

The role of local voting rights for foreign citizens – a catalyst for integration?

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Abstract

We study the short- and long-term impact of local enfranchisement of foreign citizens born outside the EU on political integration outcomes. Local voting rights for foreigners were introduced in the Swedish electoral system in 1976. This right to vote is conditional on having spent at least three years in Sweden prior to the election. Until 1998 Swedish elections at all levels were held every three years; since then they have been held every four years. The wait time before the first opportunity to vote thus differs substantially for immigrants immigrating just before this cutoff date versus just after. Our analysis shows that immigrants whose timing of arrival makes them eligible to vote after slightly more than three years in the country are not more likely to naturalize or vote in later elections compared to immigrants whose timing of arrival means they must wait six or seven years to vote. The results suggest that earlier opportunities for political participation do not improve subsequent political integration of immigrants as measured by naturalization and voting.

Keywords: Local election, voting rights, noncitizens, integration, naturalization, turnout

JEL-codes: D02, D72, J15

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1 Introduction

Since the 1970s there has been a trend among democratic countries to extend voting rights to noncitizen residents (Earnest 2003). Today, foreign citizens can vote in more than sixty countries (Immigrant Voting Project Website 2017).¹ The right to vote is normally limited to regional or local elections, although there are at least four countries where foreigners can vote in national elections (Rodríguez 2010).²

The main arguments in favor of enfranchisement of noncitizens have been that it strengthens democratic legitimacy and helps protect the political interests of immigrant populations (Hayduk 2004). There is, however, also a widespread belief that the right to vote is beneficial for the integration of immigrants (Munro 2008). Yet, despite the weight of this argument, we have few systematic studies on the relationship between noncitizen voting rights and the social and political inclusion of immigrants (but see Ferwerda, Finseraas, and Bergh [2017] for a recent exception). This study aims to fill this gap in the literature by carefully investigating the effects of voting rights on immigrants' subsequent political integration in Sweden.

Earlier research on the immigrant assimilation process shows that upon arrival in a new country, immigrants' economic outcomes are generally poor in comparison with outcomes for the native-born population (for overviews, see e.g. Borjas 1999, Duleep 2015, and Kerr and Kerr 2011). A similar gap has also been observed for various political outcomes such as voting or standing as a candidate in local or national elections (Ramakrishnan and Espenshade 2001; Dancygier et al. 2015).

Researchers have commonly explained the fact that immigrants fare worse than the native-born population in both the economic and the political spheres by reference to a common set of factors, such as the imperfect transferability of foreign qualifications (e.g. education), inadequate host-country language skills, and limited social connections and cultural knowledge (Duleep 2015; Ramakrishnan and Espenshade 2001). Consistent with this view, the relative position of immigrants – economic and political – has been shown to increase with the amount of time spent in the host country (Adman and Strömblad 2000; Duleep 2015; Dancygier et al. 2015). However, for many immigrant

¹ Unless otherwise specified, when we use the term foreign citizens or noncitizens we refer to permanent residents with foreign nationality.

² In Chile, Malawi, New Zealand, and Uruguay foreign citizens can vote in national elections after a period of permanent residence.

groups, we do not observe full convergence to the native level, and many immigrant groups in the Western world face the risk of social and political exclusion.³

A central question is, therefore, whether specific policies can help speed up the assimilation process. Results from earlier studies indicate that introduction programs, language training, active labor market programs, and antidiscrimination policies can play an important role in the economic integration of immigrants, but causal evidence is sparse (see Kogan 2016; Rinne 2012; Butschek and Walter 2014 for overviews).

Our knowledge about what promotes the civic and political integration of immigrants is even more limited. For a long time, naturalization has been seen as a necessary, and often also sufficient, condition for immigrant political incorporation. However, the current international trend of extending voting rights to noncitizens provides a challenge to this traditional view, since it makes it possible for immigrants to participate in elections without acquiring citizenship. This, however, raises the question of the extent to which these types of policies actually contribute to the de facto political integration of immigrants.

A vital issue in answering this question is how the extension of voting-rights to noncitizens affects the naturalization rate, since this still remains a key indicator of immigrant political integration. There is no consensus on the direction of this effect. On the one hand, there are scholars who argue that voting has integrative and educational effects. When given the right to vote, the argument goes, immigrants become more likely to learn about and develop a commitment to the host country (Munro 2008). Viewed from this perspective, granting voting rights to noncitizens will thus make immigrants more likely to acquire citizenship (Raskin 1993; Groenendijk 2008). Others, in contrast, fear that the extension of voting rights to noncitizens will serve to diminish the value of citizenship and thereby lower immigrants' incentives to naturalize (Schuck 1989; Pickus 1998).

Naturalization is, however, not the only relevant aspect of immigrants' political integration. Also important are immigrants' actual level of political participation, in particular with respect to voting. In order to understand the integrative effects of extending voting rights to noncitizens, we therefore need to know how it affects

³ There is, of course, significant variation in assimilation profiles across (and within) immigrant groups; some groups perform very well in comparison with the native-born population and experience rapid improvement in their economic and social outcomes in the years following immigration (see, e.g., Kerr and Kerr 2011 for a discussion).

political participation in the long run. Again it is not obvious what to expect on strictly theoretical grounds. One possibility is that if immigrants obtain the right to vote before becoming citizens they are more likely to develop a habit of voting (Meredith 2009; Ferwerda, Finseraas, and Bergh 2017). This argument focuses on the *timing* of voting eligibility. The sooner immigrants are exposed to the democratic institutions of the host country, the higher the likelihood that they will adapt to the new political system and become politically active members of society (White et al. 2008).

It is easy to imagine counterarguments to this view, however. For instance, if immigrants are granted the right to vote too soon—before they have had the time to learn the language and obtain sufficient knowledge about the host political system, for example—they may be unlikely to vote, which could foster a habit of not voting rather than one of voting.

Taken together, it is therefore not clear that granting voting rights for foreign citizens speeds up their political integration, as there may be forces working in opposite directions. This highlights the need for careful empirical evaluation of this important policy.

Towards this end, the current study examines how the right to vote sooner rather than later affects the political integration of immigrants born outside the EU in Sweden. More specifically, we utilize the fact that since 1976, immigrants who have resided in Sweden for at least three years on election day have the right to vote and stand for office in municipal and county elections. This creates a discontinuity, because the waiting time before the first opportunity to vote is substantially shorter for immigrants arriving slightly more than three years before an election compared to immigrants arriving slightly less than three years before an election. Immigrants arriving just before the cutoff for a particular election must wait approximately three years to vote, while those arriving just after the cutoff for the next election must wait six to seven years.⁴ We examine whether this difference, i.e. the possibility to vote after a relatively short time in the country compared to having to wait longer, affects the integration path of immigrants. Since the

⁴ Between 1976 and 1994 local elections were held every three years, and between 1998 and 2014 local elections were held every four years, meaning that the discontinuity in immigrants' wait time to their first voting opportunity depending on whether they arrived just before or just after a voting eligibility cutoff was roughly three years in the first period and roughly four years in the second period.

focus of this study is political integration, we use naturalization and voter turnout as our outcome measures.⁵

According to the results, the timing of voting eligibility for immigrants does not affect either their likelihood of naturalizing or their propensity to vote in future elections. The results thus differ from those of a recent study based on Norwegian data that uses a similar identification strategy (Ferwerda, Finseraas, and Bergh 2017). In that study the authors found that being eligible to vote sooner after arrival increased turnout in the subsequent election, although the effect was limited to immigrants from nondemocratic countries. The current study also differs from the Norwegian study in other important respects. First, and most importantly, we examine how the timing of eligibility affects the decision to naturalize. Second, we do not only study the short-term effect of earlier eligibility on voting, but also the long-term effect.

Section 2 of this article provides an overview of noncitizen voting rights throughout the world and the normative arguments for and against this policy. Section 3 introduces the Swedish setting: how and when voting rights for noncitizens were introduced, the organization of the electoral system, the recent history of migration to Sweden, and the rules for naturalization. This section also describes naturalization rates and the likelihood that immigrants will exercise their right to vote. Sections 4 and 5 describe our data and methodological approach. Finally, we present our main findings in Section 6 and offer some conclusions in Section 7.

2 Noncitizen voting rights: Where and why?

Local voting rights for foreign citizens are becoming increasingly common across the world. Turning first to the European Union, EU nationals residing in other member states have been able to vote in local elections since 1993.⁶ Within the EU, in fifteen countries non-EU nationals can vote locally after three to five years, in five countries they can vote regionally, and in two countries some categories of foreign nationals can vote in national-level elections. In eleven of the member states non-EU nationals can

⁵ The exact meaning of the term *political integration* varies in the existing literature, but as Röder and Mühlau (2011, p. 535) note, studies of political integration have focused “largely on naturalization, voting, and non-electoral participation.” In this paper, we will study the former two outcomes; unfortunately, we are not able to analyze nonelectoral forms of political participation. However, see Bevelander and Spång (2015) for a discussion of other forms of political participation among immigrants.

⁶ The Maastricht Treaty introduced voting rights in local elections and European Parliament Elections for EU nationals residing in other member states in 1993.

run as candidates for local office. The Nordic countries and Ireland have the most inclusive rights (Migration Integration Policy Index 2015). Within Europe, partial voting rights are also granted in Iceland, Norway and Switzerland.⁷ In total, 30 out of 44 European states grant some form of voting rights to foreigners (Immigrant Voting Project Website 2017).

Voting rights for foreign citizens are also common in the Americas (including North and South America), where 22 out of 35 states allow some form of voting rights. The granting of any sort of voting rights is less common in Africa (8 out of 54), Asia (3 out of 46), and Oceania (2 of 14) (Immigrant Voting Project Website 2017). In total, 65 out of the 193 member-states of the United Nations grant some voting rights to foreigners.⁸

Apart from describing this development, previous research on noncitizen suffrage has mainly been concerned with the normative arguments for and against this policy (e.g., Munro 2008). Two main arguments have been voiced in favor of expanding the franchise to include foreigners: (1) strengthening the legitimacy of government and (2) enhanced protection for immigrants' rights and civil liberties.

The first argument builds on democratic theory and the notion of the consent of the governed (see e.g. Harper-Ho 2000, Hayduk 2004, and Munro 2008). Since foreign citizens are affected by decisions made by local and state governments, and since foreigners must obey the laws of democratic communities, this group should also be allowed to select their representatives and hold them accountable. Thus, equal obligations should entail equal civil privileges (Harper-Ho 2000).⁹

The second argument focuses on the risk of foreign citizens being discriminated against and subject to political bias (see e.g. Harper-Ho 2000, Hayduk 2004, and Munro 2008). The lack of voting rights creates the risk of public policy not reflecting the interests of foreign citizens as politicians are likely to ignore interests of groups lacking electoral rights (see e.g. Dahl 1971; Vernby 2012).

⁷ Switzerland's provisions vary by location.

⁸ Earlier international comparisons have shown that noncitizen voting rights are granted in around 45 countries (see Blais, Massicotte and Yoshinaka 2001; Earnest 2003; Waldrauch 2005). See also Bauböck (2005) for an overview and a discussion about the different type voting rights that exist in different countries, how universal they are, etc.

⁹ Other democratic theorists, such as John Stuart Mill and Robert Dahl, argue that the idea of a procedural democracy entails that "all" (adult) members of a community should be granted the full right of political participation, otherwise the democratic criterion of inclusion would be violated. Whether "all" refers to "anyone affected by the government" or the "members of the community" is, however, less clear—i.e. whether a limitation on the rights of full participation to all *members of the community* (i.e. citizens) is compatible with the inclusion criteria—is a matter for debate (see the discussion in Beckman 2006, Song 2009, and Rodríguez 2010, for example).

Moreover, proponents of noncitizen voting rights argue that granting such rights will facilitate immigrants' integration process. There are a number of reasons for why this could be the case. First, the argument goes, voting is an important means of becoming incorporated into society and engaged in politics: granting foreign citizens the right to vote is a "way of educating future citizens in civic responsibilities and preparing them for citizenship" (Harper-Ho 2000, p. 297). In other words, letting immigrants vote before they have naturalized provides incentives to learn more about the norms and practices of their democratic communities (Munro 2008). These earlier opportunities to vote may also encourage the development of the voting habit among newly arrived immigrants, which may affect future turnout even after they have become citizens (Ferwerda, Finseraas, and Bergh 2017).

Second, voting and the right to run for office might stimulate (and offer opportunities) for foreign citizens to become involved in various associations and forums in civil society (Munro 2008). One example is the possibility that political leaders from immigrant communities will emerge; another is that the incentive to organize and mobilize immigrant groups will increase. This higher level of participation is, in turn, likely to increase their knowledge about the political system and other institutions.

A third argument, finally, revolves around the negative consequences of not permitting foreign citizens the right to vote. Proponents of this arguments stress that if immigrants had to wait until after they were naturalized to vote, they might internalize the idea that political decisions should be left to others. This, in turn, could lead to low levels of political and/or civic engagement in general, or beliefs that other means of raising concerns are more effective, perhaps even violent ones (Munro 2008). That is, just as earlier experiences of voting may facilitate a habit of voting, earlier experiences of political exclusion may foster a habit of not voting.

As Munro (2008, p. 72) notes these arguments are built on an idea of *integration through participation*: i.e., allowing noncitizen residents to vote will help speed up integration because it provides them with additional incentives and opportunities to learn more about their new country. In the end, this may make immigrants more likely to naturalize and become politically active community members.

An important but rarely discussed implication of this argument is that the sooner immigrants receive the right to vote the more likely they should be to integrate politically. In particular, since there are reasons to believe that early experiences in the host country carry special weight in immigrants' integration process (see, e.g., Konle-Seidl and Bolits [2016] or Hainmueller, Hangartner, and Lawrence [2016]). In their related study of noncitizen voting rights in Norway, Ferwerda, Finseraas, and Bergh (2017, p. 3) go as far as suggesting that the "likelihood of integration" is time-constrained and that there might exist an "integration window, in which initial experiences in the host country exert long-term effects on immigrant incorporation."

Others, however, warn that the extension of voting rights to noncitizens could actually be detrimental to their political integration. The main reason, the argument goes, is that it decreases the incentives to naturalize (e.g., Schuck 1989; Pickus 1998). Earlier voting rights for immigrants could therefore have a negative effect on their political integration, by decreasing the naturalization rate.¹⁰ Given that citizenship status is known to be highly correlated with many types of political participation (e.g., Hainmueller, Hangartner, and Pietrantuono 2015) and that certain types of political participation are only available to citizens, a policy that decreases the likelihood of naturalization could be expected to decrease the political incorporation of immigrants in the long run. Moreover, to the extent that voting is a habit, it could also be problematic if immigrants are given the opportunity to vote before they feel ready to exercise this right, since in the same way that voting can become habitual, so to can not voting.

These arguments also relate to the burgeoning empirical literature focusing on how immigrants' political attitudes and behavior develop over time (Adman and Strömblad 2002; 2015; Röder and Mühlau 2011). One common finding in this literature is that the gap in political participation between native-born residents and immigrants is smaller for immigrants who have spent a longer time in the host country. This is usually explained by the fact that it takes time for immigrants to develop the skills necessary for

¹⁰ It is worth noting that the role of access to citizenship in immigrant integration is a matter of debate (see, e.g., Huddleston and Vink [2015] for a general discussion, and Hainmueller, Hangartner and Pietrantuono [2015] for an interesting case study on the effects of naturalizations on immigrant political integration). On the one hand, citizenship can be viewed as providing both the resources and incentives for immigrants to integrate into their host societies—i.e., naturalization can function as a catalyst to speed up the integration process. On the other hand, it can be argued that easy access to citizenship decreases the incentives to integrate, since the benefits associated with citizenship are easy to obtain; instead citizenship should be seen as a reward after having fully completed the integration process. Note also that this debate shares many similarities with the discussion about the costs and benefits of introducing voting rights for foreign citizens that we lay out in this section and the next one.

political participation, such as learning a new language and obtaining sufficient knowledge about the political system in the host country (e.g., Adman and Strömblad 2000, p. 23). Another important finding is that immigrants' trust in the political system of the host country tends to decrease with length of residence (Maxwell 2010; Röder and Mühlau 2011; Adman and Strömblad 2015). One possible explanation for this is that the level of political trust decreases as immigrants experience various forms of discrimination. Another possibility is that the effect is due to changing expectations. That is, when immigrants are newcomers to a country – especially those coming from nondemocratic countries – they may have an idealized and unrealistic view of how the host country's political institutions function. But as time passes, immigrants adjust their expectations and become less politically trusting (Adman and Strömblad 2015, p. 107).

This line of research thus lends support to the view that time is of essence for the political integration of immigrants. How to interpret these results in relation to the question of earlier voting rights for foreign citizens is less clear, however. For instance, does the gradual increase in immigrants' political participation over time imply that immigrants should not get right to vote too soon, because they need some time to develop the necessary language and civic skills to make effective use of this right? Or can the process of acquiring these skills be sped up if foreign citizens receive the right to vote at an early stage? Likewise, it is not obvious whether the fact that political trust decreases with length of residence advocates for or against granting voting rights for immigrants sooner. Is it better for the long-term political integration of immigrants to let them vote when they still have high levels of political trust, or it is better if they receive the right to vote at a time when they have more realistic expectations on what the democratic system can deliver?

Obviously, the effect of extending voting rights to noncitizens on their long-term political integration is ultimately an empirical question. Yet, there are few systematic empirical studies examining the integrative effects of voting rights for foreigners. One of the few studies that exist is the study of Ferwerda, Finseraas, and Bergh (2017) which uses a regression discontinuity approach to study the effect of voting eligibility for immi-

grants on turnout in a subsequent election.¹¹ More precisely, they found that immigrants whose timing of arrival made them just barely eligible for the 2011 municipal election in Norway were about five percentage points more likely to participate in the next election compared to those whose time of arrival made them just barely ineligible to vote. According to their results, the effect is limited to immigrants from nondemocratic countries.

Although this Norwegian study is very valuable in many respects, the fact that it focuses exclusively on the short-term effect of voting eligibility on turnout means that it provides only limited information on the long-term integrative effects of earlier voting rights for immigrants. In contrast, here we examine both short-term and long-term outcomes. That is, whereas the Norwegian study restricts its attention to individuals that immigrated 7 years prior to the election of interest, we study the effect of earlier voting eligibility for immigrants who have spent between 7 and 37 years in the country before the election. Even more importantly, however, in order to provide a fuller account of political integration we will also look at how the extension of voting rights to noncitizens affects their likelihood to naturalize (within given time periods).

3 The Swedish setting

In this section we discuss the introduction of local voting rights for foreigners in Sweden and how the electoral system is organized. We also describe the increase in the share of foreign citizens in Sweden since the 1970s, and the extent to which foreign citizens choose to naturalize and exercise their right to vote.

3.1 The introduction of local voting rights in Sweden

Foreign citizens first gained the right to vote and run for office in municipal and regional elections in 1976.¹² Discussion about expanding the franchise to include foreign noncitizens had been ongoing at least since 1968, when the first proposal to investigate the consequences of the right to vote and be elected was introduced in

¹¹ There is also a working paper (Slotwinski, Stutzer and Gorinas 2017) in which the authors use Danish data to study whether extending earlier local-election voting opportunities to immigrants affects their criminal behavior. They find that earlier voting opportunities reduce the subsequent number of legal offenses among the affected immigrants, but the mechanism through which this effect operates remains unclear.

¹² The Church of Sweden also introduced voting rights in council elections.

parliament, with the Social Democratic Party arguing that from a democratic standpoint it was not satisfactory to exclude immigrants from the franchise.¹³

The second time the question was raised in parliament was 1971, this time by the agrarian Centre Party, which argued that expending foreigners' political rights – primarily voting rights in municipal elections – would improve the level of democracy and equality in society. Similar proposals were brought by the Liberal Party, which argued that the right to vote was crucial for immigrants' integration into Swedish society.

In 1972 the Constitutional Commission¹⁴ presented a report that discussed, among many other things, the costs and benefits of lowering the wait time before foreign citizens would be able to apply for Swedish citizenship and thereby gain the right to vote in general elections. The commission proposed that foreign citizens should not be allowed to vote in municipal and county elections. The main argument against expanding the franchise was that there is no clear boundary between the responsibilities of the central government and those of the municipalities (SOU 1975:15, p. 35).

The pressure to introduce partial voting rights increased, however, and four different parties (Centre Party, Liberal Party, Left Party, and Social Democratic Party) presented proposals to expand the franchise at the local level during the years that followed. Finally, in 1975, a favorable vote in parliament granted foreign citizens the right to vote in municipal, county, and church council elections as long as they had resided in Sweden for at least three years prior to election day.¹⁵

3.2 Elections and wait times

Twelve elections have been held since the franchise was expanded to include foreign citizens. Before 1998 general elections were held every third year, and thereafter they have been held every fourth year. Usually elections have taken place on the third Sunday in September, except for the 2014 election, which was held on the second Sunday in September.¹⁶ Eligible voters can vote in three separate elections on the same

¹³ This section builds on “Kommunal rösträtt för invandrare” (SOU 1975:15), a governmental commission report presented in 1975.

¹⁴ The Government Commission on the Constitution (Grundlagsberedningen)

¹⁵ The decision was based on a proposal from yet another governmental commission, the Voting Rights Commission (“Rösträttsutredningen”). According to this commission, a qualification period of three years was sufficient to “guarantee” that foreign voters would have sufficient knowledge of Swedish society, the Swedish language, and a personal interest in both the short- and long-term state of affairs of their municipality of residence (SOU 1975: 15).

¹⁶ Since 2013 elections have been held on the second Sunday in September, every four years.

day – municipal, county, and national. The registration process prior to Swedish elections is automatic, and all citizens aged 18 or above are allowed to vote.¹⁷ About one month before the election, eligible individuals receive a letter from the Swedish Election Authority with information on their voting rights and containing a voting eligibility certificate. Thus, eligible individuals are informed about that they have the right to vote. During the period from 1976-1994, noncitizens needed to have been registered as residents in Sweden by November 1 three years prior to the election year.

Important changes were made to the rules regulating access to electoral rights prior to the 1998 elections. Because Sweden joined the EU in 1995, its rules had to be harmonized with the Maastricht Treaty of 1993. That treaty introduced the right to vote for EU nationals residing in another member state. The new rules for EU nationals, thus, created two categories of foreign citizens, with different eligibility rules for voting in local elections. EU nationals were granted the right to vote in municipal and county elections provided they were registered as Swedish residents no later than 30 days before the election.¹⁸ The three-year residency requirement remained in place for third-country nationals (i.e. non-EU nationals). The exact timing of the voting eligibility cutoff, however, was changed. The new residency restriction stated that non-EU nationals needed to have lived in Sweden for three consecutive years prior to the election day (see Table 1).

Table 1 shows the cutoff date for immigrant voting eligibility in each election (column 2), and the impact on wait time before the first opportunity to vote for those who arrived just before versus just after the date (column 4 and 5). Depending on the period of immigration and the migrant group they fall into, the wait time varies from three years to six/seven years. Thus, it should be clear that arriving just before or after a cutoff creates a significant difference in wait time before an immigrant can cast a vote for the first time. Our main focus in this paper is the effect of this difference on subsequent political integration, comparing those whose timing of arrival meant they had the opportunity to vote after about three years in Sweden, versus those who had to wait six or even seven years. Since these cutoffs do not apply to EU citizens starting in

¹⁷ For a thorough discussion of the rules regulating access to voting rights in Sweden, see Bernitz (2013).

¹⁸ These new rules also applied to immigrants with a citizenship in Norway or Iceland.

1998, we decided to exclude EU citizens from the main analysis.¹⁹ By applying this restriction we keep the immigrant source countries constant over time, which is important when we perform a heterogeneity analyses based on year of immigration. The non-EU immigrants are, arguably, also the most interesting group to study, since they (with some exceptions, such as North America) have the poorest integration outcomes. Appendix A lists the birth country groups of the immigrants who were included in the main analysis.

Table 1 Elections and immigration cutoff dates for voting eligibility

(1) Election	(2) Latest immigration date for voting eligibility (cutoff date)	(3) Affected immigrants	(4) First voting opportunity for those who arrive just before the cutoff	(5) First voting opportunity for those who arrive just after the cutoff
1976	November 1, 1973	All foreign citizens	2.9 years	5.9 years
1979	November 1, 1976	All foreign citizens	2.9 years	5.9 years
1982	November 1, 1979	All foreign citizens	2.9 years	5.9 years
1985	November 1, 1982	All foreign citizens	2.9 years	5.9 years
1988	November 1, 1985	All foreign citizens	2.9 years	5.9 years
1991	November 1, 1988	All foreign citizens	2.9 years	5.9 years
1994	November 1, 1991	All foreign citizens	2.9 years	5.9 years
1998	September 19, 1995	Non-EU citizens	3 years	7 years
1998	August 20, 1998	EU citizens	0.08 years	4.08 years
2002	September 14, 1999	Non-EU citizens	3 years	7 years
2002	August 15, 2002	EU citizens	0.08 years	4.08 years
2006	September 16, 2003	Non-EU citizens	3 years	7 years
2006	August 17, 2006	EU citizens	0.08 years	4.08 years
2010	September 18, 2007	Non-EU citizens	3 years	7 years
2010	August 19, 2010	EU citizens	0.08 years	4.08 years
2014	September 13, 2011	Non-EU citizens	3 years	7 years
2014	August 14, 2014	EU-citizens	0.08 years	4.08 years

Note: For completeness, all elections between 1976 and the present are included in Table 1. However, for data reasons we can only use variation in voting eligibility for the elections in 1976–2010 (1976–2006) when we use naturalization (turnout in the election in 2010) as an outcome.

3.3 Immigration, naturalization and voting in Sweden

When foreign citizens were allowed to vote for the first time in 1976 there were around 400,000 noncitizens living in Sweden (about 5% of the population). Forty years later this number has increased to 850,000 individuals (8% of the population). As we see in Figure 1, growth has been particularly strong since around 2005, when immigration to

¹⁹ We do not have information on actual country of citizenship for the immigrants. Instead, we approximate citizenship by country of birth.

Sweden picked up speed. Thus, in the absence of the introduction of the right to vote, a substantial and growing share of the population would have been disfranchised.

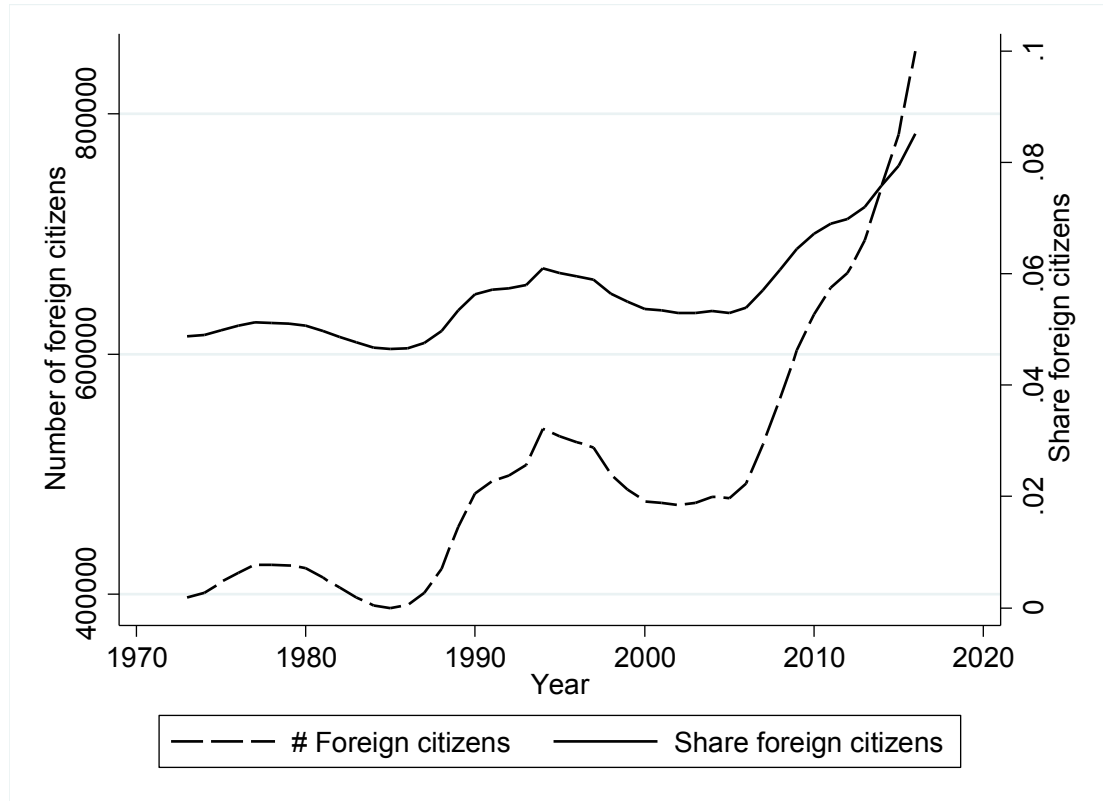


Figure 1 Foreign citizens in Sweden 1973–2016

Source: Statistics Sweden Online Statistical database (2017)

Over time, not only has the number of foreign citizens in Sweden changed but so too has the nature of immigration. Following the great emigration between the mid-1800s through the 1930s, Sweden gradually became a net recipient country of immigration. World War II resulted in many refugees from the neighboring Nordic countries, as well as from Germany and the Baltic states, arriving in Sweden. After the end of the war labor migrants instead came to dominate the inflow. Immigration to Sweden was not regulated until the 1970s, and many labor migrants arrived from Scandinavia, Italy, Greece, Yugoslavia, and Turkey (among other countries) thanks to the economic boom that followed in the post-war period.

By the end of the 1960s this changed, and regulated immigration was introduced. Labor migrants wanting to come to Sweden thereafter had to show proof of both employment offers and housing upon arrival. When voting rights for foreign citizens

was introduced in 1976, the new regulations had started to change the character of the migrant flow to Sweden, Non-Nordic labor migration was reduced, and refugees arrived periodically (often due to armed conflicts or crises, such as the military coup in Chile in 1973). Non-Nordic family reunion immigration becomes increasingly more common. During the 1980s many asylum seekers (followed by family-related immigration) from Iran, Iraq, Lebanon, Syria, Turkey, and Eritrea arrived, and another stream of refugees followed the breakdown of Yugoslavia (mostly Bosnians) and the war in Somalia in the early 1990s. The period thereafter up until today has been dominated by refugee and family migration, primarily from Iraq, Afghanistan, Somalia, and Syria, although labor migration from Eastern Europe become increasingly more common following the expansion of the European Union in 2004.

In contrast to the changing nature of immigration to Sweden, the requirements for naturalization have remained remarkably stable since the 1920s (Bernitz 2013). Foreign citizens who cannot follow the procedure of notification can apply for naturalization. Several criteria must be met to be eligible for naturalization: the applicant must be 18 or older, must provide proof of his or her identity, must meet a good conduct requirement (i.e. have no criminal convictions), and must have resided in Sweden for at least five years (two years for Nordic citizens and four years for refugees and stateless individuals). A number of exemptions exist (see Bernitz 2013); for example, a spouse or domestic partner of a Swedish citizen can be naturalized after three years if they have lived together for at least two consecutive years. The only major change that occurred during the period of study (the 1970s up until today) was the introduction of the new Citizenship Act of 2001 (which replaced the act of 1950). The new act introduced an allowance for dual citizenship; previously, applicants had to renounce their original citizenship. In contrast with many countries, Sweden does not have any language requirements, nor does Sweden require applicants to be able to support themselves and their families.

3.4 Local elections, voting behavior of immigrants and naturalizations

In many countries, elections at the local or regional level are considered to be less important than elections at the national level. However, in Sweden elections to municipal and county councils carry substantial weight. Municipalities and councils have independent taxation rights and play a crucial role in the provision of vital

government goods and services such as health care, education, and social assistance. Much like the national parliament, municipal and county councils are elected using a party-list proportional system. The municipalities and counties are governed by a “quasi-parliamentary system” where a majority party or coalition typically appoints committee leaders and determines policy (Bäck 2003).

Despite the importance of these elections, the turnout of noncitizens has decreased over time. Figure 2 shows that about 60 percent of eligible noncitizens voted in the 1976 municipal elections, while the corresponding figure in 2014 was only about 35 percent. Throughout the period turnout is slightly higher among women than among men.

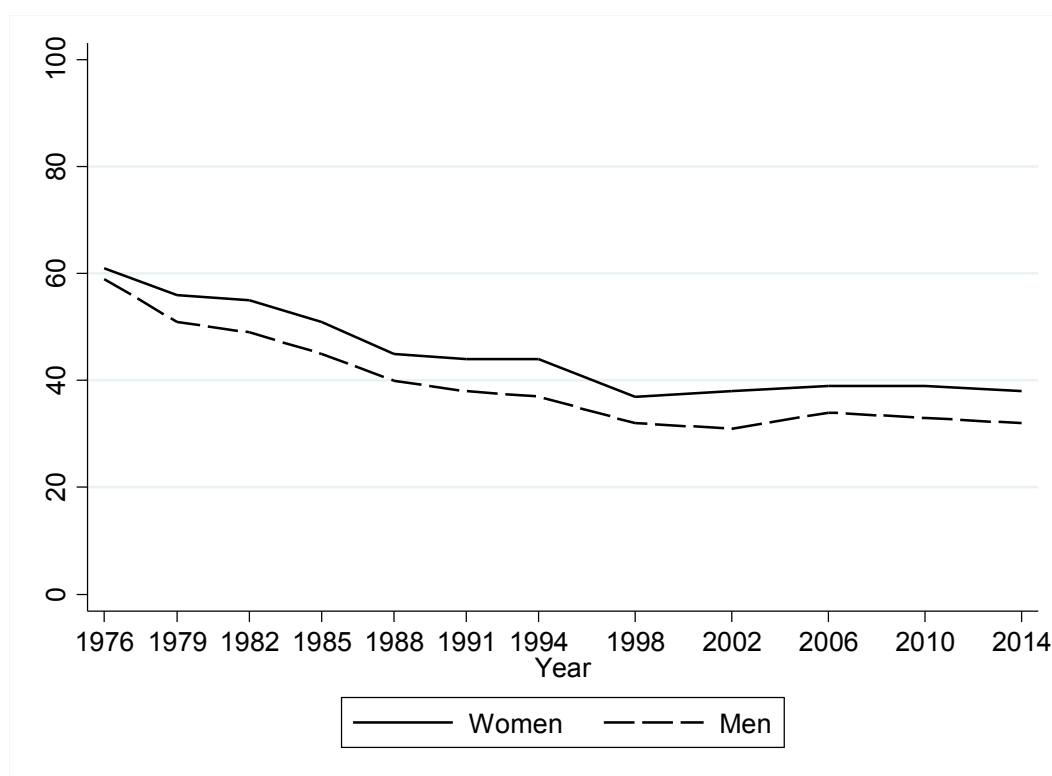


Figure 2 Eligible foreign citizen voter turnout in municipal elections, 1976–2014

Note: The x-axis shows all election years. Before 1998 general elections were held every three years, and thereafter they have been held every four years.

Source: SCB (2017)

The shrinking turnout rates for noncitizens can be seen as an indication of decreasing political integration. Yet aggregate trends such as these may conceal as much as they reveal. Figure 3 displays how the naturalization rate (solid line) and voter turnout

(dashed line) have varied over the years since immigration among the immigrants in our sample (i.e. immigrants from non-EU countries).

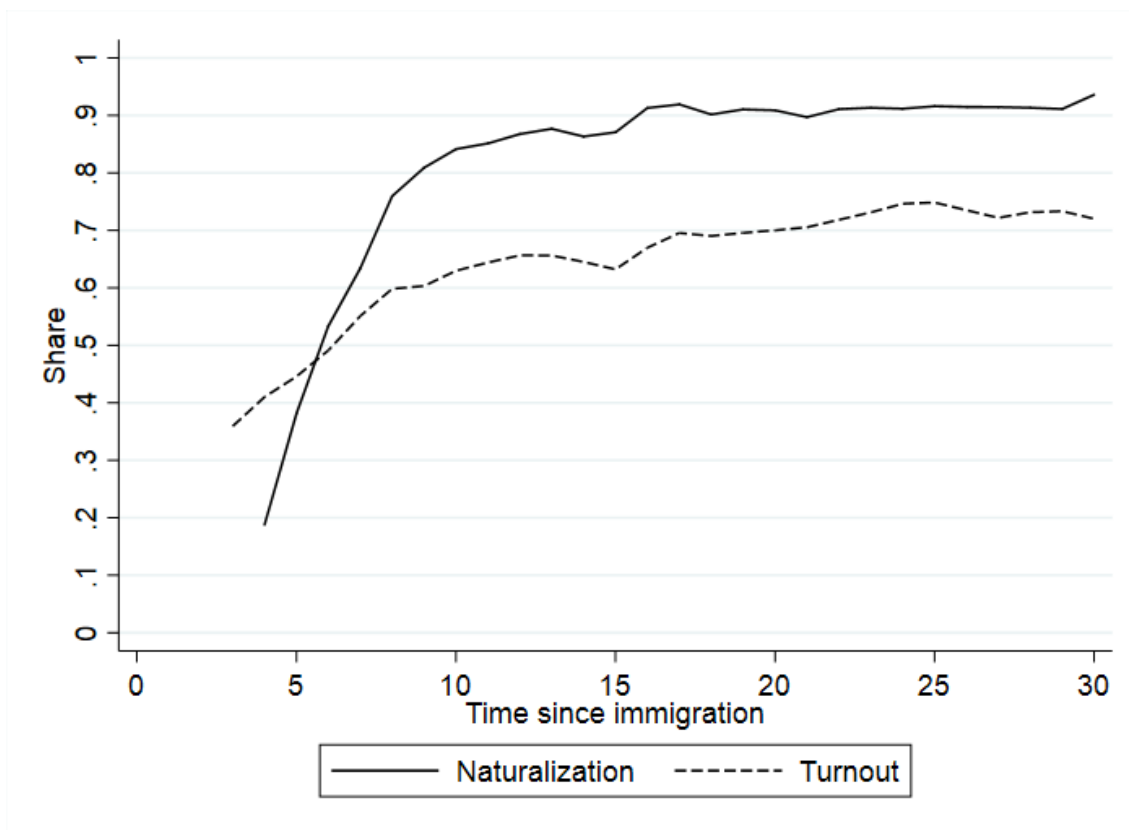


Figure 3 Naturalization rate and voter turnout in 2010 by time in country

Source: Own calculations.

One thing to note is that both the naturalization rate and voter turnout increase over time. Among immigrants from non-EU countries who have lived in Sweden for 30 years, about 90 percent are naturalized citizens and 70 percent voted in the municipal election. From the figure we can also see that the process of political integration is fastest during the first decade after arrival. This trend is thus consistent with the claim that there is an “integration window” during which immigrants are most likely to integrate (Ferwerda, Finseraas, and Bergh 2017). The question that we ask in this study is how the timing of voting eligibility within this time period affects subsequent political integration.

4 Data

To study the integrative effects of voting eligibility for noncitizens we combined register data from Statistics Sweden with information on voting eligibility cutoff dates. The main data source is a population register (*Historiska FBR*) that records all changes in the Swedish population. When a person immigrates to Sweden, this event will generate a new row in the register containing a personal identifier and an immigration date. There is, however, no information on the reason for immigration, and thus we cannot readily discriminate between different types of immigrants, such as refugees and labor migrants. The register goes back to 1969, which means that it covers all migrations in the period surrounding all voting eligibility cutoff dates analyzed. Between 1969 and 1997 immigration was only recorded on a weekly basis in the register. All immigrants were assigned an exact immigration date, but it was always assigned to a Monday. For this period, we use these “Monday” dates to define voter eligibility status (i.e. immigration before or after a cutoff), but we are not sure whether the Election Authority has access to more precise data to determine eligibility. If they used the same information as we had access to, then we have correctly classified their voter eligibility status. If they had more precise information on date of immigration, however, we may have misclassified some of the voter eligibility statuses in our data, which would introduce some attenuation bias. However, since we look at arrivals over quite wide windows around the eligibility cutoffs, the number of potentially misclassified individuals will be very small in relation to the total sample; thus it is unlikely that this potential misclassification poses a problem for our analysis. This register also records changes in citizenship status, following the same procedure as above. The population register covers all events up to and including 2014. This dataset can be linked to other registers at Statistics Sweden through the personal identifier. In particular, it can be linked to a register containing information on gender, year of birth, and country of birth, for almost all individuals who appear in any Swedish register.²⁰

We made five important restrictions to our sample. First, we only included immigrants who have exactly one recorded immigration to Sweden. This restriction rules out circular migrants. Second, we required that the immigrants be at least 16 years

²⁰ The country of birth variable has varying degree of precision for reasons of confidentiality. On some occasions nearby countries share the same code, i.e., only region of birth can be determined. See Appendix A for the country codes included in the main analysis.

of age at the time of immigration. This restriction ensures that they were over 18 years of age at the time of the relevant election, which is a basic criterion for voting eligibility. Third, we dropped immigrants who died, out-migrated, or became Swedish citizens within three years of the time of immigration. We made this restriction, since we think about the treatment as occurring when the eligible immigrants receive their voting eligibility certificate by mail, which happens about one month before the election (i.e., around three years after immigration for those who immigrate close to a voting eligibility cutoff). Immigrants who died or out-migrated within three years will obviously never be eligible to vote, and immigrants who managed to become Swedish citizens would have the right to vote no matter whether they immigrated just before or just after a voting eligibility cutoff.²¹ Immigrants who out-migrated after they had spent three years in Sweden, however, were not dropped from the analysis, since we consider out-migration as a potential outcome. Although we did not find any significant effects on out-migration (see Table C1 in the Appendix), we were hesitant to make sample inclusion conditional upon events that took place after individuals acquired voter eligibility. Fourth, we dropped immigrants for whom country of birth was not available, since this piece of information is needed to know what eligibility rules apply to a person. Fifth, all individuals from other EU or Nordic countries were excluded from the main analysis, since voter eligibility rules changed for this group during the course of our period of analysis (see section 3.2 for a discussion of this sample restriction). We do, however, present results for these groups separately.

We analyzed the effect of voting eligibility on subsequent voter turnout using a separate but very similar dataset.²² Just like the dataset described above, this dataset contains full information on all cases of immigration since 1969, as well as detailed information on various demographic and socioeconomic characteristics. Unfortunately, this dataset includes data on citizenship status only starting in 1990, which is why we do not use it when analyzing the potential effect on naturalizations. On the other hand, thanks to a recent effort to scan and digitize the complete electoral rolls for the 2010 general election, this dataset includes validated individual-level turnout information for 95 percent of the electorate (Lindgren, Oskarsson, and Persson 2017). The reliability of

²¹ We have also estimated models without this restriction, and it had very little effect on the results.

²² The datasets cannot be merged, since the personal identifiers used in the two datasets are different for reasons of confidentiality.

the digitized data is very high. When validated against a manually coded subset of these data, we find agreement in 99.7 percent of cases.²³ Apart from the sample restrictions described above we also required all individuals to have been residing in Sweden in 2010 when studying electoral participation.

5 Empirical model

We have previously explained how immigrants' wait time for voting eligibility will depend on their timing of their immigration in relation to the next election. Immigrants who are registered in Sweden slightly more than three years before an election have a substantially shorter waiting time than immigrants who are registered in Sweden slightly less than three years before an election. These voting eligibility cutoffs might appear perfect for use of a regression discontinuity design, since it seems unreasonable that some immigrants should make special efforts to immigrate before rather than after a cutoff just to reduce their wait time to voting eligibility. We can safely assume that most immigrants are unaware of the existence of voting eligibility cutoffs at the time of immigration. Even if some miniscule number of immigrants cared about immigrating just before rather than after a cutoff, they cannot control the exact date of registration in Sweden.

However, there are obviously natural fluctuations in immigration flows to Sweden over time, both in terms of volume and composition. This natural variation can give rise to differences in observable and unobservable characteristics between immigrants on either side of the voting eligibility cutoff dates. We might assume that such differences are erased if we restrict our attention to immigration immediate before and after a voting eligibility cutoff date (for example, only a couple of weeks in either direction), but it turns out that there are large seasonal variations in immigration to Sweden in any given year. This seasonal variation is particularly pronounced in the June-September period, which is when voting eligibility cutoffs fall; this makes it difficult to achieve balanced covariates around the cutoffs using a standard regression discontinuity design.²⁴ Instead, we have chosen to employ a “difference-in-discontinuities” design (see Grembi, Nannicini and Troiano 2016 for the original implementation of the method). With this

²³ See the Appendix in Lindgren, Oskarsson and Persson (2017) for a more detailed description of these data.

²⁴ E.g. during the early autumn many international students arrive to Sweden; we tested removing this group and it did decrease the imbalances, but it did not resolve the overall problem.

method we looked at data from years both with and without voting eligibility cutoffs. In the years without cutoffs, we constructed imaginary (or fake) cutoffs that would fall on the same dates of the year as the real cutoffs. The idea was to use the potential discontinuities at the fake cutoffs to purge potential discontinuities at the real cutoffs from confounding factors. Equation 1 below gives the formal empirical model:

$$Y_i = \beta_0 + \beta_1 I[Before]_i + \beta_2 I[Before]_i * I[Real]_i + \gamma_t + \varepsilon_i \quad (1)$$

Y_i is an integration outcome: citizenship acquisition within seven years after immigration. $I[Before]$ is an indicator variable taking the value 1 if immigration occurred before a voting eligibility cutoff (fake or real). $I[Real]$ is an indicator variable taking the value 1 if immigration occurred during a year with a real voting eligibility cutoff. γ_t represents year fixed effects and ε_i is an error term. The inclusion of the year fixed effects is the reason why $I[Real]$ does not appear by itself in the model. A model with year dummies is less restrictive, since we allow the intercept to vary across all years rather than just between fake cutoff years and real cutoff years. β_1 captures the difference in the outcome between the immigrants on the two sides of the fake cutoffs: that is, it picks up differences that appear in years where there is no real voting eligibility cutoff. The model will, of course, be estimated using several different data windows around the cutoff.

The parameter of interest is β_2 , which captures the difference in outcomes between immigrants on either side of the cutoffs in real cutoff years compared to fake cutoff years. Essentially, the estimate of β_2 tells us if the pattern around the cutoff looks different in years when there actually are real voting eligibility cutoffs compared to the baseline years. The identifying assumption required for a causal interpretation of β_2 is that the seasonal variation in immigration is fairly constant across years. In order to make this assumption more plausible we only use baseline years that are directly adjacent to the real cutoff years, i.e. with respect to the real cutoff in 1973 we use 1972 and 1974 as baseline years, and so on.

The most direct way of testing the validity of this assumption is to plug in pre-determined variables as the outcome in Equation 1. By *predetermined* we mean that the variables should be determined already at the point of immigration. The predetermined

variables that we have access to are gender, age at immigration, marital status at immigration, and country (or group) of origin. We aggregated source country information into the following six categories: Bosnia-Herzegovina, Asia, Africa, Latin America, Canada/USA/Oceania, and Middle East/Northern Africa (see Appendix A).

Table 2 shows estimates of β_1 (Before) and β_2 (Before * Real) from Equation 1 type models where the predetermined variables have been used as outcomes. Three different data windows have been used: the full year, the second half of the year, and a window consisting of 30 days on either side of the cutoffs. The estimates of β_1 (Before) show that immigrants who immigrated before and after the fake cutoffs in the baseline years are significantly different from each other. This becomes particularly apparent when using the small data window in Panel C, which highlights the problem with using a regression discontinuity design as discussed above. The overall picture from Table 2, however, suggests that the “diff-in-disc” strategy is valid. There are a few significant estimates of β_2 (Before * Real), but this is quite natural given the number of models estimated. However, the fact that two (weakly) significant estimates appear when using the full-year data window indicates that this specification should be used with some caution.

We have chosen to cluster the standard errors on the year of immigration level (33 clusters), on the logic that those who immigrate in a given year are likely to be subject to the same set of institutions and general environment. For instance, as new laws often come into effect on January 1 we find the one-year aggregation to be suitable, since broader aggregation levels (such as two-year periods) can include immigrants who face different institutions and who therefore are less likely to have correlated error terms. Clustering on a lower level (e.g. month of immigration) will, of course, lead to even more similarity in immigration environment within clusters, but here we follow the conventional practice of clustering on the highest level where some correlation in error terms can be expected to exist.²⁵

²⁵ Note that in addition to clustering on the year-of-immigration level, we include immigration year fixed effects in the model. According to Cameron and Miller (2015), it is not controversial to cluster standard errors on the same level as the one for which you include fixed effects; indeed, it is something that they recommend. We have also estimated models with standard errors clustered on year-of-immigration *and* birth country (two-way cluster) and on the combination of the two variables. In both cases, precision is marginally improved, but the general outcome of the analysis remains unchanged.

Table 2 Validity check, predetermined variables

Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(10)
Outc.	Male	Age	Married	Bosnia	Asia	Africa	Latin	C/US/O	M_East
Panel A: Data window is month 1–12									
Before	0.008 (0.006)	-0.252 (0.232)	-0.034*** (0.006)	0.028 (0.021)	0.026* (0.014)	-0.014 (0.009)	0.005 (0.007)	0.005* (0.003)	-0.050*** (0.012)
Before* Real	-0.021* (0.011)	0.414 (0.307)	0.007 (0.017)	-0.025 (0.022)	0.008 (0.022)	-0.000 (0.014)	0.005 (0.010)	0.009** (0.004)	0.003 (0.022)
N	391,042	391,042	391,042	391,042	391,042	391,042	391,042	391,042	391,042
Mean	0.507	31.370	0.584	0.072	0.195	0.120	0.110	0.044	0.458
Panel B: Data window is month 7–12									
Before	0.013 (0.008)	-0.825*** (0.209)	-0.063*** (0.016)	0.006 (0.008)	0.063*** (0.021)	-0.021* (0.011)	0.004 (0.003)	0.015*** (0.002)	-0.067*** (0.013)
Before* Real	-0.015 (0.014)	0.110 (0.441)	-0.001 (0.033)	-0.014 (0.009)	0.001 (0.035)	0.003 (0.013)	0.005 (0.008)	0.008* (0.004)	-0.003 (0.026)
N	193,232	193,232	193,232	193,232	193,232	193,232	193,232	193,232	193,232
Mean	0.509	30.948	0.572	0.046	0.212	0.123	0.106	0.049	0.464
Panel C: Data window is +/- 30 days from cutoff									
Before	0.035*** (0.013)	-0.869*** (0.291)	-0.069*** (0.023)	0.003 (0.007)	0.077*** (0.022)	-0.026*** (0.008)	-0.010* (0.005)	0.010*** (0.003)	-0.054*** (0.012)
Before* Real	-0.018 (0.017)	-0.248 (0.650)	-0.004 (0.043)	-0.011 (0.009)	-0.004 (0.038)	0.013 (0.012)	0.012 (0.008)	-0.001 (0.004)	-0.009 (0.032)
N	74,134	74,134	74,134	74,134	74,134	74,134	74,134	74,134	74,134
Mean	0.532	30.599	0.542	0.045	0.240	0.121	0.102	0.048	0.444

Note: Asterisks indicate that the estimates are significantly different from zero at the ***1% level, **5% level, and *10% level. Both age and marital status are measured in the year of immigration. Standard errors clustered on year of immigration are in parentheses. The years included are 1972–1992, 1994–1996, 1998–2000, 2002–2004 and 2006–2008.

6 Results

In this section we present our main results. We start by discussing our results regarding naturalizations and then proceed with results regarding voting behavior.

6.1 Effects on naturalizations

Table 3 presents an overview of how the opportunity to vote in local elections after about three years compared to six to seven years affects subsequent likelihood of naturalization. As outcomes we use indicator variables for having naturalized within 4–10 years of the date of immigration. Just as in Section 5, the model is estimated using three different data windows (the full year, the second half of the year, and a window

consisting of 30 days on either side of the cutoff date). All models, however, yield similar results: namely that the being eligible to vote sooner is not significantly related to subsequent naturalization. While there are differences in naturalization rates between immigrants who immigrated before and after the fake cutoffs in the baseline years (see the estimates associated with the dummy variable “Before” in Panels B and C), there is no evidence that these differences exist in years with real cutoff dates (see the estimates associated with the interaction variable “before * real”). The fact that we observe differences in naturalization rates around the dummy cutoffs can be explained by the imbalances in the predetermined covariates that we saw in Table 3.

The point estimates of the coefficient on the interaction variable (β_2 from Equation 1) are generally negative and quite small in relation to the mean. Because of statistical uncertainty, however, we cannot rule out the existence of quite substantial negative effects. A 95% confidence interval around the estimate in column (4) of Panel C, for example, includes negative effects of up to 12 percentage points (the baseline naturalization rate after seven years is about 45%). Importantly, however, we can rule out the existence of substantial positive effects from earlier opportunities to vote on the subsequent likelihood of naturalization. The main message from Table 3, therefore, is that it is unlikely that earlier voting opportunities speed up the naturalization process.²⁶

So far we have only looked at average outcomes; since there is substantial heterogeneity among the immigrants in the studied sample it is still possible that some immigrant groups react to earlier voting opportunity while others do not. Therefore, we have performed heterogeneity analyses along several different dimensions. The results from these analyses are presented in Table 4.

²⁶ In Appendix B (Table B1), we show the average effects of voting eligibility for individuals born in the EU or Nordic countries. This group was excluded from the main analysis, since the voting eligibility rules for these groups changed during the period of analysis (see the discussion in Section 3.2). The results show no signs that voting rights had an effect on naturalization. Thus, the results presented in the appendix are in line with the results discussed in this section.

Table 3 Main results with respect to naturalizations

Outcome:	Becomes a citizen within:						
Column:	4 years (1)	5 years (2)	6 years (3)	7 years (4)	8 years (5)	9 years (6)	10 years (7)
Panel A: Data window is month 1–12							
Before	-0.004 (0.005)	-0.002 (0.010)	-0.017 (0.011)	-0.010 (0.016)	-0.004 (0.015)	-0.007 (0.015)	-0.008 (0.015)
Before* Real	-0.001 (0.010)	-0.025* (0.014)	-0.023 (0.021)	-0.031 (0.023)	-0.018 (0.022)	-0.015 (0.023)	-0.019 (0.021)
N	391,042	391,042	391,042	359,646	297,203	297,203	297,203
Mean	0.083	0.210	0.405	0.497	0.549	0.600	0.636
Panel B: Data window is month 7–12							
Before	-0.007 (0.006)	-0.022** (0.010)	-0.058*** (0.016)	-0.048** (0.017)	-0.038** (0.015)	-0.042** (0.018)	-0.044** (0.018)
Before* Real	-0.007 (0.009)	-0.021 (0.013)	-0.020 (0.031)	-0.040 (0.031)	-0.016 (0.022)	-0.013 (0.025)	-0.017 (0.025)
N	193,232	193,232	193,232	175,194	142,319	142,319	142,319
Mean	0.084	0.206	0.394	0.484	0.536	0.586	0.622
Panel C: Data window is +/- 30 days from cutoff							
Before	-0.015** (0.007)	-0.025* (0.013)	-0.055** (0.022)	-0.043** (0.018)	-0.035* (0.020)	-0.038 (0.022)	-0.038* (0.022)
Before* Real	0.001 (0.010)	-0.017 (0.020)	-0.029 (0.040)	-0.053 (0.036)	-0.029 (0.027)	-0.027 (0.031)	-0.024 (0.032)
N	74,134	74,134	74,134	66,577	54,038	54,038	54,038
Mean	0.074	0.190	0.363	0.454	0.517	0.565	0.601

Note: Asterisks indicate that the estimates are significantly different from zero at the ***1% level, **5% level, and *10% level. Standard errors clustered on year of immigration are in parentheses. This table includes the years 1972–1992, 1994–1996, 1998–2000, 2002–2004 and 2006–2008. Year 2008 was dropped in column (4). Years 2006–2008 were dropped in columns (5–7). These years were dropped because we can only follow naturalizations through 2014. See Appendix A for a list of the birth country groups.

For ease of presentation, Table 4 only shows results from the model where we only included immigrants who immigrated during the second half of the year.²⁷ In Panel A, we break down the results of the model by gender. There are no differences between men and women, and thus the gender-specific estimates are in line with the aggregate results. We reach the same conclusion when we split the sample into different age groups (less than or more than 29 years of age) and marital status (married or unmarried) at immigration. In Panel D, we estimate the model separately for the six

²⁷ The results do not change much across the different data windows. The number of observations in the different analyses in Table 4 ranges from about 8,000 (Bosnia-Herzegovina in Panel D) to about 150,000 (late elections in Panel E).

birth country groups that we used in Table 2 (validity check). Two things should be noted from the analysis by birth country group. First, there are some weak indications that immigrants from Africa speed up their naturalization process as a result of achieving the right to vote sooner. The effects are rather uncertain and not statistically significant on conventional levels, but we cannot rule out the possibility that earlier voting eligibility has important positive effects on the speed of naturalization for this group. Second, the results suggest that immigrants from Canada, the United States, and Oceania decrease their naturalization rates in the very short run as a result of the earlier voting eligibility.²⁸ The precision of these estimates, however, is exaggerated, because of the combination of relatively few clusters (33) and relatively few observations per cluster (around 250). If we instead use robust standard errors, the estimates are no longer significant. Thus, we cannot say for sure whether this group of immigrants is negatively affected by the earlier voting eligibility. None of the other groups stands out in relation to the aggregate results.

Ferwerda, Finseraas, and Bergh (2017) found that the effect of earlier voting eligibility on subsequent voting varies depending on the democratic status of the source country. Any short-term positive effect on subsequent voting was restricted to immigrants from nondemocratic countries. This finding suggests that categorizing immigrants by prior democratic experience is more appropriate and informative than simply geography. However, given the coarse nature of our data's information on birth country, we cannot implement such a categorization in a meaningful way.²⁹ Still, there is arguably variation in democratic traditions across the birth country groups shown in Table 4. Within our birth country groups, the Sub-Saharan Africa and Middle East/North Africa groups are, on average, less democratic. But as Table 4 shows, there is little to suggest that this variation in democratic tradition matters for the effects we identified.

We have also investigated whether the effects depend on the reason for immigration to the extent that it is possible. In particular, we have made an attempt to isolate a group of refugees to explore whether the effects for refugees are different from the overall effects. While there are many reasons for immigration (e.g. refugee, work, and

²⁸ Immigrants from Canada and United States make up about 80% of the immigrants in this birth country group.

²⁹ Since different countries with varying democratic culture on several occasions belong to the same code, there would always be a lot of measurement error when trying to impute degree of democratic culture.

reunification) our data allow us to break out (a subsample of) the refugees. As noted in Section 4, we cannot directly observe the reason for immigration in the registers but we can indirectly identify *refugees* by using the combination of birth country and year of immigration. As an example, Sweden experienced a large inflow of refugees from Chile in the late 1970s following the coup d'état in 1973. Thus, immigrants from Chile (which is one of the few countries with a unique code in our data) who arrived in Sweden in the immediate post-1973 period have a high likelihood of being refugees. Using several such push-related migration flows, we obtain a large sample that we can identify as refugees with a fair degree of certainty (see Appendix D for details). The results from this analysis are presented in Table D1 in the Appendix. Again, the effects are similar to the overall effects in Table 3, suggesting that refugees behave similarly to other groups of immigrants.

Finally, Panel E examines whether the importance of earlier voting eligibility has changed over time. We divide the time period under analysis into two parts: an early period which includes the five elections that took place between 1976 and 1988, and a later period which includes the six elections that took place between 1991 and 2010. Again, we found no significant effects. There are indeed some quite large negative estimates in the earlier period, but statistical uncertainty is also substantial. In fact, if anything, we suspect we have underestimated the standard errors, since the number of clusters is quite low (around 15).

Table 4 Heterogeneity: Naturalizations

Outcome:	Becomes a citizen within:						
Col.	4 years (1)	5 years (2)	6 years (3)	7 years (4)	8 years (5)	9 years (6)	10 years (7)
Panel A: Gender (w=women, m=men)							
Before*	-0.005	-0.012	-0.016	-0.036*	-0.012	-0.014	-0.018
Real (w)	(0.007)	(0.011)	(0.022)	(0.019)	(0.018)	(0.020)	(0.020)
Before*	-0.007	-0.027	-0.023	-0.040	-0.019	-0.011	-0.014
Real (m)	(0.013)	(0.019)	(0.040)	(0.043)	(0.027)	(0.031)	(0.032)
Panel B: Age (y=young [16–29], o=old [above 29])							
Before*	-0.004	-0.021	-0.024	-0.042	-0.011	-0.003	-0.011
Real (y)	(0.011)	(0.015)	(0.035)	(0.037)	(0.026)	(0.030)	(0.031)
Before*	-0.010	-0.022*	-0.009	-0.025	-0.021	-0.023	-0.022
Real (o)	(0.008)	(0.012)	(0.021)	(0.020)	(0.022)	(0.023)	(0.023)
Panel C: Marital status (m=married, u=unmarried)							
Before*	-0.006	-0.019*	-0.014	-0.019	-0.011	-0.010	-0.015
Real (m)	(0.008)	(0.011)	(0.016)	(0.015)	(0.017)	(0.018)	(0.018)
Before*	-0.007	-0.022	-0.020	-0.046	-0.021	-0.016	-0.018
Real (u)	(0.014)	(0.019)	(0.041)	(0.045)	(0.032)	(0.036)	(0.037)
Panel D: Birth country group (b=Bosnia-Herzegovina, as=Asia, af=Africa, lat=Latin America, c=Canada/USA/Oceania, m=Middle East/North Africa)							
Before*	-0.039	-0.071*	0.043	-0.003	0.010	0.011	0.006
Real (b)	(0.025)	(0.037)	(0.047)	(0.041)	(0.041)	(0.037)	(0.042)
Before*	0.003	-0.022	-0.022	-0.050	-0.034	-0.028	-0.034
Real (as)	(0.014)	(0.023)	(0.029)	(0.032)	(0.040)	(0.046)	(0.049)
Before*	0.001	-0.012	0.015	0.016	0.036*	0.009	0.008
Real (af)	(0.011)	(0.019)	(0.017)	(0.029)	(0.019)	(0.024)	(0.021)
Before*	-0.009	-0.015	-0.007	-0.024	-0.015	-0.005	-0.014
Real (lat)	(0.010)	(0.017)	(0.021)	(0.023)	(0.022)	(0.021)	(0.023)
Before*	-0.015**	-0.016**	-0.005	-0.005	-0.005	0.002	0.005
Real (c)	(0.007)	(0.006)	(0.010)	(0.011)	(0.012)	(0.012)	(0.016)
Before*	-0.010	-0.018	-0.022	-0.035	-0.015	-0.006	-0.008
Real (m)	(0.014)	(0.015)	(0.030)	(0.028)	(0.012)	(0.012)	(0.012)
Panel E: Time period (e=early [elections in 1976–1988], l=late [elections in 1991–2010])							
Before*	-0.000	-0.048	-0.050	-0.044	-0.041	-0.034	-0.040
Real (e)	(0.004)	(0.038)	(0.034)	(0.034)	(0.031)	(0.028)	(0.030)
Before*	-0.008	-0.016	-0.014	-0.036	-0.008	-0.006	-0.010
Real (l)	(0.011)	(0.014)	(0.035)	(0.035)	(0.027)	(0.031)	(0.031)

Note: Asterisks indicate that the estimates are significantly different from zero at the ***1% level, **5% level, and *10% level. Standard errors clustered on year of immigration in parentheses. Included years are 1972–1992, 1994–

1996, 1998–2000, 2002–2004 and 2006–2008. Year 2008 is dropped in column (4). Years 2006–2008 are dropped in columns (5–7). These years are dropped because we can only follow naturalizations until 2014.

6.2 Effects on voting behavior

In this section, we turn our interest to an alternative indicator of political integration, namely voter turnout. The first column of Table 5 shows how earlier access to voting opportunities affected participation in the 2010 municipal election. The outcome in the second column is turnout in the 2010 parliamentary election, in which voting was only open to citizens. This means that the second column will estimate the effect of earlier access to voting opportunities on immigrants who chose to naturalize. Similar to before, we present the results for three different data window models, shown in panels A to C.

Table 5 Main results on voting

Column:	(1)	(2)
Outcome:	Voted 2010 municipality election	Voted 2010 parliamentary election
Panel A: Data window is month 1–12		
Before	0.004 (0.005)	0.002 (0.005)
Before*Real	0.009 (0.009)	0.006 (0.006)
N	228,195	201,902
Mean	0.667	0.695
Panel B: Data window is month 7–12		
Before	-0.006 (0.008)	-0.000 (0.005)
Before*Real	0.007 (0.012)	0.002 (0.009)
N	107,329	92,997
Mean	0.659	0.692
Panel C: Data window is +/- 30 days from cutoff		
Before	-0.011 (0.011)	-0.000 (0.006)
Before*Real	0.002 (0.014)	-0.007 (0.010)
N	39,082	33,732
Mean	0.653	0.693

Note: Asterisks indicate that the estimates are significantly different from zero at the ***1% level, **5% level, and *10% level. Standard errors clustered on year of immigration in parentheses. Included years are 1972–1992, 1994–1996, 1998–2000, 2002–2004. See Appendix A for a list of the included birth country groups.

As can be seen from the table, we find no evidence that immigrants who were eligible to vote sooner after arriving were more likely to vote in subsequent elections. Depending on specification the point estimate of the electoral cutoff varies from -0.7 to 0.9 percentage points, and in no case does the coefficient come close to being statistically significant.³⁰

To judge from these results, it appears there is no long-lasting overall effect on turnout from earlier voting eligibility. It could still be the case, however, that earlier voting eligibility is of importance for particular immigrant subgroups. To examine this, we perform a set of heterogeneity analyses similar to those previously reported for the naturalization outcomes. The results are presented in Table 6. For ease of presentation, we again only show results for the data window including individuals who immigrated between July and December a particular year, but the results for the other data windows look very similar.

In Panel A, we estimate separate effects for women and men. Although the effects are statistically insignificant in both groups, there is a tendency for the point estimates to be larger among men. A similar pattern is observed in Panel B as well, in which the point estimates appear to be somewhat larger for those arriving in Sweden when they are older.³¹

In Panel C, we instead estimate the model separately for the six birth country groups discussed above. The most noticeable thing is the very large and statistically significant effect for immigrants coming from Bosnia-Herzegovina. According to the estimates, individuals in this group who received the right to vote after three rather than six or seven years were more than 8 percentage points more likely to vote in the 2010 elections. Nonetheless, given that this effect is estimated based on a rather small number of individuals—about 6700—we believe this finding should be interpreted with some caution. We did not observe any statistically significant effects from earlier voting eligibility for the remaining country groups, although the point estimates are rather

³⁰ When we studied naturalizations, we included a separate analysis for immigrants born in the EU or Nordic countries (see Appendix B, Table B1). We have chosen to not include the corresponding results for turnout in the 2010 election. The primary reason for dropping this analysis is that the studied group would primarily consist of immigrants who immigrated before the early 1990s. Thus, we would estimate a long-term effect that would not be comparable to the estimates in Table 5.

³¹ Marital status at immigration is not available for the entire time period in this data set, which is why this analysis is not included in Table 6.

large, but with opposite signs, for immigrants from Latin America on the one hand, and from Canada/USA/Oceania on the other.

So far we have been assuming that the effect of earlier voting eligibility on 2010 turnout is the same for those immigrating to Sweden in the early 1970s and early 2000s. In Panel D we check the viability of this assumption by performing separate analyses for those arriving before and after 1990. We find little evidence, however, that the effect is markedly different depending on time of arrival. This finding is further supported by the results presented in Panel E, analyzing the short-term effect of voting eligibility in the 2006 election on 2010 turnout. This is the type of effect studied by Ferwerda, Finseraas, and Bergh (2017). However, in contrast to the Norwegian study we did not see any overall effects of earlier voting eligibility, even in the short run.

As an additional sensitivity analysis, we also investigated whether the effects look different for the “refugee sample” discussed above, including immigrants from Bosnia, Chile, Iran, Iraq, and Somalia. However, as can be seen in Table D2 of the Appendix, we obtained very similar results for this subsample.³²

³² The fact that we do not see any effect in the refugee sample as a whole further underscores that the positive effects found for individuals from Bosnia in Panel C of Table 6 should be interpreted with great caution.

Table 6 Heterogeneity voting

Column:	(1)	(2)
Outcome:	Voted 2010 municipality election	Voted 2010 parliamentary election
Panel A: Gender (w=women, m=men)		
Before*	-0.006	-0.022
Real (w)	(0.014)	(0.015)
Before*	0.020	0.025
Real (m)	(0.015)	(0.010)
Panel B: Age (y=young [16–29], o=old [above 29])		
Before*	-0.009	-0.015*
Real (y)	(0.013)	(0.008)
Before*	0.028*	0.025
Real (o)	(0.014)	(0.015)
Panel C: Birth country group (b=Bosnia-Herzegovina, as=Asia, af=Africa, lat=Latin America, c=Canada/USA/Oceania, m=Middle East/Northern Africa)		
Before*	0.084***	0.088***
Real (b)	(0.021)	(0.028)
Before*	0.004	-0.005
Real (as)	(0.017)	(0.026)
Before*	-0.011	-0.009
Real (af)	(0.018)	(0.020)
Before*	0.025	0.024
Real (lat)	(0.021)	(0.021)
Before*	-0.021	-0.023
Real (c)	(0.039)	(0.044)
Before*	-0.003	-0.009
Real (m)	(0.007)	(0.007)
Panel D: Time period (e=early [elections in 1976–1988], l=late [elections in 1991–2006])		
Before*	-0.005	-0.003
Real (e)	(0.011)	(0.011)
Before*	0.014	0.005
Real (l)	(0.017)	(0.012)
Panel E: Short run effect, immigrated 2002–2004		
Before*	0.013	-0.025
Real	(0.011)	(0.019)

Note: Asterisks indicate that the estimates are significantly different from zero at the ¹1% level, ²5% level, and ³10% level. Standard errors clustered on year of immigration in parentheses (except for Panel E in which regular standard errors are used). Included years are 1972–1992, 1994–1996, 1998–2000, and 2002–2004. The data window is month 7–12 in all specifications.

7 Conclusions

In this paper we have examined the short- and long-term effects of local voting rights for foreign citizens on integration outcomes. Voting rights for foreign citizens are more common today than ever before, and foreign citizens can now vote in more than sixty countries (Immigrant Voting Project Website 2017). The right to vote is normally limited to regional or local elections, although there are at least four countries where foreigners can vote in national elections (Rodríguez 2010).

There are several arguments in favor of enfranchising foreign citizens, which potentially can also explain why voting rights have been introduced in many countries. One of the main arguments is that extending the franchise to foreign citizens strengthens the democratic legitimacy of a society. A second argument in favor of voting rights is that giving foreign citizens the right to vote protects the political interests of the immigrant population.

Another argument builds on the belief that the right to vote enhances immigrants' integration into society. In light of abundant research demonstrating the generally poor economic outcomes of immigrants upon arrival in a new country relative to the native-born population (for overviews, see, e.g., Borjas 1999, Duleep 2015, and Kerr and Kerr 2011), this is an interesting claim, not least from a policy perspective. A similar gap has also been observed for various political outcomes, such as voting or running for office in local or national elections (Ramakrishnan and Espenshade 2001; Dancygier et al. 2015). However, systematic studies on the relationship between noncitizen voting rights and the social and political inclusion of immigrants are largely lacking (see Ferwerda, Finseraas, and Bergh (2017) for an exception). A central question is, therefore, whether it is possible to find any empirical support for this claim.

To this end, we have examined whether earlier voting opportunities affected the likelihood the immigrants would naturalize, and their propensity to vote in subsequent elections—two outcomes that are likely to capture important dimensions of their level of political integration.

The Swedish electoral system introduced local-election voting rights for non-nationals in 1976. The right to vote is conditional on having spent at least three years in Sweden on election day. This implies a discontinuity in the wait time before the first opportunity to vote and run for office in municipal and county elections. In this study

we have used this discontinuity to study the impact of being able to vote earlier rather than having to wait longer.

According to the results, the timing of voting eligibility for immigrants affects neither their likelihood of naturalizing nor their propensity to vote in future elections. Our results thus differ from those of a recent study using Norwegian data and a similar identification strategy (Ferwerda, Finseraas, and Bergh 2017). In that study, the authors found that earlier voting eligibility increased turnout in the next subsequent election, although the effect was restricted to immigrants from nondemocratic countries.

The current study differs from the Norwegian study in several important respects. First, and most importantly, we examined how the timing of eligibility affects the decision to naturalize. Second, we did not only study the short-term effect of earlier eligibility on voting, but also the long-term effect. We should, however, note that when we examined the short-term effect, in a fashion similar to the approach used in the Norwegian study, we found no support for a positive effect on voter turnout. It is not clear why there was a difference between the Swedish and Norwegian outcomes.

We found no indications that earlier voting eligibility had an effect on the political integration of immigrants, a finding that held regardless of whether we examined short-term or long-term effects, and we also found no apparent heterogeneity in the effects along dimensions such as marital status, age, gender, and birth country (by broad groups). Our conclusions also hold for the entire period of immigration and elections since the introduction of voting rights in 1976. Thus, taken together, earlier voting opportunities do not appear to be an effective means to increase the political integration of the immigrant population despite the widespread belief that they do. However, we should note that we cannot rule out the possibility that earlier voting opportunities may affect immigrants along dimensions that we were not able to observe, such as trust in the government and identification with the host country. Yet, to the extent that such effects may exist, they do not appear to be strong enough to affect the likelihood of naturalization or of voting in subsequent elections.

The fact that we failed to find evidence that earlier voting eligibility for immigrants enhanced political integration in the longer run does not imply that the enfranchisement of noncitizens is not valuable or important. For instance, there is evidence that the introduction of voting rights for noncitizens in Sweden led to changes in public policies

in municipalities with a large immigrant population (Vernby 2013). From a democratic point of view, reforms aimed at enfranchising noncitizens can therefore be of great value, even if the earlier access to voting opportunities does not affect the likelihood that immigrants will naturalize or vote in future elections.

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Appendix A: Birth country groups used in the main analysis

Former Yugoslavia:

Bosnia and Herzegovina.

North America and Oceania:

Canada, USA, Australia, Fiji, Kiribati, Micronesia, Nauru, New Zealand, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Vanuatu.

Latin America:

Antigua and Barbuda, Bahamas, Barbados, Belize, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Saint Lucia, Saint Kitts and Nevis, Anguilla, Saint Vincent and the Grenadines, Trinidad and Tobago, Chile, Argentina, Bolivia, Brazil, Colombia, Ecuador, Guyana, Paraguay, Peru, Surinam, Uruguay, Venezuela.

Sub-Saharan Africa:

Djibouti, Eritrea, Ethiopia, Somalia, Sudan, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cap Verde, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Equatorial Guinea, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Ivory Coast, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mauretania, Mauritius, Mozambique, Namibia, Niger, Nigeria, Republic of the Congo, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Swaziland, Tanzania, Togo, Uganda, Zambia, Zanzibar, Zimbabwe.

Middle East and North Africa:

Algeria, Bahrain, Cyprus, Egypt, Gaza, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Palestine, Qatar, Saudi Arabia, Syria, Tunisia, Turkey, United Arab Emirates, Yemen, Iran, Iraq, Turkey.

Asia:

China, Hong Kong, Japan, North Korea, South Korea, Burma, Indonesia, Laos, Malaysia, Philippines, Singapore, Thailand, Vietnam, Afghanistan, Bangladesh, Bhutan, Brunei, Cambodia, India, Maldives, Mongolia, Nepal, Oman, Pakistan, Sri Lanka.

Appendix B: Analysis based on individuals born in the EU

Birth country groups included in the EU analysis (eligibility cutoff 3 years prior):

bold = countries for which the eligibility rules change during the studied time period.

Finland (used for 1976–1994 elections).

Denmark (used for 1976–1994 elections).

Iceland and **Norway** (used for 1976–1994 elections).

Croatia, Former Yugoslavia (Serbia), FYR Macedonia and **Slovenia** (used for 1976–2002 elections).

Poland (used for 1976–2002 elections).

Ireland and the **UK** (used for 1976–1994 elections).

Germany (used for 1976–1994 elections).

Greece, **Italy**, **Malta**, Monaco, **Portugal**, San Marino, **Spain** and Vatican City State (used for 1976–1994 elections).

Estonia, **Latvia** and **Lithuania** (used for 1976–2002 elections).

Albania, Armenia, Azerbaijan, Belarus, **Bulgaria**, Georgia, Kazakhstan, Kyrgyzstan, Moldavia, **Romania**, Russia, Soviet Union, Tajikistan, Turkmenistan, Ukraine and Uzbekistan (used for 1976–2006 elections).

Hungary, **Czech Republic** and **Slovakia** (used for 1976–2002 elections).

Andorra, **Austria**, **Belgium**, **France**, Liechtenstein, **Luxembourg**, **Netherlands** and Switzerland (used for 1976–1994 elections).

Table B1 Effects on individuals born within the European Union

Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Outc.	Citizen_4	Citizen_5	Citizen_6	Citizen_7	Citizen_8	Citizen_9	Citizen_10
Panel A: Data window is month 1–12							
Before	-0.027 (0.020)	-0.022 (0.014)	-0.015 (0.011)	-0.012 (0.009)	-0.010 (0.007)	-0.010 (0.006)	-0.009 (0.006)
Before* Real	0.025 (0.022)	0.006 (0.019)	-0.006 (0.021)	-0.008 (0.020)	-0.007 (0.020)	-0.006 (0.021)	-0.008 (0.022)
N	201,980	201,980	201,980	201,980	201,980	201,980	201,980
Mean	0.052	0.114	0.196	0.247	0.282	0.306	0.325
Panel B: Data window is month 7–12							
Before	-0.019* (0.011)	-0.019*** (0.006)	-0.017*** (0.005)	-0.019** (0.007)	-0.020** (0.008)	-0.023*** (0.008)	-0.024*** (0.008)
Before* Real	0.009 (0.011)	-0.009 (0.011)	-0.022 (0.014)	-0.022 (0.015)	-0.019 (0.016)	-0.017 (0.017)	-0.016 (0.018)
N	106,227	106,227	106,227	106,227	106,227	106,227	106,227
Mean	0.059	0.119	0.195	0.243	0.275	0.298	0.316
Panel C: Data window is +/- 30 days from cutoff							
Before	-0.014** (0.006)	-0.015** (0.007)	-0.011* (0.006)	-0.015* (0.008)	-0.015* (0.009)	-0.018** (0.008)	-0.019** (0.008)
Before* Real	0.008 (0.007)	-0.006 (0.009)	-0.019* (0.011)	-0.011 (0.013)	-0.011 (0.015)	-0.008 (0.015)	-0.007 (0.014)
N	42,472	42,472	42,472	42,472	42,472	42,472	42,472
Mean	0.057	0.117	0.191	0.237	0.268	0.290	0.308

Note: Asterisks indicate that the estimates are significantly different from zero at the *** 1% level, ** 5% level, and * 10% level. Standard errors clustered on year of immigration in parentheses. Included years are 1972–1992, 1994–1996, 1998–2000 and 2002–2004.

Appendix C: Out-migration

Table C1 Effects on emigration

Outcome:	Emigrates within:						
Column:	4 years (1)	5 years (2)	6 years (3)	7 years (4)	8 years (5)	9 years (6)	10 years (7)
Panel A: Data window is month 1–12							
Before	0.004 (0.003)	0.009 (0.005)	0.010* (0.006)	0.007 (0.005)	0.004 (0.007)	0.006 (0.007)	0.006 (0.008)
Before* Real	0.005 (0.004)	0.009 (0.007)	0.011 (0.009)	0.013 (0.009)	0.007 (0.008)	0.006 (0.009)	0.006 (0.010)
N	391,042	391,042	391,042	359,646	297,203	297,203	297,203
Mean	0.030	0.052	0.071	0.084	0.093	0.105	0.116
Panel B: Data window is month 7–12							
Before	0.017** (0.007)	0.030*** (0.010)	0.037*** (0.011)	0.033*** (0.012)	0.028** (0.013)	0.031** (0.014)	0.032** (0.015)
Before* Real	0.005 (0.011)	0.014 (0.018)	0.014 (0.022)	0.019 (0.022)	0.007 (0.019)	0.006 (0.021)	0.007 (0.021)
N	193,232	193,232	193,232	175,194	142,319	142,319	142,319
Mean	0.035	0.061	0.082	0.096	0.104	0.117	0.129
Panel C: Data window is +/- 30 days from cutoff							
Before	0.020** (0.010)	0.035** (0.014)	0.043*** (0.015)	0.037** (0.016)	0.032* (0.019)	0.034 (0.020)	0.035 (0.021)
Before* Real	0.007 (0.017)	0.023 (0.028)	0.023 (0.031)	0.033 (0.031)	0.016 (0.030)	0.015 (0.032)	0.016 (0.033)
N	74,134	74,134	74,134	66,577	54,038	54,038	54,038
Mean	0.046	0.079	0.105	0.119	0.121	0.135	0.148

Note: Asterisks indicate that the estimates are significantly different from zero at the ***1% level, **5% level, and *10% level. Standard errors clustered on year of immigration in parentheses. Included years are 1972–1992, 1994–1996, 1998–2000, 2002–2004 and 2006–2008. Because we can only follow emigrations through 2014, the 8–10 year emigration endpoints only include persons who immigrated in 2006 or earlier and the 7-year endpoint only includes persons who immigrated in 2007 or earlier. See Appendix A for a list of the included birth country groups.

Appendix D: Refugees

Immigrants from following countries and time spans were included in the refugee sample:

Bosnia-Herzegovina, 1994–1996 (war in former Yugoslavia)

Chile, 1972–1980 (coup d'état in 1973)

Iran, 1978–1989 (revolution in 1979 and war against Iraq in the 1980s)

Iraq, 1984–1992 (war against Iran and Gulf War) and 2006–2008 (following U.S. invasion of Iraq in 2003)

Somalia (shares country code with Ethiopia, Eritrea, and Djibouti), 1987–1992 (civil war)

Table D1 Effects on refugees, naturalization

Col.	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Outc.	Citizen_4	Citizen_5	Citizen_6	Citizen_7	Citizen_8	Citizen_9	Citizen_10
Panel A: Data window is month 1–12							
Before	0.005 (0.008)	0.035 (0.033)	0.005 (0.033)	0.013 (0.057)	0.067** (0.032)	0.053 (0.032)	0.060* (0.033)
Before* Real	-0.003 (0.009)	-0.068* (0.035)	-0.009 (0.039)	0.000 (0.059)	-0.038 (0.037)	-0.025 (0.040)	-0.040 (0.044)
N	93,289	93,289	93,289	85,556	66,353	66,353	66,353
Mean	0.043	0.210	0.500	0.587	0.586	0.637	0.681
Panel B: Data window is month 7–12							
Before	0.012 (0.008)	0.019 (0.013)	-0.003 (0.016)	0.010 (0.020)	0.027*** (0.009)	0.022* (0.011)	0.028** (0.011)
Before* Real	-0.001 (0.009)	-0.028 (0.017)	0.001 (0.024)	-0.007 (0.025)	-0.004 (0.019)	-0.002 (0.022)	-0.016 (0.024)
N	41,305	41,305	41,305	37,289	27,214	27,214	27,214
Mean	0.047	0.210	0.508	0.578	0.549	0.606	0.651
Panel C: Data window is +/- 30 days from cutoff							
Before	0.008*** (0.003)	0.013** (0.005)	0.010 (0.021)	0.004 (0.011)	0.008 (0.011)	0.008 (0.010)	0.008 (0.008)
Before* Real	0.009 (0.007)	-0.009 (0.024)	-0.009 (0.026)	0.005 (0.015)	0.004 (0.015)	-0.000 (0.016)	-0.002 (0.017)
N	15,003	15,003	15,003	13,685	10,653	10,653	10,653
Mean	0.045	0.207	0.489	0.555	0.545	0.603	0.645

Note: Asterisks indicate that the estimates are significantly different from zero at the ***1% level, **5% level, and *10% level. Standard errors clustered on year of immigration in parentheses. Because we can only follow naturalizations through 2014, the 8–10 year naturalization endpoints only includes persons who immigrated in 2006 or earlier and the 7-year endpoint only includes persons who immigrated in 2007 or earlier.

Table D2 Effects on refugees, voter turnout

Column:	(1)	(2)
Outcome:	Voted 2010 municipality election	Voted 2010 parliamentary election
Panel A: Data window is month 1–12		
Before	0.019** (0.009)	0.018* (0.010)
Before*Real	0.017 (0.018)	0.011 (0.018)
N	45,805	44,453
Mean	0.692	0.696
Panel B: Data window is month 7–12		
Before	0.009 (0.008)	0.013 (0.013)
Before*Real	0.008 (0.020)	-0.003 (0.022)
N	18,299	17,816
Mean	0.687	0.692
Panel C: Data window is +/- 30 days from cutoff		
Before	-0.004 (0.010)	0.008 (0.016)
Before*Real	-0.008 (0.026)	-0.027 (0.032)
N	6,896	6,785
Mean	0.691	0.693

Note: Asterisks indicate that the estimates are significantly different from zero at the ***1% level, **5% level, and *10% level. Standard errors clustered on year of immigration in parentheses.