Unemployment, Immigration, and Populism: Evidence from Two Quasi-Natural Experiments in the United States *

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Abstract

This paper examines how economic insecurity and cultural anxiety have triggered different dimensions of the current populism in the United States. Specifically, I exploit two quasi-natural experiments, the Great Recession and the 2014 Northern Triangle immigrant influx, to investigate the effects of unemployment and unauthorized immigration on attitudes related to populism and populist voting in the 2016 U.S. Presidential Election. I discover that recent unemployment during the Great Recession, rather than existing unemployment from before the recession, increased the probability of attitudes forming against wealthy elites by 15 percentage points. Such attitudes are connected with left-wing populism. I identify perceived economic unfairness as a mechanism through which recent unemployment drove left-wing populism. However, cultural anxiety rather than economic insecurity more likely led to the over 10 percentage points rise in the probability of anti-immigration attitudes developing. These attitudes are related to right-wing populism. Furthermore, I obtain evidence that cohorts economically suffering the aftermath of the Great Recession were associated with 40 percentage points higher likelihood of supporting left-wing populist Bernie Sanders, while cohorts residing in regions most intensely impacted by the immigrant influx were associated with 10 percentage points higher possibility to vote for right-wing populist Donald Trump. This study attempts to link distinct economic and cultural driving forces to different types of populism and to contribute to the understanding on the potential interactions of the economic and cultural triggers of the currently surging populism.

Keywords: Populism, Unemployment, Immigration, Great Recession, Voting
JEL-codes: A13, D31, J01, J64, P16

1 Introduction

For a decade or more, during the Great Recession and alongside the recent immigrant influx, populism has been on the rise in many Western democracies including the U.S. (Autor et al., 2020) and part of Europe (Colantone and Stanig, 2018b; Dustmann et al., 2017). The current populism has caused the collapse of the established party system and seen the rise of prominence of radical and populist politicians, e.g. Donald Trump and Bernie Sanders in the U.S., the Sweden Democrats in Sweden, Syriza and Golden Dawn in Greece, the National Rally (formerly known as the National Front) in France, and the Five Star Movement in Italy. How has economic insecurity or cultural anxiety driven different dimensions of the recent populist tide? And are there differentials between the populism triggered by economic factors and that triggered by cultural factors? This study attempts to contribute to the understanding on these questions by investigating how unemployment and unauthorized immigration affected the surge in populism and by examining the resulting various dimensions of populism.

There is no consensus on how populism should be defined in the literature (Guriev and Papaioannou, 2020). However, the vast majority of studies in political economy and political science use Mudde (2004)'s definition which I also prefer and borrow for the current study. Populism is defined in that study as an "ideology" that divides society into two antagonistic camps: virtuous people versus corrupt elites and the establishment, or virtuous people versus threatening outsiders (Canovan, 1999; Kriesi and Pappas, 2015; Laclau, 1977; Mudde and Kaltwasser, 2017; Wiles, 1969). Populism usually appears with two compatible forms – left-wing populism and right-wing populism (Aytaç and Öniş, 2014; Kaltwasser, 2018; Mudde and Kaltwasser, 2013; Rodrik, 2018a,b). In the former, "the people" refers to the "common men" with lower income or the "poor" who cannot access power. They are perceived to be exploited by, and thus opposed to, the wealthy and powerful "elites" who control the economy and define its rules. In the latter, "the people" denotes the "nation" against outsiders, i.e. foreigners or immigrants, who are regarded as threats to the popular will (Kriesi and Pappas, 2015; Kaltwasser, 2018; Mudde and Kaltwasser, 2013; Rodrik, 2018a).

Understanding how economic insecurity and cultural concern affect populism is important if its impact is considered to be managed. Populism may harm the established and predictable order of politics and the economy that has fostered economic growth and democratic norms (Rodrik, 2018b). Populism may also exert negative influences on economic performance by imprudently changing redistribution policy under politi-

cal pressure (Alesina and Rodrik, 1994; Di Tella et al., 2017; Sachs, 1990), through the banking and credit system (Rousseau, 2016), and through distrust (Algan and Cahuc, 2010; Dustmann et al., 2017; Guiso et al., 2004; Knack and Keefer, 1997). There may exist situations where "economic populism" rather than "political populism" benefits the vast majority of the nation, such as significant overhaul and perhaps even erosion of established economic practices and restraints during severe economic downturns (Rodrik, 2018a).

Initially, with the Great Recession (GR)[1] and the 2014 Northern Triangle immigrant influx in the U.S. as two quasi-natural experiments, I investigate the effects of unemployment and unauthorized immigration on populist attitudes, respectively. I perform a difference-in-differences (DID) analysis with individual level panels, which accounts for influences of individually distinct unobservables such as personality and ability, and of the general developments of these attitudes across time. More specifically, in the first design I compare changes in attitudes related to populism after the Great Recession between individuals who were laid off during this recession (i.e. the treated) and those that were never unemployed during the data period (i.e. the untreated). Considering that people in both groups were not unemployed in the pre-GR phase, they are more similar types than individuals who had already got laid off before the recession. This is the reason for how the assignment to treatment (and to control) is implemented. To render units in the two groups more similar, I apply nearest neighbors propensity score matching based on pre-treatment characteristics.[2] Moreover, with retrospective employment information, I discard people who were once unemployed during the ten years preceding 2008, so that the two groups become even more comparable.

The 2014 Northern Triangle immigrant influx principally affected the West South Central region of the U.S. in the sense that the great majority of unauthorized immigrants entered the U.S. through this region. Hence, the treatment group in this second design consists of residents in the West South Central region while the control group reflects those in the rest of the U.S. As in the first design, I use propensity score matching to enhance the covariate balance between the treated and the untreated. In both designs, respondents in the treatment group and control group present parallel time trends, measured pre-

[1]The Great Recession has been used as a shock to the labor market in multiple studies (see Algan et al. (2017), Ananyev and Guriev (2019), and Dehdari (2018)).

[2]Appendix B compares covariates between the treated and the untreated, measured pre-treatment. For most covariates, the difference between the treated and untreated is not remarkable. The last column reports the p-value of a test for such difference in the matched estimation sample which is used for sensitivity analyses. They arguably support the covariate balance and common support (Atanasov and Black, 2016).

treatment.

I provide evidence that recent unemployment during the Great Recession increased the probability of attitudes forming against wealthy elites by more than 14 percentage points. Such attitudes are related to left-wing populism. I also find that a mechanism fanning the left-wing populist attitudes was perceived economic unfairness. However, I do not detect that unemployment from before the recession exerted a significant influence on attitudes related to populism.

During the 2014 Northern Triangle immigrant influx, the probability of a positive attitude to immigration in the West South Central region decreased by more than 12 percentage points. I argue that cultural anxiety was more likely to be the reason in that I detect backlash only in the ethnic group with more distant culture and identity from the immigrants and that I rule out potential economic channels. This anti-immigration attitude is connected with right-wing populism. Nonetheless, I do not document effects of unauthorized immigration on left-wing populist attitudes.

Furthermore, I account for the interaction effects of economic and cultural concerns by examining the unemployment rate, immigrant proportion, and their interactions at the regional level in every quasi-natural experiment. I do not find evidence that immigration exposure was a significant multiplier of the effects of regional unemployment on attitudes related to populism. Nor do I detect that individual or regional unemployment provoked extra significant hostility to immigration during the 2014 immigrant influx, even in the entry region of these unauthorized immigrants.

In a second step as double-checking previous conclusions, I establish the association of recent unemployment during the Great Recession and populist voting, and the association of the 2014 immigrant influx and populist voting in the 2016 U.S. Presidential Election at the cohort level, respectively. Bernie Sanders was representative of left-wing populists and Donald Trump representative of right-wing populists. With a pseudo panel, I show that cohorts that had a high average of recent unemployment post-GR were associated with 42 percentage points higher likelihood to support Sanders while cohorts that resided in the West South Central region during the immigrant influx were associated with 10 percentage points higher probability to vote for Trump. Nevertheless, cohorts suffering unemployment already before the Great Recession were correlated with a higher possibility to vote for left-centrist Clinton.

The current study speaks to several strands of literature. Principally, it adds to the academic debate on the drivers of populism taking place between the economic insecurity perspective and the cultural backlash thesis. Only a handful of studies investigate

both economic and cultural determinants simultaneously. Even fewer of them examine their interactions. Inglehart and Norris (2016) establish the association between voting for populist parties across European countries and economic and cultural characteristics. They find evidence supporting cultural backlash rather than economic insecurity. Dustmann et al. (2017) interact macroeconomic indicators with regional cultural traits. They discover that more authoritarian and traditional cultural characteristics amplify the adverse effects of economic recessions on trust in political institutions, while trust is less sensitive to economic conditions in more liberal and modern areas.

The current study contributes to this literature on populism in three respects. First, with distinct shocks to economic insecurity and cultural backlash respectively, I explore the connections of economic and cultural anxieties to different types of populism and examine the potential interaction effects of economic and cultural factors. Recent unemployment during the Great Recession may be a cleaner economic trigger than (trade) globalization that is largely exploited in the populism literature. Trade globalization, as an economic driving force itself, drove up support for populist movements often through culture (Cerrato et al., 2018; Rodrik, 2020) such as *alien* import competitions. A prominent example is the "China shock" (Autor et al., 2013; Cerrato et al., 2018; Autor et al., 2020) and/or the recently prevailing rhetoric of "China has stolen our jobs and ruined our industries". However, recent unemployment during the Great Recession in the United States was not obviously involved with cultural division or foreign (external) impact. Hence such unemployment may more likely extract cleaner effects of economic insecurity. Likewise, the 2014 Northern Triangle immigrant influx was special in the sense that most of these immigrants were women, unaccompanied children and juveniles and that they were refugees avoiding the mass violence in their original countries rather than economic immigrants (U.S. Department of Homeland Security).[3] Moreover, I indeed do not find significantly escalated economic concerns among natives in the impacted regions during the influx. Thus this tide of immigration from the Northern Triangle facilitates to obtain cleaner effects of cultural anxiety than economic immigration such as the large number of Mexican immigrants before 2010 (Pew Research Center, 2017). Second, with individual panel data, I provide the first quasi-natural experimental evidence at the individual level for the drivers of various dimensions of populism. The data structure helps to remove the unwanted disturbance owing to individual unobserved heterogeneity and the general evolution of various populist attitudes across time. Hence the study is capable to explore the driving forces of the current populism at the more precise individual level rather than

[3]Section 2.2 elaborates the detailed information on the 2014 Northern Triangle immigrant influx.

the aggregate level. Third, compared to most studies in this literature that focus on politics only (Acemoglu et al., 2013; Algan et al., 2017; Becker et al., 2017; Colantone and Stanig, 2018a; Di Tella and Rotemberg, 2018; Foster and Frieden, 2017; Guiso et al., 2017; Hatton, 2016; Jensen et al., 2017), I utilize a richer set of measures to capture different dimensions of populism. A decrease in confidence in people who are running major companies and an increase in a special type of preferences for income redistribution, i.e. imposing higher taxes on the rich (rather than economically assisting the poor), indicate attitudes that are against wealthy elites. In the literature these attitudes are related to left-wing populism. The anti-immigration attitude is connected with right-wing populism in the literature. Additionally, I explore populist voting behavior in the 2016 U.S. Presidential Election.

Second, this paper complements a growing literature on the effects of economic hardship on social capital, especially on trust and confidence. Ananyev and Guriev (2019) exploit the 2009 economic recession in Russia to analyze the effect of income on generalized social trust and find this effect statistically and economically significant. Algan et al. (2017), Dustmann et al. (2017), and Foster and Frieden (2017) conclude that adverse economic shocks and the resulting rise in unemployment exerted negative influences on Europeans' trust in national and EU governments. This study distinguishes between unemployment that existed before the economic downturn and new unemployment caused by the adverse economic shocks. My results show that recent unemployment during the Great Recession, rather than unemployment that existed before the Great Recession, triggered the decrease in trust or confidence in the wealthy. This new finding implies that those that were not laid off until the economic recession blamed rich elites for their unemployment. However, those suffering pre-existing economic hardship may merely attribute their joblessness to their own circumstances. I verify this implication when exploring the perception of economic unfairness as a mechanism.

Third, my results are closely related to studies on preferences for redistribution. Kuziemko et al. (2015) conducted randomized survey experiments, discovering that mistrust in government explains the low support for redistribution in the U.S. However, Americans strongly preferred only one redistribution policy – the estate tax targeting the top 0.1% of U.S. families. This may be interpreted as a wish to prevent the self-perpetuation of extreme wealth. Because of the prevailing attitudes against wealthy elites "respondents might still support (it) if, say, the government merely burns the money it collects (from the rich)". Giuliano and Spilimbergo (2013) exploited three different data sets to support their finding that people who experienced at a young age an economic

recession support more distribution and tend to vote for left-wing parties. Alesina and La Ferrara (2005) and Benabou and Ok (2001) argue that people with higher-than-expected income growth are more inclined to oppose redistribution, even when they earn below-average income and benefit from redistribution. Alesina et al. (2018) find strong political polarization in preferences for redistribution and detect that only left-wing respondents react to pessimistic intergenerational mobility perception by increasing their preferences for redistribution. Intuitively, the higher the perceived importance of effort rather than luck in determining one's income, the higher the belief in the fairness of the economy, and thus the lower the preferences for redistribution (Alesina and Angeletos, 2005; Piketty, 1995). I adopt this mechanism of perceived economic unfairness in my study. What is new in my contribution to this literature is that I combine two variables in the data to distinguish two forms of preferences for redistribution, i.e. the request for imposing higher taxes on the rich and the demand for economically assisting the poor.

Last but not least, this study is part of the large literature on the impact of immigration. The attitude to immigration is studied in two traditions – political economy and socio-psychology (Hainmueller and Hopkins, 2014). The former focuses on competition over resources between immigrants and natives and explains immigration attitudes from the perspective of natives' individual self-interest. The latter perceives immigration attitudes as symbolic of group identity. In socio-psychology, contact theory states that exposure to and interaction with immigrants will produce a more tolerant and friendly attitude to immigration. Threat theory, however, alleges that natives see the arrival of immigrants as a threat to the national identity, economy, and culture. The greater the number of immigrants, the bigger the threat. I examine both channels of individual self-interest and collective identity concern, and only find evidence for the latter (see also Card et al. (2012), Sniderman et al. (2004), and Tabellini (2020)). The unauthorized immigrants from the Northern Triangle did not significantly impact natives negatively in the labor market. Nor did natives regard these immigrants as a threat to their jobs in the future or social security. The negative attitude to immigration more likely arose from cultural and identity concerns.

The remainder of the paper is organized as follows. Section 2 introduces background information about the Great Recession and the 2014 immigrant influx from the Norther Triangle. Section 3 describes the GSS data and the complementary election data used in the analysis. Section 4 discusses the empirical strategy and identification. Then Section 5 and 6 provide quasi-natural experimental evidence for the effects of economic insecurity and cultural anxiety on various dimensions of populism. Section 7 delivers extra

sensitivity analyses to verify the robustness of results. Furthermore, Section 8 conducts a cohort study investigating the associations between economic hardship and populist voting, and between cultural concern and such voting. Finally, Section 9 concludes.

2 Institutional Background

In this section I briefly discuss the developments of the Great Recession and the 2014 Northern Triangle immigrant influx in the U.S.

2.1 The Great Recession

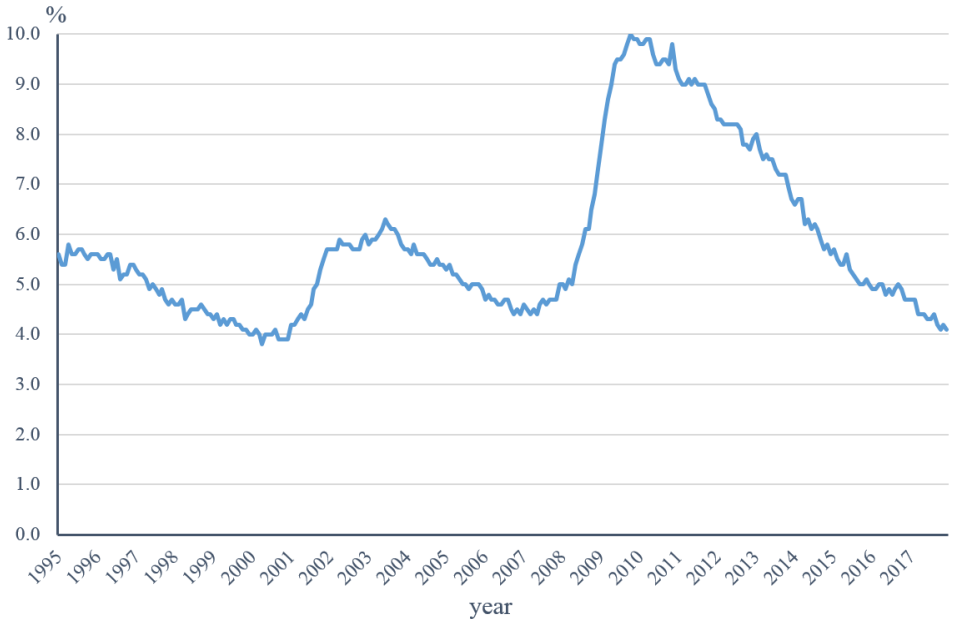
The Great Recession has been regarded as the most influential economic recession worldwide since the Great Depression in the 1930s. It originated in 2007 with a crisis in the U.S. subprime mortgage market and spread to the banking system. Its impact was felt in financial systems around the world, with the bankruptcy of the investment bank Lehman Brothers on September 15th, 2008 as a remarkable initial signal.

Despite a variety of monetary and fiscal policies adopted by governments around the world to reduce the negative impact on the economy, the 2008 financial crisis nevertheless developed into a severe worldwide economic recession. In addition to the collapse of several banks and other financial institutions, the U.S. economy suffered a sharp drop in its output and took a serious hit on its labor market. For instance, compared to the respective previous years, U.S. real GDP decreased by around six percent at an annual rate in the last quarter of 2008 and the first quarter of 2009 (U.S. Bureau of Economic Analysis). Unemployment change is usually lagged, following GDP decline. Figure 1 illustrates the seasonally adjusted monthly unemployment rate in the U.S. The unemployment rate soared to over ten percent in October 2009, the highest level since 1983 and twice as high as before the Great Recession. Many individuals who would not get laid off in the absence of the recession were unemployed. Average working hours per week decreased to 33, the lowest since 1964 (U.S. Bureau of Labor Statistics).

2.2 The 2014 Immigrant Influx

From October 2013 to late 2016, large numbers of unauthorized immigrants from the Northern Triangle of Central America, i.e. El Salvador, Guatemala, and Honduras, traveled to the U.S. southern border with Mexico, leading to a remarkable immigrant influx

Figure 1: Unemployment Rate in the U.S. (Seasonally Adjusted); 1995-2017



Source: U.S. Bureau of Labor Statistics

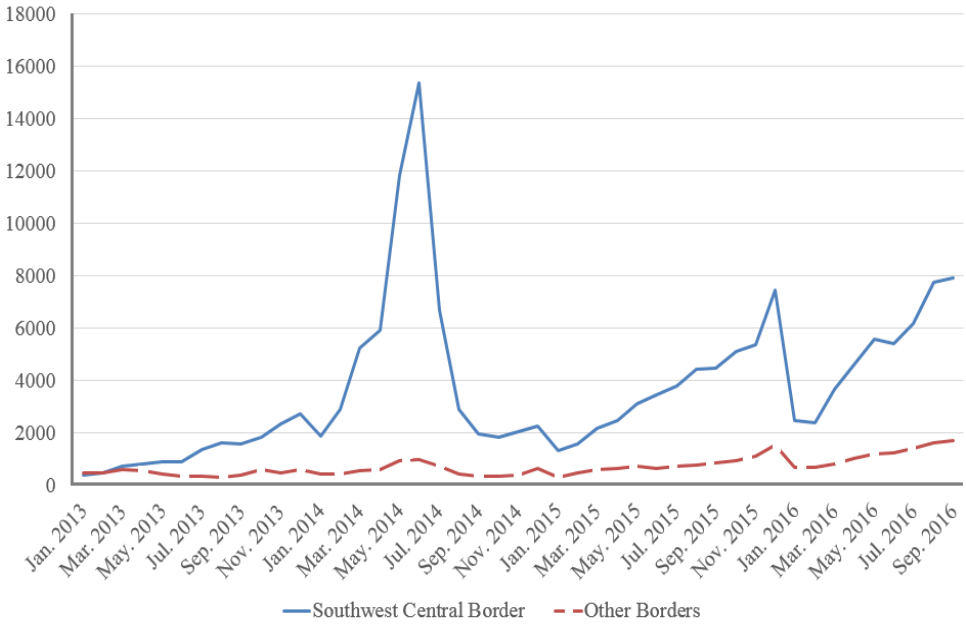
that peaked in 2014.[4] It turned out to be the biggest inflow of asylum seekers to the U.S. since the 1980 Mariel boatlift out of Cuba (Greenblatt, 2014). Many of them were women, unaccompanied children and juveniles. Almost all of these immigrants entered the West South Central region of the U.S., in particular from the Rio Grande Valley area located on the southern edge of Texas.[5] Figure 2 provides an overview of U.S. border arrests from 2013 to the third quarter of 2016: the blue solid line represents monthly apprehensions at the southwest central patrol sector. The inflow started to soar at the end of 2013 and reached its peak in June 2014. It then dropped dramatically at first, but started to climb again after the end of 2014. The red dashed line denotes apprehensions at other patrol sectors in the U.S. This line is relatively flat and limited. Though this figure does not directly provide information on the number of unauthorized immigrants actually entering each month, the monthly number of arrests implies a huge inflow variation in different regions.

In Figure 3, the orange dashed line shows the inflow of authorized immigrants from the Northern Triangle to Texas which was the main portal during this tide of immigration. In 2014 this number soared to around 31,500, five times as large as that in 2013 and 2015 (American Community Survey). 55% of Northern Triangle immigrants in the U.S. were

[4]Unfortunately, precise records of entries of these unauthorized immigrants are unavailable.

[5]Table D.1 in Appendix D lists the numbers of family unit apprehensions by month in different border patrol sectors in the U.S. from October 2012 to September 2016.

Figure 2: Family Unit Apprehensions by Month; 2013-Sep.2016



Source: United States Border Patrol

unauthorized by 2015. In 2014 the estimate of new (authorized) immigrant arrivals from these three Central American countries in the U.S. is around 115,000 (Pew Research Center). Thus, if the immigrant influx in 2014 followed the same pattern as before – and in fact, during this period it is likely there were more unauthorized entries than authorized ones – the number of Northern Triangle immigrants entering the U.S. would be roughly doubled to 230,000 in 2014.

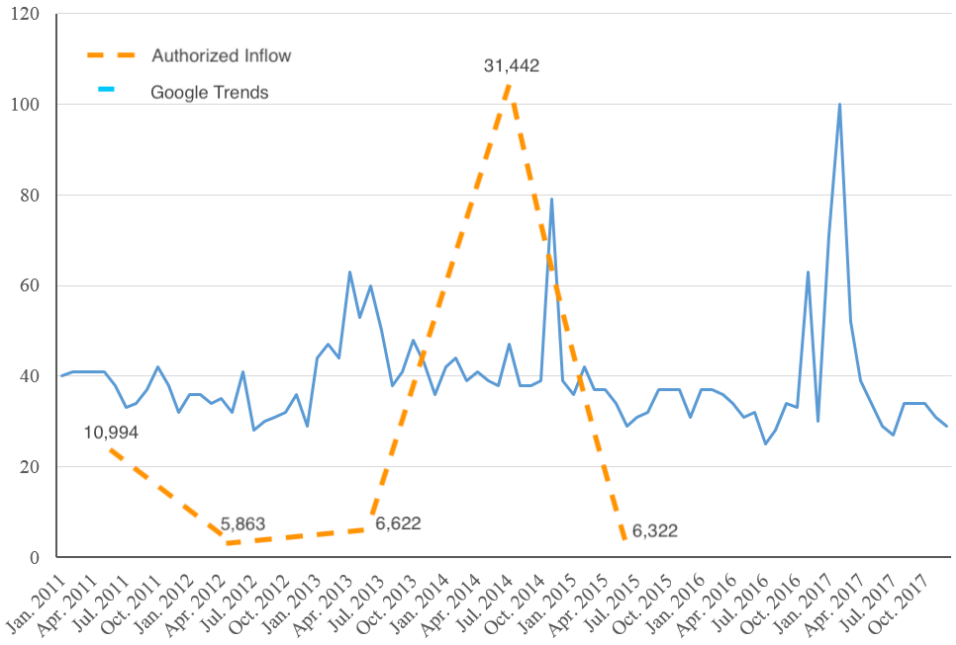
The principal reason that these people abandoned their family and country and took this risky and dangerous journey to the U.S. border was the mass violence in these nations (U.S. Department of Homeland Security).[6] Other important drivers of this immigrant influx were the organized crime and drug trade as well as poverty and food shortage.[7]

Given the above causes, the 2014 immigrant influx has been regarded as both a

[6]DHS concluded that "(These immigrants) come from extremely violent regions where they probably perceive the risk of traveling alone to the United States preferable to remaining at home". The murder rates in these countries have skyrocketed. For example, recognized as the murder capital of the world, Honduras had a homicide rate of 91.6 murders per 100,000 people in 2011; in 2014, this number declined to 66 but was still the highest among non-war zone countries. Likewise, El Salvador also had a high rate of 90 murders per 100,000 people in 2011. Moreover, this rate dramatically increased to 104 murders per 100,000 people in 2015 after the breakdown of a truce in 2013 between the country's two most influential gangs – MS-13 and Barrio 18 (United Nations Office on Drugs and Crime).

[7]Nowadays, 79% of all cocaine-smuggled flights pass through Honduras. Children and juveniles in school are forced to smuggle drugs by criminal gangs (Nazario, 2014). Meanwhile, in the Northern Triangle area – Honduras, Guatemala, and El Salvador, most of the criminals will not be reported or prosecuted due to the lack of police force. In Guatemala, half of the children are malnourished, stunted, or even dead because of food shortage (Loewenberg, 2009).

Figure 3: Authorized Inflow to Texas and U.S. Google Trends on Immigration



Source: American Community Survey, Google Trends

refugee crisis and a "humanitarian crisis" (President Obama). The U.S. government took several measures in response: (1) a multimedia awareness campaign; (2) assistance to the Mexican southern border; (3) expedition of the removal process; and (4) raids in January 2016 on individuals that had exhausted their asylum claims (Hiskey et al., 2016). However, these strategies did not prove effective.[8] The Northern Triangle children and juveniles attempting to illegally cross the border are treated differently in the U.S from their Mexican counterparts. Mexican immigrants may be deported immediately, but the U.S. Trafficking Victims Protection Reauthorization Act requires that youth from the Northern Triangle must be given a court hearing before they are either deported or allowed to stay. The extent of the influx meant that in the overwhelming majority of cases, these children and juveniles would wait years for a hearing, either staying with their relatives or family friends who already lived in the U.S., or else placed in foster care (Migration Policy Institute). In fact, by the spring of 2016 most of them have not been deported (Hiskey et al., 2016).

U.S. residents were aware of this immigrant influx and made their concerns known. The blue line in Figure 3 displays the Google Trends indicator on the frequency of the term "immigration" being searched for, relative to the total number of searches in the

[8]As the U.S. District Court Judge James Boasberg noted in his February 2015 ruling, "Defendants [DHS] have presented little empirical evidence ... that their detention policy even achieves its only desired effect, i.e., that it actually deters potential immigrants from Central America."

U.S. across time. The high leap in late 2014 during the peak of the immigrant influx is remarkable, showing that U.S. citizens suddenly paid special attention to this issue.

3 Data

The main data I utilize in the analysis are the General Social Survey (GSS) of the U.S. administered by NORC at the University of Chicago. The GSS contains a core of demographic, behavioral, and attitudinal questions. It has been conducted biennially since 1994 and has included in every wave a random sample of around 3000 (until 2004) to 4500 (since 2006) adults that is representative of the U.S. population. Hence the main body of GSS is a repeated cross-sectional dataset. However, the GSS also includes three three-wave individual panels.

To obtain the voting information on the 2016 U.S. Presidential Primary Elections, I turn to the American National Election Studies (ANES) 2016 Time Series Study. This complementary dataset contains 4,271 individuals, a representative random sample of the U.S. eligible voter population. I combine it with the GSS to study populist voting.

3.1 Panel Data of Individuals

In addition to the repeated cross-sectional data, the GSS also includes three individual panels: the 2006-sample panel, the 2008-sample panel, and the 2010-sample panel. For example, the 2006-sample of 4,510 individuals was initially interviewed in 2006, 1,536 of them drawn randomly were re-interviewed in 2008, and then 1,276 of that 1,536 were interviewed again in 2010. The 2008- and 2010-sample panels were designed in a similar manner.

I exploit the 2006-sample panel to investigate the economic driver of populism and the 2010-sample panel to study the cultural driver. The former spans the pre- and post-GR periods and the latter covers the pre- and post-immigrant influx phases. Even though the recent financial crisis began in the U.S. in 2008, I regard only wave 2010 as the post-GR phase with respect to unemployment since unemployment rise is usually a lagged indicator of economic downturns. As shown in Figure 1, from 1995 to November 2008 the variation in unemployment rate displayed the same pattern at roughly the same level. Moreover, all the subjects in the year 2008 were interviewed before October, while the bankruptcy of Lehman Brothers, signaling the beginning of this financial crisis, happened in mid-September. Therefore, it is reasonable to see the year 2008 as pre-GR with respect to

unemployment. The immigrant influx erupted in 2014. Thus, in the 2010-sample panel, it is clear to classify the 2010 and 2012 waves as the pre-influx phase and the 2014 wave as post-influx. In both cases, I preserve only respondents who appeared in all three waves, resulting in two balanced panels with 1,276 individuals in the 2006-sample and 1,304 in the 2010-sample.[9]

Based on my preferred "ideational definition" of populism which has been widely used in the literature (Aytaç and Öniş, 2014; Kaltwasser, 2018; Kriesi and Pappas, 2015; Mudde, 2004; Mudde and Kaltwasser, 2013, 2017; Rodrik, 2018a,b), left-wing or inclusionary populist attitudes refer to attitudes against wealthy elites and the socioeconomic advantaged. In the GSS data, the variables that may most accurately capture such attitudes are confidence in people who are running major companies in the U.S., demand for the government to equalize the income between rich and poor, and request for the government to financially help the poor. The last two variables are two dimensions of preferences for redistribution. An increase in attitudes against wealthy elites will translate to a decrease in confidence in people running big companies, and an increase in preferences for redistribution without necessarily benefiting the poor probably by merely imposing higher taxes on the rich. Likewise, right-wing or exclusionary populist attitudes refer to attitudes against threatening outsiders such as immigrants or foreigners. Thus I adopt the attitude to immigration to represent the right-wing populist attitudes.[10] All of them are transformed so that a larger score refers to a higher level in each of these outcomes. These outcome variables can more specifically capture left-wing and right-wing populist attitudes, respectively, than variables such as trust in government or politicians in general.[11]

The main explanatory variable of interest in the first quasi-natural experiment of the Great Recession is couple unemployment. This is constructed by combining two variables – the respondent's working status in the past week and that of their spouse if they have one.[12] Couple unemployment is a dummy that takes 1 if either partner of the couple became unemployed and takes 0 otherwise. The set of covariates contains the quadratic of respondent's age, marital status dummies, number of siblings, number of children,

[9] I also analyze the original samples of unbalanced panels in Appendix C and obtain virtually identical estimates.

[10] Details of specific questions about the outcome variables are in Appendix E.

[11] Trust in government in the U.S. is constantly low (Kuziemko et al., 2015). Its small variations across time thus do not help to accurately capture the effects of economic insecurity and cultural anxiety.

[12] Details of specific questions about couple unemployment are in Appendix E too. Alternative explanatory variables of economic insecurity, including self-unemployment of the respondent, are used for sensitivity analyses in Section 7.

academic degree dummies, categories of last year's total family income, categories of the population size of respondent's resident place, party self-identification, dummy of liberal ideology, and dummy of home owner.[13] In the second quasi-natural experiment of the immigrant influx, the explanatory variable of interest is a dummy for the entry region that was predominantly impacted initially.

3.2 Pseudo Panel Data of Cohorts

To investigate the associations of the two quasi-natural experiments and populist voting in the 2016 U.S. Presidential Election, I turn to the main body of the GSS. However, with its original repeated cross-sectional data, I am not able to link the independent variables in earlier waves to voting variables in later waves or to other external voting data at the individual level. In order to address this problem, I construct a pseudo panel based on the repeated cross-sectional data (Deaton, 1985). Specifically, I aggregate the original data into nine ten-year birth cohorts by gender and by the nine U.S. regions where respondents resided. Hence in total there are 162 ($= 9 \times 2 \times 9$) cohorts in the sample of the pseudo panel. The average of individuals within cohort represents the corresponding cohort in every wave for every variable.

Though there are questions about individual voting turnout and which candidate to vote for in the U.S. Presidential General Election, there is no information about the Primary Elections in the GSS survey. Since left-wing populist Bernie Sanders was a candidate only in primaries, I need data on individual voting in the 2016 Primary Elections. These relevant questions exist in the ANES 2016 Time Series Study. I aggregate the 4,271 individuals in that dataset into cohorts in the same way as above and transform the data into a cross-section of 162 averaged cohorts. Merging this ANES 2016 cross-section with the GSS pseudo panel of cohorts, I am able to examine the association of the Great Recession and populist voting, and the association of the 2014 immigrant influx and populist voting in the 2016 U.S. Presidential Election at the cohort level.

4 Empirical Strategy

In the main analysis with the two individual level panels, I employ the ordered logit fixed effects model (Baetschmann et al., 2015) to account for time-invariant unobserved

[13]The definitions and descriptives of the relevant variables in the baseline models are provided in Appendix A.

confounders. I choose this model because of the nature of ordinal dependent variables.[14] The ordered logit fixed effects model in the DID setting is specified as:

$$y^*_{it} = \beta Treatment_i \times Post\_crisis_t + x'_{it}\beta_x + \alpha_i + \gamma_t + \epsilon_{it} \tag{1}$$

$$y_{it} = \begin{cases} 1, & y^*_{it} \leq c_1 \\ 2, & c_1 < y^*_{it} \leq c_2 \\ \quad ... & \\ J, & y^*_{it} > c_{J-1} \end{cases} \tag{2}$$

where i ($i = 1, 2, ..., n$) refers to individuals, and t ($t = 1, 2, ..., T$) stands for survey waves.

y represents different observed outcome variables including confidence in major companies, preferences for income redistribution and attitude to immigration (in the last case it is a logit fixed effects model). y^* denotes the latent counterpart of y.

$Treatment$ represents the dummy for the corresponding treatment group during the Great Recession and the 2014 immigrant influx, respectively. In relation to the Great Recession, the treatment group consists of respondents who became unemployed or whose spouse became unemployed, i.e. couple unemployment has a value of 1, only in wave 2010. The corresponding control group contains respondents who were not unemployed and whose spouse (if they have one) was not unemployed, that is couple unemployment takes a value of 0, in any of the three waves i.e. 2006, 2008, 2010.

As for the immigrant influx, the precise information on these unauthorized immigrant entries in different states is unavailable since they were not tracked. To be conservative, I rely on the original (also the conventional) classification of U.S. regions in the data and apply the West South Central region including the states of Arkansas, Louisiana, Oklahoma, and Texas as the treated region. Thus the treatment group consists of respondents who lived in this region in wave 2014. The control group covers those that lived in the rest of the U.S. in the same wave.[15]

$Post\_crisis$ is either the post-GR period (wave 2010) or the post-immigrant influx phase (wave 2014). Furthermore, x denotes the vector of demographic, socio-economic, and political and ideological covariates as enumerated in the data section. In the main

[14] In a sensitivity analysis in Table C.5 of Appendix C, I estimate the linear fixed effects model and draw the same conclusions.

[15] Later I implement robustness checks in terms of the composition of the treated region (Table C.4) and conduct an IV analysis on the effect of the proportion of Northern Triangle immigrants at the state level on the attitude to immigration (Section 7.6) drawing the same conclusion.

analysis I present estimates with and without controls to examine their robustness.[16] Coefficients of only time-varying explanatory variables can be estimated in the fixed effects model where all the time-invariant variables are dropped. α_i indicates individual fixed effects and γ_t represents survey wave fixed effects. These two sets of fixed effects are vital to capture impacts of time-invariant individual unobservables and the general evolution of the outcome variables across time, respectively. For example, the individually distinct personality, preferences and ability or talent are accounted for by α_i; the common part of influence of the Great Recession or the 2014 immigrant influx is seized by γ_t. Finally, ϵ_{it} is the errors following a logistic distribution.

In order to apply the DID approach, the parallel trend assumption between the treatment and control groups should hold. This assumption in the current context implies that during the post-GR or post-immigrant influx period, the outcome variables would follow the same trajectory between the treated and the untreated in the absence of the corresponding crisis. To assess this assumption, I examine whether the pre-crisis time trends in the outcome variables diverge between the treatment and control groups. Specifically, I replace $Post\_crisis$ in Eq.(1) by dummies for all the waves separately.[17] If the coefficients of the interaction terms of $Treatment$ and the waves pre-crisis are insignificantly distinguishable from zero, it is evidence for the pre-crisis parallel trends. Figure 4 illustrates these interaction estimates for different outcome variables in which I normalize the coefficient of interaction of $Treatment$ and the first wave to be zero for identification. All estimates of the interactions of $Treatment$ and the pre-crisis waves are insignificantly distinguishable from zero. Therefore, arguably, the trends measured pre-crisis between the treatment and control groups are parallel.

Moreover, in order to establish a relationship between the crises and the outcome variables, there must not have been other events responsible for the divergence between the treatment and control groups occurring at a time close to the crisis. Falsification tests by applying fake shocks at different times during the pre-crisis period will provide such evidence if estimates are similar and statistically indistinguishable from zero before and after the fake shock (Atanasov and Black, 2016). In the current context with the pre-crisis sample, I change the onset of the fake shock to the second wave in both the Great Recession (Table C.3) and the immigrant influx (Table 4) and do not detect a significant treatment effect.

[16] In another model specification shown in Table C.3 I include state-specific linear time trends to capture smooth changes in unobservables and obtain virtually identical results.

[17] It is called the "Auto" model following Autor (2003) or the leads and lags model by Atanasov and Black (2016).

Figure 4: Pre-Treatment Trends: Estimates of Treatment×Every Wave

Note: Panel a to c are for the Great Recession and panel d is for the 2014 immigrant influx. Coefficient estimate of the interaction of treatment and the first wave is normalized to be zero for identification. The segments denote 90% (dark) and 95% (light) confidence intervals of estimated coefficients, respectively.

To render individuals in the treatment and control groups even more comparable, two additional approaches are exploited. First, in the design of the Great Recession, I discard all the individuals who had once been unemployed in the ten years prior to 2008 in both groups. It is therefore not very likely that the treated individuals and the untreated ones had different employment status during the Great Recession merely because of their divergent time-varying unobservables. Second, in designs for both the Great Recession and the 2014 immigrant influx, I adopt the method of nearest neighbors propensity score matching based on pre-crisis individual characteristics. This is to improve the covariate balance between the treated and the untreated. Only the matched individuals then compose the estimation sample in the DID framework. With these two methods as robustness checks, I obtain virtually identical results.

When I establish the association of the Great Recession and populist voting, and the association of the 2014 immigrant influx and populist voting in the 2016 U.S. Presidential Election, I apply the multivariate OLS model:

$$y_i = \beta_v Treatment_i + x_i'\beta_x + \epsilon_i. \tag{3}$$

where i denotes cohorts now. All the variables except $Treatment$ in Eq.(3) are means within cohort and thus cardinal.

y refers to averaged dummy of voting for different candidates within cohort, either in the 2016 U.S. Presidential Primary Elections or General Election. $Treatment$ again denotes the corresponding dummy of the treatment group during either the Great Recession or the immigrant influx. With respect to the Great Recession, the treatment group comprises cohorts whose couple unemployment averaged within cohort is greater than or equal to 0.5 in wave 2010 or 2012, and the control group contains cohorts whose couple unemployment average is less than 0.5 in both of these two waves.[18] The reason that I do not consider later waves is that the negative economic impact of the Great Recession was already extinct by 2014 and thereafter. As for the immigrant influx, the treatment and control groups are formed similarly to the case of individual level panel. However, I exploit information about residence in both waves 2014 and 2016. x contains the set of means of covariates in Eq.(1) and averaged voting turnout in the corresponding elections within cohort.[19] As for the Great Recession, the covariates take values in wave 2010.

[18] In Table C.6 of Appendix C, I also directly apply the average of couple unemployment within cohort, i.e. a continuous treatment, as the explanatory variable of interest. Though the estimates are not significant, the sign and magnitude are still as expected.

[19] Guiso et al. (2017) argue that turnout incentive is vital for populist voting.

With respect to the immigrant influx, they take values in wave 2014.

5 Economic Insecurity and Populist Attitudes

In this section I use the 2006-sample panel to study the effects of economic insecurity represented by unemployment on populist attitudes. Many people who had not had unemployment experience previously were laid off during the Great Recession. This recent unemployment may be different from unemployment persisting from before the Great Recession in shaping the unemployed's perception on the reason of their unemployment and thus their attitudes. Hence I distinguish between these two types of unemployment and estimate their effects in panel a and panel b of Table 1, respectively.[20] In panel a with the DID framework, the treatment group consists of respondents who became unemployed or whose spouse became unemployed only in wave 2010. The corresponding control group therefore reflects a situation where neither the respondent nor their spouse (if they have one) were laid off in any of the three waves.[21] In panel b, the sample excludes respondents who became unemployed or whose spouse became unemployed only in wave 2010. The coefficients of the interaction term *Unemployment*×*post-Great Recession* represent the additive effects of couple unemployment during the Great Recession for individuals who were already unemployed before the recession. The odd columns are estimates without covariates and the even columns are with controls. Robust standard errors clustered at the individual level are reported in parentheses.

5.1 Confidence in Major Companies

Lack of confidence in people managing big companies represents distrust in elites and the wealthy. Such anti-elitist attitude is connected with left-wing populism in the literature. Columns (1) and (2) of panel a show that after the Great Recession, the ordered log-odds of having a higher level of confidence in people running big companies diminished significantly by 1.3 for the recently unemployed relative to those not laid off in the data period, holding other covariates fixed. The estimates with or without covariates in the two columns are rather similar. In terms of the average marginal effect, after the Great Recession the probability of having a great deal of confidence in people running major

[20]Table C.1 in Appendix C presents the parameter estimates of the full model.

[21]In a sensitivity analysis displayed in panel b of Table C.3, in order to make the two groups more comparable, I discard all the individuals who had lost their jobs at any time during the ten years prior to 2008. The estimates do not notably change. In another robustness check reported in panel a of the same table, I include state-specific linear trends in the model and obtain virtually identical results.

Table 1: Effects of Unemployment on Attitudes Related to Populism

	Trust Companies		Gov. Equ. Inc.		Gov. Help Poor		Atti. Immig.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
a. Recent unemp. post-GR								
Treat.×Post-Great Rec.	-1.23***	-1.32***	0.67**	0.70**	0.28	-0.00	-0.37	-0.28
	(0.47)	(0.50)	(0.34)	(0.34)	(0.41)	(0.43)	(0.45)	(0.48)
No. of Obs.	1,569		5,049		3,057		878	
b. Existing unemp. pre-GR								
Couple Unemployment	-0.61	-0.69	0.26	0.16	0.63	0.40	0.35	0.56
	(0.44)	(0.43)	(0.39)	(0.41)	(0.44)	(0.45)	(0.44)	(0.49)
Unemp.×Post-Great Rec.	1.96	2.02	0.35	0.48	-0.15	0.04	-1.37*	-1.33
	(1.38)	(1.53)	(0.67)	(0.73)	(0.76)	(0.77)	(0.80)	(0.90)
No. of Obs.	1,537		5,018		3,025		912	
Controls	No	Yes	No	Yes	No	Yes	No	Yes

Note: In panel a, the sample excludes individuals who were unemployed or whose spouse was unemployed in either wave 2006 or wave 2008. The treatment group consists of respondents who became unemployed or whose spouse became unemployed only in wave 2010. The control group contains respondents who were not laid off and whose spouse was not laid off in any of the three waves. Wave 2010 is the post-Great Recession period with respect to unemployment. In panel b, the sample excludes individuals who were unemployed or whose spouse was unemployed only in wave 2010. Individual fixed effects and survey wave fixed effects are included in every column. Controls contain extensive demographic and socio-economic variables such as the quadratic of respondent's age, marital status dummies, number of siblings, number of children, academic degree dummies, categories of last year's total family income, categories of the population size of respondent's place, party self-identification, dummy of liberal ideology, and dummy of home owner. Robust standard errors clustered at the individual level are reported in parentheses; * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

companies, that is, *trust in companies* = 3, decreased for the newly unemployed by 19 percentage points compared to the untreated individuals.[22] Panel b does not display significant effects on confidence in major companies among people who had already become unemployed before the Great Recession, even during the post-recession period.

5.2 Preferences for Redistribution

Preferences for income redistribution, especially with the aim of increasing financial burdens on the wealthy, may be an indicator of left-wing populism. If people perceive that elites set unfair rules for the economy and take advantage of these rules to gain unfair benefits, they will request this special type of redistribution by mainly targeting "robbing the rich" rather than "giving to the poor". The relevant survey question inquires about preferences for redistribution by means of "raising the taxes of wealthy families or giving income assistance to the poor".

Columns (3) and (4) of panel a show the estimates of requesting the government to reduce income differences between the rich and the poor without and with controls, respectively. Ceteris paribus, if the respondent or their spouse recently became unemployed post-Great Recession, their ordered log-odds of requesting a higher level of income redistribution increased by 0.7 significantly compared to those never laid off. In other words, the probability that the newly unemployed would show the highest level of demand for redistribution, that is *government equalizes income* = 7, increased by over 14 percentage points post-GR relative to the untreated individuals.

Income equalization can be realized by raising taxes from the wealthy or by offering financial support to the poor. There is not a direct variable on taxing the rich in the survey. However, one question asks about opinions on the government's responsibility for improving the living standard of poor Americans. The results are presented in columns (5) and (6), both of which are statistically insignificant. In particular, when controlling for available covariates, the coefficient of interest becomes almost zero. In panel b, one does not observe either significant estimates for preferences for redistribution.

Such an interesting discovery is noteworthy: unemployment soon after the Great Recession significantly raised demand that the government brings about income equality between rich and poor by "raising the taxes of wealthy families or giving income assistance

[22]To facilitate the understanding on the effect magnitude, I report results of the linear fixed effects model in Table C.5 for comparison. The linear fixed effects estimate for confidence in big companies is around minus 0.3, sizable when compared to the corresponding adjusted mean in the treated, 0.98, over a range of zero to two.

to the poor". However, it did not increase the specific demand for the government to offer economic assistance to the poor. These two points of view are not mutually exclusive. Their preference may be for the income gap between rich and poor to be reduced by imposing higher taxes on the wealthy, rather than by helping the poor financially. This finding goes along with Di Tella et al. (2017) and Kuziemko et al. (2015).

5.3 Attitude to Immigration

The last two columns in Table 1 examine the potential spillover of unemployment on the attitude to immigration. In both panels a and b, unemployment post-Great Recession seems to lower the positive attitude to immigration, but the coefficients are imprecisely estimated. Therefore, the hypothesis that unemployment does not affect the attitude to immigration cannot be formally rejected.[23]

5.4 Interaction Effects Involving Immigration Exposure and Labor Market Conditions

If left-wing populist attitudes prevail more intensely in areas with higher proportions of immigrants conditional on individual economic distress, cultural or identity concerns may also contribute to these attitudes. To investigate the possible influence of cultural anxiety and its interaction with the economic shock, I include the fraction of immigrants in the state population in every wave and its interaction term with the post-Great Recession period in the model. The information on immigrants at the state level is from the American Community Survey (ACS).[24]

In Table 2, the odd columns report relevant results. The estimates of $treatment \times post\text{-}Great\ Recession$ are still close to the baseline estimates in panel a of Table 1. Moreover, neither the immigrant fraction in the state population nor its interaction with the post-Great Recession phase had significant effects on left-wing populist attitudes. Thus, residing in areas with more exposure to immigration did not seem to boost left-wing populist surge.

[23]In a sensitivity analysis in Section 7.5, I account for the industry heterogeneity in the share of immigrant workers. I find that whether or not they became unemployed, workers in industries with a high proportion of immigrants did not have a more negative attitude to immigration after the Great Recession.

[24]The immigrant data at the county level are only available for part of the counties on the annual basis and hence too limited for analysis.

Table 2: Effects of Recent Unemployment on Attitudes Related to Populism: Interaction with Immigration Exposure

	Trust Companies		Gov. Equ. Inc.		Gov. Help Poor		Atti. Immig.	
Recent Unemp. Post-Rec.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Treat.×Post-Great Rec.	-1.26**	-1.22**	0.65*	0.65*	-0.02	0.02	-0.29	-0.40
	(0.51)	(0.51)	(0.34)	(0.34)	(0.44)	(0.43)	(0.48)	(0.48)
Immigrants Proportion	-0.01	-0.01	-0.07	-0.09	-0.03	-0.10*	-0.00	0.04
	(0.04)	(0.06)	(0.05)	(0.07)	(0.04)	(0.06)	(0.06)	(0.07)
Immig. Prop.×Post-Rec.	0.00	0.01	0.01	-0.01	0.01	-0.06	-0.01	-0.06
	(0.02)	(0.09)	(0.01)	(0.06)	(0.01)	(0.07)	(0.02)	(0.08)
County Unemployment		-0.03		0.05		-0.19		0.10
		(0.15)		(0.14)		(0.13)		(0.18)
County Unemp.×Post-Rec.		-0.04		-0.08		-0.03		-0.02
		(0.14)		(0.11)		(0.12)		(0.16)
Immig. Prop.×County Unemp.		-0.00		0.01		0.02**		-0.01
		(0.01)		(0.01)		(0.01)		(0.01)
Immig. Prop.×County Unemp.×Post-Rec.		-0.00		-0.00		-0.00		0.01
		(0.01)		(0.01)		(0.01)		(0.01)
No. of Obs.	1,538	1,534	4,955	4,949	3,000	2,995	864	858

Note: Controls are included in every column; see also the footnote of Table 1.

Economic insecurity may originate from one's own and one's family's economic distress, or from anxiety on the local adverse economic conditions. Even if an individual or their partner is not laid off, the high unemployment rate in their area may induce an attitudinal inclination towards left-wing populism. Hence, in the even columns of the same table, I further add the county unemployment rate and its interaction with post-Great Recession. I acquire the annual county unemployment data from the Bureau of Labor Statistics. I then include the interactions of the immigrant proportion and the county unemployment rate as well as the county unemployment rate×post-Great Recession to account for the interaction effects of the economic shock and cultural concerns. The estimates in the even columns show that local labor market conditions did not exert significant influence on left-wing populist attitudes, even after the Great Recession. I also do not find that immigrant exposure was an important multiplier of the effects of the Great Recession on either the anti-elite attitudes or the anti-immigration attitude in regions suffering adverse economic conditions. The coefficients of *treatment*×*post-Great Recession* hardly change. Apparently, individual economic insecurity dominated regional economic concerns in these attitudinal variations.

So far I show that individual economic insecurity during the Great Recession significantly drove the increase in left-wing populist attitudes but not anti-immigration attitude. I also do not obtain evidence for significant interactions of immigrant exposure and economic insecurity. In Section 6 I will continue to explore the impact of unauthorized immigration on both left- and right-wing populist attitudes and its potential interaction effect with economic insecurity.

5.5 Mechanism

Earlier, I showed that recent unemployment during the Great Recession increased a special type of preferences for redistribution with the aim to impose financial burdens on the rich. What is the channel? In the literature on preferences for redistribution, Alesina and Angeletos (2005) and Piketty (1995) allege that perceived economic unfairness generates stronger demand for income and wealth redistribution. Following their work, I use the perceived importance of effort in one's success to represent perceived economic fairness. The more important personal effort seems to be in achieving success, the fairer the economy is believed to be. And vice versa.

I explore whether perceived economic unfairness was a mechanism through which recent unemployment during the Great Recession increased this anti-elite or anti-rich type

of preferences for redistribution. Specifically, I first examine whether new unemployment post-GR raised the perception that the economy was unfair. Then, I explore the effect of perceived economic unfairness on such preferences for redistribution. Panel a of Table 3 shows the results for the first step. Recent unemployment during the Great Recession did indeed increase the perception of economic unfairness, regardless of controls. In panel b, perceived economic unfairness had a significant positive effect on the demand for the government to equalize income between the wealthy and the disadvantaged. Nonetheless, this perception of unfairness did not have a significant effect on the option of assisting the poor financially. Panel c displays the first step results for those already unemployed before the recession. This type of unemployment was not associated with higher perception of economic unfairness.

Table 3: Perceived Economic Unfairness: A Mechanism through which Recent Unemployment Affected Preferences for Redistribution

	(1)		(2)		(3)		(4)	
a. Recent unemp. post-GR	Perceived Economic Unfairness							
Treatment×Post-Great Recession	0.74**	(0.36)	0.77**	(0.36)				
No. of Obs.	1,798							
b. Recent unemp. post-GR	Gov. Equalize Income				Gov. Help Poor			
Perceived Economic Unfairness	0.22*	(0.13)	0.22*	(0.13)	0.06	(0.12)	0.10	(0.12)
No. of Obs.	2,743				1,671			
c. Existing unemp. pre-GR	Perceived Economic Unfairness							
Couple Unemployment	0.07	(0.44)	0.07	(0.49)				
Unemployment×Post-Great Recession	-0.25	(0.90)	-0.31	(0.82)				
No. of Obs.	1,743							
Controls	No		Yes		No		Yes	

Note: See the footnote of Table 1.

The results fit with the conclusion in previous subsections: the recently unemployed during the Great Recession presented distrust in elites. They asked for higher redistribution without compassionate measures for the deprived. They thought the economy was unfair so that wealthy elites may be responsible for the recession and thus their own economic hardship.

6 Cultural Anxiety and Populist Attitudes

In this section I analyze the effects of cultural anxiety on populist attitudes. An overwhelming unauthorized immigrant influx may be perceived in the destination country as either an economic threat or a cultural and identity threat. By excluding the economic channels of this specific immigrant inflow, I argue that cultural concerns more

likely drove the anti-immigration attitude related to right-wing populism. Tables 4 and 5 present results based on the individual panel from 2010 to 2014.[25] The treatment group is composed of respondents who resided in the West South Central region of the U.S. in wave 2014.[26] The control group covers the rest of the U.S. in the same wave. The post-immigrant influx period is wave 2014.

6.1 Attitude to Immigration

In Table 4 the second column with covariates reports a significant negative estimate of $treatment \times post\text{-}immigrant\ influx$. In terms of the average marginal effect, for residents in the West South Central region the probability of their having a positive attitude to immigration decreased by over 12 percentage points compared to those in untreated regions during the immigrant influx. If cultural and identity concerns lowered positivity towards immigration, such an effect would be milder or even reversed among groups with a cultural background and identity that is closer to the immigrants. I estimate the same model separately for Whites in column (3) and for racial minorities including Hispanics in column (4), respectively. Hispanics are closer to these unauthorized immigrants from the Northern Triangle in culture and ethnicity. Other non-Whites share the identity of racial minorities with immigrants. As expected, the effect among the racial minorities (column (4)) is nonnegative while the negative effect among Whites (column (3)) is considerably larger and significant. Conditional on other individual characteristics, racial minorities especially Hispanics would be more likely to compete with these Northern Triangle immigrants in the labor market. If economic anxiety drove the change in attitude to immigration, we would see a larger decrease in the positive attitude to immigration among racial minorities. However, for Whites that share neither cultural background nor racial minority identity with immigrants, the probability of a positive attitude to immigration significantly declined by 35 percentage points relative to those in the rest of the U.S.[27] Columns (5) and (6) show the estimates for individuals without a bachelor's degree and bachelor's degree holders (measured in 2014), respectively. Apparently, the lower educated group was the main driving force of the anti-immigration attitude.

[25] Again, Table C.2 in Appendix C shows the parameter estimates of the full model.

[26] In Table C.4 of Appendix C, I modify the compositions of the treated region as robustness checks and find similar results though the estimates are less significant.

[27] The corresponding linear fixed effects estimate shown in panel b of Table C.5 is minus 0.14, and also significant. It is substantial compared to the mean attitude to immigration in the treated, 0.52.

Table 4: Effect of the Immigrant Influx on Attitude to Immigration

Attitude to Immigration							False Immig. Regn.		False Immig. Time	
	All		Whites	Race Mino.	No Collg.	Collg.	All	Whites	All	Whites
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Treat.×Post-Immig. Influx	-0.44	-0.50*	-1.40**	0.15	-0.62*	-0.26	-0.30	-0.06	-0.31	-0.27
	(0.28)	(0.30)	(0.60)	(0.50)	(0.33)	(1.09)	(0.47)	(0.57)	(0.40)	(0.68)
Controls	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Number of observations	1,070		690	349	781	289	899	635	498	318

Note: The treatment group is composed of respondents who resided in the West South Central region of the U.S. in wave 2014, i.e. the states of Arkansas, Louisiana, Oklahoma, and Texas, which the immigrant influx most intensely impacted. The control group covers the rest of the U.S. in the same wave. The post-immigrant influx period is wave 2014. Column (3) restricts the sample to Whites only and column (4) contains racial minorities including Hispanics. Column (5) and (6) show the estimates for individuals without a bachelor's degree and bachelor's degree holders (measured in 2014), respectively. Column (7) is a placebo test by using the East South Central region of the U.S. as the fake treated region and estimating the model excluding the West South Central region. Column (8) is the same type of placebo test for Whites only. Column (9) is another placebo test by using wave 2012 as a fake timing of the immigrant influx and estimating with only pre-(real)treatment data. Column (10) is the same test among Whites only. Individual fixed effects and survey wave fixed effects are included in every column. Controls contain extensive demographic and socio-economic variables such as the quadratic of respondent's age, marital status dummies, number of siblings, number of children, academic degree dummies, categories of last year's total family income, categories of the population size of respondent's place, party self-identification, dummy of liberal ideology, and dummy of home owner. Robust standard errors clustered at the individual level are reported in parentheses;
* $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Column (7) is a placebo test using the East South Central region of the U.S. (Kentucky, Tennessee, Alabama, and Mississippi) as the false treated region. The East South Central region is similar to the West South Central region in many aspects including political inclinations. However, the 2014 immigrant influx did not notably impact the East South Central region. Thus, the East South Central region is an appropriate counterfactual. The estimate in column (7) excludes individuals living in the West South Central region, the real treatment group. Without the remarkable influence of the 2014 immigrant influx, people in the East South Central region did not significantly change their attitude to immigration relative to the corresponding untreated regions. Column (8) reports the estimate of the same type of placebo test among Whites only, which is also statistically insignificant. Column (9) shows the result of another falsification test with only pre-treatment data (i.e. data of the first two waves) by using wave 2012 as a fake timing of the immigrant influx. The last column is the same test for the version of Whites only. Again, neither of them is significant. Hence these placebo tests deliver evidence that the treatment effect is not produced by other events occurring at a time close to the immigrant influx.

6.2 Left-wing Populist Attitudes

In Table 5, the first three columns display estimated effects of the immigrant influx on attitudes related to left-wing populism. None of the coefficients of $treatment \times post\text{-}immigrant\ influx$ is significant for confidence in big companies, the demand for the government to equalize the income between rich and poor, or the request for the government to financially assist the poor. Thus I do not obtain evidence that the immigrant influx affected these left-wing populist attitudes of anti-elites.

Table 5: Effects of Immigrant Influx on Left-wing Populist Attitudes & Individual Labor Market Outcomes

	Trust Companies	Gov. Equl. Inc.	Gov. Help Poor	Actul. Unemp.		Antcp. Unemp.	
				All	No Collg.	All	No Collg.
	(1)	(2)	(3)	(4)	(4I)	(5)	(5I)
Treat.×Post-Immi. Influx	0.18	-0.11	0.01	0.71	0.38	-0.23	-0.17
	(0.32)	(0.28)	(0.34)	(0.45)	(0.53)	(0.34)	(0.37)
No. of Obs.	1,547	8,345	3,251	633	492	2,848	1,986

Note: Columns (4I) and (5I) show the estimates for individuals without a bachelor's degree (measured in 2014); Covariates are included in every column; see also the footnote of Table 4.

6.3 Labor Market Outcomes

Natives may also see immigrants as job competitors and social welfare diggers. The last four columns in Table 5 present results for actual unemployment of either partner of the couple and individual anticipated unemployment in the next 12 months. The immigrant influx resulted in an insignificant rise in actual unemployment and insignificant decline in anticipated future unemployment for people in the West South Central region. Note again that the estimates are based on the (ordered) logit model rather than linear probability model specification, so the coefficients are *not* changes in unemployment probability. The previous subsection documents that lower-educated natives drove the increase in the negative attitude to immigration. The reason may be the competition between immigrants and lower-educated natives in the labor market and for social welfare. Columns (4I) and (5I) include only individuals without a bachelor's degree, corresponding to column (5) in Table 4. However, the coefficient estimates are smaller and remain insignificant.[28] Therefore, statistically we cannot reject the hypothesis that the 2014 immigrant influx did not impact the local individual labor market outcomes, either actually or anticipatedly.[29] A similar finding has been documented in some studies on immigration, e.g. Card (2001) and Card (2005).

6.4 Interaction Effects Involving Labor Market

In the previous subsection I do not obtain evidence that residents in the entry area of the immigrant influx became increasingly negative towards immigration because of adverse labor market consequences created by the unauthorized immigration. However, it does not exclude the possibility that natives facing individual economic hardship or adverse economic conditions in their resident place scapegoated immigrants.

In Table 6 I add to the model a dummy for couple unemployment, the unemployment rate in the county of residence, and their interactions with post-immigrant influx. The first three columns show the attitude to immigration for all individuals, and the last three that of Whites only. The estimates of $treatment \times post\text{-}immigrant\ influx$ stay close to those in the baseline model in Table 4. We are interested in the estimates of the other two interactions. After the immigrant influx, individual (couple) economic

[28] I also investigate the effects of the immigrant influx on family income before taxes and on preferences for redistribution, and do not obtain significant estimates either. So, worries on wage reduction and social security crowding out did not seem to be important reasons for the negative attitude to immigration.

[29] In Section 7.4 I study the influence of the immigrant influx on regional labor market conditions and do not find significant effects either.

hardship had an insignificantly positive effect on the attitude to immigration (coefficient of *couple unemployment*×*post-immigrant influx*). Local adverse economic conditions bore some marginally significantly negative effect among Whites post-immigrant influx (coefficient of *county unemployment*×*post-immigrant influx*). We should be cautious with this estimate: first, in the alternative linear specification this 10% level of significance disappears; second, without an exogenous shock to the county unemployment rate, this estimate presents correlation rather than causation.[30] Therefore, neither individual labor market outcomes nor local labor market conditions were important drivers of the anti-immigration attitude connected with right-wing populism.[31]

Table 6: Effect of the Immigrant Influx on Attitude to Immigration: Interaction with Individual Labor Market Outcomes and Local Labor Market Conditions

Attitude to Immigration	All Individuals			Whites Only		
	(1)	(2)	(3)	(4)	(5)	(6)
Treat.×Post-Immig. Influx	-0.50*	-0.43	-0.43	-1.38**	-1.32**	-1.30**
	(0.30)	(0.31)	(0.31)	(0.61)	(0.59)	(0.61)
Couple Unemployment	-0.51		-0.51	-0.67		-0.68
	(0.39)		(0.40)	(0.56)		(0.57)
Couple Unemp.×Post-Immig. Influx	0.49		0.52	0.62		0.63
	(0.57)		(0.56)	(0.88)		(0.86)
County Unemployment		-0.09	-0.09		-0.17*	-0.16
		(0.08)	(0.08)		(0.10)	(0.10)
County Unemp.×Post-Immig. Influx		-0.04	-0.05		-0.17	-0.18*
		(0.08)	(0.08)		(0.11)	(0.11)
No. of Obs.		1,070			690	

Note: Covariates are included in every column; see also the footnote of Table 4.

Overall, I do not find evidence that economic insecurity in terms of labor market or social security contributed to the anti-immigration attitude in this specific (non-economic) immigrant influx. However, such negative attitudes prevailed much more substantially among non-Hispanic Whites, an ethnic group with cultural background and identity remote from the Northern Triangle immigrants. Thus, cultural or identity concerns are more likely to have driven the negative attitude to immigration. This result is consistent with the conclusions drawn by Card et al. (2012), Sekeris and Vasilakis (2016), and Tabellini (2020). Moreover, I do not find that the immigrant influx exerted significant influence on left-wing populist attitudes.

[30]By exploiting the Great Recession as a shock to the county unemployment, I use the same model as column (8) of Table 2 to estimate the effect on attitude to immigration among Whites only and do not find significant coefficients for county unemployment related variables.

[31]Based on columns (1) and (4) of Table 6, I further interact the treated region with couple unemployment and with couple unemployment×post-immigrant influx simultaneously. Neither of them has a significant negative effect on attitude to immigration.

7 Robustness Checks

In this section, I apply alternative methods and combine extra data to perform various sensitivity analyses. The aim is to address concerns on the choice of treatment groups, the impact of the Great Recession on populist attitudes through other individual characteristics rather than economic insecurity, the measure of individual economic insecurity, the effect of the immigrant influx on the labor market at the regional level, and interaction of individuals' economic insecurity and industry heterogeneity in exposure to immigration.

7.1 Propensity Score Matching

In order to improve the covariate balance between the treatment and control groups and render individuals in these two groups more comparable, I apply nearest neighbors propensity score matching.[32] More specifically, in every wave before the treatment, I match the individuals in the treatment group with those in the control group based on the whole set of covariates. The propensity score is estimated with a logit model. Then I take the union of these matched individuals in pre-treatment waves to form the estimation sample. Different numbers of nearest neighbors are adopted and the results are robust.

Table 7 displays this sensitivity analysis for the design about the Great Recession. Panel a restricts the estimation sample to include only matched treated and untreated individuals with the one-nearest neighbor matching. Panel b takes the same procedure with five-nearest neighbors matching. The results for all the outcome variables are very close to their counterparts in Table 1.

Likewise, panel b of Table 8 shows the effect of the immigrant influx on the attitude to immigration for Whites with the matching method. The first two columns are for three-nearest neighbors matching and the remaining two are for five-nearest neighbors matching. The results are also similar to that in column (3) of Table 4, even though the number of observations is now halved.[33] Several assumptions such as the conditional independence assumption (CIA), that potential outcomes are independent of treatment conditional on observables, are necessary for the matching method. Here I show that with or without matching, the results are consistent.

[32]Matching methods are more appropriate for my study than the synthetic control approach because of the short pre-treatment period.

[33]The estimated effects on labor market outcomes are insignificant and in similar magnitudes like before as well.

Table 7: Effects of Recent Unemployment on Attitudes Related to Populism: Sensitivity Analyses

	Trust Companies		Gov. Equ. Inc.		Gov. Help Poor		Atti. Immig.	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
a. One-nearest	-1.68***	-1.94***	1.04**	1.32***	0.26	0.31	-0.20	-0.16
neighbor matching	(0.54)	(0.60)	(0.41)	(0.45)	(0.48)	(0.50)	(0.55)	(0.81)
Controls	No	Yes	No	Yes	No	Yes	No	Yes
No. of Obs.	303		1,015		613		171	
b. Five-nearest	-1.26***	-1.50***	0.90**	0.92***	0.27	0.11	-0.27	0.02
neighbors matching	(0.48)	(0.57)	(0.36)	(0.35)	(0.42)	(0.43)	(0.47)	(0.54)
Controls	No	Yes	No	Yes	No	Yes	No	Yes
No. of Obs.	794		2,378		1,493		402	
c. Interactions GR	-1.38***		0.69**		0.05		0.52	
and every covariate	(0.52)		(0.35)		(0.45)		(0.54)	
Controls	Yes		Yes		Yes		Yes	
Controls×Post-GR	Yes		Yes		Yes		Yes	
No. of Obs.	1,569		5,049		3,057		878	
d. Altntv. measr.	Self-	Actul &	Self-	Actul &	Self-	Actul &	Self-	Actul &
of econ. insecurity	unemp.	antp unep	unemp.	antp unep	unemp.	antp unep	unemp.	antp unep
	-1.49**	-0.98**	1.00***	0.68**	0.07	-0.07	-0.61	0.16
	(0.65)	(0.42)	(0.38)	(0.33)	(0.49)	(0.38)	(0.58)	(0.40)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. of Obs.	1,575	1,478	5,049	4,740	3,063	2,876	878	779

Note: See the footnote of Table 1.

Table 8: Effect of the Immigrant Influx on Attitude to Immigration: Industry Heterogeneity in Immigration Exposure & Propensity Score Matching

	(1)	(2)	(3)	(4)
Panel a.	Attitude to Immigration			
Industry exposure to immig.	Top 10		Top 3	
Treatment×Post-Immigrant Influx	-0.57*	-0.65*	-0.48*	-0.55*
	(0.31)	(0.34)	(0.29)	(0.31)
Immig. Industry×Post-Immig. Influx	0.24	0.18	-0.31	-0.15
	(0.31)	(0.34)	(0.61)	(0.64)
Treatment×Immig. Industry×Post-Immig. Influx	0.58	0.67	1.01	0.93
	(0.67)	(0.71)	(1.15)	(1.18)
Number of observations	1,070		1,070	
Panel b.	Attitude to Immig. for Whites			
Propensity score matching	3-nearest neighbors		5-nearest neighbors	
Treatment×Post-Immigrant Influx	-1.09**	-1.92**	-1.08**	-1.42**
	(0.54)	(0.84)	(0.53)	(0.67)
Number of observations	309		387	
Controls	No	Yes	No	Yes

Note: See the footnote of Table 4.

7.2 Interaction Effects of Covariates and Great Recession

The Great Recession could exert influence on various characteristics of individuals in addition to unemployment. Such influence might also affect their attitudes related to populism and impair or even cancel out the effect of recent unemployment. To examine this possibility, I interact the post-Great Recession period with every individual characteristic in the set of covariates. Panel c in Table 7 reports the results including all these interaction terms in the model.

Interestingly the estimates are rather similar to the baseline results in Table 1. The conclusion thus remains the same: post-Great Recession, the recently unemployed had significantly lower confidence in big companies than those that were never laid off; they also presented a significantly higher request for the government to equalize the income but not a different level of demand for the government to economically assist the disadvantaged than those never unemployed; moreover, they were not more opposed to immigration than those never laid off. Hence other individual characteristics might change, too, after the Great Recession, but these changes could not threaten the effects of recent unemployment on left-wing populist attitudes.

7.3 Different Measures of New Economic Insecurity

When regarding individuals rather than couples as economic units, I also show the effects of self-unemployment of the respondents during the Great Recession on populist attitudes in the odd columns in panel d of Table 7. The conclusions based on these results are not changed.

Economic insecurity may have both real and perceived dimensions. The previous treatment group in the case of the Great Recession is based on individual or couple actual unemployment only. To account for the perceived dimension of economic insecurity, I use another variable, individual anticipated unemployment in the next 12 months, in the GSS survey. If an individual answered "very likely" or "fairly likely" to the question "Thinking about the next 12 months, how likely do you think it is that you will lose your job or be laid off – very likely, fairly likely, not too likely, or not at all likely?" in wave 2010 only, they are now added to the treatment group with those recently unemployed during the Great Recession.

The corresponding results are reported in the even columns of the same panel. The estimates for confidence in major companies are smaller in magnitude, indicating that individual or couple actual unemployment had a stronger influence than anticipated future

unemployment. The estimates for the demand for the government to equalize income are similar to those in Table 1. The estimates for the request for the government to provide economic assistance to the poor, and for the attitude to immigration, are again insignificant and smaller. These results fit with the previous conclusions.

7.4 Effects of the 2014 Immigrant Influx on Local Labor Market Conditions

In Section 6.3, I investigate the effects of the 2014 immigrant influx on individual labor market outcomes and do not find significant impact relative to the untreated areas. Nevertheless, the effects of unauthorized immigration on the labor market may be different at the individual level than at the regional level due to changes in inflows and outflows of natives (Dustmann et al., 2017). If natives in the treated area become more negative towards immigration at the same time as the local unemployment rate is increasing, the change in attitude may be (partially) due to economic reasons. If the immigrant influx were to affect neither individual labor market outcomes nor local labor market conditions, we could be more confident that the more negative attitude to immigration was mainly driven by cultural or identity concerns.

Table 9 reports relevant estimates. State or county fixed effects and their specific time trends, and state real GDP per capita as well as survey waves fixed effects are included. Columns (1) and (2) present the effects of the immigrant influx on the state unemployment rate and county unemployment rate, respectively. Both of them are statistically and economically insignificant (around $0.2 - 0.3$ percentage points). When combined with the results in Section 6.3, it is clear that the immigrant influx did not impact significantly on either individual labor market outcomes or local labor market conditions in the treated region.

Columns (3) and (4) report the effects of the immigrant influx on the fraction of (authorized) Northern Triangle immigrants in the state of residence.[34] The covariates are the same as in the first two columns. The immigrant influx increased the proportion of (authorized) Northern Triangle immigrants in the state of residence by around 0.1 percentage points in the treated region compared to the rest of the U.S.[35] In 2015, most of the Northern Triangle immigrants living in the U.S. were unauthorized (Pew Research Center). Thus, if the unauthorized immigration inflow followed the same pattern, the

[34] Again, the available immigrant data at the county level from ACS are too limited on a yearly basis.

[35] The survey estimates for numbers of unauthorized Northern Triangle immigrants by state are imprecise and not on an annual basis. Therefore, I can only use data about authorized immigrants.

Table 9: Effects of the Immigrant Influx on Local Labor Market Conditions and Immigrants Proportions

	Unemploy. Rate (%)		Northern Triangle Immig. Prop. (%)	
	(1)	(2)	(3)	(4)
	State	County	State	County
Treatment×Post-Immigrant Influx	0.27	0.17	0.08*	0.08***
	(0.43)	(0.20)	(0.05)	(0.02)
Number of observations	127	692	91	625

Note: State or county fixed effects and survey wave fixed effects are included in every column. Controls containing state real GDP per capital and state- or county-specific time trends are included in every column. Robust standard errors clustered at the state or county level are reported in parentheses; see also the footnote of Table 4.

effect would be roughly doubled to 0.2 percentage points. Compared to this proportion in the median state in the sample, 0.85%, the effect of the immigrant influx would not be seen as trivial.

7.5 Industry Heterogeneity in Immigration Exposure

Even though the immigrant influx did not negatively affect the local labor market in the treated region, it is still possible that workers in industries that were more intensively exposed to immigrants would feel threatened and thus hold a more negative attitude to immigration after this influx. If so, the deterioration of attitude to immigration should be attributed to economic insecurity rather than to cultural concern.

In panel a of Table 8, the industry heterogeneity in the share of immigrant workers is taken into account. The first two columns set out the top ten industries ranked by share of immigrant workers, namely private households (45%), textile, apparel, leather manufacturing (36%), agriculture (33%), accommodation (32%), food manufacturing (29%), computer and electronic products manufacturing (27%), personal and laundry services (26%), administrative and support services (25%), construction (24%), and miscellaneous and not specified manufacturing (23%) (Pew Research Center). The remaining two columns define immigrant industry in terms of the top three industries. More specifically, the *immigrant industry* is a time-invariant dummy of individuals who worked in one of the immigrant industries before the immigrant influx. Additional interaction terms of *immigrant industry* and *post-immigrant influx*, and of these and *treatment* region are included. Neither of the coefficients of these two interactions is significant, so working in an industry with a high share of immigrant workers did not significantly entail a more negative attitude to immigration after the immigrant influx, whether the respondent lived in the treated region or not. The estimate of *treatment*×*post-immigrant influx* remains

similar to that in Table 4.

7.6 A Different Design for the 2014 Immigrant Influx

Previously the treated area with respect to the 2014 immigrant influx has been the West South Central region. The unauthorized Northern Triangle immigrants entered the U.S. through this region and hence impacted there most intensely in the short term. However, if these immigrants moved to other areas of the U.S. within a few months, their destinations might form another appropriate treated area. According to the Migration Policy Institute, around 90% of the children and juveniles among these immigrants later stayed with relatives or family friends who were already living in the U.S. Northern Triangle immigrants are already distributed rather unevenly in the U.S., gathering in several states and metropolitan areas (Migration Policy Institute). So the states and areas with higher proportions of Northern Triangle immigrants were more likely to be destinations for the unauthorized immigrants in 2014.

Nonetheless, the proportion of Northern Triangle immigrants by state is endogenous to the attitude of natives to immigration. There may be a reverse causality in that immigrants move to and concentrate in areas where they are more welcome or tolerated by natives. A potential empirical strategy for addressing this problem is to utilize the distance from the destination to the Rio Grande Valley border patrol sector as an instrument variable (IV) for the proportion of Northern Triangle immigrants. Note that a dominant proportion of these unauthorized immigrants (over 80% in the peak of the 2014 immigrant influx) entered the U.S. via this valley. This strategy relies on the exclusion restriction that the distance to the border patrol sector affected natives' attitude to immigration only through the proportion of Northern Triangle immigrants.[36] The use of distance as an IV in a similar context can be seen in Dinas et al. (2019).

Table 10 displays the 2SLS estimates. The distance is measured as the shortest driving distance from the county of residence to the Rio Grande Valley border patrol sector.[37] In the first stage, the natural logarithm of distance to the border sector is negatively associated with the proportion of (authorized) Northern Triangle immigrants in the state of residence, although this association is only statistically significant for the sample of Whites. In the second stage, the proportion of Northern Triangle immigrants is positively correlated with natives' attitude to immigration. I am reluctant to interpret this effect as causal since the distance to the Rio Grande Valley sector is probably valid as an IV only for

[36] I also try using the proportion of Latin American immigrants and obtain similar results.

[37] Another measure – distance "as the crow flies", the most direct path – yields similar results.

Table 10: 2SLS Estimates Effect of the Immigrant Influx on Attitude to Immigration: A Different Design of Treated Areas

Attitude to Immigration	All		Whites	
	(1)	(2)	(3)	(4)
	1st Stage	2nd Stage	1st Stage	2nd Stage
Ln Distance	-0.34		-0.79***	
	(0.23)		(0.17)	
Instrumented North Trigl Immig. Prop.		1.02		3.06*
		(2.73)		(1.65)
Instru. North Trigl Immig. Prop.×Post-Influx		-0.56		-0.81*
		(0.45)		(0.44)
County Unemployment	0.02***	-0.12	0.02**	-0.22**
	(0.01)	(0.09)	(0.01)	(0.10)
County Unemp.×Post-Influx	-0.00	-0.03	-0.00	-0.15
	(0.00)	(0.08)	(0.01)	(0.11)
Controls	Yes	Yes	Yes	Yes
No. of Obs.	1,070		690	

Note: The distance is measured as the shortest driving distance from the county of residence to the Rio Grande Valley border patrol sector. This distance is the instrument variable for the proportion of Northern Triangle immigrants in the state population; see also the footnote of Table 4.

the 2014 immigrant influx. After all, Northern Triangle immigrants could previously enter the U.S. using many routes scattered along its southern border. However, with respect to the estimate of the interaction of the proportion of Northern Triangle immigrants and post-immigrant influx, I am more confident. During the 2014 immigrant influx, the increase in the proportion of Northern Triangle immigrants diminished natives' positive attitude to immigration. This is consistent with the conclusion drawn in Section 6.1: the 2014 immigrant influx provoked a more negative attitude to immigration in the impacted areas, especially among White natives.

8 Double Checking: 2016 U.S. Presidential Election

Populism expresses negative attitudes to wealthy elites as well as anti-immigration sentiment. Both types of attitudes may be translated to voting behavior in elections. In this section I focus on the 2016 U.S. Presidential Election, including primaries as well as the General Election. More specifically, I examine whether the treated group relating to the Great Recession was associated with more votes for left-wing populist Bernie Sanders, and whether the treated group relating to the immigrant influx was associated with higher support for right-wing populist Donald Trump. It is well known and documented that Bernie Sanders' rhetoric focused on the division between common people and corrupt wealthy elites and that he fostered a negative attitude towards those wealthy

elites. At the same time, Donald Trump appealed to xenophobia by using the rhetoric of anti-(unauthorized) immigration to create a split between nationals and the immigrants who threatened them (Kazin, 2016; Rodrik, 2018b).

8.1 Great Recession and Populist Voting

There are no questions in the GSS survey asking about voting behavior in the U.S. Presidential Primary Elections, so I utilize the information from the ANES 2016 Time Series Study and combine it with the GSS data. Since it is impossible to link the two data at the individual level, I aggregate the ANES data in the same way as I do to generate the GSS pseudo panel, and then merge the two data at the cohort level (please refer to Section 3.2). The treatment group is composed of cohorts whose couple unemployment averaged within cohort in wave 2010 or 2012 is greater than or equal to 0.5.[38] The controls take their values in 2010.

The first six columns in panel a of Table 11 display outcomes for the 2016 U.S. Presidential Primary Elections. Regardless of controls, the treated cohorts were associated with 40 percentage points significantly higher support for left-wing populist Sanders and over 15 percentage points significantly fewer votes for Trump, echoing the findings of Di Tella and MacCulloch (2009). These results are more likely due to the popularity of Sanders among the cohorts that were unemployed during the Great Recession, rather than merely difference in party preferences between the treated and the untreated. Columns (7) to (10), as a placebo test, show the estimates for the General Election in the same year. After including covariates, the coefficients are insignificant and almost zero for both Clinton and Trump votes. Furthermore, columns (1) and (3) in panel a of Table 12 present results for the 2012 U.S. Presidential General Election between Obama and Romney as another placebo test. The estimates are still insignificant. The results of these two placebo tests suggest that the support for Sanders from the treated cohorts during the Great Recession is not very likely owing to difference in party preferences. Otherwise, we would witness significantly higher votes for Clinton and Obama among the treated cohorts in the 2016 and 2012 Presidential General Election, respectively.

Panel c displays the estimates for the counterpart whose couple unemployment averaged within cohort in wave 2006 or 2008 is greater than or equal to 0.5. The controls take their values in 2008. Including covariates, these cohorts were not significantly correlated

[38] In Table C.6 of Appendix C, I also directly apply the average of couple unemployment within cohort, i.e. a continuous treatment, as the explanatory variable of interest. Though the estimate of voting for Sanders is not significant, the sign and magnitude are still as expected.

with support for either left-wing populist Bernie Sanders or right-wing populist Donald Trump. Instead, they were associated with significantly more votes for Hillary Clinton, who is usually regarded as a left centrist, in the general election. This result is consistent with the story in Section 5: recent unemployment during the Great Recession triggered left-wing populism while existing unemployment from before the Great Recession did not seem to.

8.2 Immigrant Influx and Populist Voting

Likewise, the data used in this subsection also consist of the GSS pseudo panel and the ANES 2016 Time Series Study. Now the treatment group is formed by the cohorts that were in the West South Central region in wave 2014 or 2016 during the immigrant influx. Covariates take their values in wave 2014 for estimation.

Panel b of Table 11 reports the relevant results. During the Presidential Primary Elections, the cohorts in the West South Central region were correlated with more than seven percentage points significantly more votes for right-wing populist Trump and significantly lower support for the two Democratic candidates Sanders and Clinton. A similar situation appeared during the Presidential General Election with even a larger advantage for Trump. These results are closely related to the conclusions of Dinas et al. (2019) and Tabellini (2020). One may suspect that they are merely a divergence between party preferences of the treated and untreated regions. However, I conduct a placebo test again in column (2) and (4) in panel a of Table 12 for the 2012 U.S. Presidential General Election which occurred before the immigrant influx. I no longer find such a divergence between the votes for Democratic candidate Obama and the votes for Republican candidate Romney. Hence higher support for Trump among people in the West South Central region is not very likely due to preferences for the GOP in this region.

Table 11: Effects of the Great Recession and Immigrant Influx on Populist Voting

	2016 U.S. Presid. Primary Elections						2016 U.S. Presid. General Election			
	Sanders		Clinton		Trump		Clinton		Trump	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
a. Great Recession	0.40**	0.42**	-0.10	-0.11	-0.16***	-0.25***	0.19*	0.03	-0.26***	0.01
	(0.17)	(0.18)	(0.11)	(0.14)	(0.04)	(0.09)	(0.10)	(0.18)	(0.04)	(0.13)
No. of Obs.	135		135		135		136		136	
b. Immigrant influx	-0.15***	-0.10*	-0.08**	-0.11**	0.07**	0.09**	-0.13***	-0.12**	0.15***	0.13***
	(0.04)	(0.05)	(0.04)	(0.05)	(0.03)	(0.04)	(0.04)	(0.05)	(0.05)	(0.05)
No. of Obs.	132		132		132		134		134	
c. Unemp. pre-GR	0.44**	0.19	-0.12	-0.03	-0.12*	-0.19	0.22**	0.23*	-0.21***	-0.18
	(0.17)	(0.15)	(0.11)	(0.09)	(0.07)	(0.12)	(0.09)	(0.13)	(0.07)	(0.12)
No. of Obs.	134		134		134		135		135	
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes

Note: In panel a for the Great Recession, the treatment group is composed of cohorts whose couple unemployment averaged within cohort is greater than or equal to 0.5 in wave 2010 or 2012. Covariates take values in wave 2010. In panel b for the immigrant influx, the treatment group consists of cohorts that resided in the West South Central region of the U.S. in wave 2014 or 2016. Covariates take values in wave 2014. In panel c for existing unemployment pre-Great Recession, the treatment group is composed of cohorts whose couple unemployment averaged within cohort is greater than or equal to 0.5 in wave 2006 or 2008. Covariates take values in wave 2008. All the dependent variables and controls are averages within cohort. Controls contain the mean of voting turnout in the corresponding election, as well as extensive averaged demographic and socio-economic variables such as the quadratic of respondent's age, marital status dummies, number of siblings, number of children, academic degree dummies, categories of last year's total family income, categories of the population size of respondent's place, party self-identification, dummy of liberal ideology, and dummy of home owner. Robust standard errors in parentheses; * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

Table 12: Effects of Recent Unemployment and the Immigrant Influx on the 2012 U.S. Presidential Election & Mechanism Investigation

	(1)	(2)	(3)	(4)
a. Placebo test	2012 U.S. Presidential General Election			
	Obama		Romney	
	GR	Immi Infx	GR	Immi Infx
	0.19	-0.03	-0.19	-0.01
	(0.15)	(0.07)	(0.17)	(0.06)
No. of Obs.	134		134	
b. Mechanism	2016 U.S. Presid. Primary Elections			
investigation	Cruz	Kasich		
Immigrant Influx	0.08**	-0.05***		
	(0.04)	(0.02)		
No. of Obs.	132	132		

Note: Covariates are included in every column; see also the footnote of Table 11.

8.3 Potential Mechanism

I try to distinguish two potential mechanisms through which new economic insecurity and cultural backlash led to populist voting – accountability theory (Ferejohn, 1986) and issue ownership (Petrocik, 1996). In the current context, the former mechanism states that voters who are dissatisfied with the way the incumbent government is dealing with the Great Recession and the immigrant influx will punish it by turning to an opposition. The latter mechanism claims that dissatisfied voters will support the party or politician they deem competent on the specific issues (Dinas et al., 2019).

As shown in panel a of Table 11, people losing their job after the Great Recession did not decrease their support for the incumbent – the Democratic Party – or turn to the opposition – the Republican Party – in either primaries or the General Election. Instead, these people were significantly more prone to vote for Bernie Sanders who used anti-elitist rhetoric during his campaign. Thus, accountability theory is not valid in this case, while issue ownership seems to be what appropriately explains the electoral reaction against elites and establishment after the Great Recession.

The results are mixed in panel b of Table 11. The Democrats, Bernie Sanders and Hillary Clinton, both lost votes from people who were most impacted by the immigrant influx. This is predicted by accountability theory. However, Donald Trump, who used considerable anti-(unauthorized) immigration rhetoric and promised harsh reform of the U.S. immigration policy during his campaign, obtained increasing support from residents of the West South Central region. This is also predicted by issue ownership. In order to disentangle this puzzle, in panel b of Table 12 I estimate the same model for another

two Republican candidates, Ted Cruz and John Kasich, during the 2016 Primary Elections. Ted Cruz held a similar anti-immigration position to that of Donald Trump. He was opposed to providing DREAMers (unauthorized immigrants brought to the U.S. as children) with a path to citizenship (Kapur, 2018). Moreover, he also called for repeal of the clause of the 14th amendment granting citizenship to those born in the U.S. (Farley, 2016). However, from 2014 John Kasich changed his previous conservative opinion on immigration and called for a path to legal status for unauthorized immigrants (Sussman, 2015). In October 2015, he actually criticized Trump's plan for "building a wall along the U.S.–Mexico border and removing immigrants who entered the U.S. illegally" as "just crazy" (Rappeport, 2015). If accountability theory were true, the residents in the West South Central region would increase (or at least not decrease) votes for Republican candidates. If issue ownership were true, these residents would more likely support candidates with a clear anti-immigration opinion. It is clear from panel b of Table 12 that they were significantly more prone to vote for Cruz, an anti-immigration candidate, and significantly less likely to support Kasich with his softer attitude to immigration. Once more, this phenomenon fits issue ownership rather than accountability theory.

In this section, I connect new economic insecurity to left-wing populist voting and link cultural anxiety to right-wing populist voting, both delivered through the channel of issue ownership. The effect of recent unemployment during the Great Recession seemed to persist in the long-term. Even more than five years after they had been rendered unemployed during the Great Recession, people were still significantly more prone to vote for a left-wing populist. Such lasting negative effects on electoral support and trust are also documented by Ananyev and Guriev (2019) and Dustmann et al. (2017).

9 Conclusions

Brexit, the rise of numerous radical left and radical right parties in Europe, as well as Donald Trump's presidency and Bernie Sanders's popularity during the 2016 U.S. Presidential Election, present a recent surge in populism. This study has investigated whether it is economic insecurity or cultural anxiety that has been driving the growth in populism.

The current study attempts to identify the trigger of this growth by using the Great Recession and the 2014 immigrant influx as two distinct quasi-natural experiments for economic insecurity and cultural backlash, respectively. This paper empirically distinguishes between left-wing populism and right-wing populism in terms of both attitudes

and voting behavior. I find that recent unemployment during the Great Recession, rather than existing unemployment from before the recession, is what induced attitudes against wealthy elites, such as a decrease in trust in people who manage big companies and a rise in preferences for income redistribution by imposing higher taxes on wealthy families rather than by providing financial assistance to poor people. These anti-elitist attitudes are connected with left-wing populism in the literature. This result is original in that it distinguishes between recent unemployment during the Great Recession and existing unemployment from before the recession. Individuals who became unemployed during the Great Recession perceived the economy as manipulated by elites and thus unjust to them. However, people who had lost their job before the Great Recession did not express that sentiment.

This study also provides evidence that unauthorized immigration generated a more negative attitude to immigration in the more intensely affected region. Such anti-immigration attitude was more likely driven by cultural and identity concerns rather than labor market competition or social security crowding out. This phenomenon is related to right-wing populism in the literature.

Furthermore, new unemployment amid the Great Recession and the 2014 immigrant influx had influence on the 2016 U.S. Presidential Election. Cohorts with a high average of unemployment post-Great Recession preferred left-wing populist Bernie Sanders, while cohorts in the most intensely impacted region during the immigrant influx supported right-wing populist Donald Trump. Placebo tests verify that these voting consequences could not be merely attributed to difference in party preferences.

In sum, this paper takes a step towards reconciling the economic insecurity perspective with the cultural backlash thesis. Undoubtedly it is difficult, or even impossible in many cases, to disentangle the economic drivers from the cultural triggers of populism. Nonetheless, with distinct and relatively cleaner shocks to economic insecurity and cultural anxiety respectively, the current study documents that without strong interference with each other, economic insecurity were prone to stir the left-wing dimension of populism while cultural anxiety mainly triggered the right-wing dimension of populism. These implications are helpful in managing the influence of populism in economic and political institutions.

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Appendix A: Variables – Definitions and Descriptives

Table A.1 provides an overview of the definitions of variables used in the analysis. Table A.2 presents the descriptives of these variables in the 2006 sample panel (wave 2006 to 2010) for the Great Recession. Table A.3 shows the descriptives in the 2010 sample panel (wave 2010 to 2014) for the immigrant influx.

Table A.1: Definitions of Variables

Variable	Definition
Trust companies	Confidence in people running major companies (one to three)
Gov. equal. inc.	U.S. gov. ought to reduce income difference between rich and poor (one to seven)
Gov. help poor	U.S. gov. should improve living standard of poor (one to five)
Attitude to immig.	Dummy variable if number of immigrants to U.S. should not decrease
Unemploy. couple	Dummy variable if either partner of couple unemployed
Econ. unfairness	Luck & network more important than hard work in one's success (one to three)
Married	Dummy variable if married
Widowed	Dummy variable if widowed
Divorced	Dummy variable if divorced
Separated	Dummy variable if legally separated, i.e. legally living apart but still legally married
Never married	Dummy variable if never married
Children number	Number of children
Sibling number	Number of siblings
Age	Age of respondent
Age squared	Age squared of respondent
Lower high school	Dummy variable if highest degree is lower than high school
High school	Dummy variable if highest degree is high school
College	Dummy variable if highest degree is junior college or bachelor
Graduate	Dummy variable if highest degree is graduate degree
Family income	Categories of total family income before taxes last year
City size	Categories of population size of respondent's place
Democrat	Dummy variable if party self-identification is democrat
Republican	Dummy variable if party self-identification is republican
Liberal	Dummy variable if political view is liberal
Home owner	Dummy variable if home owner

Table A.2: Descriptives in the 2006 Sample Panel; Wave 2006 – 2010

	Treatment			Control		
Variables	Mean	Minimum	Maximum	Mean	Minimum	Maximum
Trust companies	1.98	1	3	1.94	1	3
Gov. equal. inc.	4.45	1	7	4.22	1	7
Gov. help poor	3.29	1	5	3.06	1	5
Econ. unfairness	1.51	1	3	1.47	1	3
Number of children	2.07	0	6	1.95	0	8
Number of siblings	3.96	0	25	3.51	0	32
Age	43.31	22	75	50.06	18	89
Percentages						
Attitude to immig.	0.50	0	1	0.47	0	1
Married	0.54	0	1	0.51	0	1
Widowed	0.02	0	1	0.09	0	1
Divorced	0.16	0	1	0.17	0	1
Separated	0.08	0	1	0.03	0	1
Never married	0.20	0	1	0.20	0	1
Lower high school	0.11	0	1	0.11	0	1
High school	0.57	0	1	0.49	0	1
College	0.26	0	1	0.28	0	1
Graduate	0.06	0	1	0.12	0	1
Family income 10K minus	0.16	0	1	0.17	0	1
Family income 10-20K	0.13	0	1	0.09	0	1
Family income 20-30K	0.13	0	1	0.10	0	1
Family income 30-40K	0.11	0	1	0.11	0	1
Family income 40-50K	0.09	0	1	0.08	0	1
Family income 50-60K	0.07	0	1	0.09	0	1
Family income 60-75K	0.08	0	1	0.10	0	1
Family income 75-90K	0.07	0	1	0.07	0	1
Family income 90-110K	0.05	0	1	0.06	0	1
Family income 110-150K	0.07	0	1	0.07	0	1
Family income 150K plus	0.04	0	1	0.06	0	1
City size 10K minus	0.39	0	1	0.32	0	1
City size 10-100K	0.37	0	1	0.45	0	1
City size 100-1000K	0.16	0	1	0.16	0	1
City size 1000K plus	0.08	0	1	0.07	0	1
Democrat	0.38	0	1	0.34	0	1
Republican	0.19	0	1	0.27	0	1
Liberal	0.26	0	1	0.27	0	1
Home owner	0.38	0	1	0.47	0	1

Based on 81 individuals in the treatment group and 1,109 in the control group.

Table A.3: Descriptives in the 2010 Sample Panel; Wave 2010 – 2014

	Treatment			Control		
Variable	Mean	Minimum	Maximum	Mean	Minimum	Maximum
Number of children	2.19	0	8	1.84	0	8
Number of siblings	4.42	0	20	3.36	0	30
Age	46.78	19	89	49.77	18	89
Percentages						
Attitude to immig.	0.52	0	1	0.49	0	1
Unemploy. couple	0.08	0	1	0.07	0	1
Married	0.43	0	1	0.46	0	1
Widowed	0.08	0	1	0.08	0	1
Divorced	0.16	0	1	0.19	0	1
Separated	0.05	0	1	0.03	0	1
High school	0.54	0	1	0.50	0	1
College	0.23	0	1	0.28	0	1
Graduate	0.04	0	1	0.13	0	1
Family income 10-20K	0.19	0	1	0.10	0	1
Family income 20-30K	0.18	0	1	0.10	0	1
Family income 30-40K	0.10	0	1	0.09	0	1
Family income 40-50K	0.07	0	1	0.08	0	1
Family income 50-60K	0.07	0	1	0.08	0	1
Family income 60-75K	0.08	0	1	0.09	0	1
Family income 75-90K	0.03	0	1	0.07	0	1
Family income 90-110K	0.03	0	1	0.07	0	1
Family income 110-150K	0.03	0	1	0.08	0	1
Family income 150K plus	0.06	0	1	0.08	0	1
City size 10-100K	0.24	0	1	0.46	0	1
City size 100-1000K	0.34	0	1	0.17	0	1
City size 1000K plus	0.10	0	1	0.07	0	1
Democrat	0.45	0	1	0.35	0	1
Republican	0.16	0	1	0.24	0	1
Liberal	0.25	0	1	0.29	0	1
Home owner	0.51	0	1	0.53	0	1

Based on 136 individuals in the treatment group and 1,168 in the control group.

Appendix B: Covariate Balance Pre-Shock

Table B.1 compares covariates between the treatment group and the control group, measured pre-GR, in the 2006 sample panel. Table B.2 compares covariates between the treated and untreated, measured pre-immigrant influx, in the 2010 sample panel.

Table B.1: Descriptives in the 2006 Sample Panel; Pre-Great Recession Wave 2006 – 2008

	Treatment			Control			Diff. test p-value
Variables	Mean	Min.	Max.	Mean	Min.	Max.	based on matched sample
Number of children	2.00	0	6	1.92	0	8	0.30
Number of siblings	3.85	0	14	3.50	0	32	0.93
Age	42.24	22	73	49.04	18	89	0.22
Percentages							
Married	0.56	0	1	0.52	0	1	0.11
Widowed	0.01	0	1	0.08	0	1	0.71
Divorced	0.17	0	1	0.17	0	1	0.42
Separated	0.07	0	1	0.02	0	1	0.88
Never married	0.19	0	1	0.21	0	1	0.18
High school	0.57	0	1	0.49	0	1	0.89
College	0.27	0	1	0.28	0	1	0.11
Graduate	0.05	0	1	0.12	0	1	0.79
Family income 10K minus	0.18	0	1	0.16	0	1	0.49
Family income 10-20K	0.15	0	1	0.09	0	1	0.21
Family income 20-30K	0.09	0	1	0.10	0	1	0.60
Family income 30-40K	0.09	0	1	0.11	0	1	0.96
Family income 40-50K	0.10	0	1	0.08	0	1	0.93
Family income 50-60K	0.08	0	1	0.10	0	1	0.69
Family income 60-75K	0.07	0	1	0.10	0	1	0.53
Family income 75-90K	0.08	0	1	0.07	0	1	0.62
Family income 90-110K	0.06	0	1	0.06	0	1	0.31
Family income 110-150K	0.07	0	1	0.07	0	1	0.79
Family income 150K plus	0.03	0	1	0.06	0	1	0.81
City size 10K minus	0.40	0	1	0.32	0	1	0.41
City size 10-100K	0.36	0	1	0.45	0	1	0.47
City size 100-1000K	0.17	0	1	0.16	0	1	0.25
City size 1000K plus	0.07	0	1	0.07	0	1	0.12
Democrat	0.37	0	1	0.35	0	1	0.20
Republican	0.20	0	1	0.27	0	1	0.38
Liberal	0.27	0	1	0.27	0	1	0.27
Home owner	0.37	0	1	0.47	0	1	0.46

Based on 81 individuals in the treatment group and 1,109 in the control group.

Table B.2: Descriptives in the 2010 Sample Panel; Pre-Immigrant Influx Wave 2010 – 2012

	Treatment			Control			Diff. test p-value
Variables	Mean	Min.	Max.	Mean	Min.	Max.	based on matched sample
Number of children	2.17	0	8	1.81	0	8	0.99
Number of siblings	4.43	0	19	3.36	0	30	0.22
Age	45.80	19	88	48.77	18	89	0.77
Percentages							
Married	0.43	0	1	0.46	0	1	0.89
Widowed	0.07	0	1	0.08	0	1	0.88
Divorced	0.16	0	1	0.19	0	1	0.97
Separated	0.04	0	1	0.03	0	1	0.68
High school	0.56	0	1	0.50	0	1	0.59
College	0.23	0	1	0.28	0	1	0.52
Graduate	0.04	0	1	0.13	0	1	0.30
Family income 10-20K	0.21	0	1	0.11	0	1	0.05
Family income 20-30K	0.18	0	1	0.09	0	1	0.38
Family income 30-40K	0.09	0	1	0.10	0	1	0.51
Family income 40-50K	0.08	0	1	0.08	0	1	0.52
Family income 50-60K	0.06	0	1	0.08	0	1	0.60
Family income 60-75K	0.08	0	1	0.09	0	1	0.26
Family income 75-90K	0.03	0	1	0.07	0	1	0.20
Family income 90-110K	0.02	0	1	0.07	0	1	0.38
Family income 110-150K	0.04	0	1	0.07	0	1	0.52
Family income 150K plus	0.05	0	1	0.08	0	1	0.48
City size 10-100K	0.23	0	1	0.46	0	1	0.17
City size 100-1000K	0.34	0	1	0.17	0	1	0.11
City size 1000K plus	0.10	0	1	0.07	0	1	0.83
Democrat	0.44	0	1	0.35	0	1	0.03
Republican	0.17	0	1	0.24	0	1	0.05
Liberal	0.23	0	1	0.29	0	1	0.47
Home owner	0.42	0	1	0.45	0	1	0.76

Based on 136 individuals in the treatment group and 1,168 in the control group.

Appendix C: Supplementary Estimation Tables

Tables C.1 and C.2 present the full parameter estimates related to the baseline estimates in Tables 1 and 4, respectively. The remaining tables display additional sensitivity analyses.

Table C.1: Effects of Recent Unemployment during the Great Recession on Attitudes Related to Populism; Full Baseline Model

	Trust Companies		Gov. Equ. Inc.		Gov. Help Poor		Atti. Immig.	
Recent Unemp. Post-Rec.	(1)		(2)		(3)		(4)	
Treat.×Post-Great Rec.	-1.32***	(0.50)	0.70**	(0.34)	-0.00	(0.43)	-0.28	(0.48)
Married	-0.47	(0.50)	-0.03	(0.39)	-0.08	(0.35)	-0.99	(0.69)
Widowed	-1.24	(0.80)	0.64	(0.62)	-0.16	(0.56)	-0.11	(0.79)
Divorced	-0.88	(0.61)	0.11	(0.54)	-0.05	(0.51)	-0.38	(0.80)
Separated	-0.81	(0.67)	-0.58	(0.54)	0.28	(0.52)	-1.02	(0.81)
Number of Siblings	0.13**	(0.06)	-0.00	(0.06)	0.12**	(0.06)	0.08	0.08
Number of Children	-0.03	(0.14)	-0.00	(0.13)	0.09	(0.12)	-0.01	(0.18)
Age	-0.12	(0.09)	0.02	(0.09)	0.01	(0.10)	-0.48**	(0.21)
Age Squared	0.00	(0.00)	0.00	(0.00)	0.00	(0.00)	0.00*	(0.00)
High School	0.53	(0.50)	-0.12	(0.39)	0.64	(0.52)	-0.85	(0.72)
College	1.12*	(0.60)	-0.06	(0.46)	0.42	(0.59)	-0.54	(0.82)
Graduate	1.14	(0.69)	0.38	(0.63)	0.58	(0.72)	-0.74	(1.04)
Family Income 10-20K	0.29	(0.30)	0.21	(0.28)	-0.51*	(0.28)	-0.57	(0.35)
Family Income 20-30K	0.06	(0.30)	0.24	(0.25)	-0.07	(0.28)	0.48	(0.37)
Family Income 30-40K	-0.16	(0.29)	0.30	(0.24)	-0.06	(0.28)	0.37	0.37
Family Income 40-50K	0.24	(0.31)	0.27	(0.29)	-0.15	(0.29)	-0.29	(0.40)
Family Income 50-60K	0.15	(0.31)	-0.12	(0.27)	-0.46	(0.28)	0.14	(0.37)
Family Income 60-75K	0.09	(0.31)	-0.33	(0.27)	-0.36	(0.28)	0.59	(0.42)
Family Income 75-90K	-0.05	(0.35)	-0.10	(0.32)	-0.36	(0.32)	0.21	(0.45)
Family Income 90-110K	0.14	(0.34)	-0.20	(0.33)	0.07	(0.37)	-0.21	(0.53)
Family Income 110-150K	-0.34	(0.38)	-0.01	(0.32)	0.01	(0.37)	0.17	(0.54)
Family Income 150K Plus	0.35	(0.39)	-0.56	(0.37)	-0.18	(0.39)	-0.19	(0.56)
City Size 10-100K	-0.15	(0.31)	0.39	(0.28)	0.57*	(0.33)	0.22	(0.35)
City Size 100-1000K	-0.05	(0.56)	0.38	(0.55)	0.62	(0.51)	0.33	(0.59)
City Size 1000K Plus	-1.75*	(0.97)	1.57	(1.05)	2.01*	(1.07)	-0.36	(1.39)
Democrat	0.11	(0.25)	0.14	(0.22)	0.15	(0.24)	-0.37	(0.33)
Republican	0.16	(0.26)	0.16	(0.24)	0.05	(0.21)	0.15	(0.33)
Liberal	-0.16	(0.18)	0.07	(0.16)	0.05	(0.19)	0.36	(0.23)
Home Owner	-0.24	(0.40)	-0.01	(0.32)	-0.19	(0.28)	0.15	(0.31)
Wave 2	0.03	(0.15)	-0.04	(0.13)	-0.03	(0.16)	0.74**	(0.33)
Wave 3	-0.46**	(0.20)	-0.78***	(0.20)	-0.37	(0.25)	1.47***	(0.56)
No. of Obs.	1,569		5,049		3,057		878	

Note: See the footnote of Table 1.

Table C.2: Effect of the Immigrant Influx on Attitude to Immigration; Full Baseline Model

Attitude to Immigration	All		Non-Hispanic Whites	
	(1)		(2)	
Treat.×Post-Immig. Influx	-0.50*	(0.30)	-1.40**	(0.60)
Married	-0.01	(0.42)	-0.07	(0.73)
Widowed	-0.18	(0.69)	-0.11	(1.24)
Divorced	-0.50	(0.53)	-0.82	(0.95)
Separated	-0.19	(0.56)	-0.50	(1.13)
Number of Siblings	-0.04	(0.06)	0.01	(0.11)
Number of Children	0.00	(0.15)	-0.20	(0.19)
Age	-0.01	(0.11)	0.09	(0.15)
Age Squared	-0.00	(0.00)	-0.00	(0.00)
High School	0.13	(0.39)	0.50	(0.76)
College	-0.36	(0.52)	0.03	(0.82)
Graduate	-1.01	(0.77)	-2.00	(1.26)
Family Income 10-20K	0.21	(0.29)	0.11	(0.46)
Family Income 20-30K	0.09	(0.33)	-0.31	(0.52)
Family Income 30-40K	0.11	(0.32)	0.07	(0.46)
Family Income 40-50K	-0.20	(0.35)	0.13	(0.50)
Family Income 50-60K	0.11	(0.39)	0.02	(0.53)
Family Income 60-75K	-0.01	(0.41)	-0.11	(0.53)
Family Income 75-90K	-0.16	(0.47)	-0.50	(0.59)
Family Income 90-110K	-0.11	(0.48)	-0.51	(0.60)
Family Income 110-150K	-1.15**	(0.50)	-1.38**	(0.64)
Family Income 150K Plus	-0.33	(0.47)	-0.62	(0.53)
City Size 10-100K	0.05	(0.38)	0.64	(0.52)
City Size 100-1000K	0.47	(0.75)	-0.13	(0.84)
City Size 1000K Plus	1.15	(0.93)	2.53**	(1.16)
Democrat	-0.06	(0.25)	-0.10	(0.36)
Republican	-0.26	(0.28)	-0.34	(0.37)
Liberal	0.13	(0.21)	0.16	(0.32)
Home Owner	0.16	(0.30)	0.30	(0.45)
Wave 2	0.24	(0.19)	0.35	(0.25)
Wave 3	0.76***	(0.28)	1.02***	(0.39)
No. of Obs.	1,070		690	

Note: The first two columns use the whole sample and the last two restrict the sample to include non-Hispanic Whites only; see also the footnote of Table 4.

Table C.3: Effects of Recent Unemployment on Attitudes Related to Populism: Location-Specific Trends, Past Unemployment Experience & Placebo Treatment

	Trust Companies	Gov. Equ. Inc.	Gov. Help Poor	Atti. Immig.
	(1)	(2)	(3)	(4)
a. Includ. location	-1.35**	0.77**	-0.08	-0.06
specific linear trend	(0.56)	(0.33)	(0.44)	(0.56)
No. of Obs.	1,569	5,049	3,057	878
b. Exclud. ind. ever	-2.29**	1.25*	0.40	-0.28
unemp. past 10 yrs	(1.10)	(0.65)	(0.74)	(0.58)
No. of Obs.	899	2,717	1,638	692
c. Fake timing GR	-0.41	-0.07	0.00	-0.81
in wave 2008	(0.49)	(0.43)	(0.51)	(0.58)
No. of Obs.	682	2,148	1,298	398

Note: Covariates are included in every column; see also the footnote of Table 1.

Table C.4: Effect of the Immigrant Influx on Attitude to Immigration: Different Coverage of Treated Region & Original Unbalanced Panel

	Extended Treat Region		Shrunk Treat Region		Original Unbalance Panel	
	All	Whites	All	Whites	All	Whites
Attitude to Immigration	(1)	(2)	(3)	(4)	(5)	(6)
Treat.×Post-Immig. Influx	-0.40	-1.11*	-0.45	-0.71	-0.49	-1.33**
	(0.30)	(0.58)	(0.37)	(0.68)	(0.30)	(0.60)
Number of observations	1,070	690	1,070	690	1,174	762

Note: In the first two columns, the treatment group is extended to contain respondents who resided in wave 2014 in all states bordering with Mexico including Arizona, New Mexico, Texas and neighboring states of Texas such as Arkansas, Louisiana, and Oklahoma; in columns (3) and (4), the treatment group is shrunk to contain respondents who resided in wave 2014 in New Mexico and Texas only; covariates are included in every column; see also the footnote of Table 4.

Table C.5: Linear Fixed Effects of Recent Unemployment and the Immigrant Influx on Populism

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
a. Great Recession	Trust Companies		Gov. Equ. Inc.		Gov. Help Poor		Atti. Immig.			
Adjusted Range	(0–2)		(0–6)		(0–4)		(0–1)			
Treat.×Post-Great Rec.	-0.28***	-0.27***	0.47*	0.48*	0.06	-0.05	-0.03	-0.04		
	(0.08)	(0.08)	(0.25)	(0.25)	(0.15)	(0.15)	(0.06)	(0.06)		
Controls	No	Yes	No	Yes	No	Yes	No	Yes		
No. of Obs.	1,569		5,049		3,057		878			
Adjusted Mean of Treat. Group	0.98		3.45		2.29		0.50			
b. 2014 Immigrant Influx					False Immi Regn					
Attitude to Immigration	All		Whites	Race Mino.	All	Whites	Couple Unemp.		Antcptd Unemp.	
Adjusted Range	(0–1)		(0–1)		(0–1)		(0–1)		(0–3)	
Treat.×Post-Immig. Influx.	-0.06	-0.06	-0.14**	0.06	-0.01	0.04	0.02	0.04	-0.08	-0.07
	(0.05)	(0.06)	(0.07)	(0.09)	(0.07)	(0.08)	(0.03)	(0.03)	(0.14)	(0.14)
Controls	No	Yes	Yes	Yes	Yes	Yes	No	Yes	No	Yes
No. of Obs.	1,070		690	349	899	635	633		2,848	
Adjusted Mean of Treat. Group	0.52		0.52		0.52		0.08		0.68	

Note: In panel b, column (3) restricts the sample to include non-Hispanic Whites only and column (4) includes racial minorities; column (5) is a placebo test by using the East South Central region of the U.S. as the treated area and estimating the model excluding the West South Central region; column (6) is the same type of placebo test for non-Hispanic Whites only; see also the footnote of Table 1 and 4.

Table C.6: Effects of the Great Recession on Populist Voting: Cohort Mean of Couple Unemployment as Explanatory Variable

	2016 U.S. Presid. Primary Elections						2016 U.S. Presid. General Election			
	Sanders		Clinton		Trump		Clinton		Trump	
Great Recession	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Cohort mean of couple unemp.	0.32**	0.25	-0.11	-0.14	-0.16**	-0.16	0.16	-0.02	-0.30***	-0.04
	(0.15)	(0.22)	(0.12)	(0.15)	(0.08)	(0.11)	(0.11)	(0.16)	(0.09)	(0.14)
Controls	No	Yes	No	Yes	No	Yes	No	Yes	No	Yes
No. of Obs.	135		135		135		136		136	

Note: All the dependent and explanatory variables are averages within cohort; see also the footnote of Table 11.

Appendix D: Family Unit Apprehensions during the Immigrant Influx

Table D.1 lists the numbers of family unit apprehensions by month in different border patrol sectors in the U.S. from October 2012 to September 2016.

Table D.1: Total Family Unit Apprehensions by Month; Oct.2012-Sep.2016

a. Fiscal Year 2013

SECTOR	October	November	December	January	February	March	April	May	June	July	August	September	Yearly Total
Miami	12	1	2	6	0	1	1	5	6	5	2	2	43
New Orleans	7	2	4	0	0	0	0	0	0	0	2	3	18
Ramey	2	0	0	0	1	1	0	0	0	0	1	1	6
Blaine	0	1	3	2	3	2	3	1	1	8	4	2	30
Buffalo	1	0	0	0	4	0	0	1	0	10	2	1	19
Detroit	0	0	1	0	0	0	0	0	0	2	2	1	6
Grand Forks	0	0	2	0	0	1	1	0	0	0	0	0	4
Havre	2	0	0	0	0	0	0	0	0	0	0	0	2
Houlton	0	0	0	0	0	0	0	0	0	0	0	0	0
Spokane	9	0	0	0	0	0	0	0	0	1	0	0	10
Swanton	5	3	1	0	0	5	2	13	3	13	5	13	63
Big Bend *(formerly Marfa)*	16	10	9	11	9	3	11	8	3	10	7	5	102
Del Rio	17	26	34	16	34	37	50	55	85	98	139	120	711
El Centro	36	33	23	34	19	38	54	43	29	18	20	18	365
El Paso	29	26	30	18	24	30	26	44	17	15	31	8	298
Laredo	105	114	101	110	98	178	139	155	110	211	193	174	1,688
Rio Grande Valley *(formerly McAllen)*	266	278	231	236	310	484	606	637	698	1,016	1,240	1,263	7,265
San Diego	88	86	110	153	155	177	160	131	119	126	119	152	1,576
Tucson	211	178	183	245	265	336	310	224	178	151	155	194	2,630
Yuma	31	25	25	24	9	27	28	18	11	6	3	13	220
Coastal Border	21	3	6	6	1	2	1	5	6	5	5	6	67
Northern Border	17	4	7	2	7	8	6	15	4	34	13	17	134
Southwest Border	799	776	746	847	923	1,310	1,384	1,315	1,250	1,651	1,907	1,947	14,855
Monthly Total	837	783	759	855	931	1,320	1,391	1,335	1,260	1,690	1,925	1,970	15,056

b. Fiscal Year 2014

SECTOR	October	November	December	January	February	March	April	May	June	July	August	September	Yearly Total
Miami	4	2	4	17	16	5	1	0	12	5	8	13	87
New Orleans	0	1	0	6	4	1	9	2	9	2	1	1	36
Ramey	0	1	0	0	0	0	0	0	0	0	1	0	2
Blaine	0	0	0	3	1	0	3	6	0	2	1	0	16
Buffalo	0	0	0	1	0	2	2	0	0	2	4	1	12
Detroit	0	1	0	0	0	1	2	2	2	0	0	0	8
Grand Forks	1	3	0	1	2	1	1	0	0	0	3	2	14
Havre	0	0	0	0	0	0	0	0	0	0	0	0	0
Houlton	0	0	0	0	0	0	0	0	0	0	2	0	2
Spokane	0	0	0	0	0	0	1	2	2	0	0	0	5
Swanton	1	0	12	2	0	1	6	4	2	20	2	7	57
Big Bend *(formerly Marfa)*	4	1	8	12	11	3	7	8	28	58	25	11	176
Del Rio	150	172	185	179	311	521	467	1,080	1,134	466	173	112	4,950
El Centro	37	21	51	50	36	25	48	59	105	119	41	38	630
El Paso	23	30	29	26	49	44	45	60	113	72	39	32	562
Laredo	164	176	255	171	262	351	315	554	739	316	183	105	3,591
Rio Grande Valley *(formerly McAllen)*	1,472	1,953	2,264	1,509	2,246	4,306	5,098	10,145	13,370	5,792	2,467	1,704	52,326
San Diego	171	129	130	149	106	187	146	175	168	119	137	106	1,723
Tucson	375	294	373	166	185	235	320	576	592	376	176	144	3,812
Yuma	18	10	16	24	75	80	65	115	81	87	55	49	675
Coastal Border	4	4	4	23	20	6	10	2	21	7	10	14	125
Northern Border	2	4	12	7	3	5	15	14	6	24	12	10	114
Southwest Border	2,414	2,786	3,311	2,286	3,281	5,752	6,511	12,772	16,330	7,405	3,296	2,301	68,445
Monthly Total	2,420	2,794	3,327	2,316	3,304	5,763	6,536	12,788	16,357	7,436	3,318	2,325	68,684

c. Fiscal Year 2015

SECTOR	October	November	December	January	February	March	April	May	June	July	August	September	Yearly Total
Miami	6	4	17	1	0	1	6	4	10	5	30	14	98
New Orleans	3	3	8	1	3	0	0	1	2	1	3	0	25
Ramey	0	0	0	0	0	0	2	0	1	4	0	1	8
Blaine	4	10	1	6	2	0	0	5	6	0	3	0	37
Buffalo	0	0	0	1	0	1	0	0	1	0	0	0	3
Detroit	0	0	3	0	0	0	0	0	0	0	1	0	4
Grand Forks	1	0	0	0	2	0	2	1	2	1	0	0	9
Havre	0	0	0	0	0	0	0	0	0	0	0	0	0
Houlton	0	0	0	0	0	0	0	0	0	1	0	0	1
Spokane	0	0	0	0	0	0	0	0	0	0	0	5	5
Swanton	3	2	8	1	1	2	0	0	0	5	2	1	25
Big Bend *(formerly Marfa)*	30	15	31	14	25	21	40	60	49	103	192	227	807
Del Rio	79	83	118	95	72	182	174	269	227	233	322	287	2,141
El Centro	16	47	83	22	31	53	76	38	59	76	79	95	675
El Paso	22	27	45	22	19	67	149	118	144	213	185	209	1,220
Laredo	136	112	108	104	76	90	87	97	113	126	138	185	1,372
Rio Grande Valley *(formerly McAllen)*	1,556	1,809	1,979	1,091	1,404	1,834	2,018	2,584	2,904	3,106	3,577	3,547	27,409
San Diego	119	123	185	129	126	176	133	159	102	85	111	102	1,550
Tucson	180	164	276	95	225	256	296	333	254	258	265	328	2,930
Yuma	24	35	66	50	63	103	114	203	190	303	290	293	1,734
Coastal Border	9	7	25	2	3	1	8	5	13	10	33	15	131
Northern Border	8	12	12	8	5	3	2	6	9	7	6	6	84
Southwest Border	2,162	2,415	2,891	1,622	2,041	2,782	3,087	3,861	4,042	4,503	5,159	5,273	39,838
Monthly Total	2,179	2,434	2,928	1,632	2,049	2,786	3,097	3,872	4,064	4,520	5,198	5,294	40,053

d. Fiscal Year 2016

SECTOR	October	November	December	January	February	March	April	May	June	July	August	September	Yearly Total
Miami	8	2	12	5	3	8	14	0	3	10	3	10	78
New Orleans	6	0	0	0	6	2	1	0	2	0	3	0	20
Ramey	0	2	3	0	0	2	3	0	3	4	1	0	18
Blaine	0	0	0	0	0	3	3	2	4	8	5	4	29
Buffalo	3	0	0	0	0	0	2	0	0	0	0	0	5
Detroit	2	0	0	0	0	0	0	0	0	1	0	0	3
Grand Forks	0	0	0	0	0	3	0	0	0	0	0	0	3
Havre	0	0	0	0	0	0	0	0	0	0	0	0	0
Houlton	0	0	0	0	0	0	0	0	0	0	0	0	0
Spokane	0	0	0	0	0	0	0	2	0	0	0	0	2
Swanton	3	0	3	2	4	0	0	0	4	0	2	7	25
Big Bend *(formerly Marfa)*	240	123	166	53	41	44	29	76	43	47	97	92	1,051
Del Rio	283	314	539	174	188	193	240	397	226	353	293	349	3,549
El Centro	89	110	164	42	47	76	120	155	104	180	211	295	1,593
El Paso	266	424	751	104	152	226	349	433	473	616	866	1,004	5,664
Laredo	151	160	190	130	102	155	151	119	103	119	135	125	1,640
Rio Grande Valley *(formerly McAllen)*	4,172	4,356	5,809	2,020	1,890	3,051	3,851	4,568	4,568	5,038	6,341	6,342	52,006
San Diego	108	134	233	203	194	187	245	200	243	309	372	435	2,863
Tucson	303	376	453	166	104	216	174	257	234	280	333	243	3,139
Yuma	413	474	668	251	332	303	461	578	633	627	705	724	6,169
Coastal Border	14	4	15	5	9	12	18	0	8	14	7	10	116
Northern Border	8	0	3	2	4	6	5	4	8	9	7	11	67
Southwest Border	6,025	6,471	8,973	3,143	3,050	4,451	5,620	6,783	6,627	7,569	9,353	9,609	77,674
Monthly Total	6,047	6,475	8,991	3,150	3,063	4,469	5,643	6,787	6,643	7,592	9,367	9,630	77,857

Source: United States Border Patrol

Appendix E: Details of Survey Questions on Variables

- Confidence in major companies
  - "I am going to name major companies in this country. As far as the people running these major companies are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?"
  - The responses contain "1. A great deal, 2. Only some, 3. Hardly any, 8. Don't know, 9. No answer, IAP. Not applicable".
- Demand for the gov to equalize income
  - "Some people think that the government in Washington ought to reduce the income differences between the rich and the poor, perhaps by raising the taxes of wealthy families or by giving income assistance to the poor. Others think that the government should not concern itself with reducing this income difference between the rich and the poor. Here is a card with a scale from 1 to 7. Think of a score of 1 as meaning that the government ought to reduce the income differences between rich and poor, and a score of 7 meaning that the government should not concern itself with reducing income differences. What score between 1 and 7 comes closest to the way you feel? (CIRCLE ONE):"
  - The answers range from 1 to 7 as well as "8. Don't know, 9. No answer, IAP. Not applicable".
- Request for the gov to assist the poor
  - "Some people think that the government in Washington should do everything possible to improve the standard of living of all poor Americans; they are at Point 1 on this card. Other people think it is not the government's responsibility, and that each person should take care of himself; they are at Point 5. Where would you place yourself on this scale, or haven't you made up your mind on this?"
  - The responses range from 1 to 5 as well as "8. Don't know, 9. No answer, IAP. Not applicable".
- Perception of economic unfairness

- "Some people say that people get ahead by their own hard work; others say that lucky breaks or help from other people are more important. Which do you think is most important?"
- The answers are "1. Hard work most important, 2. Hard work, luck equally important, 3. Luck most important, 8. Don't know, 9. No answer, IAP. Not applicable".

- Attitude to immigration
  - "Do you think the number of immigrants to America nowadays should be"
  - The answers provided are "1. increased a lot, 2. increased a little, 3. remain the same as it is, 4. reduced a little, 5. reduced a lot, 8. can't choose, 9. no answer, and IAP. not applicable".
  - The dummy variable of the attitude to immigration is coded in the way such that it values 1 if respondent reported "1. increased a lot, 2. increased a little, 3. remain the same as it is", and values 0 otherwise.

- Labor market status
  - The questions concerning the labor market status ask "Last week were you (your wife/husband) working full time, part time, going to school, keeping house, or what?" respectively.
  - The answers provided are "1. Working full time, 2. Working part time, 3. With a job, but not at work because of temporary illness, vacation, strike, 4. Unemployed, laid off, looking for work, 5. Retired, 6. In school, 7. Keeping house, 8. Other, 9. No answer, IAP. Not applicable (for spousal working status only)".
  - The couple unemployment variable is coded in the way such that it values 1 if the respondent reported "4. Unemployed, laid off, looking for work" for him/herself or for his or her spouse, and values 0 otherwise.

I see all the answers of "8. Don't know, 9. No answer, IAP. Not applicable" as missing values. All these outcome variables are transformed so that a larger score in each outcome variable refers to a higher level of confidence in major corporations, preferences for income redistribution, and the perception of economic unfairness, respectively.