.0044) *	-.0035 (.0038)	-.0075 (.0043) *	-.0105 (.0057) *	-.0079 (.0046) *
MALE	.0839 (.1098)	.0929 (.1409)	.1071 (.1082)	.0616 (.1134)	.0080 (.1269)	.0856 (.1147)
CITIZEN	-.1123 (.2819)	-.2810 (.3473)	-.1183 (.2809)	-.7142 (.2668) ***	-.7381 (.2509) ***	-.6619 (.2498) ***
PARCIT	.4043 (.1115) ***	.0990 (.1332)	.3854 (.1113) ***	.3367 (.1064) ***	.1734 (.1038) *	.2348 (.0974) ***
EDUC	.0799 (.0201) ***	-.0028 (.0260)	.0765 (.0202) ***	.0750 (.0213) ***	.0379 (.0251)	.0709 (.0226) ***
LRincome	-.1301 (.1610)	-.0421 (.1871)	-.1120 (.1643)	-.1239 (.1229)	-.0217 (.1467)	-.1103 (.1263)
PIcrime	--	.1958 (.1503)	--	--	.4120 (.1623) **	--
PIculture	--	.6340 (.1723) ***	--	--	--	--
PIeco	--	.7439 (.1705) ***	--	--	.0882 (.1813) ***	--
UPsclass	--	--	.3140 (.2245)	--	--	.2969 (.2358)
UNION	--	--	.2878 (.1326)	--	--	.0819 (.1744)
POLITICAL	--	--	-.0403 (.0301)	--	--	-.0740 (.0326) **
RELIGIOUS	--	--	.0164 (.0192)	--	--	.0253 (.0214)
Observations	484	484	484	455	455	455

Note: I used the population weight in the regressions

Standard errors are in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%.

**Table 8: Using an Ordered Probit Model to Analyze Pro Immigrant Attitudes
(ISSP 1996 and 2004)**

ORDERED PROBIT	(1)	(2)	(3)	(1')	(2')	(3')
	1996			2004		
	Pro Immigrant Opinion					
AGE	-.0032 (.0042)	-.0089 (.0055) *	-.0040 (.0043)	-.0093 (.0047) **	-.0135 (.0067) ***	-.0099 (.0050) *
MALE	.0828 (.1176)	.1476 (.1667)	.1116 (.1167)	.0623 (.1204)	.0095 (.1476)	.0920 (.1220)
CITIZEN	-.0979 (.1176)	-.2917 (.3607)	-.1044 (.2825)	-.7082 (.2537) **	-.7862 (.2516) **	-.6641 (.2370) ***
PARCIT	.4139 (.1126) ***	.0994 (.1399)	.3963 (.1121) ***	.3412 (.1081) ***	.1774 (.1067)	.3319 (.0990) ***
EDUC	.0899 (.0221) ***	-.0010 (.0300)	.0874 (.0223) ***	.0830 (.0230) ***	.0494 (.0291) *	.0785 (.0242) ***
LRincome	-.1179 (.1726)	-.0160 (.2196)	-.0993 (.1756)	-.1028 (.1324)	.0065 (.1733)	-.0939 (.1364)
Pcrime	--	.3112 (.1715) **	--	--	.4901 (.1772) ***	--
Pculture	--	1.025 (.2371) ***	--	--	--	--
Peco	--	.8276 (.2046) ***	--	--	1.0237 (.2265) ***	--
UPsclass	--	--	.3205 (.2213)	--	--	.3118 (.2267)
UNION	--	--	.0230 (.1409)	--	--	.1000 (.1773)
POLITICAL	--	--	-.0463 (.0327)	--	--	-.0757 (.0344) **
RELIGIOUS	--	--	.0190 (.0207)	--	--	.0308 (.0228)
Observations	484	484	484	455	455	455
Pseudo R2	0.0372	0.1633	0.0406	0.0470	0.1475	0.0542

Note: I used the population weight in the regressions

Standard errors are in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%.

Table 9: Robustness Check for Variables' Sensitivity

PROBIT	(1)	(2)	(3)	(1')	(2')	(3')
	1996			2004		
	Anti Immigrant Opinion					
Parents' citizenship						
PARCIT	-.0747 (.0616) ***	--	--	-.1684 (.0577) ***	--	--
PARCIT1	--	.3213 (.0833) **	--	--	.2706 (.0780) ***	--
PARCIT2	--	--	.3609 (.0960) ***	--	--	.3049 (.0894) ***
Political Affiliation						
POLITICAL	.0299 (.0157) *	--	--	.0311 (.0170) *	--	--
RIGHT	--	.1032 (.0520) **	--	--	.2041 (.0586) ***	--
Education						
EDUC	-.0475 (.0099) ***	--	--	-.0476 (.0115) ***	--	--
EDUC1	--	-.1067 (.0474) **	--	--	-.0706 (.0577)	--
Observations	484	484	484	455	455	455

Note: I used the population weight in the regressions

Standard errors are in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%.

Table 10: Robustness Check for Pro-immigrant Attitudes

PROBIT	(1)	(2)	(3)
	Pro Immigrant Dummy		
AGE	.0005 (.0008)	.0000 (.0010)	.0004 (.0007)
MALE	.0081 (.0209)	.0132 (.0272)	.0134 (.0206)
CITIZEN	-.0985 (.0621)	-.1303 (.0825)	-.0954 (.0622) *
PARCIT	.0563 (.0160) ***	.0317 (.0200)	.0524 (.0158) ***
EDUC	.0041 (.0040)	.0017 (.0055)	.0026 (.0041)
LRincome	-.0368 (.0200)	-.0383 (.0279)	-.0353 (.0197)
Plcrime	--	.0049 (.0311)	--
Plculture	--	.0848 (.0756)	--
Pleco	--	.0952 (.0440) **	--
UPsclass	--	--	.1129 (.0768) *
UNION	--	--	.0262 (.0311)
POLITICAL	--	--	-.0090 (.0062)
RELIGIOUS	--	--	.0024 (.0041)
Y1996	-.0131 (.0207)	-.0700 (.5900)	-.1064 (.0207)
Observations	939	601	939
Pseudo R2	0.0684	0.1144	0.0796

Note: I used the population weight in the regressions

Standard errors are in brackets

* significant at 10%; ** significant at 5%; *** significant at 1%.

APPENDIX

Detailed Definition of Variables

Variable	Description
AGE	Age of the respondent
MALE	Binary variable. Equals to 1 if sex is male, 0 otherwise.
CITIZEN	Binary variable. Equals to 1 if the respondent is US citizen, 0 otherwise.
PARCIT	(Parents' citizenship) Equals to 1 if both parents are citizens; Equals to 2 if only mother/father is citizen; Equals to 3 if neither parents are citizens.
EDUC	(Education) Highest year of school completed measuring in years.
LRincome	(Log of real income) The logarithm of the real income of the respondent in one year measuring in US dollars.
Pcrime	(Pro-immi crime) Based on responses to the following question: "How much do you agree or disagree with the following statement? Immigrants increase crime rates: 1=agree strongly; 5=disagree strongly." Equals to 1 if answers to above question are either (4) or (5); 0 otherwise
Piculture	(Pro-immi culture) Based on responses to the following question: "How much do you agree or disagree with the following statement? Immigrants make (respondent's country) more open to new ideas and cultures: 1=disagree strongly; 5=agree strongly." Equals to 1 if answers to above question are either (4) or (5); 0 otherwise
Pleco	(Pro-immi economy) Based on responses to the following question: "How much do you agree or disagree with each of the following statements? Immigrants are generally good for (respondent's country's) economy: 1=disagree strongly, 5=agree strongly." Equals to 1 if answers to above question are either (4) or (5); 0 otherwise,
UPscass	Binary variable of upper social class. Equals to 1 if respondent think he/she is in the upper social class; 0 otherwise
UNION	Binary variable of trade union member. Equals to 1 if respondent is the member of trade union; 0 otherwise
POLICITAL	(Political affiliation with the right) Based on the question "do you usually think of yourself as a Republican, Democrat, Independent, or what?" Equals to 1 if respondent is Democrat; Equals to 3 if the respondent is Independent; Equals to 5 if respondent is Republican.
RELIGIOUS	How often the respondent attends religious services and ranges from 0 to 8. (equals to 1 if never and equals to 8 if attending several times a week)
Pro Immigrant Opinion	Based on answers to the immigration question ("Do you think the number of immigrants to (R's country) nowadays should be ...": reduced a lot, reduced a little, remain the same as it is, increased a little, increased a lot) and ranges from 1 (reduced a lot) to 5 (increased a lot)
Pro Immigrant Dummy	Binary variable. Equals one if Pro Immig Opinion is equal to 4 or 5, zero if Pro Immig Opinion is equal to 1, 2 or 3.
Anti Immigrant Dummy	Binary variable. Equals one if Pro Immig Opinion is equal to 1 or 2, zero if Pro Immig Opinion is equal to 3, 4 or 5.
PARCIT1	Binary variable of parents' citizenship. Equals to 1 if both parents are citizens, 0 otherwise.
PARCIT2	Binary variable of parents' citizenship. Equals to 1 if at least one parents are citizens, 0 otherwise.
COLLAGE	Binary variable of education. Equals to 1 if have at least one year of collage education, 0 otherwise.
RIGHT	Binary variable of political affiliation. Based on the question "do you usually think of yourself as a Republican, Democrat, Independent, or what?" Equals to 1 if respondent is Republican, 0 otherwise.