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Working Paper 2019:5

Department of Economics  
School of Economics and Management

# Immigration and Right-Wing Populism: Evidence from a Natural Experiment

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**LUND**  
UNIVERSITY

# IMMIGRATION AND RIGHT-WING POPULISM: EVIDENCE FROM A NATURAL EXPERIMENT

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## Abstract

Between the 2014 and 2018 Swedish parliamentary elections, the vote share of the anti-immigration *Sweden Democrats* increased significantly. To evaluate the possibility of a causal link between immigration and the right-wing populist vote, this paper uses data from a nationwide policy experiment, under which refugees are allocated randomly to every municipality in the country, creating exogenous variation in the number of refugees between municipalities. Overall, I find a positive and significant impact of immigration on the anti-immigration vote. In areas with strong anti-immigration sentiments during the 1990s refugee wave, the effect is magnified significantly. However, when considering immigration of a particular refugee group dominated by young men, the relationship is considerably weaker. I show that this is because immigration of young men has a balancing effect on the right-wing populist vote among immigration-friendly voter groups.

Keywords: immigration; right-wing populism; natural experiment

JEL classification codes: D72, J15, P16

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# 1 Introduction

In the last years, immigration has been the dominating political issue in virtually every country in the Western world. Since the onset of the European migrant crisis in 2015, over three million people have applied for asylum in a European Union country. Sweden, a nation of ten million inhabitants, received some 163,000 asylum applications in 2015 alone. Between the 2014 parliamentary election, which took place just before the onset of the migrant crisis, and the 2018 election, the anti-immigration *Sweden Democrats* (SD) party increased its national vote share from 12.9 to 17.5 percent. However, there are large variations between municipalities both in terms of immigration levels and the SD vote share, raising the question whether there is a causal relationship between immigration levels and the support for anti-immigration parties.

Analyzing the impact of migration shocks is not new to economics. Card (1990) considers the local labor market effects of the 1980 influx of Cuban migrants into Miami. Similar studies have been made with respect to other labor markets, for instance the mass migration of Algerians into France in 1962 (Hunt 1992), on the influx of ex-Soviet citizens into the Israeli labor market in the early 1990s (Friedberg 2001), and with respect to the influx of Ethiopians into Israel in the early 1990s (Gould et al. 2004).

Another strain in the literature tries to answer how immigration and racial heterogeneity affect individual preferences for redistribution, and hence, left-wing political attitudes. Two studies on this subject include Luttmer (2001) and Dahlberg et al. (2012), both finding that increased racial diversity, and the associated increased welfare reciprocity rate, decreases native support for welfare spending. Similarly, low-skilled and low-income individuals are significantly less likely to be pro-immigration (Scheeve and Slaughter 2001; Facchini and Mayda 2009).

The traditional explanation to why low-income individuals tend to dislike unskilled immigration is the risk of negative economic externalities, such as decreases in wages and higher taxes, which are more likely to have an adverse effect on low-skilled rather than highly skilled natives. Analogously, since skilled natives and low-skilled immigrants are not competing for the same types of jobs, skilled natives should not oppose immigration (Mayda 2006). However, given that anti-immigration parties have established themselves as the largest party in several European countries, the electoral base of these parties no longer consists of low-skilled workers only. Instead, studies using survey data from Europe and

the United States indicate that higher weight must be placed on the perceived characteristics, or *compositional amenities*, of the immigrants (Card, Dustmann and Preston 2012; Alesina et al. 2018). These may include, for instance, the perceived willingness of immigrants to "work hard", and whether the culture and religion of immigrants differ from those of natives. With this in mind, the rise of right-wing populist parties in Western Europe over recent years ostensibly raises the question whether immigration also affects electoral outcomes.

Unfortunately, the literature on the impact of immigration on voting behavior is scarce, and the conclusions unclear. Whereas Mendez and Cutillas (2014) find that high levels of immigration to Spain in the late 1990s and early 2000s did not significantly affect the results of presidential elections, other studies have arrived at the opposite conclusion. Otto and Steinhardt (2014) consider the city of Hamburg in Germany during the 1987-1998 period, and show that higher immigration levels significantly increase the vote shares of right-wing populist parties. Recent contributions by Barone et al. (2016) on Italy, Halla, Wagner and Zweimüller (2017) on Austria, and Harmon (2018) and Dustmann et al. (forthcoming) on Denmark all give similar conclusions.

However, when considering House elections in the United States, Mayda et al. (2016) demonstrate that higher immigration levels have a negative impact on the Republican vote share in 87% of Congressional districts. Here, it seems that the well-known tendency of immigrants and minority groups to vote for left-wing parties has tilted the electoral outcome in most districts in favor of the Democratic party. It is only in areas with very high rates of immigration that native disutility associated with high immigration levels has prevailed, shifting the electoral balance in favor of the Republican party. It should be noted, however, that the naturalization rate (the acquisition of citizenship rate among foreigners) is considerably higher in the U.S. than in most Western European countries. Consequently, it is more likely for the U.S. than for other countries that immigration causes the electoral outcome to shift in favor of left-wing parties.

With this previous literature in mind, using Swedish data is interesting for four reasons. First, Sweden has a combination of both a liberal immigration policy and high naturalization rates. The naturalization rate is the second-highest in the European Union, lagging only Croatia. As an example of this liberal policy, a person applying for citizenship in Sweden does not even have to speak Swedish, nor is there a citizenship test as in most countries. Consequently, the naturalization rate in Sweden is approximately double that of Denmark, Italy

and Spain, and eight times higher than in Germany and Austria.

Second, previous research suggesting a significant relationship between refugee migration and voting behavior tends to disregard that different types of refugees may give rise to differential attitudes among natives, and hence, affect the right-wing populist vote. This paper addresses this fact by differentiating between adult refugees and young children on one hand, and unaccompanied minors (virtually all in their upper teens, many originating from Afghanistan) on the other. The latter group was significantly over-represented among refugees arriving in Sweden during the 2015 wave. Since over 90% were male, members of this group fit well to the notion of migrants being crime-prone "young, strong men", spread by some mainstream politicians in Western Europe and the United States.

Third, although the 2015 influx to Sweden was exceptionally large (the per capita number of asylum seekers in 2015 was more than 60 times higher than in the U.S. during the same year), there was a similar influx in 1992, concurring with the breakup of Yugoslavia. At that time, another anti-immigration party was represented in parliament, only to disappear a few years later. There is a growing interest in the role played by racially or nationally conservative voters in shaping voting transitions (cf. Kuziemko and Washington 2018), and considering that Swedish municipal borders have been more or less unchanged for several decades, it is straightforward to use historical election results to examine the possibility of an additional effect from latent anti-immigration sentiments on current right-wing populist support.

Finally, the 2018 elections were the first time since the onset of the migrant crisis that Swedish voters could express their views on immigration policy. Since Sweden has no local elections, parliamentary, county and municipal elections are all on the same date. The last elections took place in September 2018; the preceding elections were in September 2014, which was just before the onset of the migrant crisis. This provides us with an unique opportunity to analyze the electoral impact of a mass influx of mainly non-Western immigrants into one of the most advanced economies in the world.

Using municipality-level immigration data leads to endogeneity problems, because immigrants can self-select into municipalities of their choice. This is particularly prominent in cases of family reunification, as most family immigrants tend to move to the same municipality as their relatives. Some asylum seekers may also choose this option, if they already have family or acquaintances in Sweden. To solve this, I use data from a nationwide refugee placement program, through which refugees with a residence permit in Sweden are randomly

allocated to Sweden's 290 municipalities. I argue that because the allocation scheme provides exogenous variation in the number of migrants placed in the municipalities, it is possible to estimate the causal effect of migration on the vote share of the SD. Because of the high correlation between municipality placement of refugees and the total number of refugees and family migrants settling in a municipality, the allocation program is a very strong instrument for refugee immigration. A similar program implemented in the late 1980s and early 1990s has been used in other studies, albeit answering different questions than the one posed in this paper (Edin et al. 2003; Dahlberg and Edmark 2008; Dahlberg et al. 2012).

The closest paper to this one is the work by Dustmann, Vasiljeva and Damm (forthcoming), who use a refugee placement program during the 1980s and 1990s to evaluate the electoral impact of immigration on right-wing populist parties in Denmark. Consistent with my results, they find a significant positive impact of immigration on the right-wing populist vote. Besides the difference between Sweden and Denmark in terms of naturalization rates, some key advantages of my work is that it allows us to examine the persistence of anti-immigration sentiments between refugee shocks, and that it illustrates the polarizing effect of immigration of young men in particular by relaxing the assumption of homogeneity of refugees. Furthermore, due to a recent law change, all Swedish municipalities are now forced to accept refugees. This paper is the first to exploit this recent policy change, contrasting previous studies using Scandinavian refugee allocation programs, which all have some degree of municipal refusal.

Controlling for other factors, the results show a positive and significant relationship between immigration rate and the increase in the vote share of the SD. However, when considering only the unaccompanied minors subgroup, the relationship between immigration and the right-wing populist vote increase is considerably weaker. Considering that many voters associate young immigrant men with increasing crime rates (Adelman et al. 2017), this result is seemingly counter-intuitive. However, I show that unaccompanied minors immigration leads to significant voter polarization: in municipalities with high preplacement crime rates, as well as municipalities with relatively high shares of foreigners, immigration of young men further exacerbated the SD growth. On the contrary, unaccompanied minors immigration has a balancing effect on the right-wing populist vote in other geographical areas, for instance in municipalities with declining population levels. This effect is likely a consequence of the favorable demographic characteristics associated with young immigrants.

Another finding is that higher immigration rates significantly increased the vote share of the SD in areas where right-wing populists were represented in the local parliaments after the 1994 election, which was after the 1992 mass influx of mainly ex-Yugoslavian citizens. These results suggest that latent anti-immigration sentiments are an important driver of the present-day growth of right-wing populism, and provide further support to recent evidence of the role played by historical events in shaping current voting behavior (Ochsner and Roesel 2016; Fontana et al. 2017).

The rest of the paper is structured as follows. Section 2 provides a number of stylized facts related to Swedish immigration policy, as well as the nature of the Swedish refugee allocation program. Section 3 discusses whether the refugee allocation program provides exogenous variation in the share of immigrants, and hence, whether the program produced a natural experiment. Section 4 describes the data. Section 5 presents the instrumental variables strategy, followed by the results, and Section 6 provides a number of robustness checks. The paper concludes with Section 7.

## 2 Immigration to Sweden and related literature

### 2.1 Historical background

Figure 1 shows the growth of the share of Swedes born abroad since 1990. Until the 1980s, immigration to Sweden was mainly labor-driven. Most of the migrant workers had arrived from other Nordic countries, in particular Finland, and from other European countries, such as Greece and Italy. However, towards the end of the 1980s, migration for political reasons increased dramatically. Whereas Iranians were the largest nationality for refugees during the 1980s, the wars in former Yugoslavia created an even larger refugee wave in the early 1990s. A temporary peak in asylum seekers occurred in 1992, when 84,000 refugees arrived. This figure was approximately one percent of the total population in that year. After declining during the late 1990s, the number of asylum seekers increased again in the early 2000s. A majority of asylum seekers since the turn of the millennium have arrived from the Middle East and North Africa. The largest countries of origin since 2000 are Syria, Iraq, Afghanistan and Somalia; these four countries alone represented 47% of all asylum seekers between 2000 and 2017.

Until 2014, the number of asylum seekers hovered around 30,000 per year,



as shown in Figure 2. The 2015 wave saw the arrival of an additional 162,877 asylum seekers. Of these, 126,455 (78%) were from Syria, Afghanistan, Iraq, Eritrea or Somalia. The EU-sponsored shutdown of the Western Balkans route in 2016, as well as harsher immigration policy in most countries, including Sweden, decreased the number of asylum seekers to a cumulative number of 75,000 for the years 2016, 2017 and 2018.

Due to Swedish laws being relatively more liberal for unaccompanied minors vis-à-vis those of other nations, a considerable share of asylum seekers belong to this group. As the name suggests, an unaccompanied minor is an individual below the age of 18 arriving without parents or guardians. In 2015, 35,369 out of the 162,877 asylum seekers belonged to this group. Of these, 92% were men, approximately 93% were above the age of 12, and around two-thirds were Afghan citizens.

## 2.2 The electoral system and the SD

Sweden is divided into 21 counties (Swedish: *län*), and 290 municipalities (*kommuner*). Parliamentary, county, and municipal elections are held every four years. All three elections take place on the same date, the first Sunday of September. The latest elections were on September 9, 2018. Sweden has a system of proportional representation, meaning that a party with  $x$  percent of the vote share obtains approximately  $x$  percent of the seats. This applies both at the national and local levels. The parliament, the Riksdag (*riksdagen*), has 349 seats and an election threshold of 4%, meaning that parties receiving a vote share below this threshold do not obtain any seats.

The SD were formed in Stockholm in 1988. Several of its founding members were involved in neo-Nazi groups before joining the newly-founded party. Since the late 1990s, the party has taken a more moderate stance and now identifies itself primarily as socially conservative. The policies of the party are similar to that of other right-wing populist parties in Europe, rejecting the idea of multiculturalism, and favoring significantly reduced immigration levels. The SD generally takes a tough stance on crime, and although not actively favoring a Swexit, it is the most Eurosceptic party in parliament.

As is clear from Table 1, the vote share of the SD has increased considerably since 1988. The party was first elected into the Riksdag in 2010, when its vote share exceeded 4% for the first time. As a consequence both of its neo-Nazi roots, and a considerable amount of incidents in which elected representatives

have made racist remarks, the other parties in the Riksdag have imposed a *cor-don sanitaire*, refusing to cooperate with the SD. A similar ban is de facto in effect in regional parliaments, as well as in municipalities. However, after the 2018 elections, the SD eventually received a number mayoral and vice mayoral positions, mainly cooperating with the center-right Moderate Party.

The strongholds of the SD are in the southern and western parts of Sweden, especially in rural areas. Additionally, the party has a relatively high vote share in "Rust Belt" areas in other parts of the country. It is relatively weak in the two largest cities, Stockholm and Gothenburg, as well as in rural areas of the northern part of the country, the latter being a traditional stronghold of the center-left Social Democrats.

Generally, Swedish politics post-1945 has been dominated by the Social Democrats, whereas the main opposition party has been the center-right Moderate Party. These parties are each leading one center-left and center-right bloc, respectively. The SD are excluded from the center-right bloc, unlike in neighboring Denmark and Norway, where right-wing populist parties are actively cooperating with center-right parties. Table A1 of the Online Appendix presents a brief overview of the eight parties currently represented in the Riksdag.

The SD are by far the most successful right-wing populist party in Swedish history. However, a similar party, New Democracy (*Ny demokrati*), was elected to the Riksdag in 1991 (around the time of the major refugee wave from Yugoslavia), when it received 6.7% of the national vote. Amid internal disagreements, concomitant with the party moving from being primarily anti-establishment to hardcore anti-immigration, the party crashed out of the Riksdag in 1994, receiving only 1.2% of the vote. It did, however, remain represented in a number of municipalities post-1994, before being declared defunct in 2000.

### **2.3 The Swedish refugee placement program**

When an individual applies for asylum in Sweden, he or she is first placed in an asylum accommodation, until the application is either accepted or rejected. Alternatively, the asylum seeker may find his or her own accommodation. This is typically the case if the individual already has a social network in Sweden, such as relatives or friends. If the asylum application is accepted, the individual again has two alternatives: either to find own housing, or to take part in the placement program.

In the latter case, the immigrant is allocated to a municipality. Four parameters are used in deciding the quota for each municipality: Population, the labor market situation, the number of asylum seekers currently living in the municipality, as well the number of immigrants with residence permit previously allocated to the municipality (cf. 7 § Swed. law 2016:38). Due to the large influx in 2015, a law change came into effect March 1, 2016, according to which municipalities cannot longer refuse to accept allocated immigrants. A similar law regarding unaccompanied minors has been in place since January 1, 2014. Furthermore, municipalities do not have any influence on the decision process, nor can they choose to be allocated a certain "type" of immigrants. Similarly, an individual cannot change municipal placement based on his or her own preferences.

In addition to asylum seekers, Sweden accepts a number of *resettlement refugees*, selected by the UN Refugee Agency. Resettlement refugees are otherwise known as *quota refugees*, because each participating country only accepts a predetermined number of refugees each year. Since these individuals are automatically awarded a residence permit, they are directly allocated to a municipality.

Municipalities are economically compensated for the extra economic burden associated with accepting allocated immigrants. The compensation is in the form of government transfers to municipalities, of which the major share consists of a lump-sum transfer for each allocated refugee. Besides the lump-sum transfer for each allocated refugee, the municipality may apply for other types of economic compensation, for instance if an allocated individual requires costly health care. The lump-sum grant terminates two years after the individual has been allocated to a municipality. After this period, the costs of welfare benefits are shifted to municipalities.

Due to the large increase in the number of asylum seekers during the migrant crisis, the waiting time for an asylum decision has increased considerably, as is seen in Figure 3. In 2012, the average waiting time was approximately 100 days; by 2017, the average waiting time had soared to 500 days. Besides the time from asylum application to asylum decision, there is a time lag from asylum decision to municipality placement, if the individual chooses to participate in the program. The law mandates that municipality allocation take place within two months after the asylum decision (10 § Swed. law 2016:39). Hence, given the prolonged waiting times, some refugees arriving during the 2015 wave were allocated already later that year, whereas most were not allocated until

2016 or 2017.

### 3 Validity and strength of instrument

The main identifying assumption of this paper is that municipal placement is exogenous with respect to electoral outcomes. If it is not, the refugee placement program is invalid as an instrument and the IV estimates could be biased. Section 5.1 tests formally whether municipal placement was random with respect to political outcomes. However, even if it is, there are a number of issues with the placement program that could affect its validity and strength as an instrument for immigration. This section addresses briefly three potential sources of bias possibly arising from the placement program.

The first potential source of bias is the bias that may arise if municipalities refuse to participate in the placement program. The 2016 law change meant that municipalities can no longer refuse to participate in the allocation program. This was the first time in Swedish history that such a law was enacted, and since no municipality has breached the law after its enactment, there is no such bias from 2016 onward. In fact, even municipalities with a documented shortage of public housing were forced to find shelter for allocated refugees. In many cases, after depleting the entire stock of available public housing, municipalities turned to the private housing market by purchasing homes, and then acting as official second-hand landlords for allocated refugees. This is a clear contrast to the 1990s allocation scheme, where the availability of housing was the parameter that de facto decided how many were allocated (Dahlberg et al. 2012). Before 2016, it was possible for municipalities to refuse to participate in the placement program of adult refugees. However, as indicated by interviews with placement officials in Dahlberg et al. (2012), most municipalities considered immigration to be a national concern, requiring intermunicipal solidarity. By late-2014, only one municipality (Öckerö, outside Gothenburg) refused to participate in the placement program, citing a lack of housing as the reason for doing so. Given that only one out of 290 municipalities refused to accept any refugees in 2015, municipal refusal is not a major issue in this study. After 2015, all 290 municipalities participated in the placement program.

Another potential source of bias is the bias that could arise when immigrants move from their original placement municipality. Individuals in the placement program have the opportunity to move to another municipality from day one,

and it is well-known that immigrants and minority groups are over-represented in segregated areas in large urban areas (Cutler and Glaeser 1997; Borjas 1998; Cutler et al. 2008). Consequently, we can expect that some refugees will relocate between municipalities some time after their initial placement. In this case, the refugee allocation scheme underestimates the true immigrant share in metropolitan municipalities, and overestimates the immigrant share in small, rural municipalities.

It is difficult to estimate how many refugees move from their municipality of placement, especially considering the short period between placement and the 2018 elections. Findings by Dahlberg and Edmark (2008) suggest that during the 1990s allocation, around 60% of refugees were still living in the original municipality four years after the initial placement. Moreover, due to the prolonged waiting times for asylum decisions, as well as the time lag between the asylum decision and initial municipal placement, we can expect that most of the refugees arriving in Sweden late-2014 and throughout 2015 did not receive municipal placement until 2016 or 2017. Given this, it is reasonable to expect that there will not be any significant resettlement until 2019 or 2020.

The third and final potential source of bias is related to the refugees. First, under the current placement program, refugees with a residence permit may choose not to participate in the placement program. If some municipalities are more attractive to be self-selected into, this should result in a low correlation between the exogenously allocated number of refugees and the total number of immigrants with a residence permit moving to the municipality, which would in turn produce insignificant first stage estimates. However, the results in this paper show that the correlation between the instrument and the instrumented variable is very high, leading to the first stage being highly significant in all regressions. A reason for this is that, although many immigrants would prefer to settle in urban areas (where their compatriots are typically over-represented), it is often practically impossible to do so, because of the constrained access to housing associated with urban areas.

## 4 Data

### 4.1 Data description

**Data on immigration.** The variable IMMIGRANT INFLOW ( $IM$ ) measures the yearly number of allocated refugees with a residence permit (including resettle-

ment refugees), as well as refugees who have self-selected into the municipality, and family migrants in 2015, 2016 and 2017. Since family migrants tend to locate in the same municipality as their relatives, they have also self-selected into the municipality. Since we cannot exclude the possibility that some migrants choose municipality based on the attitudes of natives,  $IM$  is potentially endogenous with respect to the right-wing vote share. Hence, I instrument  $IM$  with the variable ALLOCATED REFUGEE INFLOW ( $ARI$ ), which shows the cumulative number of individuals allocated to a municipality during 2015, 2016 and 2017. In total, 188,709 refugees (allocated and self-selected) and family migrants with a residence permit were registered in a municipality in 2015, 2016 and 2017 ( $IM$ ). Of these, 68,855 were refugees participating in the placement program ( $ARI$ ), 81,300 were refugees self-selecting into a municipality and 46,554 were family migrants. Hence, among the refugees, 43% participated in the placement program. Table 3 provides some further insight into the characteristics of the immigrants.

Note that  $IM$ , defined as the municipal-wise sum of refugees (allocated and self-selected) and family migrants, is a better proxy for refugee immigration than is the immigrant population share of each municipality. This is because the immigrant population share does not only reflect the refugee population of each municipality but takes into account skilled labor immigration and immigration from EU countries in addition to refugee immigration and family migrants. This contrasts  $IM$ , which by construction only captures immigration of refugees and their relatives.

Let  $ARI_{i,t}$  be the allocated refugee inflow in municipality  $i$  for each of the three years considered. Summarizing over all three years and averaging, yields the ALLOCATED REFUGEE INFLOW RATE ( $ARIR$ ) for municipality  $i$ , defined as

$$ARIR_i = \frac{\sum_{t=2015}^{2017} ARI_{i,t}}{\overline{POP}_i} \times 100 \quad (1)$$

where the variable AVERAGE POPULATION ( $\overline{POP}$ ) is the average population in the municipality between 2015 and 2017. Analogously, the endogenous IMMIGRATION RATE ( $IMR$ ) is calculated as

$$IMR_i = \frac{\sum_{t=2015}^{2017} IM_{i,t}}{\overline{POP}_i} \times 100 \quad (2)$$

For the unaccompanied minors, the ALLOCATED UNACCOMPANIED MINORS INFLOW RATE is defined analogously to (1), and UNACCOMPANIED MINORS IMMIGRATION RATE is defined as (2), but with these variables considering only the unaccompanied minors in the numerator instead of total immigration.

**Election data.** I consider only parliamentary elections. The main reason behind this is that the SD have had large difficulties filling local seats, leading to many seats being left vacant. Since voters may fear "wasting" their votes, the SD usually fare worse in local elections compared to parliamentary elections. Moreover, many municipalities have small, local parties, who only run in the local elections. Some of these parties are anti-immigration or populist, which makes intermunicipal comparisons difficult for local elections. The variable  $\Delta SD_i^{2014-2018}$  is the percentage point difference in the Sweden Democrat vote share for municipality  $i$  between 2014 and 2018, and is our main outcome variable of interest. The maps in Figure A2 of the Online Appendix show the relationship between allocated refugee inflow rates and the 2014-2018 growth of the SD.

One question that this paper tries to answer is whether past anti-immigration sentiments affect the current SD vote share increase. As a proxy for historical anti-immigration sentiments, the variable RIGHT-WING POPULIST 1994 takes the value one if either New Democracy, the SD or some local anti-immigration party was represented in the municipal parliament after the 1994 election, which was the election following the Yugoslavian migration shock, and zero else.

**Data on municipal characteristics.** In addition to the immigration variables, I deploy a set of control variables in order to characterize the municipality in 2014, which was the year preceding the migration wave. The confounding variables include population, the unemployment rate (the unemployed share of the workforce in the age group 15-64), log median disposable income, crime rate (defined as the number of reported crimes per capita), and the local tax rate. Further, the set of controls includes the the share of residents with a foreign background, where an individual has a foreign background if the person is either born abroad or has at least one parent born abroad, and the net domestic outflow per capita. The latter is defined as the number of individuals moving to another municipality within Sweden minus the number of people moving in from another municipality in 2014, divided by the total population in that year. If this variable is positive, more individuals move out of the municipality

than into the municipality. As a geographical control, the variable `NORTHERN MUNICIPALITY` takes the value one if the municipality is located in northern Sweden (see Table A3 of the Online Appendix for an exact definition), and zero else. The northern part of Sweden is a traditional stronghold for the Social Democratic party, which ran a massive anti-SD campaign in 2018, and for the pro-immigration center-right Center Party. Finally, I include two dummy variables related to the political situation in the municipality. First, `LEFT-WING MAYOR` is equal to unity if the municipality is governed by a leftist coalition, and zero if the municipality is governed solely by parties in the right-wing coalition, or if the local government is bipartisan. Second, the variable `SD VOTE SHARE 2014` is the SD vote share in the 2014 parliamentary elections.

## 4.2 Summary statistics

Table 2 provides summary statistics of the variables used in the analysis. There is considerable variation both in the allocated refugee inflow rate, as well as in the immigration rate. The share of allocated refugees (*ARIR*) in the total population was 3% in the municipality with the highest rate, and a mere 0.08% in the municipality with the lowest allocated refugee inflow rate. The mean share of allocated refugees over the entire three-year period is approximately corresponding to 0.77% of the average population in that period. Figure 4 shows a histogram of the total allocated refugee inflow rate, and Figure 5 shows the corresponding histogram for the allocated unaccompanied minors inflow rate. When considering the total immigration rate (allocated refugees, self-selected refugees and family migrants, *IMR*), the average share of immigrants is about 2.5%.

Figure 6 shows a scatter plot of the allocated refugee inflow rate and the total immigration rate. There is a clear relationship between total immigration and allocated refugee inflow: municipalities with many allocated immigrants tend to have a large total level of immigration, and vice versa. This indicates that allocated refugee inflow is a strong predictor of total immigration.

One concern raised previously is the possibility of certain types of migrants (with characteristics that might have differential effects on attitudes) choose not to take part in the allocation program, and that other types participate. Table 3 provides data on the largest origin countries of all migrants arriving in a municipality between 2015 and 2017. The four largest immigrant groups are Syrians, Eritreans, Afghans and stateless individuals (mostly Palestians).



Citizens of Afghanistan and Eritrea are somewhat more likely than other nationalities to participate, but overall, virtually all refugees, both allocated and self-selected, are from Muslim-majority countries in the Middle East and North Africa.

Figure 7 shows the population pyramid of all 188,709 immigrants arriving in a municipality ( $IM$ ), and the 2014 pyramid for Sweden for comparison. The Swedish Migration Agency uses four age groups for statistical purposes: 0-17, 18-19, 20-64 and above 65 years of age. This is the age of the migrant at the time of the allocation (after the individual has been granted a residence permit), and not at the time of their initial arrival in Sweden. It is notable that there are virtually no immigrants above the age of 64, and that there are approximately twice as many children in the immigrant population compared to the native population. In terms of sex, around 57% of immigrants are male, whereas the native male share is 50%.

## 5 The impact of immigration on the right-wing populist vote

### 5.1 Test of identifying assumptions

**Parameters deciding allocation.** First, it is of importance to verify that past election results did not affect the allocation of refugees. According to law, the four parameters that are to be used in the allocation are population, the labor market situation, previously allocated refugees and the number of asylum seekers currently dwelling in the municipality. An intuitive way of quantifying previously allocated refugees is to use the cumulative number of allocated refugees during the preceding three-year period. I use unemployment as a proxy for the labor market situation, and measure previous electoral outcomes by using the percentage point change in the SD vote share between the 2010 and 2014 elections. I thus estimate

$$\begin{aligned} \text{ARI}_i^{2015-2017} = & c_0 + \alpha_1 \overline{\text{POP}}_i^{2014-2016} + \alpha_2 \overline{\text{UNEMP}}_i^{2014-2016} + \alpha_3 \overline{\text{ARI}}_i^{2012-2014} \\ & + \alpha_4 \overline{\text{ALS}}_i^{2014-2016} + \alpha_5 \Delta \text{SD}_i^{2010-2014} + u_i \end{aligned} \quad (3)$$

where  $\text{ARI}_i^{2015-2017}$  is the cumulative number of allocated refugees between 2015 and 2017,  $c_0$  is a constant,  $\overline{\text{POP}}_i^{2014-2016}$  is now the average population between

2014 and 2016,  $\overline{\text{UNEMP}}_i^{2014-2016}$  is the average unemployment rate over the same time period,  $\overline{\text{ARI}}_i^{2012-2014}$  is the average number of refugees allocated to the municipality over the preceding three-year time period,  $\overline{\text{ALS}}_i^{2014-2016}$  is the average number of asylum seekers residing in the municipality between 2014 and 2016 (regardless of whether they live in an asylum accommodation or if they have arranged for private residence),  $\Delta\text{SD}_i^{2010-2014}$  is the percentage point change in the SD vote share between the 2010 and 2014 elections (Table A14 of the Online Appendix presents the summary statistics for these variables), and  $u_i$  is an error term. Because the allocation for the year  $t$  is done at time point  $t - 1$ , the number of allocated refugees is calculated for the period 2015–2017, whereas the covariates on the right-hand side of (3) are for the period 2014–2016. If placement officials complied with the law when allocating refugees,  $\hat{\alpha}_1$ ,  $\hat{\alpha}_2$ ,  $\hat{\alpha}_3$  and  $\hat{\alpha}_4$  should all be significant, while  $\hat{\alpha}_5$  should be insignificant if the allocation was random with respect to previous election outcomes.

Table 4 shows the results of this regression. The first results column is the baseline specification, using only the four variables defined by law to be used in the allocation, namely population, unemployment, the number of previously allocated refugees and the number of asylum seekers currently residing in the municipality. The center column is precisely equation (3), namely the regression including the four parameters augmented with the percentage point change in the SD vote share between the 2010 and 2014. This variable should have no impact on the allocation of refugees, and is added to exclude the possibility of biased placement officials, which could have an effect the exogeneity of the placement program. If the coefficient is significant, the allocation is not random with respect to the SD outcome in the last election. Finally, the rightmost column of Table 4 includes the preplacement (2014) municipal controls defined in Section 4.1, namely the log median disposable income, reported crime rate, tax rate, the domestic net outflow rate, the political color of the mayor between 2014 and 2018, and the indicator for northern municipality, but excluding the 2014 population and unemployment rates due to high colinearity with the 2014–2016 average population and unemployment rates. Again, the results indicate that the growth of the SD vote share between 2010 and 2014 was not significant in explaining the allocation of refugees into municipalities. The coefficient for the municipal control variable SD VOTE SHARE 2014 is highlighted, and it is also insignificant in this specification.

The only significant variables in all three specifications are population, the

number of previously allocated refugees and the number of asylum seekers currently living in the municipality. As expected, larger municipalities, municipalities with lower unemployment and municipalities with relatively many asylum seekers are allocated a significantly larger number of refugees. The number of previously allocated refugees is not significant when including all controls. Table A2 of the Online Appendix shows the results when replacing the percentage point growth of the SD vote share with the level of the SD vote share in 2014 and re-estimating equation (3), as an alternative way of excluding the possibility of biased placement officials basing the allocation on election outcomes. Again, the results suggest that previous voting outcomes had no effect on the allocation.

**Impact of immigration on turnout rates** I now address the possibility that immigration had an impact on turnout rates. As discussed previously, the total number of refugees and family migrants moving to municipality  $i$  over the three-year period starting in 2015,  $IM_i$ , is endogenous due to the possibility of self-selection into municipalities. To correct this, I use the exogenous variation induced by the municipal placement program. The instrumental variables (IV) model for municipality  $i$  is specified as follows:

$$IMR_i^{2015-2017} = c_1 + \beta_1 ARIR_i^{2015-2017} + \beta' \mathbf{X}_i + \epsilon_{1i} \quad (4)$$

$$\Delta Turnout_i^{2014-2018} = c_2 + \gamma_1 \widehat{IMR}_i^{2015-2017} + \gamma' \mathbf{X}_i + \epsilon_{2i} \quad (5)$$

where  $c_1$  and  $c_2$  are constants in the first and second stage regressions,  $ARIR_i$  is the cumulative number of refugees assigned to municipality  $i$  between 2015 and 2017, normalized by its average population,  $\mathbf{X}_i$  is a matrix of control variables, and  $\epsilon_{1i}$  and  $\epsilon_{2i}$  are error terms in the first and second stage regressions. Table 5 shows the 2SLS and OLS results of this regression, where specification (1) includes municipality-level controls for the population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, net domestic outflow per capita, municipal tax rate, as well as an indicator if the municipality is located in the northern part of the country. Specification (2) of Table 5 further includes the current political indicator variable LEFT-WING MAYOR as well as the 2014 vote share of the SD. Both the OLS and 2SLS results are insignificant, suggesting that immigration had no impact on turnout rates. Note further that the results show that the coefficient for the allocated refugee rate is highly significant in the first stage, suggesting that the instrument is

relevant in the sense that it is a strong predictor of the endogenous variable.

To summarize, these results provide no evidence of a systematic impact of previous SD voting outcomes on the number of allocated refugees. Furthermore, there was no significant impact of immigration on electoral turnout.

## 5.2 Main results

**Causal estimates.** Having established that there is no evidence of the allocation scheme not being random with respect to past electoral outcomes, I now move on to answer the question whether there is a causal effect of immigration on the right-wing vote share. The IV model is the same as for the turnout rate, with  $\Delta \text{Turnout}_i^{2014-2018}$  replaced by  $\Delta \text{SD}_i^{2014-2018}$ , so that the model can be written

$$\text{IMR}_i^{2015-2017} = c_1 + \beta_1 \text{ARIR}_i^{2015-2017} + \beta' \mathbf{X}_i + \epsilon_{1i} \quad (6)$$

$$\Delta \text{SD}_i^{2014-2018} = c_3 + \tau_1 \widehat{\text{IMR}}_i^{2015-2017} + \tau' \mathbf{X}_i + \epsilon_{3i} \quad (7)$$

To evaluate the effect of the unaccompanied minors immigration, it is straightforward to replace *ARIR* and *IMR* in (6) and (7) with their unaccompanied minors equivalents.

Table 6 provides the OLS results. Column (1) includes all municipal controls except for *LEFT-WING MAYOR* and the 2014 SD vote share, while column (2) includes these full set of controls. These results indicate no significant relationship between immigration rates and the growth of the SD vote share. However, due to the self-selection of immigrants into municipalities and the resulting endogeneity problem, OLS is potentially biased. Table 7 gives the 2SLS results of the regression with the percentage point change in the SD vote share as the dependent variable, and immigration rate instrumented by the allocated refugee inflow rate as the explanatory variable of interest. For each percentage point increase in the immigrant share, holding other variables constant, the Sweden Democrat vote share increases by approximately 1.9 percentage points, which is significant at the 5% level. Similarly, for each percentage point increase in the unaccompanied minors share, the SD vote share increases by approximately 1.5 percentage points. This coefficient is significant at the 10% level only.

Table A4 of the Online Appendix shows the second stage 2SLS results when replacing the percentage point change in the SD vote share on the left-hand side of (7) with the vote share of the two major parties in Swedish politics: the

center-left Social Democrats and the center-right Moderate Party <sup>1</sup>. Although immigration has caused the vote share of both major parties to decline, is only the change for the center-left that is statistically significant after controlling for the 2014 vote share of the respective parties. For the unaccompanied minors immigration, neither the center-left nor the center-right vote shares are significantly affected, although the negative coefficient for the center-left is considerably larger in absolute terms.

Table 8 shows the second stage 2SLS results when extending the model to include the interaction between immigration (both total immigration and immigration of unaccompanied minors) and RIGHT-WING POPULIST 1994, with the change in the Sweden Democrat vote share as the outcome variable. When considering total immigration, this interaction is highly significant. The results suggest that in municipalities where there were right-wing populists in the local parliament after the 1994 elections, a one-percentage point increase in the immigrant share increases the Sweden Democrat vote share by approximately 2.6 percentage points, compared to 2.0 percentage points in municipalities where this was not the case. These results suggest that historical right-wing voting is an important driver of current right-wing populist growth. For the unaccompanied minors, the interaction coefficient is numerically larger for both specifications, although there is more variation around this estimate. Moreover, considering that the average unaccompanied minors immigration rate was below 0.3% of the average population, a one percentage point increase is undoubtedly a very large increase.

**The impact of municipal characteristics.** In order to answer whether immigration affects electoral outcomes conditional on certain municipal characteristics, Table 9 interacts immigration rates with each of the 2014 municipal characteristics used as control variables in the full specification of the previous regressions: the population (henceforth referred to as specification A), unemployment rate (B), log median disposable income (C), number of reported crimes per capita (D), share of the population with immigrant background (E), as well as the municipal tax rate (F), net domestic outflow per capita (G), whether the municipality is located in the northern part of the country (H), if the municipality was governed by a left-wing mayor between 2014 and 2018 (I), and the 2014 SD vote share (J). To facilitate the interpretation of the variables in

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<sup>1</sup>Table A14 of the Online Appendix gives the summary statistics for these variables.

specification A-G and J, I calculate the corresponding z-scores by demeaning each interacting variable and dividing by its standard deviation. Thus, the coefficient can be interpreted as the additional effect on the Sweden Democrat vote share by a one percentage-point increase in the immigrant share in municipalities with a one standard deviation higher value of the respective municipal characteristic. I use the full set of control variables, except for those interacted with immigration in each of the regressions. For instance, specification B uses all municipal characteristic controls except for the unemployment rate.

Let us begin with population. The interaction between immigration and population is highly significant and negative for the unaccompanied minors, whereas it is insignificant for refugees in general. The interactions between immigration and the unemployment rate, median disposable income, municipal tax rate, whether there was a left-wing mayor, and whether the municipality is located in the northern part of the country are not significant, both when considering all allocated refugees and for the unaccompanied minors subgroup.

Specification D of Table 9 gives the results for the interaction with the pre-placement crime rate. This interaction is highly significant for the unaccompanied minors, but not for refugees in general. For each percentage point increase in the unaccompanied minors share, the baseline increase in the SD vote share is around 1.7 percentage points, however, given a one standard deviation higher municipal crime rate in 2014, the same increase in the unaccompanied minors share leads to a 3.2 percentage point increase in the anti-immigration vote share, holding other variables constant.

The interaction between immigration and the share of residents with a foreign background is significant only for the unaccompanied minors. For each percentage point increase in the unaccompanied minors share, one standard deviation higher share of residents with a foreign background is associated with an increase in the SD vote share from 1.6 to 3.0 percentage points.

The interaction between immigration and the net domestic outflow rate has a significant and negative impact on the SD vote. Given a one standard deviation higher net domestic outflow rate, the increase in the SD vote share that is due to immigration of minors is cut by approximately one half. The absolute value of the interaction coefficient is lower, but still highly significant when considering refugees in general.

One should be careful when interpreting the coefficients: after all, a one percentage point increase is a very large change in this context. However, the finding on the negative impact of net domestic outflow rate on the SD vote is

an interesting contrast to specifications E (the share of foreigners in the municipality) and F (the crime rate). The latter characteristics exacerbate the SD increase, whereas in areas with large net domestic outflows, immigration, especially of unaccompanied minors, significantly dampens the SD increase. In areas with social problems, for instance relatively high crimes rates, an additional inflow of young immigrant men boosts the anti-immigration vote further. Considering that individuals with such characteristics are often assumed to be over-represented in crime statistics, this does not come as a major surprise. Conversely, a similar inflow of unaccompanied minors in depopulation areas decreases enthusiasm for the SD, possibly because of the favorable demographic characteristics of this immigrant group.

Finally, the interaction between immigration and the 2014 SD vote share is highly significant and positive. The coefficient is numerically considerably larger for the unaccompanied minors, suggesting that in areas with a priori relatively many right-wing populist voters, immigration of young migrant men further increases the the anti-immigration vote.

## 6 Robustness and alternative mechanisms

### 6.1 Subsample exclusion sensitivity and percentages instead of percentage points

I begin by examining whether the results hold when omitting a number of subsamples. Table A5 of the Online Appendix shows the 2SLS results without interaction terms when omitting the five municipalities with the highest (specification I), lowest (specification II) and highest and lowest (specification III) allocated refugee inflow rates, using the full set of controls. Table A6 presents the same results from the subsample restriction, but includes the interaction with RIGHT-WING POPULIST 1994. Further, Tables A7 and A8 of the Online Appendix repeat the same omission procedure, but exclude municipalities based on 2014 SD support instead of immigration levels. Both when excluding based on refugee inflow rates, and based on last election SD support, the results are not significantly altered.

Table A8 shows the results when re-estimating equation (7) with the 2014 – 2018 percentage change in the Sweden Democrat vote share instead of percentage points, and including the interaction with RIGHT-WING POPULIST 1994. All results described previously are robust to these changes.

## 6.2 Probit estimates

Another alternative approach is to use probit instead of 2SLS. The outcome variable of interest is now binary, and is equal to one if the municipality had an SD growth rate larger than the national average between 2014 and 2018, and 0 else. Table A10 reports the probit estimates, both with and without the interaction with RIGHT-WING POPULIST 1994 using the full set of controls. Although it is not possible to compare directly the probit estimates to the ones obtained with 2SLS, we see that both the coefficient for immigration, and the interaction with previous right-wing populist presence are significant when considering total immigration. However, the coefficient for unaccompanied minors immigration rate is close to zero (and statistically insignificant), whereas the interaction with 1994 right-wing populist presence is positive but statistically insignificant. Hence, these results further support the previous conclusions regarding the relatively electoral large impact of refugee migration on the increase in the right-wing populist vote share.

## 6.3 Further placebo analyses

Section 5.1. of this paper establishes that municipal placement between 2015 and 2017 was not affected by the 2010-2014 change in support for the SD, nor by the 2014 level of SD support. To address the concern that the change in, or level of, vote shares of other parties had an impact on refugee placement, Table A11 of the Online Appendix presents the result of additional placebo regressions with the number of allocated refugees as the dependent variable, with the electoral outcomes of the center-left Social Democrats and center-right Moderate Party as independent variables. Again, the results suggest that placement of refugees was not related to previous electoral outcomes.

## 6.4 Alternative mechanisms: Labor market outcomes

The literature identifies two primary mechanisms explaining the growth of right-wing populism: immigration and adverse native labor market outcomes (see Arzheimer (2009) for a summary). Studies from Sweden using pre-2018 SD election outcomes show that adverse native labor market outcomes were important drivers of the rapid right-wing populist growth in Sweden, especially between 2006 and 2010. (Dal Bó et al. 2018; Dehdari 2018).

Since the municipality-level change in unemployment is correlated with the



immigration rate, I instead use the change in the *native* employment rate between 2014 and 2018, together with the same municipality controls utilized previously, to evaluate whether adverse labor market outcomes had any impact on the growth in the SD vote. The OLS results of this regression are given in Table A12 of the Online Appendix, suggesting that there is no significant relationship between the change in native employment and the increase in the SD vote share <sup>2</sup>. Hence, adverse labor market outcomes of natives cannot explain the sharp growth of the right-wing populist vote between 2014 and 2018. These results suggest that, in light of strong economic growth rates and declining unemployment levels noted in most Western countries around this time period, the role of immigration is now relatively more important for right-wing populist growth than adverse labor market outcomes.

## 6.5 Alternative mechanisms: The contact hypothesis

Recently, Steinmayr (2016) analyzes the vote share of the right-wing populist Freedom Party of Austria in local elections held at the peak of the 2015 migrant crisis. In transit municipalities, where refugees settled for a short period of time before proceeding towards Germany or Sweden, the vote share of the Freedom Party increased significantly. However, in municipalities with asylum accommodations, to which refugees (seeking asylum in Austria) were allocated awaiting an asylum decision, the right-wing populist vote share decreased significantly. According to the so-called *contact hypothesis* from sociology (Allport 1954), interpersonal contact with immigrants could reduce prejudice. On the other hand, in municipalities with many short-term refugees, in which natives do not have a chance to form social bonds with immigrants, the right-wing populist vote should increase.

In Sweden, individuals may apply for asylum only in municipalities hosting a Migration Agency office. Thus, these municipalities can be seen as transit municipalities. The dummy variable TRANSIT MUNICIPALITY (*TM*) is equal to unity if the municipality hosts a Migration Agency office, and zero else. The northern border municipality of Haparanda, which was the primary port of exit for refugees travelling from Sweden to Finland, is further included as a transit municipality, as is the southern municipality of Trelleborg, which hosts the largest port of entry for refugees arriving by ferry from Germany. I estimate

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<sup>2</sup>Using 2SLS with the unemployment rate as endogenous variable and the change in native employment as the instrument gives the same conclusion.

both the usual 2SLS model, with the dummy variable TRANSIT MUNICIPALITY ( $TM$ ) included together with the full set of control variables, as well as the model

$$\Delta SD_i^{2014-2018} = c_4 + \eta_1 TM_i + \boldsymbol{\eta}' \mathbf{X}_i + \varepsilon_i \quad (8)$$

where  $c_4$  is a constant, and  $\varepsilon_i$  is an error term. Table A13 of the Online Appendix presents the results of these regressions. For the usual 2SLS specification, the transit municipality dummy is insignificant, and the coefficients for immigration and for unaccompanied minors immigration are numerically very close to the ones in the model excluding the transit municipality dummy. Additionally, the OLS estimate of  $\eta_1$  in the model described by (8) is close to zero, further suggesting that the SD vote share increase was not significantly related to whether the municipality was a transit municipality or not.

A likely explanation for this divergence in results vis-à-vis Steinmayr (2016) is that there were considerably more refugees making temporary passages through Austria than through Sweden, as most refugees passing through Austria had Germany or Sweden as their ultimate destination.

## 7 Concluding remarks

By exploiting the exogenous variation in allocated refugees between municipalities induced by the Swedish refugee placement program during 2015-2017, this paper tries to answer whether there is a causal relationship between immigration and voting for right-wing populist parties. I extend recent research by Dustmann et al. (forthcoming) and Halla et al. (2017) to account for the fact that refugee migrants are not a heterogeneous group, by examining both refugees in general as well as unaccompanied minors, a group dominated by young males.

Although my findings are in line with some of the previous research in the literature, namely that higher immigration rates indeed increase right-wing populist voting, the effect is smaller and less significant for the unaccompanied minors. I show that this is because immigration of young men leads to greater voter polarization: in municipalities that already had relatively many immigrants, as well as in municipalities with high crime rates, an influx of young, male refugees had a significant and positive impact on the Sweden Democrat vote. Although there were similar tendencies when considering refugees in general, the effects are considerably stronger for unaccompanied minors immigration.

On the contrary, in municipalities with relatively many immigration-friendly

voters, such as in urban areas, immigration of unaccompanied minors significantly dampened the right-wing populist growth. A similar effect exists in municipalities where the native population was declining before the refugee wave. Thus, in municipalities where the negative effects of immigration are more prominent (for instance, in the form of higher crime rates) the SD vote share further increased, whereas the opposite effect exists in areas where the positive effects of immigration, such as an increase in the labor force, are of greater importance to voters. Moreover, the results show that in areas with right-wing populist party presence around the time of the 1990s refugee wave, the SD vote share increased significantly more than in other areas, suggesting that latent anti-immigration sentiments are an important explanation for current voting trends.

It is notable that even in a country with high naturalization rates, such as Sweden, a large refugee shock leads to an increase in the right-wing vote, despite the tendency of minority groups being more inclined to vote left-wing. This result suggests that if the immigration shock is sufficiently large, the dominance of the left among immigrants is not enough to swing the overall electoral balance towards the left, because native votes, concomitantly, shift towards the right of the political spectrum as a response to immigration. A similar tendency was noted in a number of high-immigration U.S. congressional districts studied in Mayda et al. (2016). Like Sweden, the United States has high naturalization rates, however, since refugee migration to the U.S. is considerably less prominent, there were no overall electoral gains for the Republican party.

Given the strong polarizing effects of immigration, native attitudes are likely to have a major impact on the future economic and social performance of refugees in host countries. Thus, to what extent the attitudes of natives affect the assimilation of refugees is an interesting question for further research.

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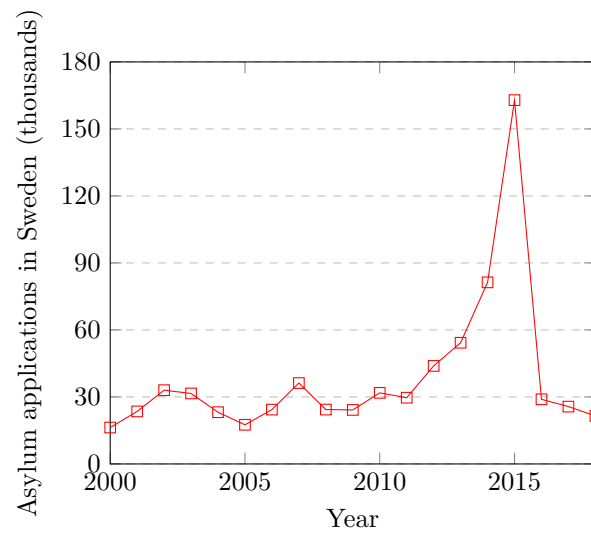


Figure 1: Number of asylum seekers, 2000-2018.

TABLE 1  
EVOLUTION OF THE SD VOTE SHARE, 1988-2018.

Election	SD vote share (%)
1988	0.02
1991	0.09
1994	0.25
1998	0.37
2002	1.44
2006	2.93
2010	5.70
2014	12.86
2018	17.53

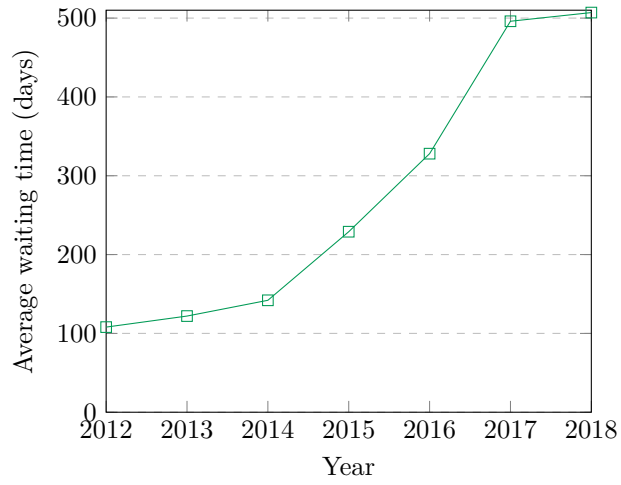


Figure 2: Average waiting time for an asylum decision, 2012-2018.



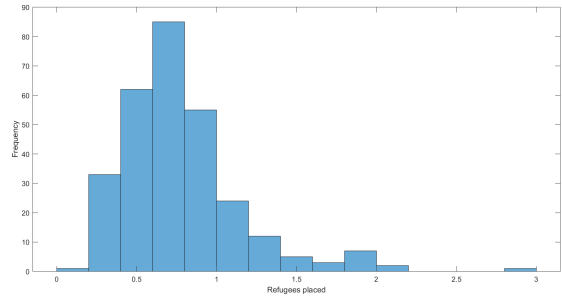


Figure 3: Histogram of the ALLOCATED REFUGEE INFLOW RATE (*ARIR*).

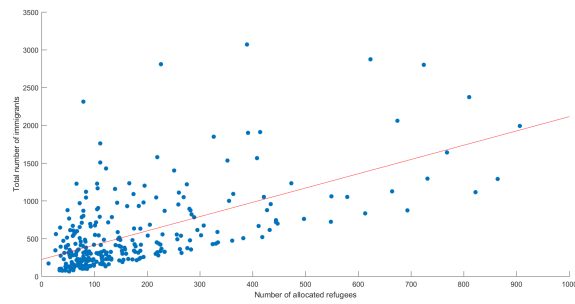


Figure 4: Scatter plot with the total number of allocated refugees 2015-2017 (*ARI*) on the horizontal axis and the total number of immigrants (allocated refugees, self-selected refugees and family migrants) 2015-2017 on the vertical axis (*IM*). The four largest municipalities (Stockholm, Gothenburg, Malmö and Uppsala) are excluded for visibility reasons. The Pearson correlation between the variables is 0.86.

TABLE 2  
SUMMARY STATISTICS

<i>Exogenous immigration variables</i>				
ALLOCATED REFUGEE INFLOW, 2015-2017	209.84	408.25	13	5,943
ALLOCATED REFUGEE INFLOW RATE, 2015-2017 (%)	0.773	0.379	0.083	2.998
ALLOCATED UNACCOMPANIED MINORS INFLOW, 2015-2017	49.61	81.38	4	1,021
ALLOCATED UNACCOMPANIED MINORS INFLOW RATE, 2015-2017 (%)	0.212	0.142	0.030	0.917
<i>Endogenous immigration variables</i>				
TOTAL IMMIGRATION, 2015-2017	650.72	1,010.40	66	11,281
TOTAL IMMIGRATION RATE, 2015-2017 (%)	2.523	1.551	0.800	11.834
UNACCOMPANIED MINORS IMMIGRATION, 2015-2017	58.24	95.69	4	1,238
UNACCOMPANIED MINORS IMMIGRATION RATE, 2015-2017 (%)	0.279	0.170	0.048	1.076
<i>Election variables</i>				
$\Delta$ SD <sup>2014–2018</sup> (p.p.)	5.62	1.85	0.99	15.21
RIGHT-WING POPULIST 1994	0.131	0.338	0	1
<i>Municipal characteristic controls</i>				
POPULATION, 2014	33,611.57	69,275.21	2,541	911,989
UNEMPLOYMENT RATE, 2014 (%)	8.40	2.57	2.60	15.80
SHARE OF RESIDENTS WITH A FOREIGN BACKGROUND, 2014 (%)	15.79	7.96	5.15	56.36
MEDIAN DISPOSABLE INCOME, 2014 (SEK, thousands)	217.18	22.74	183.70	371.80
REPORTED CRIME RATE, 2014	0.0952	0.0285	0.0396	0.229
LOCAL INCOME TAX RATE, 2014 (%)	32.63	1.11	29.19	34.70
DOMESTIC NET OUTFLOW RATE, 2014 (%)	0.282	1.002	−2.496	6.647
NORTHERN MUNICIPALITY	0.190	0.390	0	1
<i>Local political controls</i>				
LEFT-WING MAYOR	0.331	0.471	0	1
SD VOTE SHARE 2014	15.34	4.47	5.30	29.96

TABLE 3  
IMMIGRANT CHARACTERISTICS

	Number	Largest origin countries
TOTAL IMMIGRATION ( <i>IM</i> )	188,709	Syria (53.4%) Eritrea (11.5%) Stateless (9.1%) Afghanistan (9.1%) <i>Other</i> (16.9%)
ALLOCATED REFUGEE INFLOW ( <i>ARI</i> )	60,855	Syria (46.4%) Afghanistan (16.7%) Eritrea (14.2%) Stateless (6.2%) <i>Other</i> (16.5%)
SELF-SELECTED REFUGEES	81,300	Syria (58.3%) Eritrea (11.0%) Stateless (9.9%) Afghanistan (3.6%) <i>Other</i> (17.2%)
FAMILY MIGRANTS	46,554	Syria (54.1%) Stateless (11.7%) Somalia (10.7%) Eritrea (8.8%) <i>Other</i> (14.7%)

*Note:* Characteristics of all immigrants arriving in a municipality 2015-2017 (excluding labor immigrants, EU immigrants and students). Data source: Swedish Migration Agency.

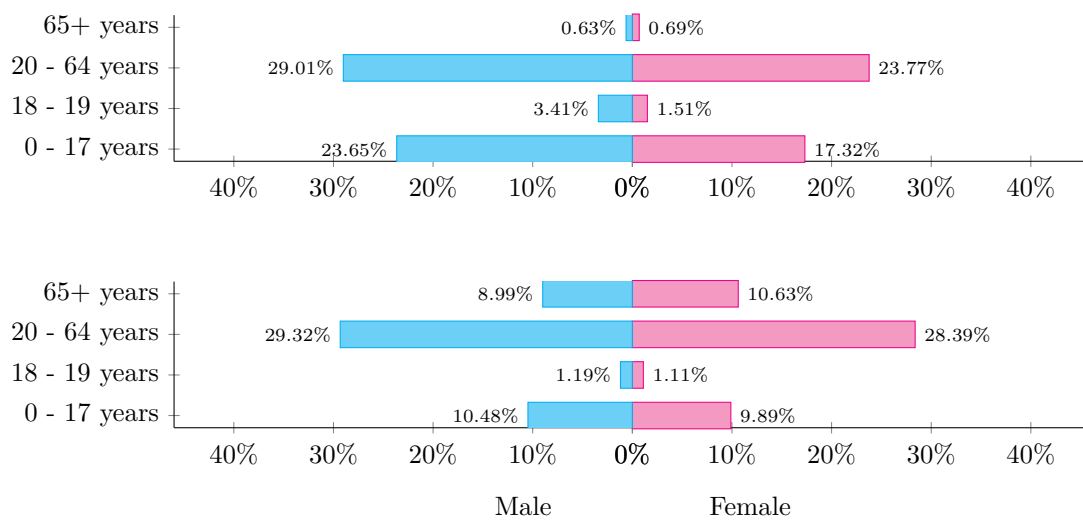


Figure 5: Top panel: Population pyramid of the 188,709 immigrants arriving in a municipality 2015-2017. Bottom panel: Population pyramid for Sweden, 2014.

TABLE 4  
TEST OF IDENTIFYING ASSUMPTIONS

	Baseline	Last election change in SD vote share included	Additional controls included
AVERAGE POPULATION 2014-2016	0.0064*** (0.00059)	0.0065*** (0.00065)	0.0068*** (0.00068)
AVERAGE UNEMPLOYMENT RATE 2014-2016	-10.129*** (2.367)	-10.671*** (2.676)	-10.222*** (3.122)
AVERAGE NUMBER OF ALLOCATED 2012-2014	0.620** (0.309)	0.655** (0.311)	0.423 (0.323)
AVERAGE NUMBER OF ASYLUM SEEKERS 2014-2016	-0.176*** (0.054)	-0.179*** (0.057)	-0.235*** (0.054)
$\Delta$ SD VOTE SHARE 2010-2014		1.903 (4.444)	6.083 (6.136)
SD VOTE SHARE 2014			-3.501 (2.345)
MUNICIPAL CHARACTERISTICS CONTROLS INCLUDED	No	No	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	No	Yes
OBSERVATIONS	290	290	290
MEAN DEP. VAR.	209.84	209.84	209.84
$R^2$	0.9468	0.9469	0.9525

*Note:* Dependent variable: Cumulative number of allocated refugees, 2015-2017. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE 5  
OLS AND 2SLS RESULTS, TURNOUT RATE

	OLS		2SLS	
	(1)	(2)	(1)	(2)
First stage:				
ALLOCATED REFUGEE INFLOW RATE			0.524** (0.228)	0.528** (0.228)
Second stage:				
TOTAL IMMIGRATION RATE	-0.0142 (0.038)	-0.0244 (0.038)	-0.245 (0.327)	-0.178 (0.306)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	Yes	No	Yes
OBSERVATIONS	290	290	290	290
MEAN DEP. VAR.	1.32	1.32	1.32	1.32
F STATISTIC OF EXCL. INSTRUMENTS			28.83	24.02
$R^2$	0.1406	0.1805		

*Note:* Dependent variable: Percentage point change in the turnout rate, 2014-2018. Specification (1): Controls included for 2014 values of population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, municipal tax rate, net domestic outflow rate, and an indicator whether the municipality is located in the northern part of the country. Specification (2): All previous controls augmented with the political color of the mayor between 2014 and 2018, and the 2014 SD vote share. A constant is included in all regressions. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE 6  
OLS RESULTS, MAIN SPECIFICATION

	All refugees, OLS		Unaccompanied minors, OLS	
	(1)	(2)	(1)	(2)
TOTAL IMMIGRATION RATE	0.130 (0.084)	0.120 (0.081)		
UNACCOMPANIED MINORS IMMIGRATION RATE			1.455* (0.755)	1.092 (0.718)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	Yes	No	Yes
OBSERVATIONS	290	290	290	290
MEAN DEP. VAR.	5.62	5.62	5.62	5.62
$R^2$	0.1542	0.2431	0.1593	0.2457

*Note:* Dependent variable: Percentage point change in SD vote share, 2014-2018. Specification (1): Controls included for 2014 values of population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, municipal tax rate, net domestic outflow rate, and an indicator whether the municipality is located in the northern part of the country. Specification (2): All previous controls augmented with the political color of the mayor between 2014 and 2018, and the 2014 SD vote share. A constant is included in all regressions. Robust standard errors clustered by municipality in brackets.

\*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE 7  
2SLS RESULTS, MAIN SPECIFICATION.

	All refugees		Unaccompanied minors	
	(1)	(2)	(1)	(2)
First stage:				
ALLOCATED REFUGEE INFLOW RATE	0.524** (0.228)	0.528** (0.228)		
ALLOCATED UNACCOMPANIED MINORS INFLOW RATE			1.053*** (0.027)	1.053*** (0.027)
Second stage:				
TOTAL IMMIGRATION RATE	1.468* (0.845)	1.885** (0.950)		
UNACCOMPANIED MINORS IMMIGRATION RATE			1.835** (0.820)	1.532* (0.794)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	Yes	No	Yes
OBSERVATIONS	290	290	290	290
MEAN DEP. VAR.	5.62	5.62	5.62	5.62
F STATISTIC OF EXCL. INSTRUMENTS	28.83	24.02	272.03	252.18

*Note:* Dependent variable: Percentage point change in SD vote share, 2014-2018. Specification (1): Controls included for 2014 values of population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, municipal tax rate, net domestic outflow rate, and an indicator whether the municipality is located in the northern part of the country. Specification (2): All previous controls augmented with the political color of the mayor between 2014 and 2018, and the 2014 SD vote share. A constant is included in all regressions. Robust standard errors clustered by municipality in brackets.

\*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE 8  
SECOND STAGE 2SLS RESULTS, INTERACTION WITH HISTORICAL VOTING

	All refugees		Unaccompanied minors	
	(1)	(2)	(1)	(2)
IMMIGRATION RATE	1.623*	2.031**		
	(0.913)	(1.024)		
IMMIGRATION RATE × RIGHT-WING POPULIST 1994	0.559**	0.585**		
	(0.256)	(0.296)		
UNACCOMPANIED MINORS IMMIGRATION			1.821**	1.531*
			(0.820)	(0.796)
UNACCOMPANIED MINORS IMMIGRATION × RIGHT-WING POPULIST 1994			2.401*	1.697
			(1.438)	(1.390)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	Yes	No	Yes
OBSERVATIONS	290	290	290	290
MEAN DEP. VAR.	5.62	5.62	5.62	5.62

*Note:* Second stage 2SLS results when including the interaction with RIGHT-WING POPULIST 1994. Dependent variable: Percentage point change in SD vote share, 2014-2018.

Specification (1): Controls included for 2014 values of population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, municipal tax rate, net domestic outflow rate, and an indicator whether the municipality is located in the northern part of the country. Specification (2): All previous controls augmented with the political color of the mayor between 2014 and 2018, and the 2014 SD vote share. A constant is included in all regressions. Robust standard errors clustered by municipality in brackets.

\*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE 9  
2SLS RESULTS, MUNICIPAL CHARACTERISTICS INTERACTIONS

	All refugees	Unaccompanied minors
Specification A: Population, 2014		
IMMIGRATION RATE	1.738 (0.943)	
IMMIGRATION RATE × POPULATION	-0.157 (0.098)	
UNACCOMPANIED MINORS IMMIGRATION		0.643 (0.864)
UNACCOMPANIED MINORS IMMIGRATION × POPULATION		-2.232*** (0.811)
Specification B: Unemployment rate, 2014		
IMMIGRATION RATE	3.147 (1.974)	
IMMIGRATION RATE × UNEMPLOYMENT RATE	-0.611 (0.392)	
UNACCOMPANIED MINORS IMMIGRATION		1.554* (0.822)
UNACCOMPANIED MINORS IMMIGRATION × UNEMPLOYMENT RATE		0.257 (0.434)
Specification C: Log median disposable income, 2014		
IMMIGRATION RATE	2.280 (1.132)	
IMMIGRATION RATE × DISPOSABLE INCOME	0.243 (0.246)	
UNACCOMPANIED MINORS IMMIGRATION		0.946 (0.871)
UNACCOMPANIED MINORS IMMIGRATION × DISPOSABLE INCOME		-0.668 (0.769)
Specification D: Crime rate, 2014		
IMMIGRATION RATE	2.143** (0.917)	
IMMIGRATION RATE × CRIME RATE	0.352 (0.987)	
UNACCOMPANIED MINORS IMMIGRATION		1.724** (0.779)
UNACCOMPANIED MINORS IMMIGRATION × CRIME RATE		1.498** (0.601)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes
OBSERVATIONS	290	290
MEAN DEP. VAR.	5.62	5.62



TABLE 9, CONTINUED

	All refugees	Unaccompanied minors
Specification E: Share of residents with foreign background, 2014		
IMMIGRATION RATE	1.916** (0.963)	
IMMIGRATION RATE × SHARE OF RESIDENTS WITH FOREIGN BACKGROUND	0.148 (0.158)	
UNACCOMPANIED MINORS IMMIGRATION		1.615** (0.776)
UNACCOMPANIED MINORS IMMIGRATION × SHARE OF RESIDENTS WITH FOREIGN BACKGROUND		1.344** (0.649)
Specification F: Municipal tax rate, 2014		
IMMIGRATION RATE	1.870** (0.932)	
IMMIGRATION RATE × TAX RATE	-0.0472 (0.063)	
UNACCOMPANIED MINORS IMMIGRATION		1.538* (0.792)
UNACCOMPANIED MINORS IMMIGRATION × TAX RATE		0.0321 (0.271)
Specification G: domestic net outflow rate, 2014		
IMMIGRATION RATE	2.700* (1.488)	
IMMIGRATION RATE × DOMESTIC NET OUTFLOW RATE	-0.364** (0.185)	
UNACCOMPANIED MINORS IMMIGRATION		2.467*** (0.760)
UNACCOMPANIED MINORS IMMIGRATION × DOMESTIC NET OUTFLOW RATE		-1.221*** (0.328)
Specification H: Northern municipality		
IMMIGRATION RATE	2.030* (1.132)	
IMMIGRATION RATE × NORTHERN MUNICIPALITY	0.192 (0.225)	
UNACCOMPANIED MINORS IMMIGRATION		1.668** (0.776)
UNACCOMPANIED MINORS IMMIGRATION × NORTHERN MUNICIPALITY		-0.346 (0.832)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes
OBSERVATIONS	290	290
MEAN DEP. VAR.	5.62	5.62

TABLE 9, CONTINUED

	All refugees	Unaccompanied minors
Specification I: Left-wing mayor, 2014-2018		
IMMIGRATION RATE	1.775*	
	(0.897)	
IMMIGRATION RATE × LEFT-WING MAYOR	0.170	
	(0.137)	
UNACCOMPANIED MINORS IMMIGRATION		1.629**
		(0.828)
UNACCOMPANIED MINORS IMMIGRATION × LEFT-WING MAYOR		-0.408
		(0.696)
Specification J: SD vote share 2014		
IMMIGRATION RATE	2.215*	
	(1.161)	
IMMIGRATION RATE × SD VOTE SHARE 2014	0.367***	
	(0.135)	
UNACCOMPANIED MINORS IMMIGRATION		1.601**
		(0.792)
UNACCOMPANIED MINORS IMMIGRATION × SD VOTE SHARE 2014		1.920***
		(0.387)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes
OBSERVATIONS	290	290
MEAN DEP. VAR.	5.62	5.62

*Note:* Dependent variable: Percentage point change in SD vote share, 2014-2018. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

## Online Appendix

TABLE A.1  
OVERVIEW OF THE EIGHT PARTIES REPRESENTED IN THE RIKSDAG.

Abb.	Party name	Ideology	Vote share 2018	Vote share 2014	Seats 2018 (2014)	Gov./opposition 2014 – 2018
<i>Center-left coalition</i>						
S	SOCIAL DEMOCRATS	Social democracy	28.26	31.01	100 (113)	Government
V	LEFT PARTY	Socialism	8.00	5.72	28 (21)	Supporting government
MP	GREEN PARTY	Green politics	4.41	6.89	16 (25)	Government
<i>Center-right coalition</i>						
M	MODERATE PARTY	Liberal conservatism	19.84	23.33	70 (84)	Opposition
C	CENTER PARTY	Centrism	8.61	6.11	31 (22)	Opposition
KD	CHRISTIAN DEMOCRATS	Conservatism	6.32	4.57	22 (16)	Opposition
L	LIBERALS	Liberalism	5.49	5.42	20 (19)	Opposition
SD	SWEDEN DEMOCRATS	Social conservatism, Swedish nationalism	17.53	12.86	62 (49)	Opposition

TABLE A.2  
ADDITIONAL TESTS OF IDENTIFYING ASSUMPTIONS

	Baseline	Last election change in SD vote share included	Additional controls included
AVERAGE POPULATION 2014-2016	0.0064*** (0.00059)	0.0064*** (0.00061)	0.0068*** (0.00068)
AVERAGE UNEMPLOYMENT RATE 2014-2016	-10.129*** (2.367)	-9.696*** (2.641)	-10.165*** (3.109)
AVERAGE NUMBER OF ALLOCATED 2012-2014	0.620** (0.309)	0.584* (0.317)	0.423 (0.323)
AVERAGE NUMBER OF ASYLUM SEEKERS 2014-2016	-0.176*** (0.054)	-0.175*** (0.055)	-0.234*** (0.055)
SD VOTE SHARE 2014		-0.719 (1.635)	-0.966 (1.514)
MUNICIPAL CHARACTERISTICS CONTROLS INCLUDED	No	No	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	No	Yes
OBSERVATIONS	290	290	290
MEAN DEP. VAR.	209.84	209.84	209.84
$R^2$	0.9468	0.9468	0.9523

*Note:* Tests of identifying assumptions with the 2014 level of the SD instead of the percentage point difference between 2010 and 2014. Dependent variable: Cumulative number of allocated refugees, 2015-2017. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE A.3  
DATA SOURCES FOR THE VARIABLES IN THE MAIN ANALYSIS

Variable	Definition	Data source
<i>Immigration variables</i>		
ALLOCATED REFUGEE IMMIGRATION	Cumulative number of refugees allocated to the municipality in 2015, 2016 and 2017	Swedish Migration Agency
ALLOCATED UNACC. MINORS IMMIGRATION	Cumulative number of unacc. minors allocated to the municipality in 2015, 2016 and 2017	Swedish Migration Agency
TOTAL IMMIGRATION	Cumulative number of refugees settling in the municipality in 2015, 2016 and 2017	Swedish Migration Agency
TOTAL UNACC. MINORS IMMIGRATION	Cumulative number of unacc. minors settling in the municipality in 2015, 2016 and 2017	Swedish Migration Agency
<i>Election outcomes variables</i>		
$\Delta$ SD <sup>2010–2014</sup>	SD vote share difference, 2010-2014 parliamentary elections	Swedish Election Authority
$\Delta$ SD <sup>2014–2018</sup>	SD vote share difference, 2014-2018 parliamentary elections	Swedish Election Authority
$\Delta$ TURNOUT <sup>2014–2018</sup>	Turnout difference, 2014-2018 parliamentary elections	Swedish Election Authority
LEFT-WING MAYOR	Mayor from the center-left coalition during the 2014-2018 term	Swedish Association of Local Authorities and Regions
RIGHT-WING POPULIST 1994	NyD, SD or local anti-immigration party represented in the local parliament 1994-1998	Statistics Sweden
<i>Municipal control variables</i>		
POPULATION	Population in 2014	Statistics Sweden
UNEMPLOYMENT RATE	Unemployment rate in 2014	Swedish Public Employment Service
SHARE OF RESIDENTS WITH A FOREIGN BACKGROUND	2014 share of residents born abroad or with at least one parent born abroad	Statistics Sweden
MEDIAN DISPOSABLE INCOME	Median disposable income, incl. capital gains, 2014	Statistics Sweden
REPORTED CRIME RATE	Reported crime rate per capita, 2014	Swedish National Council for Crime Prevention
LOCAL INCOME TAX RATE	Municipal and county income tax rate, 2014	Statistics Sweden
DOMESTIC NET OUTFLOW RATE	domestic outflow minus inflow divided by population, 2014	Statistics Sweden
NORTHERN MUNICIPALITY	1 if the municipality is in the northern counties of Gävleborg, Jämtland, Norrbotten, Västerbotten, or Västernorrland, 0 else	Statistics Sweden

TABLE A.4  
SECOND STAGE 2SLS RESULTS, OTHER PARTY VOTE SHARES

	Center-left		Center-right	
	(1)	(2)	(1)	(2)
Second stage:				
IMMIGRATION RATE	-1.132 (0.902)	-1.889* (1.051)	-1.429* (0.849)	-0.760 (0.503)
UNACC. MINORS IMMIGRATION RATE	-1.361 (0.951)	-1.325 (0.841)	0.0770 (0.692)	-0.676 (0.479)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	Yes	No	Yes
OBSERVATIONS	290	290	290	290
MEAN DEP. VAR.	-4.77	-4.77	-2.84	-2.84

*Note:* Second stage 2SLS results with the percentage point change in the Social Democratic (center-left) and Moderate Party (center-right) vote shares as dependent variables. Specification (1): Controls included for 2014 values of population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, municipal tax rate, net domestic outflow rate, and an indicator whether the municipality is located in the northern part of the country. Specification (2): All previous controls augmented with the political color of the mayor between 2014 and 2018, and the 2014 vote share of the respective parties. A constant is included in all regressions. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE A.5  
SUBSET EXCLUSION SENSITIVITY BASED ON ARIR

	All refugees			Unaccompanied minors		
	(I)	(II)	(III)	(I)	(II)	(III)
First stage:						
ALLOCATED REFUGEE INFLOW RATE	0.627** (0.309)	0.542** (0.229)	0.649** (0.312)			
ALLOCATED UNACCOMPANIED MINORS INFLOW RATE				1.076*** (0.035)	1.052*** (0.027)	1.075*** (0.035)
Second stage:						
IMMIGRATION RATE	1.915* (1.047)	1.780** (0.910)	1.807* (0.989)			
UNACCOMPANIED MINORS IMMIGRATION RATE				1.365 (0.903)	1.432* (0.801)	1.249 (0.914)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
OBSERVATIONS	285	285	280	285	285	280
MEAN DEP. VAR.	5.32	5.32	5.32	5.32	5.32	5.32
F STATISTIC OF EXCL. INSTRUMENTS	23.37	23.92	23.18	188.71	252.23	189.27

*Note:* Subset exclusion sensitivity. Dependent variable: Percentage point change in SD vote share, 2014-2018. Specification (I): Dropping the five municipalities with the highest allocated refugee inflow rates. Specification (II): Dropping the five municipalities with lowest allocated refugee inflow rates. Specification (III): Dropping the five municipalities with the highest allocated refugee inflow rates and the five municipalities with the lowest allocated refugee inflow rates. The row MEAN DEPENDENT VARIABLE refers to the full sample. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10 %, 5% and 1% level, respectively.

TABLE A.6  
SUBSET EXCLUSION SENSITIVITY BASED ON ARIR, INCL. INTERACTION

	All refugees			Unaccompanied minors		
	(I)	(II)	(III)	(I)	(II)	(III)
IMMIGRATION RATE	2.055* (1.124)	1.923** (0.978)	1.948* (1.063)			
IMMIGRATION RATE × RIGHT-WING POPULIST 1994	0.587** (0.298)	0.560** (0.282)	0.562** (0.283)			
UNACCOMPANIED MINORS IMMIGRATION RATE				1.353 (0.906)	1.432* (0.803)	1.239 (0.916)
UNACCOMPANIED MINORS IMMIGRATION RATE × RIGHT-WING POPULIST 1994				1.703 (1.386)	1.804 (1.412)	1.804 (1.407)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
OBSERVATIONS	285	285	280	285	285	280
MEAN DEP. VAR.	5.32	5.32	5.32	5.32	5.32	5.32

*Note:* Subset exclusion sensitivity, including the interaction with previous anti-immigration sentiments. Second stage 2SLS results only. Dependent variable: Percentage point change in SD vote share, 2014-2018. Specification (I): Dropping the five municipalities with the highest allocated refugee inflow rates. Specification (II): Dropping the five municipalities with lowest allocated refugee inflow rates. Specification (III): Dropping the five municipalities with the highest allocated refugee inflow rates and the five municipalities with the lowest allocated refugee inflow rates. The row MEAN DEPENDENT VARIABLE refers to the full sample. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10 %, 5% and 1% level, respectively.

TABLE A.7  
SUBSET EXCLUSION BASED ON SD VOTE SHARES

	All refugees			Unaccompanied minors		
	(I)	(II)	(III)	(I)	(II)	(III)
First stage:						
ALLOCATED REFUGEE INFLOW RATE	0.568** (0.231)	0.494** (0.227)	0.649** (0.312)			
ALLOCATED UNACCOMPANIED MINORS INFLOW RATE				1.052*** (0.027)	1.051*** (0.027)	1.075*** (0.035)
Second stage:						
IMMIGRATION RATE	1.674** (0.826)	2.003* (1.065)	1.766* (0.912)			
UNACCOMPANIED MINORS IMMIGRATION RATE				1.457* (0.819)	1.505* (0.798)	1.429* (0.823)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
OBSERVATIONS	285	285	280	285	285	280
MEAN DEP. VAR.	5.32	5.32	5.32	5.32	5.32	5.32
F STATISTIC OF EXCL. INSTRUMENTS	23.79	23.49	23.31	233.20	243.73	225.94

*Note:* Subset exclusion sensitivity based on the 2014 SD vote share. Dependent variable: Percentage point change in SD vote share, 2014-2018. Specification (I): Dropping the five municipalities with the highest 2014 SD vote shares. Specification (II): Dropping the five municipalities with the highest 2014 SD vote shares. Specification (III): Dropping the five municipalities with the highest 2014 SD vote shares and the five municipalities with the lowest 2014 SD vote shares. The row MEAN DEPENDENT VARIABLE refers to the full sample.

Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10 %, 5% and 1% level, respectively.

TABLE A.8  
SUBSET EXCLUSION BASED ON SD VOTE SHARES, INCL. INTERACTION

	All refugees			Unaccompanied minors		
	(I)	(II)	(III)	(I)	(II)	(III)
IMMIGRATION RATE	1.780** (0.873)	2.172** (1.156)	1.888* (0.967)			
IMMIGRATION RATE × RIGHT-WING POPULIST 1994	0.536** (0.263)	0.592* (0.310)	0.538** (0.273)			
UNACCOMPANIED MINORS IMMIGRATION RATE				1.433* (0.820)	1.504* (0.801)	1.406* (0.825)
UNACCOMPANIED MINORS IMMIGRATION RATE × RIGHT-WING POPULIST 1994				1.737 (1.404)	1.700 (1.389)	1.742 (1.403)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
OBSERVATIONS	285	285	280	285	285	280
MEAN DEP. VAR.	5.32	5.32	5.32	5.32	5.32	5.32

*Note:* Subset exclusion sensitivity based on the 2014 SD vote share, including the interaction with previous anti-immigration sentiments. Second stage 2SLS results only. Dependent variable: Percentage point change in SD vote share, 2014-2018. Specification (I): Dropping the five municipalities with the highest 2014 SD vote shares. Specification (II): Dropping the five municipalities with the highest 2014 SD vote shares. Specification (III): Dropping the five municipalities with the highest 2014 SD vote shares and the five municipalities with the lowest 2014 SD vote shares. The row MEAN DEPENDENT VARIABLE refers to the full sample.

Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10 %, 5% and 1% level, respectively.

TABLE A.9.  
2SLS RESULTS, PERCENTAGES INSTEAD OF PERCENTAGE POINTS

	All refugees		Unaccompanied minors	
	(1)	(2)	(1)	(2)
IMMIGRATION RATE	18.458**	15.603**		
	(9.337)	(7.935)		
IMMIGRATION RATE × RIGHT-WING POPULIST 1994	3.898	4.382**		
	(2.430)	(2.220)		
UNACCOMPANIED MINORS IMMIGRATION RATE			11.209	14.042**
			(7.110)	(6.088)
UNACCOMPANIED MINORS IMMIGRATION RATE × RIGHT-WING POPULIST 1994			6.108	12.834
			(9.595)	(9.000)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	Yes	No	Yes
OBSERVATIONS	290	290	290	290
MEAN DEP. VAR.	38.80	38.80	38.80	38.80

*Note:* Second stage 2SLS results with the interaction with RIGHT-WING POPULIST 1994 included, percentage change in the SD vote share as dependent variable instead of percentage points. Dependent variable: Percentage point change in SD vote share, 2014-2018. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE A.10  
PROBIT RESULTS.

	All refugees		Unaccompanied minors	
	(1)	(2)	(1)	(2)
IMMIGRATION RATE	0.645***	0.662***		
	(0.248)	(0.219)		
IMMIGRATION RATE × RIGHT WING POPULIST 1994		0.249*		
		(0.134)		
UNACCOMPANIED MINORS IMMIGRATION RATE			-0.0309	-0.0458
			(0.778)	(0.692)
UNACCOMPANIED MINORS IMMIGRATION RATE × RIGHT WING POPULIST 1994				0.869
				(1.649)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes	Yes	Yes
OBSERVATIONS	290	290	290	290
MEAN DEP.VAR.	0.5	0.5	0.5	0.5

*Note:* Dependent variable: Binary variable taking the value 1 if the 2018 SD vote share was above the national average, 0 if not. Controls included for the 2014 values of population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, municipal tax rate, net domestic outflow rate, an indicator whether the municipality is located in the northern part of the country, the political color of the mayor between 2014 and 2018 and the 2014 SD vote share. A constant is included in all regressions. Jackknifed standard errors (290 replications) in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.



TABLE A.11  
ALTERNATIVE TESTS OF IDENTIFYING ASSUMPTIONS

	2010-14 difference			2014 level		
	Center-left	Center-right	Both	Center-left	Center-right	Both
$\Delta$ CENTER-LEFT VOTE SHARE 2010-2014	1.740 (2.698)		1.931 (3.315)			
$\Delta$ CENTER-RIGHT VOTE SHARE 2010-2014		-1.036 (3.346)	0.433 (4.095)			
CENTER-LEFT VOTE SHARE 2014				1.841 (1.240)		1.584 (1.617)
CENTER-RIGHT VOTE SHARE 2014					-2.212 (1.441)	-0.518 (1.738)
LEFT-WING MAYOR	2.532 (10.534)	2.198 (10.784)	2.477 (10.726)	-5.117 (12.484)	-3.183 (11.548)	-5.329 (12.437)
SD VOTE SHARE 2014	-0.913 (1.499)	-1.275 (2.202)	-0.778 (2.346)	-0.425 (1.697)	-1.177 (1.490)	-0.550 (1.835)
MUNICIPAL CHARACTERISTICS CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
ALLOCATION PARAMETERS INCLUDED	Yes	Yes	Yes	Yes	Yes	Yes
OBSERVATIONS	290	290	290	290	290	290
MEAN DEP. VAR.	209.84	209.84	209.84	209.84	209.84	209.84
$R^2$	0.9524	0.9524	0.9524	0.9528	0.9526	0.9528

*Note:* Test of identifying assumptions, with the vote shares of the Social Democrats (center-left) and the Moderate Party (center-right) Dependent variable: Cumulative number of allocated refugees, 2015-2017. Allocation parameters include population, unemployment, previously allocated refugees and the number of asylum seekers residing in the municipality. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE A.12  
 NATIVE EMPLOYMENT RATE AS THE MAIN INDEPENDENT VARIABLE

	(1)	(2)
$\Delta$ NATIVE EMPLOYMENT RATE	0.120 (0.120)	0.175 (0.111)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	No	Yes
OBSERVATIONS	290	290
MEAN DEP. VAR.	5.62	5.62
$R^2$	0.1505	0.2449

*Note:* OLS results with the difference in the native employment rate as the main independent variable of interest. Dependent variable: Percentage point change in SD vote share, 2014-2018. Specification (1): Controls included for 2014 values of population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, municipal tax rate, net domestic outflow rate, and an indicator whether the municipality is located in the northern part of the country. Specification (2): All previous controls augmented with the political color of the mayor between 2014 and 2018, and the 2014 SD vote share. A constant is included in all regressions. Robust standard errors clustered by municipality in brackets.

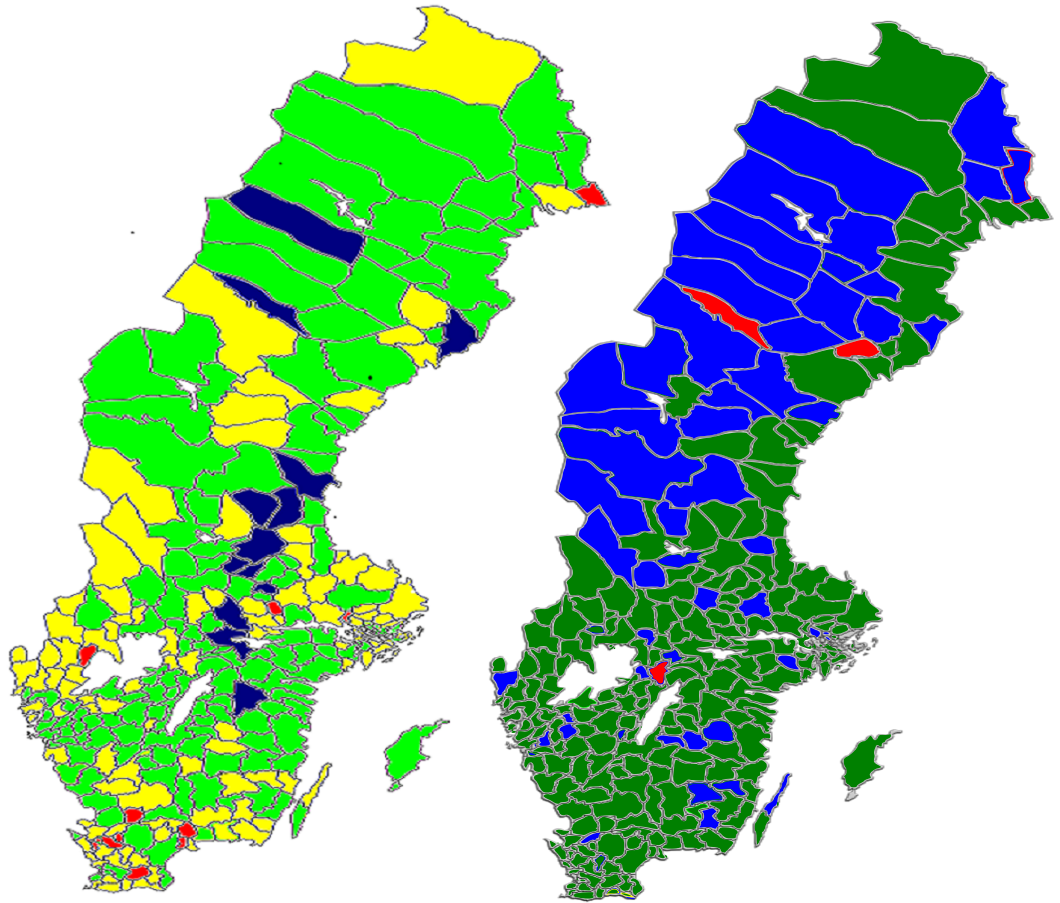
TABLE A.13  
TESTS OF THE CONTACT HYPOTHESIS

	2SLS estimates		OLS estimates
	All	Unacc.minors	
First stage:			
ALLOCATED REFUGEE INFLOW RATE	0.512** (0.227)		
ALLOCATED UNACCOMPANIED MINORS INFLOW RATE		1.050*** (0.027)	
Second stage:			
TOTAL IMMIGRATION RATE	1.952* (1.003)		
UNACCOMPANIED MINORS IMMIGRATION RATE		1.548* (0.792)	
TRANSIT MUNICIPALITY	1.413 (1.252)	0.175 (0.766)	0.039 (0.780)
MUNICIPAL CHARACTERISTIC CONTROLS INCLUDED	Yes	Yes	Yes
LOCAL POLITICAL CONTROLS INCLUDED	Yes	Yes	Yes
OBSERVATIONS	290	290	290
MEAN DEP.VAR.	5.12	5.12	5.12
F STATISTIC OF EXCL. INSTRUMENTS	21.95	230.76	
$R^2$			0.2393

*Note:* Dependent variable: Percentage point change in SD vote share, 2014-2018. Controls for 2014 values of population size, unemployment rate, log median income, share of residents with a migrant background, crime rate, net domestic outflow per capita, municipal tax rate, an indicator whether the municipality is located in the northern part of the country, as well as an indicator of the political color of the mayor between 2014 and 2018 included in all specifications. A constant is included in all regressions. Robust standard errors clustered by municipality in brackets. \*, \*\* and \*\*\* denote significance at the 10%, 5% and 1% level, respectively.

TABLE A.14  
SUMMARY STATISTICS FOR AUXILLARY VARIABLES

	Mean	Std.dev.	Min	Max
<i>Variables used for testing identifying assumptions</i>				
AVERAGE POPULATION, 2014-2016	34,015.55	70,204.36	2,453	923,708
AVERAGE UNEMPLOYMENT RATE, 2014-2016 (%)	7.73	2.78	2.37	15.14
AVERAGE NUMBER OF ALLOCATED REFUGEES, 2012-2014	27.91	24.52	0	180.67
AVERAGE NUMBER OF ASYLUM SEEKERS IN THE MUNICIPALITY, 2014-2016	309.62	436.34	12	4,731.68
$\Delta$ SD <sup>2010-2014</sup> (p.p.)	9.04	2.46	3.35	15.41
$\Delta$ TURNOUT (p.p.)	1.316	0.661	-1.2	3.7
<i>Variables used when calculating immigration rates</i>				
AVERAGE POPULATION, 2015-2017	34,444.15	71,237.36	2,453	936,299
<i>Variables used in Table A3</i>				
$\Delta$ S <sup>2014-2018</sup> (p.p.)	-4.77	2.71	-18.2	2.2
$\Delta$ M <sup>2014-2018</sup> (p.p.)	-2.84	2.18	-10.8	1.7
SOCIAL DEMOCRATIC PARTY VOTE SHARE 2014 (%)	35.03	8.73	6.8	58.1
MODERATE PARTY VOTE SHARE 2014 (%)	20.30	7.18	6.9	50.0
<i>Variables used for robustness checks</i>				
$\Delta$ SD <sup>2014-2018</sup> (percent)	38.80	14.35	5.33	94.91
$\Delta$ NATIVE EMPLOYMENT RATE, 2014-2018 (p.p.)	2.21	0.946	-1.2	5.8
TRANSIT MUNICIPALITY	0.0345	0.183	0	1



(a) Percentage point growth of the SD vote share, 2014-2018.

(b) Allocated refugee inflow rate.

Figure A1: The relationship between allocated refugee inflow rates and the percentage point growth of the SD vote share, 2014-2018. See next page for color tables.

