Department of
Economics

University of Pittsburgh
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WORKING PAPER SERIES

18/012

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September , 2018

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September 19, 2018

Abstract

Across Europe, far-right parties have made significant electoral gains in recent years, posing a serious threat to the European integration process. Their anti-immigration stance is considered one of the main factors behind their success. Yet, the causal evidence on how immigration affects far-right voting is still relatively scarce. Using data from Finland, this paper studies the effect of immigration on voting for the far-right Finns Party on a local level. Exploiting a convenient setup for a shift-share instrument, I find that one percentage point increase in the share of foreign citizens in municipality decreases Finns Party's vote share by 3.4 percentage points. A placebo test using pre-period data confirms this effect is not driven by persistent trends at the municipality level. The far-right votes lost to immigration are captured by the two pro-immigration parties. In addition, immigration is found to increase voter turnout while the protest vote remains unaffected. Turning to potential mechanisms, the negative effect is only present in municipalities with high initial exposure to immigrants. Moreover, I provide some evidence for welfare-state channel as a plausible mechanism behind the main result.

JEL Codes: D72, J15, J61, P16

Keywords: Immigration, far-right, political economy, voting

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1 Introduction

The popularity of far-right (sometimes also referred to as populist radical right)[1] parties across Europe has been rising rapidly in recent years. In December 2015, the *National Front* won the first round of the regional election in France. In December 2016, the *Freedom Party of Austria's* candidate lost presidential election only after a repeated runoff. In May 2017, National Front's leader Marine Le Pen captured a respectable 34 percent in the French presidential election runoff. And earlier this year, the *Northern League* placed third in the Italian general election, forming a populist coalition government with the *Five Star Movement*. Thus, it is clear that the far-right no longer belongs to the fringes of the European political spectrum. Moreover, latest political developments in Europe such as the upcoming *Brexit* (Britain's exit from the European Union) suggest that the surge of the far-right could have significant negative economic and political consequences for EU as a whole.

The rise of the far-right appears to be driven (in large part) by immigration. Virtually all far-right parties have strong anti-immigration platforms, a feature stemming from their ideology of ethno-nationalism (or nativism). According to Betz (2008), nativism is defined as a strong belief that different societies and cultures adopt entirely different values, which are neither inferior, nor superior, but essentially incompatible with each other. This ideology makes far-right parties both nationalistic and xenophobic, and in recent years also Islamophobic (Mudde, 2007). Since the early 1990s, Europe has experienced significant migration flows. First, the East to West migration from post-communist countries which began with the fall of the Soviet Union, and accelerated after the EU enlargements in 2000s. And in recent years, a large inflow of asylum seekers from Asia and Africa fueled by a number of armed conflicts. Both of these immigration shocks likely sparked nativist sentiments across the continent contributing to an unprecedented wave of electoral success among far-right parties.

This paper studies the effect of immigration on voting for the far-right on a local (municipality) level. The local effect of immigration, which can be very different from the national effect (e.g.

[1] The term far-right (or far right) is used in Betz (2008), Davies (2008), Ellinas (2010), Goodwin (2008), and Roxburgh (2002). The label populist radical right is preferred by Arter (2010) and Mudde (2007). Still, others use the terms right-wing populist (Norocel, 2016; Swank and Betz, 2002) or even extreme right (Carter, 2005; Ignazi, 2003). These different labels generally refer to the same party family.

national media, politicians), is theoretically ambiguous[2] and thus requires empirical examination. This study focuses on Finland, a country which had a single far-right party (*the Finns Party*) for nearly 25 years (1995-2017), but was long considered immune to the surge of the far-right seen in other European countries (Figure 1; Ellinas 2010; Goodwin 2008; Ignazi 2003). The period of study is 2006-2015. These years are characterized by both the historically largest inflow of foreign citizens into Finland (Figure 2; Koivukangas 2003), and a remarkable rise in Finns Party's popularity (Figure 1). Indeed, taken together, Figures 1 and 2 suggest a positive correlation between immigration and far-right voting on the national level. The analysis employs a novel panel dataset which spans 7 election years and 297 municipalities (all of mainland Finland). All types of national elections (i.e. parliamentary, presidential, and European parliamentary) are considered.

The sudden and unprecedented increase in immigration into Finland that followed the 2004 EU enlargement also provides an excellent setup for identification. The 2003 distributions of immigrants by continent of citizenship can be used to construct a "shift-share" instrument (Altonji and Card, 1991; Orrenius and Zavodny, 2015) to identify the effect of immigration on far-right voting. One thing that makes this instrument particularly convincing in this case is the change in immigrant composition that followed the 2004 enlargement. While the 1990s and early 2000s were characterized primarily by an influx of Ingrian Finns from the former Soviet Union and asylum seekers from countries such as Somalia and former Yugoslavia (Koivukangas, 2003), the 2004 and the subsequent EU enlargements brought in mostly economic migrants from Central and Eastern Europe. This minimizes the concern that IV results could be driven by a persistence of trends in anti-immigrant or pro-immigrant attitudes across municipalities.

Using the shift-share instrument, I find an economically meaningful and statistically significant negative effect of municipal in-migration of foreigners on Finns Party's vote share. The IV coefficient from the preferred specification suggests that one percentage point increase in the share of foreign citizens in municipality (68% of the mean) decreases Finns Party's vote share by about 3.35 percentage points (28% of the mean). A placebo test using pre-period (1996-2003) data confirms the IV estimate is not driven by persistent trends at the municipality level. To further validate the

[2]Group conflict theory (Sherif et al., 1961) and ethnic competition theory (Olzak, 1992) suggest a positive effect, while the intergroup contact theory (Allport, 1954) predicts the opposite. Economic theories of labor market competition and welfare-state are less clear-cut; the predictions depend on the precise characteristics of immigrants and natives (Scheve and Slaughter, 2001; Facchini and Mayda, 2012; Dustmann and Preston, 2007).

IV design, I re-estimate the main specification using a shift-share instrument constructed with 1991 immigrant distributions.[3] The resulting coefficient remains negative, statistically significant at 5%, and slightly larger in magnitude than the original estimate. Additional robustness checks such as a first-difference estimation, exclusion of potential outliers, and estimation with larger geographical units confirm the main result.

Considering the effect of immigration on voting for other parties, I find that the strongly pro-immigration *Green League* and *Swedish People's Party* gain votes. Indeed, their positive coefficients roughly add up to the negative estimate for the Finns Party. These positive effects are also relatively large; one percentage point increase in the foreign share increases Green League's vote share by 23% and Swedish People's Party's vote share by 57% with respect to the sample mean. Immigration also increases voter turnout (3% with respect to mean) while the share of protest votes remains unaffected.

Heterogeneity analysis reveals that the negative effect of immigration on Finns Party's vote share is only present in municipalities with above-median initial immigrant share. In addition, municipalities with below-median initial far-right vote share experience a larger reduction in Finns Party's support due to immigration than those above the median. However, I find no effect heterogeneity with respect to initial population size, density, level of education, or economic conditions. Finally, using the same shift-share instrument, I find a mild positive effect of immigration on municipality per capita personal income tax revenue, while there appears to be no effect on municipal per capita spending on social care, health care, and education. This evidence is consistent with welfare-state channel as a plausible mechanism behind the main result (Facchini and Mayda, 2012, 2009; Dustmann and Preston, 2007).

My analysis contributes to the growing economics literature on the effects of immigration on voting for the far-right and other anti-immigrant parties in Europe.[4] [5] Most studies find a positive

[3] Before any major immigrant inflow into Finland occurred.

[4] A number of correlational studies in political science have also considered the relationship between immigration and voting for European far-right parties. Results are mixed: positive association is found in Golder (2003), Swank and Betz (2002), and Anderson (1996); while Dülmer and Klein (2005), Messina (2007), and Kitschelt and McGann (1995) estimate a negative relationship.

[5] There is also a closely related economics literature on the determinants of natives' attitudes towards immigrants and their preferences over immigration policy. Two economic channels have been identified: the *labor market hypothesis* (Scheve and Slaughter, 2001; Mayda, 2006), and the *welfare-state channel* (Facchini and Mayda, 2012, 2009; Dustmann and Preston, 2007). In addition, a number of studies have considered non-economic channels such as xenophobia, crime, and cultural/national identity (O'Rourke and Sinnott, 2006; Nunziata, 2015; Mayda, 2006).

effect (Halla et al., 2017; Barone et al., 2016; Becker and Fetzer, 2016; Edo et al., 2018; Gerdes and Wadensjö, 2008; Harmon, 2012; Mendez and Cutillas, 2014; Otto and Steinhardt, 2014; Brunner and Kuhn, 2014). Halla et al. (2017) use a shift-share instrument to study the effect of immigrant inflow on voting for the Freedom Party of Austria (FPÖ). Their positive effect is driven by voters' fear of adverse labor market effects of immigration as well as a negative effect of immigrant inflow on local compositional amenities. In an Italian setting, Barone et al. (2016) find that foreign municipal inmigration increases vote share of the anti-immigrant center-right coalition (which includes the far-right Northern League). Proposed mechanisms in this study include cultural diversity, competition in the labor market and for public services, and political competition.

In contrast with the previous studies, Dustmann et al. (2016) use a quasi-random allocation of refugees into municipalities to study the impact of immigration on voting in Denmark. Documenting a large effect heterogeneity, the authors find that in all but the most urban municipalities, refugee inflow increases vote share of both anti-immigrant and center-right parties, while the vote share of center-left parties declines. However, in the most urban municipalities, refugee allocation actually decreases support for anti-immigrant parties.

Thus far, the (overall) negative effect of immigration on far-right voting has been documented only in Steinmayr (2018) who suggests that hosting refugees in Austrian municipalities dampened the overall positive trend in support for the Freedom Party (FPÖ). However, he also finds that the exposure to a large number of refugees passing through on their way to Germany actually increased FPÖ's vote share. These findings are largely consistent with Allport (1954)'s *intergroup contact theory*, suggesting that a meaningful contact between natives and immigrants can effectively ameliorate natives' anti-immigrant attitudes.

This paper makes several contributions to the existing literature. First, it is the first study to find a negative effect of the inflow of economic migrants on far-right vote share. By contrast, both Steinmayr (2018) and Dustmann et al. (2016) consider the exposure to refugees through refugee allocation schemes. In addition, Steinmayr (2018) evaluates the impact of a specific and relatively short-term event - the *European refugee crisis* - and considers only the extensive margin of immigration. This paper, on the other hand, focuses on the intensive margin and the study period spans 10 years and involves three types of national elections. Regarding Dustmann et al. (2016), the negative effect is present only in a subanalysis of the 5% largest and most urban

Danish municipalities (the subsample consists of only 26 observations). By contrast, I find no effect heterogeneity with respect to initial population size - the negative effect is present in municipalities both above and below the median initial population size.

Second, this study is one of the first to provide evidence of the welfare-state channel as a possible mechanism through which immigration affects far-right voting. This is particularly appealing given that Finland is a country with generous welfare system (managed primarily by municipalities), and thus native concerns about immigrant "benefit tourism" are especially relevant in this context. Previous papers have focused mostly on labor market and compositional amenities (Halla et al., 2017; Barone et al., 2016; Becker and Fetzer, 2016), cultural diversity (Barone et al., 2016), the intergroup contact theory (Steinmayr, 2018), and other non-economic aspects (Otto and Steinhardt, 2014). Otto and Steinhardt (2014) do consider welfare channel as well, but they provide only indirect evidence.

Third, this paper examines a broad set of electoral outcomes and indicators of voter behavior such as voting for other parties, voter turnout, and protest vote. A few previous studies have considered the impact of immigration on voter turnout. Barone et al. (2016) find a negative effect while Steinmayr (2018) finds no effect. Dustmann et al. (2016) find a positive effect but only in municipal elections, whereas I find an increase in turnout in context of the national elections. As far as the protest vote is concerned, the only other paper that considers it is Barone et al. (2016). While they find an increase in the share of invalid ballots in response to immigrant inflow, I find no effect on the protest vote.

Fourth, I explore a unique setting which is distinct from previous studies. Before the 2004 EU enlargement, Finland was a country with minimal immigrant inflow and very low popularity of the far-right party. However, the study period (2006-2015) is characterized by a significant increase in both the immigrant share and the Finns Party vote share on the national level. The negative local effect of foreign migration on Finns Party's vote share that I find therefore stands in stark contrast with the strong positive correlation observed on the national level.

The paper is organized as follows: Section 2 discusses the background. In Section 3, I describe the data and identification strategy. Results are presented in Section 4. Section 5 discusses the potential mechanisms. Section 6 concludes.

2 Background

2.1 The Finns Party

The Finns Party (previously known as the True Finns; Finnish: *Perussuomalaiset*, PS) was the single far-right party in Finland since its establishment in 1995 until it split into two in mid-2017. In 1997, its first chairman, Raimo Vistbacka, was replaced by Timo Soini who led the party until 2017. Following a series of unsuccessful elections, the party made a break-through into the mainstream Finnish politics during the 2009 European election when it gained 9.79% of total votes. In 2015 parliamentary election, the Finns Party finished as a runner-up and for the first time formed a coalition government with the Centre Party and the National Coalition Party. Soini became the Minister of Foreign Affairs and the Deputy Prime Minister of Finland. In June 2017, following the election of new a chairman, Jussi Halla-aho, the party split into two: the Blue Reform remained in the coalition government while the Finns Party went into opposition.[6] My study period (2006-2015) ends two years before the split occurred. The following description applies to the period of Finns Party's uniform existence.

According to Norocel (2016), some Finnish scholars argue that the party is not necessary a clear-cut case of far-right due to its strong left-leaning political agenda on economic matters. However, as Westinen (2014) points out, there is little doubt that the Finns Party is a nationalist-populist movement which combines ethno-nationalism and anti-elitism, typical features of far-right parties in Europe (Mudde, 2007).[7] This view is shared by Arter (2010) who claims that the notion of true Finnishness (*suomalaisuus*) is the pre-eminent concept of Finns Party's ideology. Finally, Yla-Anttila and Yla-Anttila (2015) underline the points mentioned above suggesting that the Finns Party's ideology combines a populist defense of a common man against corrupt elites, a defense of welfare state against market-led policies, and a nationalist defense of the sovereignty and unity of the Finnish people against immigration and federalist tendencies of the European Union. These points clearly suggest that the Finns Party can be considered a member of the European far-right

[6] The Finns Party (official website): `https://www.perussuomalaiset.fi/`

[7] According to Mudde (2007), European far-right parties share three common ideological features: ethno-nationalism, populism, and authoritarianism. Populism considers society to be ultimately separated into two groups, "the pure people" and "the corrupt elite", and argues that politics above all should be expression of the will of the people. Authoritarianism is defined as a disposition to glorify, to be subservient to and remain uncritical toward authoritative figures of the ingroup (hence the reason why far-right parties are typically led by authoritative leaders such as Le Pen, Wilders, Soini, etc.).

family.

The party has a strong anti-immigration platform, as described in the following statement from its 2015 parliamentary election campaign pamphlet:

> *Immigration will change, irreversibly, the host country's population profile, disrupt social cohesion, overburden public services and economic resources, lead to the formation of ghettoes, promote religious radicalism and its consequences, and foster ethnic conflicts. [...] It can still be possible to avoid the immigration disasters of Sweden, France and the United Kingdom but it will require a determined policy and clear legislation (Source: The Finns Party's Immigration Policy, 2015).*

Moreover, according to the Chapel Hill Expert Survey (CHES) data, which describes policy and ideological positions of national political parties in the EU, the Finns Party has been the sole anti-immigrant party in Finland since 2006. As Table 1 suggests, throughout the study period, the party was consistently in favor of a tough immigration policy while strongly opposing multiculturalism (advocating for immigrant assimilation instead). In addition, immigration policy was a very salient topic in Finns Party's manifestos (Table 1, column 4). Table 1 also reveals that none of the other main parties were anti-immigrant throughout the study period.

2.2 Other political parties in Finland

There are seven main political parties in Finland (other than the Finns Party): *Social Democratic Party (SDP)*, *Centre Party (Kesk)*, *National Coalition Party (Kok)*, *Green League (Vihr)*, *Swedish People's Party (SFP/RKP)*, *Christian Democrats (KD)*, and *Left Alliance (vas.)*. The first three (SDP, Kesk, Kok), each founded over a century ago, have traditionally been the strongest parties regularly placing on top of the electoral lists.[8] SDP is a moderate center-left social democratic party, while Kesk is centrist and Kok center-right, both of them having a liberal-conservative ideology (source: European Election Database). Although none of the seven parties were anti-immigrant during the study period, two of them - Green League and Swedish People's Party - did have strong pro-immigration platforms. Indeed, as Table 1 shows, between 2006 and 2014, Vihr and SFP/RKP

[8] In recent years, before the 2017 split, the Finns Party briefly joined this "elite" club.

had low scores on both *Immig. policy position* and *Multiculturalism*, indicating an opposition to tough immigration policy as well as a preference for multiculturalism. Moreover, as with the Finns Party, Vihr and SFP/RKP both considered immigration policy to be a very important topic in political discourse (Table 1, column 4).

2.3 National elections in Finland

Parliamentary elections

Parliament of the Republic of Finland (*Eduskunta*) is unicameral, composed of 200 members directly elected by people for a 4-year term. Seats in the parliament are distributed among 13 electoral districts (or constituencies) in proportion to their populations 6 months prior to election. This means that each constituency effectively holds its own parliamentary election. Candidates may be nominated by political parties or constituency associations (founded by at least 100 enfranchised persons from the same constituency). MPs are then chosen based on the number of votes they receive as well as the number of votes received by their party (or constituency association). Elections take place on the third Sunday in April, and voting can take place either in advance or on election day.[9] Eligible to vote are all Finnish citizens aged 18 or above regardless of their domicile (Ministry of Justice 2010).

Presidential elections

The President of the Republic of Finland is elected in a direct vote for a 6-year term. Each presidential candidate must be a native-born Finnish citizen, and no individual can stay in the office for more than 2 consecutive terms. Candidates are nominated by parties that have currently at least 1 seat in the parliament, or by constituency associations established by at least 20,000 people entitled to vote. The election proceeds in one or two rounds, the second round being essentially a runoff between the two most successful candidates from the first round. The second round takes place only if no candidate gains more than 50% of all votes in round 1. Each presidential election is held on the fourth Sunday of January (round 1), with the second round taking place two weeks later. Voting eligibility is the same as in parliamentary elections; advance voting is also allowed

[9] An exception is the 2007 parliamentary election which was held on March 18 due to the 100th anniversary of the first Finnish parliamentary election (March 15-16, 1907).

(Ministry of Justice 2010).

European elections

As a member of the European Union, Finland can elect Members of the European Parliament (MEPs) who serve 5-year terms. The number of Finnish MEPs is determined by the ratio of Finnish population to the population of the whole EU (Finland has had 13 MEPs since 2009, 14 between 1999 and 2009, and 16 from 1996 to 1999). Candidates for the European Parliament are nominated by political parties or constituency associations (established by at least 2000 people), and voting proceeds as in the parliamentary elections. In contrast with parliamentary elections though, each candidate for an MEP enters the European election for the entire country. The election day is generally the second Sunday in June (Ministry of Justice 2010).[10]

2.4 Immigration into Finland

Historically, Finland has been characterized by emigration (Sarvimäki, 2011). From the end of the World War II until the early 1970s, the country attracted very few migrants. Although immigration increased in the 1970s, throughout the 1970s and 1980s some 85 percent of immigrants were return migrants coming mostly from Sweden. A small number of refugees from Vietnam and Chile also arrived during this period (Triandafyllidou and Gropas, 2008). It was not until the 1990s that Finland experienced a major inflow of foreign citizens (Koivukangas, 2003). As Figure 2 suggests, the first significant wave of foreigners began arriving in 1991 and was caused by the dissolution of the Soviet Union and the civil wars in the (former) Yugoslavia and Somalia. Ingrian Finns from Russia and Estonia and asylum seekers from Yugoslavia and Somalia made up the largest foreign immigrant groups in Finland throughout the 1990s (Koivukangas, 2003). Due (in part) to a restrictive refugee policy,[11] the fraction of population with foreign citizenship remained below 2% until 2003, one of the lowest in the EU during this period (Figure 3; Koivukangas 2003).

As Figure 2 depicts, migration flow of foreign nationals into Finland increased dramatically in

[10] Although there are exceptions: the 1996 election was held on October 20, while the 2014 election took place on May 25.

[11] The annual refugee quota was 500 throughout the 1990s. In 2001, the quota was raised by the Finnish Parliament to 750. In recent years, due to an ongoing civil war in Syria, Finland has admitted more than a thousand quota refugees per year (Source: Finnish Immigration Service).

the late 2000s. In May 2004, the European Union accepted ten new member states (EU8 plus Malta and Cyprus).[12] This historic enlargement was followed by the accession of Bulgaria and Romania (January 2007), and later Croatia (July 2013). Due to fears of mass migration of workers induced by the large economic disparities between East and West, EU member states agreed upon the so called *transitional restrictions*. These restrictions allowed each old member to postpone the opening of its labor market to the new members for a period of up to seven years. Finland opened its labor market to Malta and Cyprus immediately in 2004, but chose to wait until May 2006 for all EU8 countries. For Bulgaria, Romania, and Croatia, the work-related immigration restrictions were lifted immediately upon their EU accession in January 2007 and July 2013, respectively (Pytliková, 2014). Thus, while the 2004 enlargement already induced some inflow of foreigners (such as students) from Central and Eastern Europe, the two main immigration-inducing shocks were the 2006 and 2007 labor market openings. The period 2006 onwards is indeed the time of the largest immigrant inflow in Finnish history, and therefore it is the focus on this study (see Figure 2; Koivukangas 2003). As Figure 4 confirms, the vast majority of incoming foreigners during this time were European citizens, primarily economic migrants from the new EU member states in Central and Eastern Europe.

In the last couple of years, Finland has also witnessed a sizable inflow of asylum seekers from Northern Africa and Middle East. However, since the last national election in Finland took place in mid-2015, my study period ends at the onset of the recent European refugee crisis, before any significant number of asylum seekers arrived in Finland.

3 Data and empirical strategy

3.1 Data

The empirical analysis uses a municipality-by-election year panel dataset with 7 election years (2006-2015) and 297 municipalities. The following elections are used in the study: 2007, 2011, 2015 parliamentary elections; 2006, 2012 presidential elections (first round only); 2009, 2014 European elections. The Finns Party's candidate in both presidential elections was its leader, Timo

[12] EU8 refers to the following countries: Czech rep., Poland, Hungary, Slovenia, Slovakia, Estonia, Latvia, and Lithuania.

Soini, who was eliminated in the first round in both cases. Municipal elections are not used in the analysis since any foreigner with a permanent residency in a given municipality is eligible to vote in that municipality's local election.[13] A similar concern arises with European elections since non-Finnish EU citizens with a municipality of residence in Finland are eligible to vote for Finnish MEPs (Ministry of Justice 2010). Figure 5 plots the distribution of the share of votes cast by non-Finnish EU citizens across all municipalities in the 2014 European election. The histogram shows that almost 35% of municipalities had no foreigners casting a vote.[14] Moreover, almost all municipalities are located below the 0.5% mark meaning the proportion of foreign votes cast in most cases was negligible. Histogram generated for the 2009 European election (available upon request) shows distribution that is even more skewed to the right. Nevertheless, as an additional robustness check I exclude the 2009 and 2014 European elections from the analysis.

Spatially, the analysis extends to all of mainland Finland; excluded are only the Åland Islands (16 municipalities). Åland is a Swedish-speaking autonomous region that belongs to Finland and is located between continental Finland and Sweden. Its population makes up roughly 0.5% of the country's total population (sources: Statistics Finland, Statistics and Research Åland). Although the region has its own parliament, the people of Åland also elect one member of the Finnish Parliament in every national parliamentary election. However, the Islands have their own political parties and so voting for the Finns Party is not an option. Moreover, since the region is not only linguistically but also culturally Swedish, it would not be appropriate to include these municipalities in the same analysis with the rest of the country.[15]

In past 12 years, the number of municipalities in Finland has been steadily shrinking to 313 (as of January 1, 2016). Municipality changes were mostly merges of two (or more) municipalities together. Information on all changes was provided by The Association of Finnish Local and Regional Authorities as well as Statistics Finland. The panel dataset is constructed using the 2016 municipality format. The dependent variable in the analysis is the Finns Party's share of valid votes. The independent variable of interest is the share of foreign citizens in a municipality. The analysis also includes the following municipality-specific time-varying controls that likely affect voting for the Finns Party: log of total population, population density (per km^2), share of females in adult

[13] Data on the number of foreign votes cast in local elections (overall and for individual parties) is not available.
[14] 102 out of 297 municipalities (34.3%) had exactly 0 foreign votes in 2014 European election.
[15] The Office of Åland website: `http://www.aland.ax/en/facts-about-aland/`.

population, share of population (25-64) with tertiary education, share of aged 65+ in adult population, ratio of skilled to unskilled labor (in population aged 20-64), total crime rate (per 100,000), unemployment rate and media household disposable income (per consumption unit). More details about the covariates are reported in Section A of the Appendix. All data comes from Statistics Finland's public-use StatFin database.

A potential pitfall with using election vote share is *naturalization*, a process through which most foreigners without family ties to Finnish citizens obtain Finnish citizenship. Since naturalized Finns are de facto foreigners, a significant number of votes from these individuals will contaminate the dependent variable. However, as Gozdecka (2013) points out, Finnish citizenship has been a rather exclusive good aimed at foreign nationals who have put substantial effort into finding employment in Finland, learning Finnish language, and integrating themselves into Finnish society. This is indeed reflected in the total number of Finnish citizenships granted (as a share of country's population), which in its peak in 2012 was only 0.17% and has been declining ever since.[16] Thus, although the problem with naturalization cannot be completely ruled out, anecdotal evidence suggests that the number of naturalized Finns is not high enough to alter the results.

3.2 Baseline fixed effects specification

The baseline empirical specification is the fixed effects model of the form:

$$\text{Far-right}_{i,t} = \alpha + \beta\ \text{Foreign}_{i,t} + X'_{i,t}\gamma + \lambda_t + \mu_i + \epsilon_{i,t} \tag{1}$$

where $\textit{Far-right}_{i,t}$ is the Finns Party's share of valid votes in municipality i and election year t. All elections used in the estimation take place in the first half of the year. The independent variable of interest, $\textit{Foreign}_{i,t} = \left(\frac{\#\textit{of Foreign Citizens}_{i,t}}{\textit{Population}_{i,2003}}\right)$, is the share of foreign citizens (as % of population in 2003) in municipality i and election year t. The foreign share is measured on the first day of the calendar year. As commonly done in immigration literature, I standardize the number of foreigners

[16] Statistics Finland: StatFin database (All vital statistics by area 1987-2015, Citizenships granted according to country of previous citizenship 1990-2015). This number includes citizenships granted via all means, including naturalization. Thus, if only naturalizations were counted, the number would be even lower.

by the population in the base year of the IV (discussed later). Population at t is not used since it is likely endogenous to immigration. $X_{i,t}$ represents the set of municipality-specific time-varying controls mentioned earlier. Since covariate values at time t are potential mechanisms through which immigration affects far-right vote share, I include them as one calendar year lags instead. The main specification also includes a full set of municipality fixed effects (μ_i) to capture municipality-specific time-invariant determinants of Finns Party's vote share, and election year fixed effects (λ_t) to control for year-specific shocks that equally affect all municipalities (e.g. 2009 Eurozone sovereign debt crisis). Finally, the preferred specification also includes region-by-election year fixed effects to control for local business cycles and other year-specific shocks that affect equally all municipalities within the same administrative region. Table 2 provides the descriptive statistics for all variables.

OLS estimation of equation (1) will likely suffer from endogeneity issues arising from sorting among both natives and immigrants. An inflow of immigrants into a municipality may trigger an outflow of natives who face direct labor market competition (Borjas, 2006). Also, as immigrants move in, natives who are anti-immigrant for non-economic reasons may decide to leave. A disproportionate number of natives who leave might therefore consist of far-right voters, in which case the OLS estimate will be biased downwards. On the other hand, pro-immigrant natives who derive positive utility from living in a diverse community could decide to move in together with the immigrants. Such inflow of natives who arguably do not support the Finns Party would bias the OLS estimate downwards as well.

Immigrants may decide to avoid anti-immigrant far-right strongholds, or leave municipalities that become hostile towards them. This reverse causality would bias OLS downwards. As Borjas et al. (1996) suggest, immigrants may also cluster in areas with better socioeconomic conditions which are less supportive of the far-right, resulting in a downward bias as well. On the other hand, as Halla et al. (2017) point out, if a community is hit by a negative economic shock which depresses housing prices, it may actually attract immigrants. If this shock also shifts voters' preferences to the far right, the resulting bias will be positive.

3.3 Identification

To identify the causal effect of interest, I employ instrumental variable approach using a "shift-share" IV (Altonji and Card, 1991). This instrument is based on an observation that immigrants

tend to cluster in ethnic enclaves set up decades ago. My analysis uses a version of the instrument proposed by Orrenius and Zavodny (2015). More specifically, I first determine the distribution of foreigners by continent of citizenship across mainland Finnish municipalities in 2003 (base year). Then, for each of the election years in 2006-2015, the total national[17] counts of foreign citizens are distributed according to the 2003 distributions. The instrument has the form:

$$\widehat{\text{Foreign}}_{i,t} = \frac{\sum_{j=1}^{6} \text{Foreign}_t^j * \text{Share in i}_{2003}^j}{\text{Population}_{i,2003}} \tag{2}$$

where $\widehat{Foreign}_{i,t}$ is the predicted share of foreign citizens in municipality i in election year t, $Foreign_t^j$ is the number of foreign citizens from continent j in mainland Finland in election year t, and *Share in* i_{1991}^j is the share of foreigners with continent of citizenship j in municipality i in 2003. As the summation indicates, immigrants are divided into 6 groups based on their citizenship (each groups roughly corresponds to a continent): EU27 Europe,[18] non-EU Europe, Africa, Asia, America (North, Central, and South America combined), and Oceania.

For the instrument to be valid, the predicted share of foreigners can affect Finns Party vote share only through its direct effect on the actual share of foreigners. 2003 is chosen as the base year because it precedes the 2004 EU enlargement and the subsequent inflow of Central and Eastern European migrants. Moreover, it marks a change in the composition of immigrants coming into Finland (from asylum seekers to economic migrants). Thus, conditional on covariates and fixed effects, the 2003 distributions are unlikely to be correlated with unobservable predictors of anti-immigrant attitudes and Finns Party popularity after 2006. As an additional robustness check, the IV analysis was re-estimated using 1991 as the base year (15 years before my study period). Since immigration of foreigners into Finland was minimal before 1991, the results from this alternative IV estimation serve as further evidence validating the exclusion restriction of the original instrument.

The IV estimates could still be invalid if there is a persistence of municipality-specific trends in pro-immigrant and/or anti-immigrant attitudes. The inclusion of the region-by-election year fixed effects mitigates this concern. In addition, I conduct a placebo test with pre-period election data (1996-2003) to directly test for such persistence. Finally, if natives "vote with their feet" and if this native sorting after 2006 is correlated with the baseline immigrant distributions, IV estimate will

[17] The term "national" refers to mainland Finland.

[18] This definition includes all 27 current members of the European Union (excluding Finland).

be biased. I therefore re-estimate equation (1) using the same IV approach, but larger geographical units (administrative subregions and regions). A significant change in the IV coefficient will indicate a presence of such bias. In addition, I conduct a direct test of native sorting using an approach proposed in Peri and Sparber (2011).

4 Results

4.1 Main results

Table 3 presents main results. First three columns include OLS estimates of eq. 1 while the last three contain IV coefficients. The coefficient of interest is negative and remains significant at 5% in all specifications. The OLS estimates are fairly small in magnitude (5-11% with respect to the sample mean). The IV coefficients are roughly 2-5 times larger than OLS depending on the specification. First-stage results (Table A.1) confirm the instrument is strong; the Kleibergen-Paap rk Wald F-statistic (22.77) exceeds the Stock-Yogo 10% maximum IV size critical value even in the full specification. The IV coefficient from the preferred specification (last column) suggests that one percentage point increase in the share of foreigners in a municipality (68% of the mean) decreases Finns Party's electoral support by about 3.35 percentage points (28% of the mean). Put differently, one standard deviation increase in the foreign share decreases Finns Party's vote share by 0.58 standard deviations. The large magnitude implies an economically important effect.

The difference between the OLS and IV estimates is likely caused by attenuation bias arising from measurement error in the main independent variable. As Angrist and Pischke (2008) explain, if the measurement error is random, the OLS coefficient will be biased towards zero. An instrumental variable approach can correct for this bias. In context of immigration, Aydemir and Borjas (2011) suggest that the attenuation bias arising from even a small measurement error can be significant if the model includes a large number of fixed effects. That is indeed the case here. Results in Section 4.4 lend further credibility to the idea of attenuation bias. Using the same IV to estimate the effect of immigration on other electoral outcomes (e.g. voter turnout, other parties' vote share), I find that in every specification, the OLS estimate is attenuated towards zero, regardless of the coefficient sign (see Section 4.4 for more details).

4.2 Robustness checks and placebo test

I conduct a series of robustness checks to test the sensitivity of the IV estimates. Results are reported in Appendix B. Using 1991 (instead of 2003) as the base year for the instrument slightly increases the magnitude of the IV estimates, although the standard errors increase as well due to a weaker first stage (Table A.2). In addition, the IV estimates are robust to the exclusion of European elections (Table A.3), the exclusion of 9 largest municipalities as potential outliers (Table A.4), and the estimation of a first-difference specification instead of the fixed-effects model (Table A.5). Finally, I re-estimated the model separately for each election type (parliamentary, presidential, European). The coefficient on immigrant share is negative, statistically significant, and with comparable magnitudes across the three specifications suggesting that the negative effect is not limited to a specific type of national election (Table A.6).

A natural concern with a shift-share instrument is that persistent trends at the municipality level may be correlated both with the IV and the outcome of interest. To partially address this endogeneity concern I conduct a placebo test using pre-period election data. In particular, I estimate the following cross-sectional specification using OLS:

$$\Delta\text{Far-right}_{i,1996-2003} = \alpha + \beta\ \Delta\widehat{\text{Foreign}}_{i,2006-2015} + \phi_r + \epsilon_i \tag{3}$$

where $\Delta \textit{Far-right}_{i,1996-2003}$ is the level change (or % change) in Finns Party's vote share in municipality i between 1996 and 2003, and $\Delta\widehat{\textit{Foreign}}_{i,2006-2015}$ is the level change (or % change) in the IV (using 2003 as baseline) in municipality i between 2006 and 2015. The regression also controls for region fixed effects (ϕ_r). Results of the placebo test are presented in Table 4. Reassuringly, a lack of any statistically significant correlation supports the validity of the IV's exclusion restriction.

4.3 Direct test of native sorting

As noted earlier, another threat to identification comes from immigrant-induced native mobility. Different specifications have been suggested to test for it.[19] Peri and Sparber (2011) evaluate each of these specifications using simulated data and find that some of them have built-in biases. They

[19] Among others Borjas (2006), Card (2001), Card (2007), and Cortes (2008).

suggest estimating the following model which is based on Card (2007):

$$\left(\frac{\mathrm{N}_{i,t}-\mathrm{N}_{i,t-1}}{\mathrm{Pop}_{i,t-1}}\right)=\alpha+\beta\left(\frac{\mathrm{F}_{i,t}-\mathrm{F}_{i,t-1}}{\mathrm{Pop}_{i,t-1}}\right)+\phi_i+\lambda_t+\epsilon_{i,t} \tag{4}$$

where $N_{i,t}$ is the number of Finnish citizens in municipality i and election year t, and $N_{i,t-1}$ is the number of Finnish citizens in i in $t-1$ (i.e. one calendar year before t). Similarly, $F_{i,t}$ and $F_{i,t-1}$ refer to the number of foreign citizens in i at t and $t-1$, respectively. $Pop_{i,t-1}$ is the total population in municipality i in $t-1$. The specification also controls for municipality fixed effects (ϕ_i) and election year fixed effects (λ_t). The coefficient of interest is β and its interpretation is as follows: $\beta > 0$ means there is an attraction between natives and immigrants, while $\beta < 0$ suggests a native outflow in response to the inflow of immigrants. Sá (2014) further points out that OLS estimation of eq. (4) will likely lead to an upward bias in the estimate of β, since unobserved factors that attract immigrants into municipality could also attract natives. Therefore, I estimate (4) using the same shift-share instrument as before (with minor adjustments).[20] Eq. (4) is estimated using both municipality-level and subregional-level data, where 67 subregions approximate local labor markets. Results (OLS and IV) are presented in Table 5. All four coefficients are insignificant suggesting that immigration did not induce native mobility.

Another way to confirm that native sorting does not bias the main IV estimates is to re-estimate eq. (1) using larger geographical units (subregions and regions). Mainland Finland consists of 18 administrative regions. The required underlying assumption states that if natives are mobile, they will sort within regions but not across regions (due to family ties and other costs of moving). Estimation results are shown in Table A.7. All three estimates are negative and statistically significant. The regional-level coefficient is smaller in magnitude than its municipality-level counterpart, but the coefficients are not statistically different from one another. The subregional-level coefficient, if anything, is larger in magnitude than the municipality-level estimate. This mitigates the concern that native sorting and spillover effects confound my analysis.

[20] The instrument distributes national net flows of immigrants by continent between $t-1$ and t, based on the 2003 distributions. The predicted net flow of immigrants in i between $t-1$ and t is then standardized by population in $t-1$.

4.4 Immigration and voting for other parties, voter turnout, and protest vote

An important aspect of any election study is understanding which parties benefit from one party's loss of votes. In context of my analysis, this means finding out which parties gained the votes Finns Party lost due to immigration. Thus, I re-estimated eq. (1) using vote share of every main party as the dependent variable.[21] Table 6 presents the results. As expected, the two parties that gained votes were the pro-immigration Green League and Swedish People's Party. Their positive coefficients indeed add up to the size of the Finns Party's negative coefficient. Moreover, the relative gains of these two parties were large, especially for the Swedish People's Party (57% with respect to the sample mean).

Finally, to obtain a complete picture of the native voting behavior, it is important to consider the impact of immigration on voter turnout (share of eligible voters who cast ballot in election) and protest vote (fraction of total ballots that are invalid). As Table 7 shows, foreign municipal in-migration increased voter turnout although the effect was small (3%). Protest vote was not affected. This suggests immigration induced natives' participation in the election process, potentially activating anti-far-right voters who would otherwise not vote. It is also worth noting that the OLS counterparts to all coefficients in Tables 6 and 7 are smaller in magnitude (see Tables A.8 and A.9), suggesting the presence of attenuation bias due to measurement error in the share of foreign citizens.

5 Heterogeneity analysis and potential mechanisms

In order to shed some light on the potential mechanisms through which immigration reduces Finns Party's support, I test for the heterogeneity in the effect with respect to various initial conditions. In particular, first, the sample is split based on the values of initial conditions (i.e. population, population density, immigrant share, Finns Party's vote share, share of tertiary educated, skill ratio, median household income, unemployment rate)[22] into those above and those below the median. Then, separately for each initial condition, the share of foreign citizens is interacted with the above-median/below-median dummies. All regressions are estimated using the same IV as before. Results

[21] Left Alliance is not considered as it did not participate in all elections during the study period.

[22] Measured at the beginning of 2004. Finns Party's vote share is taken from 2003 parliamentary election since 2004 European election took place after the EU enlargement.

are reported in Table 8. The strong negative effect is present across municipalities regardless of their initial size, density, level of education, skill ratio, median income, and unemployment rate. The coefficient is remarkably stable across different specifications both in terms of its magnitude and statistical significance. However, columns (3) and (4) do show some heterogeneity in the effect, since in both cases, the hypothesis that the two coefficients are equal can be rejected. Column (4) suggests that municipalities with higher pre-existing support for the far-right experienced a smaller reduction in anti-immigrant attitudes than the municipalities where Finns Party was less popular to begin with. However, the effect of immigration on high-nationalist municipalities is still negative and sizable, suggesting that inflow of immigrants even into the far-right "strongholds" can ameliorate natives' attitudes towards foreigners.

The most interesting result of Table 8 is presented in column (3). The negative effect of immigration on Finns Party's vote share is found only in municipalities with high pre-existing immigrant share. In other words, places where natives are already living side-by-side with immigrants are the ones that experience a reduction in anti-immigrant attitudes as a result of further immigrant inflow.

Another potential mechanism that could explain my main finding is the welfare-state channel. There are two possible policy scenarios through which immigration affects welfare system of the host country. On one hand, migration can lead to changes in tax rates while per capita benefits are kept constant (*tax adjustment model*). On the other hand, tax rates might remain unchanged while per capita benefits adjust (*benefit adjustment model*). Under both scenarios, if immigrants are, on average, net contributors to the system (i.e. their tax contributions exceed the amount of social assistance they receive), both high-skilled and low-skilled natives will likely benefit from the presence of foreign workers due to a positive welfare spillover (Facchini and Mayda, 2012, 2009). Therefore, an influx of such immigrants can ameliorate natives' attitudes towards them, and thus make natives less supportive of the anti-immigrant Finns Party.

In the absence of any individual-level data on immigrant tax contributions and social assistance program take-up, I turn to municipality-level data instead. Using data from 2006-2010 (including non-election years), I consider the effect of immigration on municipal tax revenue and spending.[23] The analysis uses the same IV as the main estimation. I find a small positive effect of municipal

[23]Data comes from Statistics Finland's database titled *Economic data reported by municipalities and joint municipal boards*. Only limited data is available after 2010.

in-migration of foreign citizens on per capita personal income tax revenue (2.5%), although the coefficient is statistically significant only at 10% (Table 9, column 2). On the other hand, there is clearly no effect of immigration on per capita property tax revenue or corporate tax revenue (Table 9, columns 3 and 4).

The provision of social welfare in Finland is delegated to individual municipalities (source: Ministry of Social Affairs and Health). As Hytti and Paananen (2003) explain, immigrants with a resident permit valid for at least a year have the same rights to social security (i.e. unemployment benefits, family benefits linked to childbirth and child-rearing, and income support) as the native population. As Table 9, column (5) suggests, immigration had virtually no effect on municipal per capita spending on social and health care services. In addition, there is no effect of immigration on per capita spending on education and cultural activities. These findings suggest that an inflow of foreigners into a municipality did not overburden the provision of social welfare and other public services. Together with the positive effect on municipal income tax revenue, this suggests that welfare-state channel appears to a plausible mechanisms explaining the main finding.

6 Conclusion

This paper uses a novel panel dataset to study the effect of immigration on voting for the far-right Finns Party in Finland. Using instrumental variable approach based on previous settlement patterns of immigrants, I show that municipal in-migration of foreign citizens has a statistically significant and sizable negative effect on Finns Party's electoral support. In particular, one percentage point increase in the share of foreign citizens in municipality decreases Finns Party's vote share by 3.5 percentage points (28% of the mean). This result runs contrary to most findings in the previous literature. Placebo test using data from a pre-period suggests that the negative effect is not driven by persistent trends at the municipality level. The votes Finns Party loses due to immigration are captured by the two pro-immigration parties - the Green League and the Swedish People's Party. In addition, immigration increases voter turnout while protest vote remains unaffected. The main result is robust to heterogeneity with respect to a number of initial socio-economic conditions such as median population, level of education, and unemployment rate. However, there is some effect heterogeneity with respect to initial far-right support and immigrant

share. Places that started with above-median far-right vote share experienced a smaller reduction in Finns Party's support due to immigration, although the estimated effect in these municipalities is still negative and statistically significant. In addition, immigration reduced far-right popularity only in municipalities with above-median initial immigrant share suggesting that the level of initial immigrant exposure matters. Finally, I provide some evidence for welfare-state channel as a potential mechanism through which immigration affects voting for the far-right. In particular, I find that foreign migration increases per capita municipal personal income tax revenue, while per capita spending on social, health care, and education remain unaffected.

Given the serious nature of the threat far-right parties pose to the European integration process, Europe's security (with respect to ongoing Russian aggression), and potentially even the future of liberal democracy, the role of far-right parties in Western societies remains one of the most important topics of the public debate in Europe today. This paper contributes to the debate by presenting a unique case study showing that under some conditions, local immigrant inflow can actually reduce far-right popularity. To better understand the complexity of the relationship between immigration and far-right voting, future research needs to carefully address the interplay between micro-level and macro-level exposure to immigrants, and how these two, independently and together, affect far-right popularity.

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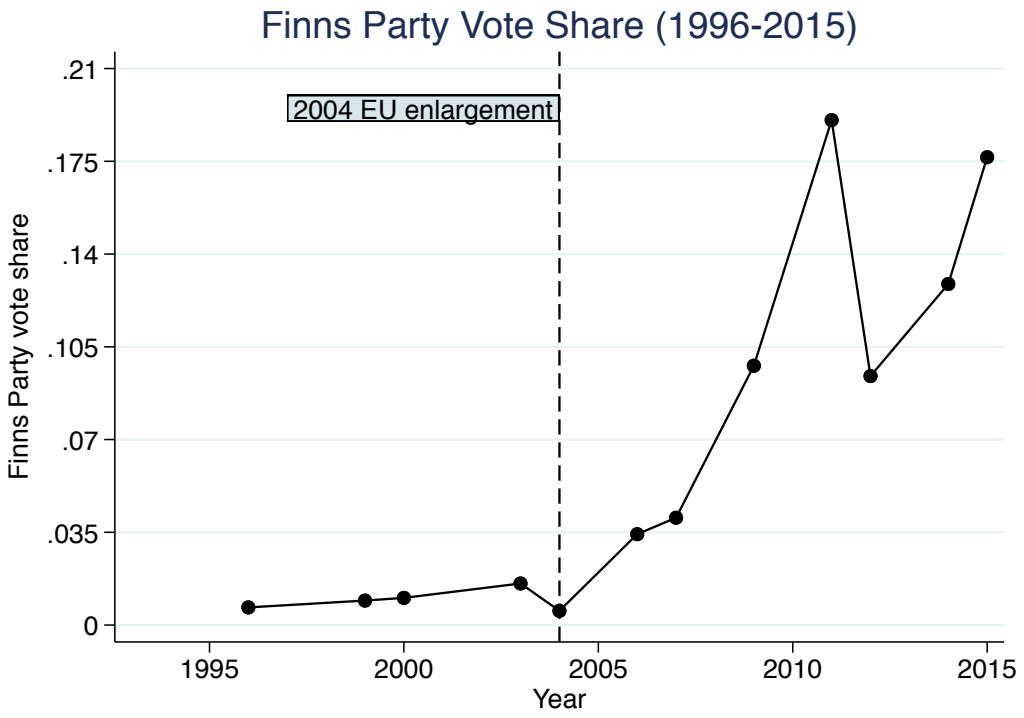
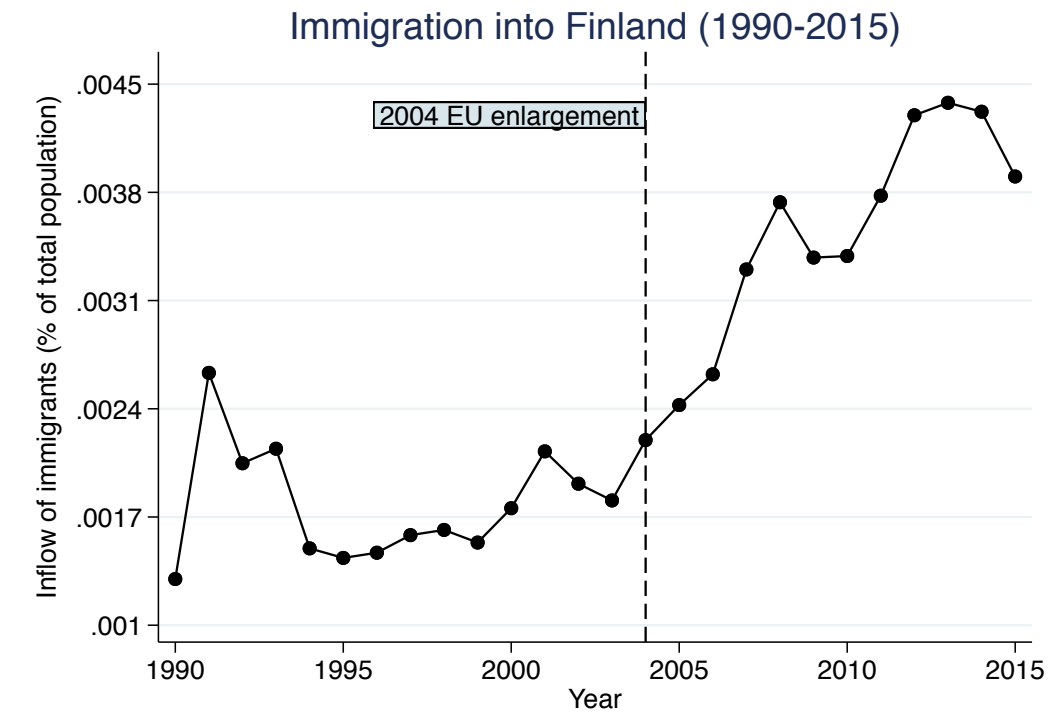
Figure 1: Finns Party's vote share (all of Finland), 1996-2015



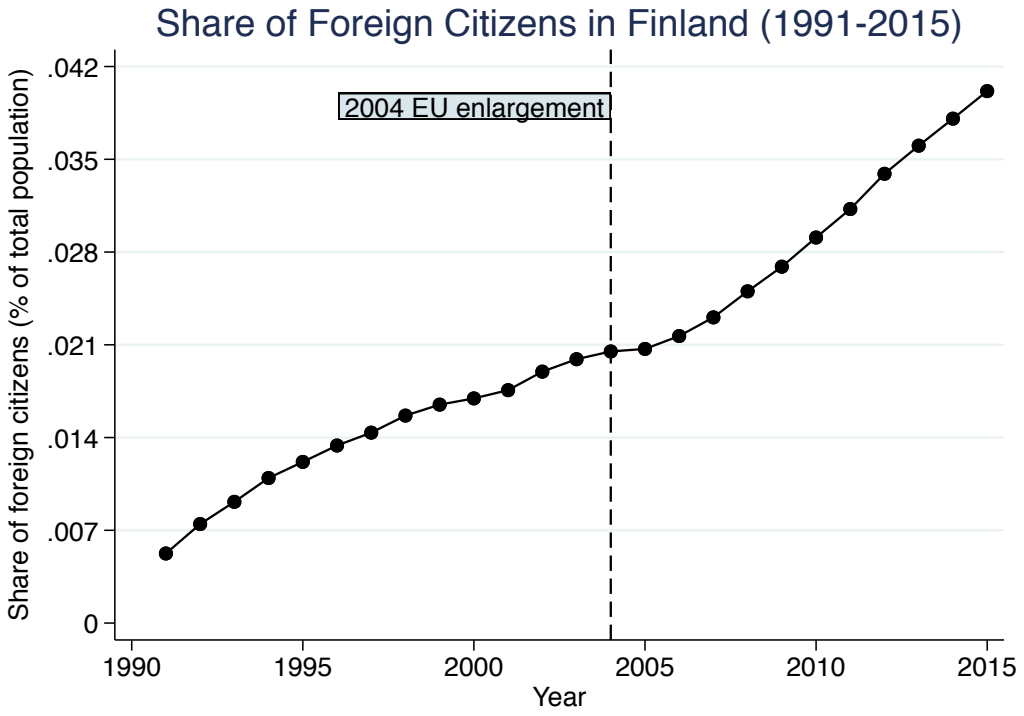
Notes - Data comes from Statistics Finland's StatFin database.

Figure 2: Yearly inflow of immigrants with foreign citizenship (% of population at the beginning of the year); 1990-2015



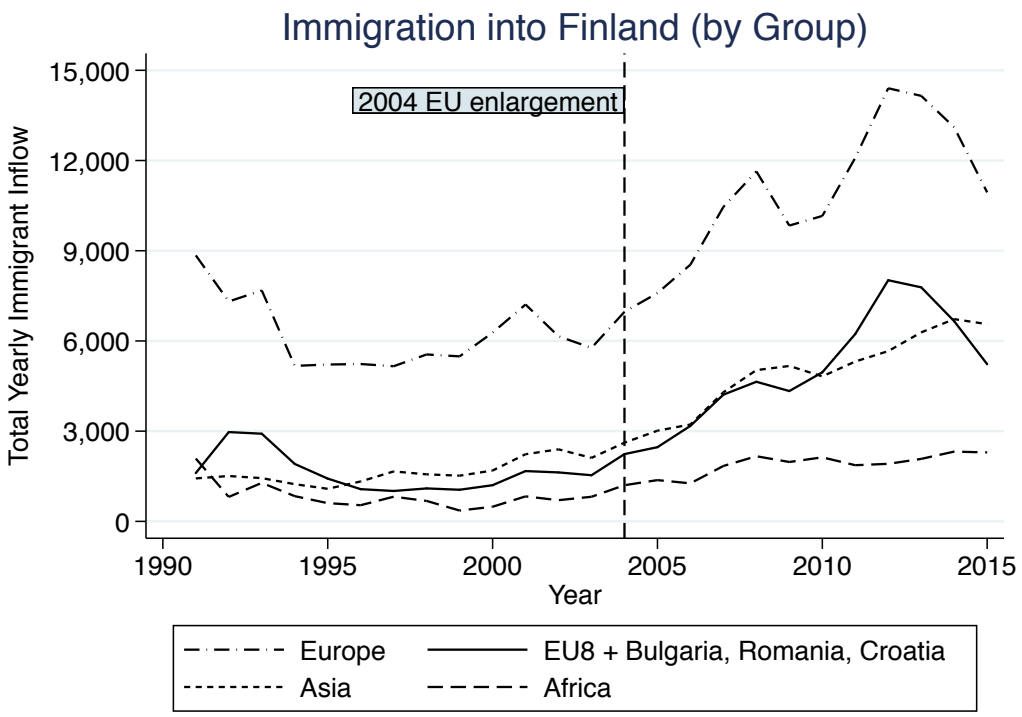
Notes - Data comes from Statistics Finland's StatFin database.

Figure 3: Share of foreign citizens (% of total population) at the beginning of the year, 1991-2015



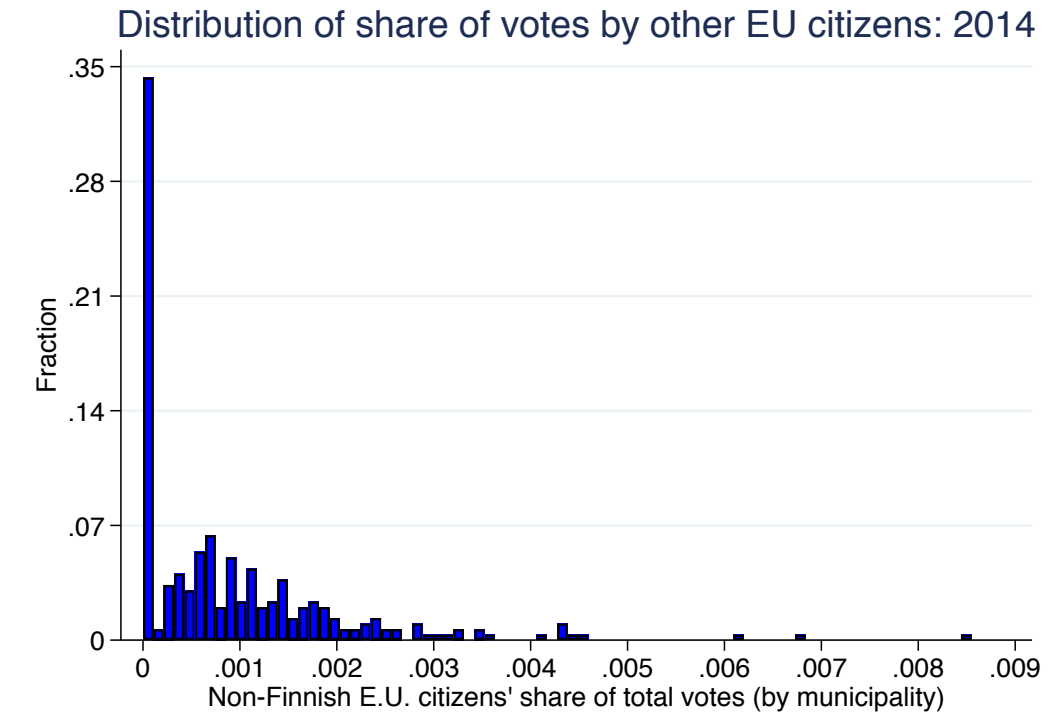
Notes - Data comes from Statistics Finland's StatFin database.

Figure 4: Yearly inflow of immigrants by citizenship, 1991-2015



Notes - Data comes from Statistics Finland's StatFin database.

Figure 5: Distribution of non-Finnish EU citizens' vote share across municipalities (2014 European election)



Notes - Data comes from Statistics Finland's StatFin database.

Table 1: Immigration position and salience of main political parties in Finland (2006-2014)

Party	Election Year	Immig. policy position	Immig. policy salience	Multiculturalism
Finns Party	2006	8.11	8.22	7.89
	2010	9.1	8.9	9.1
	2014	9	-	9.38
Vihr	2006	1.56	5.89	2.67
	2010	2	7.1	2.1
	2014	1.38	-	1.25
SFP/RKP	2006	2	5.78	2.89
	2010	2.2	6.7	2.4
	2014	2.75	-	2.13
Kok	2006	5	4.33	5.56
	2010	5.8	4.5	5.5
	2014	5.13	-	5.25
Kesk	2006	5.67	3.89	5.67
	2010	5.8	4.6	6.5
	2014	5.63	-	6.25
SDP	2006	4.78	3.78	5.11
	2010	5.3	4.3	5.6
	2014	4.13	-	4
KD	2006	5.11	4.67	6
	2010	6	5.56	6.89
	2014	6.14	-	7.29
vas.	2006	3.11	4.56	4
	2010	3.7	4.9	4.3
	2014	2.88	-	2.25

Notes - *Immig. policy position* - position on immigration policy (0 - 10; 0 - "strongly opposes tough policy"; 10 - "strongly favors tough policy"). *Immig. policy salience* - importance/salience of immigration policy (0 - 10; 0 - "not important at all"; 10 - "extremely important"). *Multiculturalism* - position on integration of immigrants and asylum seekers (0 - 10; 0 - "strongly favors multiculturalism"; 10 - "strongly favors assimilation"). *Vihr* - Green League; *SFP/RKP* - Swedish People's Party; *Kok* - National Coalition Party; *Kesk* - Centre Party; *SDP* - Social Democratic Party; *KD* - Christian Democrats. Data comes from the 1999-2014 Chapel Hill Expert Survey (CHES) trend file.

Table 2: Descriptive statistics

	Mean	Standard deviation	Min	Max
Finns Party's vote share	0.120	0.076	0.001	0.534
Share of foreign citizens (% of population in 1991)	0.014	0.014	0.000	0.142
Population	17,895.13	44,697.37	763	612,664
Population density (per km^2)	56.93	222.74	0.17	3,051.04
Share of females in adult population	0.499	0.014	0.438	0.543
Share of population (25-64) with tertiary education	0.272	0.075	0.118	0.694
Share of aged 65+ in adult population	0.264	0.056	0.113	0.460
Ratio of skilled to unskilled labor	3.44	1.10	1.35	8.93
Total crime rate (per 100,000)	5,633.45	3,130.57	1,071.26	63,930.13
Unemployment rate	0.119	0.043	0.028	0.288
Median household disposable income (EUR)	20,572.79	2,538.48	14,765	36,799

Notes - Number of observations: 2,079. Data comes from Statistics Finland's StatFin database.

Table 3: Main results

	(OLS) Finns Party	(OLS) Finns Party	(OLS) Finns Party	(IV) Finns Party	(IV) Finns Party	(IV) Finns Party
Share of foreign citizens	-0.659*	-1.284***	-0.656*	-1.464***	-4.103***	-3.351***
(% of population in 2003)	(0.300)	(0.341)	(0.303)	(0.373)	(0.809)	(0.936)
Municipality/Election Year FE	YES	YES	YES	YES	YES	YES
Time-varying controls (lag)		YES	YES		YES	YES
Region FE x Election Year FE			YES			YES
Observations	2079	2079	2079	2079	2079	2079
Adjusted R-squared	0.832	0.836	0.880	-	-	-
Mean of dep. variable	12%	12%	12%	12%	12%	12%
Std. dev. of dep. variable	7.56%	7.56%	7.56%	7.56%	7.56%	7.56%
Kleibergen-Paap rk Wald F-stat.	-	-	-	62.32	34.53	22.77

Notes - Standard errors in parentheses, clustered at municipality level. Based on slope estimate in the last column, 1 std. dev. increase in share of foreign citizens decreases FP vote share by 4.36 p.p. (58% of its std. deviation). Time-varying controls: log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Table 4: Placebo test (OLS).

	Δ Finns Party (1996-2003)	% Δ Finns Party (1996-2003)
Δ IV (2006-2015)	0.220	
	(0.179)	
% Δ IV (2006-2015)		0.131
		(0.479)
Region FE	YES	YES
Observations	297	294
Adjusted R-squared	0.194	0.264

Notes - Δ *Finns Party (1996-2003)* - level change in Finns Party's share of valid votes between 1996 and 2003. *%* Δ *Finns Party (1996-2003)* - percentage change in Finns Party's share of valid votes between 1996 and 2003. Δ *IV (2006-2015)* - level change in the predicted share of foreign citizens between 2006 and 2015. *%* Δ *IV (2006-2015)* - percentage change in the predicted share of foreign citizens between 2006 and 2015. Robust standard errors in parentheses. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Table 5: Direct test of native mobility

	OLS Native Net Flow (municipality)	IV Native Net Flow (municipality)	OLS Native Net Flow (subregion)	IV Native Net Flow (subregion)
Immigrant Net Flow (municipality)	0.118 (0.155)	0.709 (1.104)		
Immigrant Net Flow (subregion)			0.102 (0.207)	-1.894 (1.423)
Observations	2079	2079	469	469
Kleibergen-Paap rk Wald F-stat.	-	18.53	-	14.91
Anderson-Rubin chi-sq. test p-val.	-	0.521	-	0.117

Notes - *Native Net Flow* - yearly net flow of Finnish citizens (% of population at $t-1$). *Immigrant Net Flow* - yearly net flow of foreign citizens (% of population at $t-1$). Standard errors in parentheses, clustered at respective levels (municipality, subregion). First two columns control for municipality fixed effects and election year fixed effects, while the last two columns control for subregion fixed effects and election year fixed effects. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Table 6: Immigration and election outcomes (all main parties)

	(IV) Finns Party	(IV) Vihr	(IV) SFP/RKP	(IV) Kok	(IV) Kesk	(IV) SDP	(IV) KD
Share of foreign citizens	-3.351***	1.159***	2.303*	-0.900†	0.645	-1.013	-0.317
(% of population in 2003)	(0.936)	(0.295)	(1.130)	(0.527)	(0.475)	(0.833)	(0.251)
Observations	2079	2079	2079	2079	2079	2079	2079
Mean (dep. var.)	12%	5%	4.07%	17.4%	33.4%	17.5%	3.95%
Std. dev. (dep. var.)	7.56%	4.36%	13.6%	10%	16.8%	12.6%	3.38%
Kleibergen-Paap rk Wald F-stat.	22.77	22.77	22.77	22.77	22.77	22.77	22.77

Notes - *Finns Party* - Finns Party's share of valid votes; *Vihr* - Green League's share of valid votes; *SFP/RKP* - Swedish People's Party's share of valid votes; *Kok* - National Coalition Party's share of valid votes; *Kesk* - Centre Party's share of valid votes; *SDP* - Social Democratic Party's share of valid votes; *KD* - Christian Democrats' share of valid votes. Standard errors in parentheses, clustered at municipality level. All regressions control for municipality fixed effects, election year fixed effects, region-by-election year fixed effects, and the following municipality-specific time-varying controls (in lagged form): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Table 7: Immigration and voter turnout, protest vote

	(IV) Voter turnout	(IV) Protest vote
Share of foreign citizens	1.711**	0.021
(% of population in 2003)	(0.530)	(0.025)
Observations	2079	2079
Mean (dep. var.)	59.7%	0.51%
Std. dev. (dep. var.)	15.4%	0.24%
Kleibergen-Paap rk Wald F-stat.	22.77	22.77

Notes - *Voter turnout* - share of eligible voters who cast ballot in election. *Protest vote* - share of invalid ballots. Standard errors in parentheses, clustered at municipality level. Both regressions control for municipality fixed effects, election year fixed effects, region-by-election year fixed effects, and the following municipality-specific time-varying controls (in lagged form): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Table 8: Heterogeneity analysis

	(1) Finns Party (Population)	(2) Finns Party (Popul. Dens.)	(3) Finns Party (Immig. Share)	(4) Finns Party (Vote Share)	(5) Finns Party (Education)	(6) Finns Party (Skill Ratio)	(7) Finns Party (Income)	(8) Finns Party (Unemploy.)
ForeignSh x Above Med	-4.131***	-3.985***	-3.289***	-3.468***	-4.052***	-4.271***	-4.113***	-4.176***
	(0.814)	(0.847)	(0.740)	(0.650)	(0.965)	(0.871)	(0.847)	(0.978)
ForeignSh x Below Med	-4.747***	-4.803***	-0.774	-4.901***	-3.902*	-4.933***	-4.174*	-4.097***
	(1.193)	(0.810)	(1.348)	(0.888)	(1.921)	(1.343)	(1.705)	(0.808)
p-value (F-test coef. are equal)	0.44	0.26	0.01	0.01	0.90	0.41	0.96	0.89
Observations	2079	2079	2079	2079	2079	2079	2079	2079
Mean (dep. var.)	12%	12%	12%	12%	12%	12%	12%	12%
Std. dev. (dep. var.)	7.56%	7.56%	7.56%	7.56%	7.56%	7.56%	7.56%	7.56%
First-Stage F-stat.	11.58	18.58	17.52	16.16	12.25	8.191	20.12	21.29

Notes - *Finns Party* - Finns Party's share of valid votes. *ForeignSh x Above Med* - interaction between share of foreign citizens and above-median dummy. *ForeignSh x Below Med* - interaction between share of foreign citizens and below-median dummy. Above/below-median dummies determined by following initial conditions (columns 1-8): population (2004), population density (2004), share of foreign citizens (2004), Finns Party's share of valid votes (2003), share of tertiary educated (2004), ratio of skilled to unskilled labor (2004), median household income (2004), unemployment rate (2004). Standard errors in parentheses, clustered at municipality level. All regressions control for municipality fixed effects, election year fixed effects, and the following municipality-specific time-varying controls (in lagged form): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Table 9: Immigration and municipality tax revenue & spending (2006-2010)

	(IV) Total tax revenue	(IV) Income tax revenue	(IV) Property tax revenue	(IV) Corporate tax revenue	(IV) Social & health care spending	(IV) Edu & culture spending
Share of foreign citizens	39.08	56.04†	-2.43	-13.91	-11.70	-45.78
(% of population in 2003)	(43.74)	(33.74)	(13.20)	(20.06)	(142.7)	(43.42)
Observations	1485	1485	1485	1485	1485	1485
Mean of dep. variable	2697.7	2323.9	163.4	210.4	3235.5	1268.5
Std. dev. of dep. variable	527.4	467.5	123.9	134.4	711.6	260.2
Kleibergen-Paap rk Wald F-stat.	21.81	21.81	21.81	21.81	21.81	21.81

Notes - *Total tax revenue* - total municipality tax revenue (EUR per capita); *Income tax revenue* - municipality personal income tax revenue (EUR per capita); *Property tax revenue* - municipality property tax revenue (EUR per capita); *Corporate tax revenue* - municipality corporate income tax revenue (EUR per capita); *Social & health care spending* - municipality spending on social and health care services (EUR per capita); *Edu & culture spending* - municipality spending on education and cultural activities (EUR per capita). Standard errors in parentheses, clustered at municipality level. All regressions control for municipality fixed effects, election year fixed effects, region-by-election year fixed effects, and the following municipality-specific time-varying controls (in lagged form): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, unemployment rate, median household income. Data comes from Statistics Finland's database titled *Economic data reported by municipalities and joint municipal boards*. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Appendix

A Description of municipality-specific time-varying controls

- ***Log of total population*** - to capture demographic dynamics (Barone et al., 2016).
- ***Population density*** (inhabitants per km^2; proxy for urbanization) - far-right parties tend to gather larger support among people from rural municipalities.
- ***Share of women in the adult population*** - women tend to be less supportive of the Finns Party (Niemi, 2012).
- ***Share of old people in the adult population*** (65 and above) - far-right parties generally score high points among old people (appeal to tradition, conservatism, etc.).
- ***Total crime rate*** (crimes per 100,000 inhabitants) - far-right parties often campaign on issues related to law and order. Higher crime rate might therefore lead to higher Finns Party's popularity.
- ***Unemployment rate*** - poor economic performance of a municipality reflected in high unemployment rate is expected to be a strong predictor of far-right support.
- ***Share of population (25-64) with tertiary education*** - people with university education are less likely to accept nationalist-populist agenda, and therefore are less likely to vote for the far-right parties.
- ***Skill ratio*** (skilled/unskilled workers) - proxied by the number of people (aged 20 or above) with education levels 2 and 3 divided by the number of people with education level 1 (Mayda, 2006). Level 1 corresponds to ISCED[24] categories 0, 1, 2 (i.e. basic education), level 2 to ISCED categories 3, 4 (i.e. completed upper secondary education), and level 3 to ISCED categories 5-8 (i.e. tertiary education). Literature suggests that low-skilled workers are more likely to vote for far-right parties than high-skilled ones.
- ***Median disposable income of household unit per consumption unit*** (in EUR) - controls for differences in standards of living across municipalities. Municipalities with higher income level should be less prone to vote for the Finns Party. There are two drawbacks with

[24]UNESCO's International Standard Classification of Education.

this variable: first, it is not adjusted for the variation in price levels across municipalities. Second, according to Statistics Finland, due to revisions in income concepts, 1995-2009 and 2010-2014 data are not fully comparable. Nevertheless, since municipality-level GDP data is not available, median disposable income together with the unemployment rate are the best economic measures on the municipality level that I have available.

B Robustness checks and further results

Main IV analysis: first-stage estimates

Table A.1: IV: first stage estimates

	(1) Share of foreign citizens	(2) Share of foreign citizens	(3) Share of foreign citizens
Predicted share of foreign citizens	0.943***	0.653***	0.555***
(% of population in 2003)	(0.120)	(0.111)	(0.116)
Municipality/Election Year FE	YES	YES	YES
Time-varying controls (lag)		YES	YES
Region FE x Election Year FE			YES
Observations	2079	2079	2079
Kleibergen-Paap rk Wald F-stat.	62.32	34.53	22.77
Stock-Yogo weak ID test (10% max. IV size c.v.)	16.38	16.38	16.38

Notes - Share of foreign citizens - share of foreign citizens (% of population in 2003). Standard errors in parentheses, clustered at municipality level. Time-varying controls: log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

IV estimation using 1991 as base year

Table A.2: IV results using 1991 distributions (second stage)

	(1) Finns Party	(2) Finns Party	(3) Finns Party
Share of foreign citizens	-2.379***	-5.707***	-5.026*
(% of population in 1991)	(0.544)	(1.445)	(2.093)
Municipality/Election Year FE	YES	YES	YES
Time-varying controls (lag)		YES	YES
Region FE x Election Year FE			YES
Observations	2079	2079	2079
Mean of dep. variable	12%	12%	12%
Std. dev. of dep. variable	7.56%	7.56%	7.56%
Kleibergen-Paap rk Wald F-stat.	32.65	14.81	6.51
Anderson-Rubin chi-sq. test p-val.			0.00000

Notes - *Finns Party* - Finns Party's share of valid votes. Standard errors in parentheses, clustered at municipality level. Time-varying controls: log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Exclusion of all European elections

Table A.3: 2009 and 2014 European elections omitted (IV results)

	(1) Finns Party	(2) Finns Party	(3) Finns Party
Share of foreign citizens (% of population in 2003)	-1.802*** (0.424)	-4.365*** (0.879)	-3.954*** (1.126)
Municipality/Election Year FE	YES	YES	YES
Time-varying controls (lag)		YES	YES
Region FE x Election Year FE			YES
Observations	1485	1485	1485
Mean of dep. variable	11.9%	11.9%	11.9%
Std. dev. of dep. variable	8.53%	8.53%	8.53%
Kleibergen-Paap rk Wald F-stat.	62.50	33.60	22.06

Notes - *Finns Party* - Finns Party's share of valid votes. Standard errors in parentheses, clustered at municipality level. Time-varying controls: log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Checking for outliers: exclusion of 9 largest Finnish municipalities

To check if outliers are not driving the main results, I exclude 9 largest municipalities from the analysis. These municipalities are the only ones with population of 100,000 or more during the 2006-2015 period. The following municipalities are omitted: Helsinki, Espoo, Tampere, Vantaa, Turku, Oulu, Jyväskylä, Lahti, and Kuopio. With the exception of Oulu (which is in central Finland), all of them are located in the southern part of the country. Results are presented in Table A.4. Overall, the analysis suggests that outliers do not drive the main IV estimates.

Table A.4: 9 largest municipalities omitted (IV results)

	(1) Finns Party	(2) Finns Party	(3) Finns Party
Share of foreign citizens	-1.889***	-5.001***	-4.975*
(% of population in 2003)	(0.564)	(1.136)	(2.180)
Municipality/Election Year FE	YES	YES	YES
Time-varying controls (lag)		YES	YES
Region FE x Election Year FE			YES
Observations	2016	2016	2016
Mean of dep. variable	12.1%	12.1%	12.1%
Std. dev. of dep. variable	7.6%	7.6%	7.6%
Kleibergen-Paap rk Wald F-stat.	46.34	23.78	10.74
Anderson-Rubin chi-sq. test p-val.			0.0026

Notes - *Finns Party* - Finns Party's share of valid votes. Standard errors in parentheses, clustered at municipality level. Time-varying controls: log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Alternative specification using net flow of immigrants

I estimate an alternative, first-difference version of equation (1) which uses net immigrant flow as the main independent variable. The specification is based on the main estimating equation in Sá (2014) and has the following form:

$$\Delta\text{Far-right}_{i,t} = \beta \left(\frac{\Delta \text{ Foreign-born}_{i,t}}{\text{Population}_{i,2003}} \right) + X'_{i,t-1}\gamma + \lambda_t + \sigma_i + \epsilon_{i,t} \tag{5}$$

where Δ*Far-right*$_{i,t}$ is the level change in Finns Party's vote share in municipality i between elections at $t-1$ and t.[25] Δ*Foreign-born*$_{i,t}$ is the change in the number of foreign citizens in municipality i between $t-1$ and t. To be consistent with equation (1), I standardize the change in the number of immigrants by population in the base year (2003). Covariates are included in lagged levels ($X_{i,t-1}$) since the level changes between $t-1$ and t are endogenous to immigration. Estimating a first-difference model means that the municipality-specific fixed effects are differenced out. Thus, σ_i captures municipality-specific trends in Finns Party's vote share. Finally, λ_t captures national trends in factors that affect far-right vote share, such as the trend in Finland's GDP per capita. To deal with endogeneity in β (the coefficient of interest), I construct the following instrument which uses the same distributions of immigrants by background continent in 2003 as the instrument in my main analysis:

$$\frac{\sum_{j=1}^{6} \delta_{i,j,2003} * \Delta\text{Foreign-born}_{j,t}}{\text{Population}_{i,2003}} \tag{6}$$

where $\delta_{i,j,2003}$ is the share of immigrants with background continent j living in municipality i in 2003. Δ*Foreign-born*$_{j,t}$ is the change in the overall number of foreign citizens from continent j in mainland Finland between $t-1$ and t. Estimation results are presented in Table A.5. In column (2), I replicate the analysis with population at $t-1$ (instead of the population in 2003) in the denominator. Although the interpretation of β in the first-difference case differs from that in my main specification, the results in Table A.5 are clearly consistent with my main IV estimates.

[25] For those election years that are more than one calendar year apart, $t-1$ refers to the preceding election year and not the preceding calendar year.

Table A.5: Alternative first-difference specification (IV results)

	(1) Δ Finns Party	(2) Δ Finns Party
Net Immigrant Flow (% of population in 2003)	-4.566* (2.059)	
Net Immigrant Flow (% of population in t-1)		-5.269* (2.279)
Observations	1782	1782
Mean of dep. variable	2.55%	2.55%
Std. dev. of dep. variable	7.52%	7.52%
Kleibergen-Paap rk Wald F-stat.	53.52	45.88

Notes - Δ *Finns Party* - level change in Finns Party's share of valid votes between elections at $t-1$ at t. *Net Immigrant Flow* - change in number of foreign citizens between election year $t-1$ and t. Standard errors in parentheses, clustered at municipaity level. All regressions control for municipality-specific time trends (municipality dummies), national trends (election year dummies), and the following set of municipality-specific time-varying controls (measured at $t-1$): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Immigration and Finns Party vote share: separate analyses by election type

Table A.6: Parliamentary, presidential, and European elections IV estimates

	(IV) Finns Party (parliamentary)	(IV) Finns Party (presidential)	(IV) Finns Party (European)
Share of foreign citizens (% of population in 2003)	-3.941** (1.204)	-2.963** (0.740)	-2.236** (0.845)
Observations	891	594	594
Mean of dep. variable	14.9%	7.33%	12.3%
Std. dev. of dep. variable	9.31%	4.21%	4.23%
Kleibergen-Paap rk Wald F-stat.	20.40	21.70	18.92

Notes - Finns Party - Finns Party's share of valid votes. First column uses data from parliamentary elections in 2007, 2011, 2015; second column uses data from presidential elections in 2006, 2012; third column uses data from European parliamentary elections in 2009, 2014. Standard errors in parentheses, clustered at municipality level. All regressions control for municipality fixed effects, election year fixed effects, region-by-election year fixed effects, and the following municipality-specific time-varying controls (in lagged form): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

IV sensitivity to native sorting

Table A.7: Municipality, subregional, and regional IV estimates

	(IV) Finns Party (municipality)	(IV) Finns Party (subregion)	(IV) Finns Party (region)
Share of foreign citizens (% of population in 2003)	-1.820***		
	(0.285)		
Share of foreign citizens (% of population in 2003)		-2.619***	
		(0.542)	
Share of foreign citizens (% of population in 2003)			-1.428**
			(0.351)
Observations	2079	469	126
Mean of dep. variable	12%	11.7%	11.7%
Standard deviation of dep. variable	7.56%.	6.95%	6.49%
Kleibergen-Paap rk Wald F-stat.	97.71	40.08	60.61

Notes - Finns Party - Finns Party's share of valid votes. Standard errors in parentheses, clustered at respective levels (municipality, subregion, region). All regressions control for election year fixed effects, and the following municipality/subregion/region-specific time-varying controls (in lagged form): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Immigration and election outcomes (all main parties): OLS

Table A.8: Immigration and election outcomes (all main parties): OLS

	(OLS) Finns Party	(OLS) Vihr	(OLS) SFP/RKP	(OLS) Kok	(OLS) Kesk	(OLS) SDP	(OLS) KD
Share of foreign citizens	-0.656*	0.147	0.746*	-0.208	0.235	-0.162	-0.074
(% of population in 2003)	(0.303)	(0.094)	(0.333)	(0.160)	(0.224)	(0.224)	(0.110)
Observations	2079	2079	2079	2079	2079	2079	2079
Adjusted R-squared	0.880	0.881	0.637	0.881	0.598	0.939	0.513
Mean (dep. var.)	12%	5%	4.07%	17.4%	33.4%	17.5%	3.95%
Std. dev. (dep. var.)	7.56%	4.36%	13.6%	10%	16.8%	12.6%	3.38%

Notes - *Finns Party* - Finns Party's share of valid votes; *Vihr* - Green League's share of valid votes; *SFP/RKP* - Swedish People's Party's share of valid votes; *Kok* - National Coalition Party's share of valid votes; *Kesk* - Centre Party's share of valid votes; *SDP* - Social Democratic Party's share of valid votes; *KD* - Christian Democrats' share of valid votes. Standard errors in parentheses, clustered at municipality level. All regressions control for municipality fixed effects, election year fixed effects, region-by-election year fixed effects, and the following municipality-specific time-varying controls (in lagged form): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.

Immigration and voter turnout, protest vote: OLS

Table A.9: Immigration and voter turnout, protest vote: OLS

	(IV) Voter turnout	(IV) Protest vote
Share of foreign citizens (% of population in 2003)	0.369* (0.154)	0.005 (0.012)
Observations	2079	2079
Adjusted R-squared	0.985	0.453
Mean (dep. var.)	59.7%	0.51%
Std. dev. (dep. var.)	15.4%	0.24%

Notes - *Voter turnout* - share of eligible voters who cast ballot in election. *Protest vote* - share of invalid ballots. Standard errors in parentheses, clustered at municipality level. Both regressions control for municipality fixed effects, election year fixed effects, region-by-election year fixed effects, and the following municipality-specific time-varying controls (in lagged form): log of population, population density, share of females, share of tertiary educated, share of aged 65+, ratio of skilled to unskilled labor, total crime rate, unemployment rate, median household income. Data comes from Statistics Finland's StatFin database. *** Significant at the 0.1% level. ** Significant at the 1% level. * Significant at the 5% level. † Significant at the 10% level.