

# Immigration, Ethnic Diversity and Political Outcomes: Evidence from Denmark

Nikolaj A. Harmon\*  
University of Copenhagen

This version:  
April 2015

First version:  
December 2010

## Abstract

I study the impact of immigration and increasing ethnic diversity on political outcomes in immigrant-receiving countries, focusing on immigration and election outcomes in Danish municipalities 1981-2001. A novel IV strategy based on historical housing stock data addresses issues of endogenous location choices of immigrants and a rich set of control variables is employed to isolate ethnic diversity effects from those of other immigrant characteristics. Increases in local ethnic diversity lead to rightward shifts in election outcomes by shifting electoral support away from traditional "big government" left-wing parties and towards anti-immigrant nationalist parties. This holds for both local and national elections.

---

\*E-mail: [nikolaj.harmon@econ.ku.dk](mailto:nikolaj.harmon@econ.ku.dk). This paper was previously circulated under the title "The End of The European Welfare States? Migration, Ethnic Diversity and Public Goods". I am particularly indebted to Raymond Fisman, David S. Lee, Shanker Satyanath and David D. Lassen for their help and detailed comments. I would also like to thank Arindrajit Dube, Taryn Dinkelman, Rasmus Landersø, Anna F. Larsen and Lena Nekby, as well as participants at the Princeton Labor Lunch. All errors are my own.

This paper studies the impact of immigration and ethnic diversity on political outcomes. Both anecdotal evidence and existing work on ethnic diversity offer good reasons to expect that the arrival of immigrants and the associated increases in ethnic diversity may have a causal effect on politics. Perhaps the most striking piece of anecdotal evidence comes from recent European history: While immigration flows into Europe have risen dramatically over the last 35 years leading to large increases in ethnic diversity, European politics is viewed by many to have taken a systematic rightward turn, fueled in large part by increased success of many anti-immigrant nationalist parties.<sup>1</sup> Beyond anecdote, much existing work in economics have already documented a cross-sectional relationship between ethnic diversity and political preferences as well as political outcomes.

This paper asks whether there are causal underpinnings to the European phenomenon described above, that is, whether the mere presence of immigrants has a causal effect on election outcomes in immigrant-receiving countries. In particular I examine whether immigration-driven increases in ethnic diversity have systematic effects on overall left-right politics and whether they lead to increased success for anti-immigrant nationalist parties. If increasing ethnic diversity alters the political balance between the "big government" left wing and "small government" right wing, immigration may have important, indirect public finance implications by systematically impacting the level of redistribution or public spending. If immigration by itself also causes a surge in nationalism this may put an upper bound on the amount of immigration that is feasible before anti-immigration sentiments begin to dominate politically.

I examine the specific case of election outcomes and immigration in Danish municipalities 1981-2001. The Danish immigration experience over the last 35 years is very similar to that of the rest of Europe. In 1981, the yearly net migration to Denmark from non-Western countries was just over 1,000 per year. Twenty years later, in 2001, this number had increased more than tenfold to 11,000, resulting in a corresponding increase in the stock of non-Western immigrants in Denmark from 55,000 to 269,000 - almost a fivefold increase in just 20 years. The increased immigration flows were not distributed evenly, however, resulting in very significant variation in the growth of ethnic diversity. While some municipalities experienced increases in the share of immigrants in the population of well over ten percentage points, others experienced essentially no change at all. Combined with the high-level of political autonomy of Danish mu-

---

<sup>1</sup>See for example "Continent Of Fear: The Rise Of Europe's Right-Wing Populists", *Der Spiegel*, September 28 2010.

nicipalities, this makes the Danish setting well-suited for examining the ethnic diversity effects of immigration on political outcomes.

I present results from regressions of changes in election outcomes on changes in the immigrant share in the municipality and focus on changes in the success of the traditional "big government" left-wing parties as well as the particular success of right-wing, anti-immigrant nationalists. In addition to controlling for time-invariant municipality attributes through first-differencing, I employ a rich set of controls to isolate the effects of ethnic diversity. In particular, a set of socioeconomic controls is used to examine the possibility that immigration affects political preferences simply because immigrants and refugees are poorer or because they adversely affect local labor market conditions.

Empirical studies of immigration have obvious endogeneity concerns, given that immigrants themselves choose where to live. To address this I develop a novel IV strategy based on the following two features of the Danish context: 1) Due to a law that constrains foreigners ability to purchase real estate, the availability of rental housing is a particularly strong predictor of where immigrants choose to locate in Denmark. 2) Detailed data on the composition of the housing stock is available at the municipal level. Since highrises are much more likely to serve as rental housing and since the composition of the housing stock is very persistent over time, I therefore use the share of the 1970 housing stock comprised by highrises as an instrument for later immigration flows. The underlying identifying assumption is that the characteristics of the 1970 housing stock have no direct effect on changes in election outcomes between 1981-2001 conditional on appropriate controls.

The main IV results confirm that immigration-driven increases in ethnic diversity have a causal impact on political outcomes. In particular, higher ethnic diversity decreases political support for traditional left-wing parties in municipal elections and increases support for nationalist parties: a one percentage point increase in the share of immigrants is estimated to decrease the percentage of left-wing seats on the municipal board by between 2.6 and 6.1 percentage points and increases the percentage of nationalist seats by between 1.3 and 2.8 percentage points depending on the specification. Increases in ethnic diversity thus shifts overall political power towards the right-wing block and towards anti-immigrant parties in particular. The same pattern of effects appear for national elections. Given the very different political issues decided at the two levels of government, this similarity could suggest that the effects of ethnic diversity are related to an overall shift in preferences or "ideology" and are not driven

by particular political issues. Finally, a comparison of IV and OLS estimates suggests that endogenous location choice of immigrants causes an overall pro-left bias in OLS estimates. This is consistent with existing evidence on immigrant location choice in Denmark.

Two strains of existing literature motivate the present paper. The first strain is a series of papers that establish a negative relationship between ethnic diversity and left-wing political attitudes (Luttmer (2001) and Senik et al. (2009)), as well as the level of public spending or public goods (Easterly and Levine (1997), Alesina et al. (1999), Easterly (2001), Alesina et al. (2001), Alesina et al. (2003), Okten and Osili (2004), Vigdor (2004), Miguel and Gugerty (2005), Banerjee et al. (2005) and Lassen (2007)). While most of this literature focuses on stable differences in ethnic diversity at a point in time, recent evidence also suggest that immigration-driven increases in ethnic diversity may have a negative effect on left-wing political attitudes and related policy outcomes (Razin et al. (2002), Mayr and Böheim (2005), Zwane and Sunding (2006) and Dahlberg et al. (2012)). The second strain of literature motivating this paper is the large literature examining attitudes towards immigration and how these are shaped by existing immigration flows (see for example Citrin et al. (1997), Scheve and Slaughter (2001), O’rourke and Sinnott (2006), Dustmann and Preston (2006), Dustmann and Preston (2007), Hainmueller and Hiscox (2007), Facchini and Mayda (2009), Hainmueller and Hiscox (2010), and Card et al. (2012)).

The broad hypothesis that has emerged from these two strains of literature is that immigration and increasing ethnic diversity may have important effects on policy outcomes by changing voters’ political attitudes and in turn affecting their voting behavior. The actual empirical evidence on how immigration and increasing ethnic diversity impacts election outcomes is still very limited however. A number of papers find suggestive results (see for example Knigge (1998), Lubbers et al. (2002), Golder (2003), Arzheimer and Carter (2006) and Arzheimer (2009)) but are unable to fully address the issue of endogenous immigrant location choices and establish causality. Closest to the present paper is the work by Gerdes and Wadensjö (2010) and Gerdes (2011) on Danish municipalities. They address the issue of endogenous immigrant location choices by arguing that the distribution of immigrants across Danish municipalities is exogenous (conditional on controls) due to a refugee placement policy. Since many immigrants in Denmark are not refugees and many refugees relocate after their initial placement<sup>2</sup> this ap-

---

<sup>2</sup>Damm (2009) reports that already three years after initial placement under the refugee placement program 30% of refugees have moved to a new location.

proach may not fully address the identification issue however. This may explain why Gerdes and Wadensjö (2010) and Gerdes (2011) do not find the systematic effects of immigration on left-right politics that I find in the present paper.<sup>3</sup>

Relative to the previous literature, this paper thus contributes by providing quasi-experimental evidence on the causal link between election outcomes and immigration-driven increases in ethnic diversity. I am only aware of two other studies that provide such evidence: concurrent work by Halla et al. (2014) on Austria and the more recent study Otto and Steinhardt (2014) on the city of Hamburg. In line with the present paper's results for Denmark, both Halla et al. (2014) and Otto and Steinhardt (2014) document a positive effect of immigration on electoral support for anti-immigrant parties using an IV strategy based on the settlement patterns of prior immigrants. Besides showing corroborating results using a different empirical strategy, the present paper complements these two studies by examining the effect of immigration on both anti-immigration voting as well as overall left-right politics, and by also comparing the estimated effects across both local and national elections.

The layout of the rest of this paper is as follows: Section 1 presents the details of the institutional setting, section 2 presents the data and discusses the empirical strategy, section 3 present the empirical results regarding the effect of ethnic diversity on election outcomes and section 4 concludes.

## **1 Institutional details of the Danish setting**

A few specific features of the Danish context will be important for the empirical analysis: 1) Knowledge of the political landscape will help in interpreting the election results and 2) understanding the sources of variation in migration and ethnic diversity across municipalities is crucial for assessing the identifying assumptions. This section gives a brief overview of these features of the Danish context.

### **1.1 The Danish political landscape**

At the national level, the Danish political system is a unicameral parliamentary system. Parliamentary elections are held at the discretion of the government but at least every four years.

---

<sup>3</sup>More recently, a set of broader concerns have also been raised regarding the use of the Scandinavian refugee placement policies as a source of exogenous variation in aggregate immigration flows (Nekby and Pettersson-Lidbom (2012)).

As is typical in many European countries, Denmark has a multitude of political parties and minority coalition governments are the norm, with power held by a stable group of several smaller parties. There are two very stable groups that either form governments together or act as supporting parties for minority governments: a left-wing "big government" group led by the social democratic party (*Socialdemokraterne*) and a right-wing "small government"<sup>4</sup> group, currently led by the free-market liberals (*Venstre*).

At the municipal level, each municipality is governed by a municipal board of varying size, which is chosen in a direct election every four years. Due to the high level of political autonomy of Danish municipalities, the municipal boards wield considerable power. They are, for example, in charge of both the level of and nature of spending in local public schools. Correspondingly, they also control the level of the municipal property and income tax rates which fund the majority of local public expenditures. While only Danish citizens can vote in the national parliamentary elections, non-nationalized immigrants and refugees can also vote in municipal elections after being in Denmark for 2-3 years. They generally have low turnout however.<sup>5</sup>

Overall, municipal politics mirror those at the national level. While local party lists do field candidates and win seats in some areas, the majority of seats are won by the parties that are also active at the national level. Some deviations between the local and national political platform do exist for these parties, however, the political platform of the national party remains a good approximation of the political position of the local branch. In particular, the picture of one "big government" left-wing group and one "small government" right-wing group generally continues to hold at the municipal level. Motivated by the existing evidence regarding ethnic diversity and preferences for public spending and redistribution, the first part of the empirical analysis in section 3 examines how the relative success of these two groups changes in response to immigration.

The second part of my empirical analysis concerns the effect of immigration on the political success of the right-wing nationalist parties in particular. Similar to many other European countries, an anti-immigrant nationalist movement has gained strength in Denmark over the last 35 years. The anti-immigrant movement in Denmark originated with *Fremskridtspartiet* ("The Progress Party"), which entered the Danish parliament for the first time following the 1973 election. While initially an anti-tax movement, anti-immigrant sentiments soon became a

---

<sup>4</sup>Here and throughout the paper, terms such as "left", "right", "big government" and "small government" are used relative to Danish political spectrum, which is obviously very leftist compared to many other countries.

<sup>5</sup>See for example Togeby (1999).

central element of their political platform, especially as immigration became a bigger political issue in Denmark during the 1980s. In 1996, four of *Fremskridtspartiet's* eleven MPs split-off from the party to form *Dansk Folkeparti* ("The Danish People's Party"). This quickly became the dominant anti-immigrant party, cannibalizing the support of *Fremskridtspartiet*, which disappeared completely from the national parliament already in 1999.

*Dansk Folkeparti* maintained *Fremskridtspartiet's* anti-immigrant sentiments as a central element of their political platform and was initially viewed as almost an exact copy of its predecessor party. Given the focus of the present paper, however, it is interesting to note that *Dansk Folkeparti* has since taken up a very different rhetoric regarding the size of the public sector and has to some extent actually branded themselves as pro-government. At the same time, however, it has continued to act unequivocally as part of the right-wing political group and was the main supporting party for the right-wing coalition government that served between 2001 and 2011. While it is thus clear that increased nationalist success implies a tilting of political power towards the right-wing block, some caution is warranted in simply equating this with a change in political attitudes towards less support for the public sector.<sup>6</sup>

More broadly the discussion above underscores that one must be careful when using shifts in party-level election results to infer shifts in political attitudes because there may also be within-party shifts in political platforms.<sup>7</sup> Particularly, since the present paper examines the effect of ethnic diversity on election outcomes for the left-wing and nationalist party groups, the results presented later does not capture any within-party shifts in political platforms or electoral support.

## 1.2 Sources of variation in immigration and ethnic diversity

The Danish immigration experience is very similar to that of other European countries.<sup>8</sup> Large-scale immigration from non-Western countries was encouraged and took off in the late 1960s in response to strong economic growth and a shortage of labor. Following the economic slowdown in the 1970s, however, immigration rules were quickly tightened. Since 1973 Denmark has

---

<sup>6</sup>In particular, it has been argued that increased support for anti-immigrant policies may indirectly lead to more right-wing economic policies even if people's attitudes towards the public sector are unchanged. This is what Roemer and der Straeten (2006) term a "policy bundling" effect.

<sup>7</sup>Anecdotal evidence for example suggest that that social democratic politicians in the municipalities surrounding Copenhagen expressed very clear anti-immigrant sentiments in the early 1990s. In this case, the growth in anti-immigrant sentiments is likely to be larger than what would be indicated by the votes received by anti-immigrant parties in these municipalities.

<sup>8</sup>For a general treatment of the Danish immigration experience see Coleman et al. (1999)

thus had an "immigration stop" policy in effect, which as a rule of thumb has prevented new immigration. However, three channels have continued the migration-driven increase in ethnic diversity over the period 1981-2001: 1) Higher fertility among existing immigrants, 2) the possibility for existing immigrants to bring family members to Denmark under reunification rules<sup>9</sup> and 3) increasing refugee flows.

The main determinant of where new (second-generation) immigrants from the fertility and reunification channel locate will obviously be the existing stock of immigrants, since children and spouses tend to live with their parents and spouses. For refugees, Damm (2009)'s extensive work regarding the Danish refugee placement policy and the refugees subsequent relocation choice has documented that refugees tend to move *away* from: 1) Areas with few other immigrants or refugees, 2) Rural areas, 3) Areas with high unemployment, 4) Areas without institutions for qualifying education, 5) Areas dominated by the right-wing politically and 6) Areas with little rental (and social) housing

Damm (2009)'s findings have several implications for the empirical analysis in the present paper: The first point implies that (as with the fertility and reunification channel) the existing stock of immigrants and refugees should be an important predictor of later inflows and thus might be a important control in the empirical analysis. Similarly points two and three suggest two additional controls for the empirical analysis.

Points four and five imply that reverse causality can be an issue in the empirical analysis if refugees are likely to move away from areas cutting back on educational efforts or, even more worryingly, move directly in response to changes the political climate. The IV strategy developed below will be key in assessing and addressing potential reverse causality concerns.

Finally, point six shows the strong dependence on rental housing among refugees and other immigrants in Denmark. In addition to immigrants and refugees potentially having less existing savings and/or less access to credit, this dependence reflects the institutional constraints on real estate purchases for foreigners in Denmark.<sup>10</sup> In particular, non-EU foreigners who have not previously resided in Denmark for at least five years need to apply and obtain a special

---

<sup>9</sup>Since many of the families being reunified are newly formed families, the English term *reunification* is something of a misnomer.

<sup>10</sup>The institutional rule is laid out in "Consolidation Act No. 265 of 21 March, 2014 on the Acquisition of Real Property" and "Executive Order No. 764 of 18 September, 1995 on Acquisition of Real Property as regards Certain Nationals of EC Member States and EC Companies as well as Certain Persons and Companies from Countries that have Acceded to the Agreement on the European Economic Area" from the *Danish Ministry of Justice*.



permission from the Danish Ministry of Justice in order to purchase real estate.<sup>11</sup> The fact that the availability of rental housing is such a major predictor for immigrant settlement in Denmark will form the basis for the IV strategy discussed in section 2 below.

## 2 Data and empirical strategy

In this section I first present the data used in the paper. I then present the empirical specification and discuss identification issues. Finally I discuss the paper’s IV strategy in detail.

### 2.1 Data

The empirical analysis employs data on Danish municipalities between the 1981 and 2001. The choice of 1981-2001 as the sample period is dictated by the availability of municipal data in Denmark. The modern Danish municipal structure was implemented over the period 1970-1974 so 1981 is the first election year where systematic municipal data is available. Similarly, a series of municipal reforms in the period 2003-2007 more than halved the number of Municipalities in Denmark, so 2001 is the last election year where all the municipalities of the 1980s still existed. From 1981 to 2001 Denmark consisted of 275 municipalities. From these I drop the two very populous and urban *Copenhagen* and *Frederiksberg* municipalities since these had a dual role as both counties and municipalities at the time and thus had a markedly different set of political tasks (in particular counties were responsible for the provision of public health).<sup>12</sup> This leaves me with a sample of 273 municipalities spread across 14 different counties.

The municipal level variables for the empirical analysis are all based on the administrative data at Statistics Denmark (SD).<sup>13</sup> The only exception to this is the municipal-level vote shares for national elections, which come from the online database of election outcomes, *Den Danske Valgdatabase*, as well as the data on municipal mayors in 1970, which were hand-collected. I discuss the construction of the main, non-selfexplanatory variables below. Table 9 at the back further summarizes the construction of all variables.

The main election outcomes I focus on are the results of the municipal elections in 1981

---

<sup>11</sup>While I have not been able to uncover any data on the likelihood of being granted permission to buy real estate, anecdotal evidence suggests a relatively high probability of success conditional on making a correct application. For many immigrants and refugees, the application process itself may therefore well be the main hurdle given language barriers and lack of familiarity with the Danish legal environment.

<sup>12</sup>Redoing the empirical analysis with *Copenhagen* and *Frederiksberg* in the sample leads to similar results.

<sup>13</sup>In most cases the data are available from the public *Statistikbanken* database, although a few variables were calculated directly from the raw administrative data at Statistics Denmark.

and 2001. In addition, I also employ data on the national elections held in 1981 and 2001. For all the election outcome variables, I focus on two particular groups of parties and candidates: The first is the *left-wing group*, which I define to include the obvious far left parties (e.g. communist parties) plus all parties that over the period 1981-2001 were part of a left-wing coalition government but *not* a right-wing coalition government. The second group is the anti-immigrant *nationalist group*, consisting of *Fremskridtspartiet* and *Dansk Folkeparti* (cf. the discussion in section 1). To shed light on the relationship between ethnic diversity and both left-right politics and anti-immigrant nationalist sentiments the main empirical analysis of the paper examines the effect of ethnic diversity on the electoral success of these two political groups.<sup>14</sup> As vote shares are not available for the 1981 municipal election, the election outcome I focus on in municipal elections are the share of seats won on the municipal board.<sup>15</sup> For national elections I look instead at vote shares. In both the seat share and vote share data, political groups show up with a zero share in the few municipalities where they do not field any candidates.<sup>16</sup> The election results I focus on thus capture both voters' decisions about which party to vote for as well as parties' decisions about not fielding candidates in places where they expect very little electoral support.

The changes in ethnic diversity in my sample are being driven by the initially ethnically homogenous Danish population becoming less homogenous as more and more immigrants arrive. Thus as my main measure of ethnic diversity I will simply use the percentage of people that are non-Danish, based on SD's official definition that a person is Danish if at least one parent was both born in Denmark and had Danish citizenship.<sup>17</sup> In the additional results section and supplementary appendix, I discuss results using a different measure of ethnic diversity.

In constructing the instrumental variable based on the 1970 housing stock, I am again faced with the constraint that municipal data is unavailable prior to 1981. Since the available housing

---

<sup>14</sup>The additional results section and the supplementary appendix discusses and presents results for other party groups as well.

<sup>15</sup>Since seats in municipal elections are assigned from vote shares based on d'Hondts rule, there is a monotonic relationship between vote shares and seat shares.

<sup>16</sup>I do not have direct candidacy data for the municipal elections, however, for national elections municipalities with no candidates running can be reliably inferred from the observed zero vote shares. There are 14 municipalities where the nationalist do not field candidates in 1981 but none in 2001. The left-wing group always fields candidates in all municipalities.

<sup>17</sup>This measure of ethnic diversity differs from the standard Herfindahl-type fractionalization index used in much of the literature on ethnic diversity. Since the ethnically Danish group is such a large majority in all municipalities, however, the fractionalization index for Danish municipalities is virtually indistinguishable (beyond a scale factor) from the percentage non-Danish. For transparency I therefore focus simply on the percentage non-Danish and note that in comparing my estimated effects with those in the literature they should be scaled down by about 1.8.

stock data contains detailed information about construction year, however, I am able to use data from 1981 regarding buildings constructed prior to 1970. Since this data only contains buildings that are still standing in 1981, my measure regarding the 1970 housing stock will thus miss any housing torn down between 1970 and 1981. As I return to later this does not appear to impact the empirical results. I define a highrise unit according to SD's standard definition of "multistory housing (two or more families, horizontal separation between units)", thus the requirement is that the unit is in a building where multiple households reside above/below each other. From the 1981 data I then compute the total number of highrise units constructed prior to 1970 and divide this by the total housing units constructed prior to 1970 to arrive at my measure of the highrise share in 1970.

The income measure I use is net of taxes and transfers, denominated in 1,000 kr. and deflated to 1980 prices using the (chain-linked) GDP deflator from the Danish national accounts. From this income measure I also construct the municipal Gini-coefficients across households. To measure the sectoral composition of employment I split the salaried workers from each municipality into three sectors: *Agriculture and natural resources*, *Manufacturing* and *Services and retail*. To proxy for the political climate in municipalities around 1970, I use data on the party identity of the municipal mayor, which I was able to hand collect going back to 1970.<sup>18</sup> The mayor is the head of the municipal board and is typically from the party with the most seats. I code each mayor as being left-wing if his party belongs to the left-wing group as defined above and as being right-wing if his party were part of a right-wing coalition government at some point in the period 1981-2001 but *not* part of a left-wing coalition government.

Table 1 presents descriptive statistics for the main municipal variables both for the 1981 cross-section and for the changes in the variables between 1981 and 2001. Looking at the ethnic diversity variable, the table clearly shows how immigration has increased the number of people not of Danish origin, with the mean percentage non-Danish increasing by 2.6 percentage points between 1981 and 2001. They also reflect the significant variation across municipalities in the number of immigrants received - the change in the percentage non-Danish over the period varies from 0.63 to 15.59 across municipalities, with a standard error of 1.87.

---

<sup>18</sup>As some existing municipalities merged following the last reforms of the municipal system in the 1970s, the set of municipalities in Denmark in 1970 was actually slightly larger than the set of municipalities examined in the empirical analysis. For the two municipalities that resulted from the 1970s mergers, I use data on the 1970 mayor of whichever municipality had the same name as the merged municipality. For one municipality, *Assens*, I could not find information on the 1970 mayor and instead use data on the 1971 mayor.

## 2.2 Specification and identification issues

In discussing the empirical strategy, it is useful to start from a general linear expression relating election outcomes to ethnic diversity. Ignoring for now the possibility of adding control variables we can thus consider the following general equation:

$$(Election\ outcome)_{ict} = \beta(Ethnic\ diversity)_{ict} + \kappa + \mu_{ic} + \alpha t + \eta_{ic} t + \nu_{ict} \quad (1)$$

Here  $i$  indexes municipalities,  $c$  indexes counties and  $t$  indexes time periods. The parameter of interest is  $\beta$ , which is defined to be the causal effect of immigration-driven ethnic diversity on election outcomes. In addition,  $\kappa$  is a common intercept,  $\mu_{ic}$  is a municipality-specific fixed effect,  $\alpha$  is the common trend in election outcomes,  $\eta_{ic}$  is a municipality-specific trend in election outcomes and  $\nu_{ict}$  is the effect of all time varying factors. To be clear, it is not possible to separately identify or estimate all of these terms,<sup>19</sup> however the general equation serves as a useful starting point for highlighting how various potential identification concerns are dealt with.

As usual when dealing with panel data, time-differencing of equation (1) above will be used to cancel out the time-invariant fixed effect  $\mu_{ic}$ . Somewhat less standard, however, we will focus only on the difference across the first and last year in the sample and consider only the total changes over the sample period for each municipality. The use of such a "long difference" specification is prompted by the fact that the instrumental variable introduced later only varies across municipalities and not over time within a municipality.<sup>20</sup>

Letting  $t = 1$  denote the first year in the sample,  $t = 2$  the last year and letting  $\Delta$  denote the difference between these two years, we can difference (1), to get the basic estimating equation:

$$\Delta(Election\ outcome)_{ic} = \alpha + \beta\Delta(Ethnic\ diversity)_{ic} + \eta_{ic} + \Delta\nu_{ic} \quad (2)$$

Besides the term corresponding to the effect of changes in ethnic diversity, the right hand side of the estimating equation consists of a constant term  $\alpha$ , corresponding to the overall time

---

<sup>19</sup> $\kappa$  is fundamentally not separately identified from  $\mu_{ic}$ , and  $\nu_{ict}$  can not be identified using only two periods of data

<sup>20</sup>In principle it is possible to use a time-invariant instrument in the usual first-differenced equation that employs data from all the time periods. As is easily shown however, the resulting IV estimator is in fact numerically equivalent to the IV estimator based on the long difference equation in (2) (a derivation is given in the supplementary appendix). Intuitively this reflects that since the instrument does not differentially predict year to year changes in the endogenous regressor within the period, the inclusion of data from years in between the first and last period does not contribute additional information to the estimation.

trend in election outcomes, and the two municipality-specific terms:  $\eta_{ic}$ , corresponding to the municipality-specific time-trend in election outcomes over the period, and  $\Delta\nu_{ic}$ , corresponding to changes in any time-varying factors that affect election outcomes. When estimating equation, 2,  $\eta_{ic} + \Delta\nu_{ic}$  will serve as the (composite) error term in the regression. Thus identification of the parameter of interest,  $\beta$ , will require the assumption that either changes in ethnic diversity or a relevant instrument is uncorrelated with  $\eta_{ic} + \Delta\nu_{ic}$ . There are several potential concerns with this assumption.

Perhaps the most obvious concern for identification is the possibility of reverse causality as a result of immigrants' relocation decisions. As discussed in section 1, immigrants are known to move away from areas with right-wing political domination, so a particular concern is that immigrants respond to rightward shifts in election outcomes by moving to different municipalities. This would imply that changes in ethnic diversity are correlated with the error term  $\Delta\nu_{ic}$ , making OLS estimates of (2) biased towards finding a *positive* association between percentage immigrants and left-wing political success. The next subsection develops an IV strategy, which uses the share of highrises in 1970 as an instrument to address the issue of endogenous relocation decisions of immigrants.

Another obvious concern stems from the fact that higher ethnic diversity in the sample is directly related to having more immigrants, which might have a direct impact on election outcomes beyond any ethnic diversity effects. In (2) this would imply a correlation between these omitted time varying factors,  $\Delta\nu_{ic}$ , and any relevant instrument (that is any instrument that affects the number of immigrants). Of particular concern, since immigrants tend to be poorer, have higher unemployment rates and lower labor force participation, are the separate effects of lower income, higher unemployment and lower labor force participation. In the same vein, one may also worry that immigration adversely impacts the local labor market also for natives, which might affect political preferences. In the empirical analysis I address these concerns by examining the robustness of the estimated effect to the inclusion of a control vector,  $\Delta X_{ic}$ , which includes changes in a rich set of socioeconomic indicators, including mean income, fraction not in the workforce, unemployment rate and Gini coefficient. To deal specifically with potential issues regarding changes in the age structure of the population, I also include the population shares of children and seniors in this set of socioeconomic indicators.

Relatedly, the fact that immigrants can vote in municipal elections after 2-3 years implies that having more immigrants can affect election outcomes directly (again introducing correla-

tion between the ethnic diversity measure and  $\Delta\nu_{ic}$ ) simply because immigrants tend to vote differently than natives. This problem cannot be addressed by including additional controls or by the IV strategy discussed below; however, in practice the resulting bias in estimates should be relatively small, especially given the lower election turnout among immigrants.<sup>21</sup> Additionally, since immigrants are generally left-leaning politically<sup>22</sup> the direction of the bias most likely goes in the direction of finding a *positive* association between percentage immigrants and left-wing political success.<sup>23</sup>

A final identification concern is a possible correlation between the employed highrise instrument and the municipality specific trend over the period,  $\eta_{ic}$ . In particular, if municipalities with many highrises in 1970 also stand out in terms other characteristics, we may well expect that these municipalities experience a different trend in election outcomes. In the empirical analysis I address this concern in two ways. First of all, I examine the robustness of the results to the inclusion of county fixed effects,  $\omega_c$ , which will control for any trends in election outcomes that work at the county level, for example due to local labor market conditions. Second, I also examine the robustness of the estimated effect to including a control vector  $Z_{i1}$  containing different initial characteristics of the municipality which might correlate with the instrument and may also be related to trends in election outcomes. Since highrises are more likely to be located in urban areas, I control for the initial 1981 population size and density to address differential trends between urban/rural areas. As highrises may also be correlated with the number of immigrants or young people present in 1981, I also employ the initial level of ethnic diversity and the initial share of young people as controls. The 1970 highrise stock may also be larger in areas that grew fast during the manufacturing boom of the 1960s but have been declining since. To address this, I therefore also try controlling for the initial economic characteristics of the municipality by controlling for the initial mean income, unemployment rate, gini-coefficient and sectoral composition of the workforce. Finally, municipalities that historically has had a particularly left-wing political climate may also have a had more highrises constructed by 1970, so I also employ indicators for the party identity of the 1970 municipal mayor as controls.

---

<sup>21</sup>See for example Togeby (1999).

<sup>22</sup>This is evidenced by Damm (2009)'s result that refugees tend to move away from municipalities with right-wing political domination and is also confirmed by polling data focused on immigrants (see for example the results reported in "Indvandrere stemmer i højere grad borgerligt", *NPinvestor.dk*, August 8, 2001, which show that 77 % of immigrants supported the left-wing group in early 2001).

<sup>23</sup>By a similar token, the possibility that a specific type of people of Danish origin move out when immigrants move in, would also seem to bias the results towards finding a positive association between percentage immigrants and left-wing political support, because of the association of anti-immigrant sentiments with the political right.

Adding the county fixed effect,  $\omega_c$ , as well as the two control vectors,  $\Delta X_{ic}$  and  $Z_{ic1}$ , (and with a slight abuse of notation), we arrive at the final estimating equation:

$$\Delta(\text{Election outcome})_{ic} = \beta\Delta(\text{Ethnic diversity})_{ic} + \omega_c + \Delta X'_{ic}\gamma + Z'_{ic1}\lambda + \eta_{ic} + \Delta\nu_{ic} \quad (3)$$

Here again  $\eta_{ic} + \Delta\nu_{ic}$  is the composite error term so for IV estimates to be consistent, we require an instrumental variable that uncorrelated with  $\eta_{ic} + \Delta\nu_{ic}$ . The next section develops the IV strategy that will be used to estimate (3).

### 2.3 The IV strategy

As discussed in Section 1, institutional rules in Denmark means that the availability of rental housing is a major predictor of the location choice of immigrants in Denmark. This suggests using the initial amount of rental housing in a municipality as an instrument for the change in percentage non-Danish. Identification would then rest on the exclusion restriction that any association between initial rental housing and changes in the outcomes of interest is only due to changes in the percentage non-Danish (so that initial rental housing is uncorrelated with the composite error term  $\eta_{ic} + \Delta\nu_{ic}$  in (3)).

Because property owners are fairly free to choose between renting out their property and selling the property to would-be occupants, however, this exclusion restriction is likely to fail. One obvious problem is that the share of rental housing could respond to expectations about future political outcomes and how they will affect the profitability of renting versus owning.

To circumvent problems with using actual rental housing as an instrument I will instead utilize detailed data on the historical housing stock and the fact that housing stock characteristics are very persistent over time.<sup>24</sup> Combining this with the fact that highrises are much more likely to serve as rental housing suggests using the historical prevalence of highrises as an instrument. Thus the IV strategy will entail using the share of the 1970 housing stock that is comprised by highrise units as an instrument for later changes in the percentage non-Danish (with the association working through the availability of rental housing during the sample period 1981-2001).

With the slightly abusive notation that  $t = 0$  denotes 1970, equation (4) introduces the first stage relationship corresponding to IV estimation of (3). Figure 1 also provides a schematic

---

<sup>24</sup>Within a municipality, the 20-year correlation in the share of highrises is 0.99 in my data.

illustration of the principle behind the IV strategy:

$$\Delta(\text{Ethnic diversity})_{ic} = \pi(\text{highrise share})_{i0} + \rho_c + \Delta X'_{ic}\theta + Z'_{i1}\phi + \xi_{ic} \quad (4)$$

Using the historical housing stock as the instrument makes the exclusion restriction much more plausible especially due to the introduced time distance between the period of interest (1981-2001) and the dating of the instrument (1970).<sup>25</sup>

Some concerns with the instruments remain, however. One is that the number of highrises might simply proxy for how urban a municipality is and only predicts immigrant settlement because immigrants are more likely to settle in urban areas. In Table 2 below I show that this is not the case. Another concern is that differences in pre-existing trends between municipalities (differences in  $\eta_{ic}$ ) may be systematically related to the housing stock. As discussed above, I address this by probing the robustness of my results to the inclusion of a control vector of various initial municipal characteristics ( $Z_{i1}$ ).

Table 2 examines the hypothesized first stage relationship between the share of highrises in 1970 and changes in the fraction non-Danish as shown in Figure 1 and equation (4). The first column examines the relationship between the historical housing stock and initial share of rental housing by regressing rental housing share in 1981 on the highrise share in 1970. The expected positive and significant coefficient is found, reflecting the fact that highrises are much more likely to serve as rental housing.

Column (2) examines the relationship between changes in ethnic diversity and rental housing by regressing the change in percentage non-Danish 1981-2001 on the rental housing share in 1981. Again a positive and significant relationship is found, showing that initial rental housing predicts later changes in ethnic diversity. Column (3) adds controls for initial population size and density to address the concern that the relationship between the variables is just working through urban/rural differences. The robustness of the positive relationship to the added controls shows that this is not the case. Column (4) adds the instrument to the regression and its slightly negative and insignificant coefficient shows that once the initial rental share is

---

<sup>25</sup>For example, one concern with using highrises as an instrument is that highrises might affect the population composition also among natives, which could obviously have a direct effect on election outcomes. Under the reasonable assumption that any effect of the housing stock on population composition does not work with a lag of more than ten years, however, the effect of the 1970 housing stock on population composition would be fully reflected in the 1981 population. From the point of view of the sample period, this is a fixed municipality characteristic and is captured by the municipality fixed effect,  $\mu_{ic}$  which has been differenced out in the final estimating equation. Such population composition effects thus do not violate the exclusion restriction that the 1970 housing stock is uncorrelated with the composite error term in (3), which only contains  $\eta_{ic}$  and  $\Delta\nu_{ic}$ .



accounted for, the 1970 housing stock does not predict changes in percentage non-Danish. This confirms that the relationship between highrises in 1970 and changes in percentage non-Danish is indeed working through the availability of rental housing rather than some other, unobserved channel.

Finally Columns (5) and (6) correspond to equation (4), the first stage of the IV-estimation. Column (5) reports the raw relationship by regressing the change in percentage non-Danish on the instrument without controls, while Column (6) includes the full set of control variables used later, including county fixed effects. The positive and significant relationship indicates that the instrument satisfies the rank condition. The F-statistic for testing the significance of the instrument is reported at the bottom to gauge the strength of the instrument (as proposed by Stock and Yogo (2005)). Using the usual "rule of thumb", there are no indications of weak instrument problems since the F-statistic is well above 10 both in the regression without control variables and the regression that simultaneously includes all control variables to be used later.<sup>26</sup>

### 3 Empirical results

This section presents the empirical results. To examine the effect of ethnic diversity on overall left-right politics and anti-immigrant nationalism in particular, I examine the effect of increasing ethnic diversity on the changing electoral success of the traditional "big government" left-wing parties and the anti-immigrant nationalists. I present the main results of the paper regarding the outcomes of municipal elections first using OLS and then using IV estimation. I then turn to results regarding national elections before discussing additional results and robustness checks.

#### 3.1 Results for municipal elections using OLS

As a starting point for the empirical analysis, Table 3 reports estimates of the effect of changes in percentage non-Danish on changes in the share of seats won by the left-wing political group between the 1981 and 2001 municipal elections. Table 4 reports corresponding estimates for the nationalist group. The estimates were obtained by OLS estimation of the regression equation (3), with different columns corresponding to different sets of control variables.

Given the discussion in section 2, OLS estimates of equation (3) are likely to be biased so I omit a detailed discussion of the individual results and also postpone a detailed discussion

---

<sup>26</sup>The full set of first stage results for all the versions of the specifications used later is included in the supplementary appendix.

of the controls. Looking across the table and taking estimates at face value however, the OLS results suggest that an increase in ethnic diversity corresponding to a one percentage point increase in the percentage non-Danish has a moderate positive effect on the fraction of seats held by nationalists group of between 0.4 and 0.9 percentage points, although the effect is not estimated to be statistically significant in all specifications. Conversely, there appears to be no systematic relationship between changes in ethnic diversity and changes in left-wing electoral success.

### 3.2 Results for municipal elections using IV

As discussed in section 1 there is evidence that refugees in Denmark prefer *not* to live in right-wing dominated municipalities, which suggests that immigrants might be moving away from municipalities where the right gains politically. To address the resulting issue of reverse causality and bias in the OLS estimates presented above, I now continue with the main analysis of the paper using the share of highrise units in the 1970 housing stock as an instrument for the change in ethnic diversity in equation (3). Tables 5 and 6 show the results, with each column corresponding to a different set of control.

Column (1) of the tables first presents the basic results without any controls. These suggest that an increase in the percentage non-Danish of one percentage point causes a drop in the percentage of seats held by the left-wing group of 2.7 percentage points and an increase in the percentage of seats held by the nationalists of 1.4 percentage points. Both of these estimated effects are significantly different from zero even at the 1% level.

Next, Columns (2) through (4), address the concerns that municipalities with a large share of highrises in 1970 also stand out in terms of other municipal characteristics and therefore experience a systematically different trend in election outcomes. This is done by introducing county fixed effects into all the regression to absorb differences in trends across counties and by adding various municipality characteristics as control variables. To address the possibility that municipalities with many highrises in 1970 tended to have systematically better or worse economic conditions in 1981, or tended to have a particular employment make-up, Column (2) includes a broad set of initial 1981 economic characteristics, including the income level, the sectoral configuration of employment, the gini-coefficient and the unemployment rate. Column (3) instead includes a set of initial 1981 demographic characteristics, including the total population, the population density, the share non-Danish and the share of people aged less than 30.

This is done to deal with the possibility that highrises cause an increased flow of people into a municipality, either overall or among young people and/or immigrants. Column (4) includes dummy variables controlling for the party affiliation of the municipal mayor in 1970 to address the possibility that having many highrises in 1970 is indicative of municipalities having had particular political leanings historically. Adding the various controls in Columns (2) through (4) is seen to lead to estimated effects of ethnic diversity that are generally larger in magnitude than in the baseline specification without controls. Increases in the standard errors, however, does lower the significance level of the estimated effect of the left-wing group in Columns (3) and (4) but it remains significant at the least at the 10 % level.

Next, Column (5) combines the specifications from Columns (2)-(4) into a "kitchen sink"-regression that includes all the various municipality characteristics. A one percentage point increase in the percentage non-Danish is here estimated to cause a drop in the percentage of seats held by the left-wing group of 4.6 percentage points and an increase in the percentage of seats held by the nationalists of 3.0 percentage points. The estimated effect for the nationalist group remains highly significant, however, due to increases in standard errors, the effect for the left-wing group falls just outside the 10 % critical region in this specification and is insignificant ( $p = 0.14$ ). While this lack of statistical significance merits attention, it is worth noting that the estimated effect is still large and as noted remains significant in specifications where each set of control variables are added independently. Rather than interpret the results in Column (5) as evidence that ethnic diversity does not affect left-wing voting in municipal elections once all initial characteristics are accounted for, I therefore interpret it primarily as a sign that estimates become imprecise when such a comprehensive set of controls are included. As will become clear, this interpretation is strongly reinforced by the national election results presented further below.

In sum, the estimates in Columns (1)-(5) of suggest tables suggest that increases in the share of non-Danish causes a drop in the share of seats won by the left-wing group and an increase in the share of seats won by the nationalists. This results is consistent with the hypothesis that immigration-driven increases in ethnic diversity has causal impacts on election outcomes. As discussed in section 2, however, immigrants may also impact election outcomes by changing municipalities in dimensions other than the level of ethnic diversity. To address this and isolate ethnic diversity effects, Columns (6) and (7) probes the robustness of the results towards the inclusion of controls measuring changes in municipality characteristics between the 1981 and

2001 elections. To address the different age structure and labor market attachment among immigrants, as well as the potential effect of immigrants on local labor markets, the specific controls considered are the changes in mean income, the changes in the unemployment rate, the changes in the share of people not in the workforce, the changes in the Gini-coefficient and changes in the share of children aged 0-16 and elderly persons older than 65. In Column (6) these additional control variables are added to a regression that otherwise only includes county fixed effects, while in Column (7) the additional control variables are added alongside the full set of initial municipality characteristics as in Column (5). Neither column shows any indication that the additional controls reduces the estimated effects. This suggests that the estimated effects are in fact due to changes in ethnic diversity rather than other effects of immigrants, although contributions from other unobservable effects can not be ruled out entirely.

### 3.3 Results for national elections

This section supplements the empirical analysis of the previous section by focusing on national elections rather than municipal elections. There are two reasons for doing this: First, focusing on national elections allows me to present results that are unaffected by local party lists with unclear political platforms and where local idiosyncratic differences in party positions can be expected to be smaller. Beyond the more easily interpretable party positions, this is likely to lead to more precise estimates, which is attractive given the lack of precision in the most comprehensive specifications above. Second, since the set of political issues decided by the national parliament is very different from those decided by the municipal board, a comparison of how national and municipal elections are affected by immigration can shed some light on the mechanisms underlying the effects of ethnic diversity on voting. In particular, two prominent explanations for why local ethnic diversity could affect voting for "big government" left-wing parties in municipal elections are that individuals value public spending differently when other ethnic groups make up a larger share of the people benefitting from it (Vigdor (2004)) or when other ethnic groups make up a larger share of the people influencing the nature of the spending (Alesina et al. (1999)). Since national elections concern *national* spending, however, both of these explanations imply that voting in national elections should only respond to the national level of ethnic diversity and not the local level of ethnic diversity.

To examine whether voting in national elections respond differently to local ethnic diversity than voting in municipal elections, Tables 7 and 8 replicate the IV estimates from Tables 5

and 6 but now focusing on the fraction of votes received in national elections. In contrast to the prediction above, the estimates for both the left-wing and nationalist groups suggest clear effects of local ethnic diversity on national election outcomes: a one percentage point increase in the share non-Danish is estimated to lead to a 2.3 to 5.2 percentage point drop in the vote share for the left-wing group and a 0.6 to 2.1 percentage point increase for the nationalists, depending on the specification. These are very similar to the estimated effects on municipal seat shares in Tables 5 and 6. At the same time, however, the standard errors of the estimates are smaller for national elections meaning that all the estimated effects are significant even at the 1 % level.

Given the very different issues decided at the two levels of government, the similar effects of ethnic diversity could suggest that the effects are not driven by a few particular policy issues but rather by more fundamental changes in voters' preferences or "ideology". In particular, the results do not seem in line with the two simple explanations for ethnic diversity effects discussed at the beginning of this section, unless there is some "party loyalty" in voting across municipal and national elections, or perhaps that high local ethnic diversity changes the salience of ethnic diversity also at the national level.

### 3.4 Additional results

When assessing the magnitude of the estimated effects of ethnic diversity in the previous sections, it is important to note that the employed specification assumes that ethnic diversity only affects election outcomes contemporaneously. If this assumption does not hold and ethnic diversity affects election outcomes with a lag, the estimates reported above may therefore overstate or understate the true long run effects. A different way of assessing the magnitude of the estimated effects that partly sidesteps this issue is to simply examine the reduced form relationship between the outcome variable and the instrument, and ask how much an increase in highrisers in 1970 would have affected a municipality's later elections via its effects on ethnic diversity (both during 1970-1981 and 1981-2001). The full set of reduced form regressions corresponding to Tables 5-8 are presented in the supplementary appendix. Results from these regressions show that by increasing the level of ethnic diversity, a counterfactual one standard deviation increase in the 1970 highrisers share (15.9 percentage points) would cause a 2.2-3.7 percentage point decrease in the share of left-wing municipal seats and a 1.1-1.6 percentage point increase in the share of nationalist seats, depending on the specification. This corresponds to a swing

in the seat difference between the left-wing and right-wing block of between one half and five sixth of a seat in a typical municipality.<sup>27</sup>

The primary focus in this paper is the effect of ethnic diversity on the electoral success of the traditional "big government" left-wing parties and the anti-immigrant nationalist. For completeness, however, the supplementary appendix also examines the effect of increases in ethnic diversity on parties other than the left-wing group and the nationalists. While results here are somewhat mixed, they broadly indicate that in municipal elections, increases in ethnic diversity benefits local party lists, with some indications of a negative effect for the non-nationalist right as well. Conversely, for national elections, increased ethnic diversity instead appears to benefit both non-nationalist right-wing parties and centrist parties.

A different set of additional results concern the measurement of ethnic diversity and whether different types of immigrants have different effects on election outcomes. Since I only have one instrumental variable available, I can not do a separate analysis of how different types of immigrants affect election outcomes. In the supplementary appendix, however, I show that the estimated effects of ethnic diversity reported above are driven entirely by immigrants from outside of Western Europe and that results are practically unchanged if the percentage non-EU15 and non-Nordic is used as the measure of ethnic diversity instead of the percentage non-Danish. The reason for this is simple: As discussed in section 1, the restriction on foreigners real-estate purchases that underpins the IV strategy primarily affects immigrants from outside of Western Europe.<sup>28</sup> As a result the effects of ethnic diversity that is identified using the highrise instrument therefore only captures the effect of non-Western immigrants even when other immigrants are included in the employed measure of ethnic diversity.<sup>29</sup>

### 3.5 Additional robustness checks

In addition to the wide set of control variables employed in Tables 5-8, the supplementary appendix subjects the paper's result to a series of additional robustness checks, which I discuss briefly here.

---

<sup>27</sup>A one standard deviation increase in the 1970 highrise share is estimated to cause a 3.1-5.1 percentage points swing in the seat difference between the left-wing and right-wing block, depending on the specification. The median number of municipal seats in 2001 is 17 so one seat corresponds to a seat share of 5.9 in a typical municipality.

<sup>28</sup>To be precise, the constraint does not affect any EU-members, however, many Western European countries only became EU members during the 1980s and 1990s and thus their citizen were affected by the constraint in part of the sample period.

<sup>29</sup>More formally one can view this as an application of the LATE theorem of Imbens and Angrist (1994).

First, as a functional form check, I probe the robustness of the results to including squared terms of the control variables in various ways. Besides the obvious effect of lowering precision and power, I find no evidence that the inclusion of more higher order terms affect the estimated effects of ethnic diversity.

Second, I show that all the estimated effects are similar also when population and housing stock data from the 1960s are used as additional control variables. This alleviates concerns that a municipality's housing stock in 1970 is correlated with events in the 1960s that impact political outcomes with a long enough time lag that they affect changes in election outcomes between 1981-2001.

Third, I consider an alternative specification which shifts the baseline period a decade forward, focuses on election outcomes between 1989 and 2001 and uses the 1980 highrise share as the instrument. Beyond examining robustness to the exact choice of sample period, this specification also avoids the issue of having to use housing data from 1981 to proxy for the 1970 housing stock. Reassuringly, the estimated effects from this alternative specifications follow the same pattern as the main results, although with the shorter sample, the precision of estimates and strength of the instrument is lower than in the main text.

Finally, as a more direct check of the exclusion restriction underlying the paper's IV strategy, I also examine the reduced form relationship between changes in election outcomes and the instrument separately for municipalities in counties that experienced only small increases in ethnic diversity. If the exclusion restriction holds and the 1970 highrise share only impacts changes in election outcomes through changes in ethnic diversity, then the relationship between the 1970 highrises and election outcomes should be noticeably weaker within the set of counties that experienced the smallest inflows of immigrants.<sup>30</sup> This pattern is indeed confirmed in the data, thereby corroborating the validity of the exclusion restriction.

## 4 Conclusion

The present paper provides evidence on how immigration and increasing ethnic diversity affects political outcomes in immigrant-receiving countries by undertaking a case study of immigration and election outcomes in Danish municipalities 1981-2001. A novel IV strategy based on his-

---

<sup>30</sup>To be clear, since this empirical exercise involves conditioning the sample on changes in ethnic diversity at the county level, the exercise requires the nontrivial additional assumption that these changes are exogenous to municipal level election outcomes.

torical housing stock data addresses issues of endogenous location choice of immigrants and a rich set of control variables attempts to isolate ethnic diversity effects from the effects of other immigrant characteristics.

The paper’s results confirm that immigration-driven increases in ethnic diversity have systematic effects on political outcomes. In particular, increasing ethnic diversity has a significant negative effect on the electoral success of traditional left-wing parties and a significant positive effect on the electoral success of anti-immigrant nationalist parties. In addition, these effects of ethnic diversity on election outcomes appear fairly similar across national and municipal elections in spite of the very different sets of issues decided at these two levels of government. This could suggest that the effect of ethnic diversity might not be driven by particular political issues but rather a more fundamental shift in preferences or ”ideology”.

The findings have important implications for immigration policy and suggests several topics for future research. Perhaps most striking is the finding that immigration and increasing ethnic diversity shifts political support towards the ”small government” right-wing block which suggests that immigration may lower the level of redistribution or public spending. Further examination of the effect of immigration and ethnic diversity on more direct measures of redistribution and public spending thus seems an important topic for future work.<sup>31</sup>

Additionally, the finding that immigration-driven increases in ethnic diversity cause a surge in anti-immigrant nationalist sentiments suggests that there may be an upper bound on how much immigration is feasible before anti-immigrant sentiments begin to dominate politically. This seems particularly interesting given the suggestive evidence that the effects on election outcomes are not driven by particular political issues but reflect a more fundamental change in attitudes. Further exploration of the mechanisms linking ethnic diversity and political outcomes, as well as their implications for immigration policy thus also seems like an important topic for future work.

## References

- Alesina, A., R. Baqir, and W. Easterly (1999). Public goods and ethnic divisions. *Quarterly Journal of Economics* 114(4), 1243–1284.
- Alesina, A., A. Devleeschauwer, W. Easterly, S. Kurlat, and R. Wacziarg (2003). Fractionalization. *Journal of Economic Growth* 8(2), 155–194.

---

<sup>31</sup>Due to institutional details of the Danish setting immigrants have direct budgetary effects on both expenditures and revenues in Danish municipalities, so the Danish context is unfortunately not well suited for a direct examination of the effect of increasing ethnic diversity on the size and structure of public budgets.



- Alesina, A., E. Glaeser, and B. Sacerdote (2001). Why doesn't the united states have a european-style welfare state? *Brookings Papers on Economic Activity* (2), 187–254.
- Arzheimer, K. (2009). Contextual factors and the extreme right vote in western europe, 1980–2002. *American Journal of Political Science* 53(2), 259–275.
- Arzheimer, K. and E. Carter (2006). Political opportunity structures and right-wing extremist party success. *European Journal of Political Research* 45(3), 419–443.
- Banerjee, A., L. Iyer, and R. Somanathan (2005). History, social divisions, and public goods in rural india. *Journal of the European Economic Association* 3(2-3), 639–647.
- Card, D., C. Dustmann, and I. Preston (2012). Immigration, wages, and compositional amenities. *Journal of the European Economic Association* 10(1), 78–119.
- Citrin, J., D. P. Green, C. Muste, and C. Wong (1997). Public opinion toward immigration reform: The role of economic motivations. *The Journal of Politics* 59(03), 858–881.
- Coleman, D., E. Wadensjö, and R. F. Forskningsenhed (1999). *Indvandringen til Danmark: Internationale og nationale perspektiver*. Spektrum.
- Dahlberg, M., K. Edmark, and H. Lundqvist (2012). Ethnic diversity and preferences for redistribution. *Journal of Political Economy* 120(1), 41–76.
- Damm, A. (2009). Determinants of recent immigrants location choices: quasi-experimental evidence. *Journal of Population Economics* 22(1), 145–174.
- Dustmann, C. and I. Preston (2006). Is immigration good or bad for the economy? analysis of attitudinal responses. *Research in Labor Economics* 24(1), 3–34.
- Dustmann, C. and I. P. Preston (2007). Racial and economic factors in attitudes to immigration. *The BE Journal of Economic Analysis & Policy* 7(1).
- Easterly, W. (2001). Can institutions resolve ethnic conflict? *Economic Development and Cultural Change* 49(4), 687–706.
- Easterly, W. and R. Levine (1997). Africa's growth tragedy: Policies and ethnic divisions. *Quarterly Journal of Economics* 112(4), 1203–1250.
- Facchini, G. and A. M. Mayda (2009). Does the welfare state affect individual attitudes toward immigrants? evidence across countries. *The review of economics and statistics* 91(2), 295–314.
- Gerdes, C. (2011). The impact of immigration on the size of government: Empirical evidence from danish municipalities. *Scandinavian Journal of Economics* 113, 74–92.
- Gerdes, C. and E. Wadensjö (2010). The impact of immigration on election outcomes in danish municipalities. *Working Paper, Stockholm University Linnaeus Center for Integration Studies*.
- Golder, M. (2003). Explaining variation in the success of extreme right parties in western europe. *Comparative Political Studies* 36(4), 432–466.
- Hainmueller, J. and M. J. Hiscox (2007). Educated preferences: Explaining attitudes toward immigration in europe. *International Organization* 61(02), 399–442.
- Hainmueller, J. and M. J. Hiscox (2010). Attitudes toward highly skilled and low-skilled immigration: Evidence from a survey experiment. *American Political Science Review* 104(01), 61–84.
- Halla, M., A. Wagner, and J. Zweimüller (2014). Immigration and Voting for the Extreme Right. *Working Paper*.
- Imbens, G. and J. Angrist (1994). Identification and estimation of local average treatment effects. *Econometrica* 62(2), 467–475.

- Knigge, P. (1998). The ecological correlates of right-wing extremism in western europe. *European Journal of Political Research* 34(2), 249–279.
- Lassen, D. (2007). Ethnic divisions, trust, and the size of the informal sector. *Journal of Economic Behavior & Organization* 63(3), 423–438.
- Lubbers, M., M. Gijsberts, and P. Scheepers (2002). Extreme right-wing voting in western europe. *European Journal of Political Research* 41(3), 345–378.
- Luttmer, E. (2001). Group loyalty and the taste for redistribution. *Journal of Political Economy* 109(3), 500–528.
- Mayr, K. and R. Böheim (2005). Immigration and public spending. *IZA Discussion Paper*.
- Miguel, E. and M. Gugerty (2005). Ethnic diversity, social sanctions, and public goods in kenya. *Journal of Public Economics* 89, 2325–2368.
- Nekby, L. and P. Pettersson-Lidbom (2012). Revisiting the Relationship between Ethnic Diversity and Preferences for Redistribution. *Working Paper*.
- Okten, C. and U. Osili (2004). Contributions in heterogeneous communities: Evidence from indonesia. *Journal of Population Economics* 17(4), 603–626.
- O’rourke, K. H. and R. Sinnott (2006). The determinants of individual attitudes towards immigration. *European Journal of Political Economy* 22(4), 838–861.
- Otto, A. H. and M. F. Steinhardt (2014). Immigration and election outcomes — Evidence from city districts in Hamburg. *Regional Science and Urban Economics* 45, 67–79.
- Razin, A., E. Sadka, and P. Swagel (2002). Tax burden and migration: A political economy theory and evidence. *Journal of Public Economics* 85, 167–190.
- Roemer, J. and K. V. der Straeten (2006). The Political Economy of Xenophobia and Distribution: The Case of Denmark. *Scandinavian Journal of Economics* 108(2), 251–277.
- Scheve, K. F. and M. J. Slaughter (2001). Labor market competition and individual preferences over immigration policy. *Review of Economics and Statistics* 83(1), 133–145.
- Senik, C., H. Stichnoth, and K. V. der Straeten (2009). Immigration and natives’ attitudes towards the welfare state: evidence from the european social survey. *Social indicators research* 91, 345–370.
- Stock, J. and M. Yogo (2005). Asymptotic distributions of instrumental variables statistics with many instruments. *Identification and Inference for Econometric Models: Essays in Honor of Thomas Rothenberg*, 109–120.
- Togeby, L. (1999). Migrants at the polls: an analysis of immigrant and refugee participation in danish local elections. *Journal of Ethnic and Migration Studies* 25(4), 665–684.
- Vigdor, J. (2004). Community composition and collective action: Analyzing initial mail response to the 2000 census. *Review of Economics and Statistics* 86(1), 303–312.
- Zwane, A. and D. Sunding (2006). Immigration, community composition, and local public goods. *Working Paper*.

Figure 1: The IV strategy

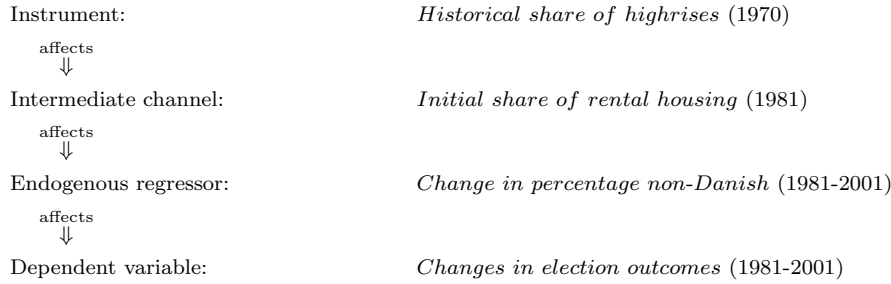


Table 1: Descriptive statistics

VARIABLES	Obs.	Mean	S.D.	Min.	Median	Max.
<i>Panel A: 1981 cross-section</i>						
Share non-Danish (%)	273	1.81	1.56	0.31	1.28	11.41
Total population (1000s)	273	16.64	22.85	2.68	9.82	245.57
Population density (1000s/km <sup>2</sup> )	273	0.20	0.41	0.02	0.07	3.11
Mean income (1,000s, 1980-kr)	273	95.65	11.60	75.66	93.02	143.06
Unemployment rate (%)	273	7.06	2.05	2.16	7.28	15.14
Share not in workforce (%)	273	46.71	2.69	35.00	47.16	55.36
Gini-coefficient	273	31.47	2.37	22.52	31.54	42.24
Share aged 0-16 years (%)	273	27.62	3.14	17.88	27.44	38.28
Share older than 65 years (%)	273	13.73	3.85	2.34	14.20	26.03
Share aged 0-30 years (%)	273	47.07	3.92	34.16	47.07	60.63
Share rental housing (%)	273	24.31	13.65	8.34	18.96	72.70
Share highrises in 1970 (%)	273	15.92	16.72	0.15	8.86	70.92
Employment share, nat. res. and agric. (%)	273	4.75	3.07	0.19	4.62	18.55
Employment share, manufact. and constr. (%)	273	31.23	6.83	14.60	31.52	61.09
Employment share, services and retail (%)	273	64.02	8.13	36.80	63.13	84.28
Left-wing mayor in 1970	273	0.26	0.44	0.00	0.00	1.00
Right-wing mayor in 1970	273	0.56	0.50	0.00	1.00	1.00
Share municipal seats, left-wing (%)	273	36.34	14.64	5.88	33.33	78.95
Share municipal seats, nationalists (%)	273	5.94	3.93	0.00	5.88	19.05
Share votes nat. election, left-wing (%)	273	40.69	9.41	16.84	40.81	69.91
Share votes nat. election, nationalists (%)	273	10.61	3.81	0.00	10.84	20.59
<i>Panel B: Changes 1981-2001</i>						
Share non-Danish (%)	273	2.60	1.87	0.63	2.03	15.59
Total population (1000s)	273	0.79	2.96	-3.12	0.22	41.10
Population density (1000s/km <sup>2</sup> )	273	0.00	0.02	-0.15	0.00	0.10
Mean income (1,000s, 1980-kr)	273	11.11	6.50	-10.69	11.64	25.53
Unemployment rate (%)	273	-3.00	1.89	-8.29	-3.00	3.04
Share not in workforce (%)	273	-0.45	2.65	-6.18	-0.86	10.08
Gini-coefficient	273	-2.05	1.66	-12.36	-2.09	2.46
Share aged 0-16 years (%)	273	-4.13	2.06	-11.82	-3.87	4.01
Share older than 65 years (%)	273	1.74	2.18	-5.46	1.44	9.87
Share aged 0-30 years (%)	273	-9.12	2.75	-19.11	-8.80	0.48
Share rental housing (%)	273	6.30	3.61	-8.08	6.34	14.46
Employment share, nat. res. and agric. (%)	273	-1.40	1.40	-8.70	-1.14	2.51
Employment share, manufact. and constr. (%)	273	-2.60	3.89	-14.67	-3.09	9.35
Employment share, services and retail (%)	273	4.01	3.75	-8.30	4.24	17.04
Share municipal seats, left-wing (%)	273	1.28	11.50	-45.25	0.00	37.25
Share municipal seats, nationalists (%)	273	-2.44	5.14	-18.18	0.00	20.00
Share votes nat. election, left-wing (%)	273	-5.93	5.03	-19.88	-5.86	15.17
Share votes nat. election, nationalists (%)	273	2.66	4.13	-8.66	2.73	14.19

The table shows descriptive statistics for the Danish municipalities, excluding *Copenhagen* and *Frederiksberg*. Panel A shows descriptive statistics for the variables across the 1981-cross section. Panel B shows descriptive statistics for the *changes* in the variables between 1981 and 2001.

Table 2: Relationship between rental housing, highrises and changes in ethnic diversity

VARIABLES:	(1) % rental housing 1981	(2) Change, % non-Danish 1981-2001	(3) Change, % non-Danish 1981-2001	(4) Change, % non-Danish 1981-2001	(5) Change, % non-Danish 1981-2001	(6) Change, % non-Danish 1981-2001
% rental housing, 1981		0.100*** (0.012)	0.082*** (0.015)	0.126*** (0.035)		
% highrises, 1970	0.731*** (0.026)			-0.024 (0.025)	0.068*** (0.008)	0.029*** (0.009)
Mean income, 1981						-0.089*** (0.016)
% secon. sect. empl., 1981						-0.051 (0.032)
% tert. sect. empl., 1981						-0.010 (0.030)
Gini-coefficient, 1981						0.097* (0.052)
Unemp. rate, 1981						-0.027 (0.081)
Total population, 1981			0.004 (0.005)			-0.000 (0.003)
Population density, 1981			0.658 (0.438)			0.924*** (0.355)
% non-Danish, 1981						0.564*** (0.092)
% aged 0-30 years, 1981						0.200*** (0.038)
Left-wing mayor in 1970						-0.140 (0.224)
Right-wing mayor in 1970						-0.044 (0.151)
Change in mean income, 1981-2001						-0.076*** (0.025)
Change in unemp. rate, 1981-2001						0.002 (0.069)
Change in the % not in workf., 1981-2001						0.163*** (0.057)
Change in Gini coefficient, 1981-2001						0.131** (0.063)
Change in % aged 0-16, 1981-2001						-0.161** (0.078)
Change in % aged 65+, 1981-2001						-0.140** (0.066)
Observations	273	273	273	273	273	273
County Fixed Effects	No	No	No	No	No	Yes
First stage F-stat					157.81	15.91

The table presents OLS regression results. Each observation corresponds to a municipality. The dependent variable in Column (1) is the share of rental housing in 1981. In all other columns the dependent variable is the change in the percentage non-Danish between 1981-2001. The set of possible independent variables are the percentage of highrises in 1970 and indicators for having a left-wing or right-wing mayor in 1970 as well as the 1981-level of the percentage rental housing, the total population, the population density, the level of mean income, the share of total employment in the secondary sector (manufacturing and construction), the share of total employment in the tertiary sector (retail and services), the Gini-coefficient, the unemployment rate, share of population aged less than 30 years and percentage non-Danish, plus the 1981-2001 changes in mean income, the unemployment rate, fraction not in the workforce, the Gini-coefficient, share of population between 0 and 16 years old and share of population older than 65 years. The last column also includes county fixed effects. The reported F-statistic is the measure of instrument strength proposed by Stock and Yogo (2005) and corresponds to a test of the hypothesis that the percentage of highrises in 1970 can be excluded from the regression. Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 3: Effect of ethnic diversity on left-wing voting in municipal elections, OLS

VARIABLES:	Dependent var.: Change in the % of <i>left-wing</i> seats						
	OLS estimates		Time period: 1981-2001				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Change in % non-Danish	-0.569 (0.374)	0.055 (0.416)	0.055 (0.546)	0.353 (0.415)	0.319 (0.578)	-0.281 (0.505)	0.301 (0.706)
Initial mean income		0.073 (0.096)			-0.143 (0.103)		-0.176 (0.199)
Initial % secon. sect. empl.		-0.439 (0.323)			0.133 (0.320)		-0.001 (0.372)
Initial % tert. sect. empl.		-0.631** (0.306)			-0.055 (0.312)		-0.216 (0.359)
Initial gini-coefficient		0.170 (0.319)			0.492 (0.386)		0.248 (0.644)
Initial unemp. rate		0.431 (0.657)			0.541 (0.665)		0.041 (1.089)
Initial total population			-0.080** (0.032)		-0.043 (0.032)		-0.037 (0.036)
Initial population density			-1.260 (3.200)		0.510 (2.852)		1.392 (2.735)
Initial % non-Danish			-0.085 (0.881)		0.027 (1.037)		0.324 (1.060)
Initial % aged 0-30 years			0.292 (0.239)		0.496 (0.334)		0.276 (0.438)
Left-wing mayor in 1970				-8.231*** (2.349)	-8.224*** (2.756)		-8.753*** (2.973)
Right-wing mayor in 1970				-0.158 (1.699)	-0.157 (1.785)		-0.401 (1.853)
Change in mean income						0.149 (0.201)	-0.132 (0.298)
Change in unemp. rate						-0.550 (0.521)	-0.499 (0.768)
Change in the % not in workf.						0.156 (0.588)	-0.184 (0.693)
Change in Gini coefficient						-0.828 (0.540)	-0.805 (0.876)
Change in % aged 0-16						-1.037 (0.741)	-0.387 (0.866)
Change in % aged 65+						-0.584 (0.644)	-0.233 (0.613)
Observations	273	273	273	273	273	273	273
County Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes

The table reports OLS estimates of the effect of changes in percentage non-Danish on changes in the percentage of seats won by the left-wing group between the 1981 and 2001 municipal elections. Each observation corresponds to a municipality. Besides county fixed effects, the potential controls used are the initial level of mean income, share of total employment in the secondary sector (manufacturing and construction), share of total employment in the tertiary sector (retail and services), the Gini-coefficient, the unemployment rate, total population, population density, share of population aged less than 30 years and percentage non-Danish, as well indicators for having a left-wing or right-wing mayor in 1970, plus the changes in mean income, the unemployment rate, fraction not in the workforce, the Gini-coefficient, share of population between 0 and 16 years old and share of population older than 65 years. Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 4: Effect of ethnic diversity on nationalist voting in municipal elections, OLS

VARIABLES:	Dependent var.: Change in the % of <i>nationalist</i> seats						
	OLS estimates		Time period: 1981-2001				
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Change in % non-Danish	0.920*** (0.136)	0.648*** (0.202)	0.817*** (0.199)	0.707*** (0.162)	0.672** (0.270)	0.613*** (0.189)	0.385 (0.327)
Initial mean income		-0.008 (0.032)			0.017 (0.046)		-0.108 (0.074)
Initial % secon. sect. empl.		-0.081 (0.138)			-0.133 (0.147)		-0.121 (0.141)
Initial % tert. sect. empl.		0.024 (0.127)			-0.026 (0.137)		-0.010 (0.137)
Initial gini-coefficient		-0.179 (0.156)			-0.185 (0.168)		0.116 (0.236)
Initial unemp. rate		0.022 (0.211)			0.004 (0.215)		-0.309 (0.336)
Initial total population			0.013 (0.011)		0.009 (0.011)		0.005 (0.012)
Initial population density			-0.431 (1.051)		-0.479 (1.074)		-0.265 (0.960)
Initial % non-Danish			-0.219 (0.353)		-0.223 (0.390)		-0.199 (0.396)
Initial % aged 0-30 years			-0.028 (0.085)		-0.043 (0.133)		0.008 (0.160)
Left-wing mayor in 1970				0.578 (0.860)	0.728 (0.919)		0.164 (0.925)
Right-wing mayor in 1970				-0.400 (0.794)	-0.347 (0.815)		-0.305 (0.800)
Change in mean income						-0.192*** (0.068)	-0.295*** (0.110)
Change in unemp. rate						0.116 (0.172)	-0.138 (0.298)
Change in the % not in workf.						-0.079 (0.230)	-0.225 (0.252)
Change in Gini coefficient						-0.132 (0.184)	0.081 (0.277)
Change in % aged 0-16						0.227 (0.276)	0.121 (0.317)
Change in % aged 65+						0.132 (0.263)	0.240 (0.281)
Observations	273	273	273	273	273	273	273
County Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes

The table reports OLS estimates of the effect of changes in percentage non-Danish on changes in the percentage of seats won by the nationalist group between the 1981 and 2001 municipal elections. Each observation corresponds to a municipality. Besides county fixed effects, the potential controls used are the initial level of mean income, share of total employment in the secondary sector (manufacturing and construction), share of total employment in the tertiary sector (retail and services), the Gini-coefficient, the unemployment rate, total population, population density, share of population aged less than 30 years and percentage non-Danish, as well indicators for having a left-wing or right-wing mayor in 1970, plus the changes in mean income, the unemployment rate, fraction not in the workforce, the Gini-coefficient, share of population between 0 and 16 years old and share of population older than 65 years. Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 5: Effect of ethnic diversity on left-wing voting in municipal elections, IV

Dependent var.: Change in the % of <i>left-wing</i> seats		Time period: 1981-2001					
IV estimates: Highrise share in 1970 instrumenting for change in % non-Danish							
VARIABLES:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Change in % non-Danish	-2.708*** (0.696)	-5.029*** (1.943)	-6.108** (2.512)	-2.562* (1.440)	-4.622 (3.098)	-4.239*** (1.316)	-5.193 (3.349)
Initial mean income		-0.163 (0.133)			-0.478** (0.236)		-0.692* (0.374)
Initial % secon. sect. empl.		0.053 (0.367)			-0.029 (0.342)		-0.020 (0.356)
Initial % tert. sect. empl.		0.239 (0.409)			0.014 (0.322)		0.021 (0.365)
Initial gini-coefficient		-0.683 (0.541)			0.050 (0.500)		0.818 (0.749)
Initial unemp. rate		1.513* (0.904)			0.815 (0.661)		-0.139 (1.126)
Initial total population			0.027 (0.047)		0.012 (0.043)		-0.003 (0.038)
Initial population density			8.921 (6.223)		6.702 (4.755)		7.617* (4.610)
Initial % non-Danish			4.800** (2.409)		3.631 (2.433)		3.543* (2.150)
Initial % aged 0-30 years			0.904** (0.389)		1.302** (0.566)		1.313* (0.715)
Left-wing mayor in 1970				-4.009 (3.132)	-6.834** (2.965)		-8.172*** (2.973)
Right-wing mayor in 1970				-0.296 (1.729)	-0.256 (1.862)		-0.370 (1.845)
Change in mean income						-0.282 (0.234)	-0.631 (0.406)
Change in unemp. rate						-0.878* (0.521)	-0.533 (0.819)
Change in the % not in workf.						1.589* (0.843)	0.616 (0.897)
Change in Gini coefficient						-0.612 (0.581)	-0.038 (0.983)
Change in % aged 0-16						-1.653 (1.044)	-0.942 (0.997)
Change in % aged 65+						-1.800* (0.986)	-0.829 (0.771)
Observations	273	273	273	273	273	273	273
County Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
First Stage F-stat	157.81	37.85	22.54	46.93	16.48	71.49	15.91

The table reports IV estimates of the effect of changes in percentage non-Danish on changes in the percentage of seats won by the left-wing group between the 1981 and 2001 municipal elections. The employed instrument is the share of highrises in 1970 and each observation corresponds to a municipality. Besides county fixed effects, the potential controls used are the initial level of mean income, share of total employment in the secondary sector (manufacturing and construction), share of total employment in the tertiary sector (retail and services), the Gini-coefficient, the unemployment rate, total population, population density, share of population aged less than 30 years and percentage non-Danish, as well indicators for having a left-wing or right-wing mayor in 1970, plus the changes in mean income, the unemployment rate, fraction not in the workforce, the Gini-coefficient, share of population between 0 and 16 years old and share of population older than 65 years. The reported F-statistic is the measure of instrument strength proposed by Stock and Yogo (2005). Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 6: Effect of ethnic diversity on nationalist voting in municipal elections, IV

Dependent var.: Change in the % of <i>nationalist</i> seats		Time period: 1981-2001					
IV estimates: Highrise share in 1970 instrumenting for change in % non-Danish							
VARIABLES:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Change in % non-Danish	1.411*** (0.221)	1.923*** (0.615)	2.510*** (0.839)	1.480*** (0.483)	2.982*** (1.151)	1.344*** (0.388)	2.822** (1.211)
Initial mean income		0.051 (0.038)			0.174** (0.086)		0.121 (0.135)
Initial % secon. sect. empl.		-0.204 (0.131)			-0.057 (0.150)		-0.113 (0.142)
Initial % tert. sect. empl.		-0.194 (0.147)			-0.059 (0.135)		-0.115 (0.142)
Initial gini-coefficient		0.035 (0.201)			0.021 (0.190)		-0.137 (0.276)
Initial unemp. rate		-0.250 (0.309)			-0.124 (0.241)		-0.229 (0.360)
Initial total population			-0.017 (0.017)		-0.017 (0.018)		-0.010 (0.015)
Initial population density			-3.229** (1.626)		-3.373* (1.837)		-3.026* (1.717)
Initial % non-Danish			-1.562* (0.803)		-1.907** (0.935)		-1.627* (0.831)
Initial % aged 0-30 years			-0.196 (0.129)		-0.420* (0.225)		-0.453* (0.275)
Left-wing mayor in 1970				-0.542 (1.129)	0.078 (1.040)		-0.094 (0.992)
Right-wing mayor in 1970				-0.363 (0.803)	-0.300 (0.836)		-0.319 (0.833)
Change in mean income						-0.113 (0.077)	-0.074 (0.156)
Change in unemp. rate						0.177 (0.177)	-0.123 (0.308)
Change in the % not in workf.						-0.343 (0.250)	-0.580** (0.284)
Change in Gini coefficient						-0.171 (0.194)	-0.259 (0.326)
Change in % aged 0-16						0.341 (0.287)	0.367 (0.324)
Change in % aged 65+						0.357 (0.300)	0.504 (0.321)
Observations	273	273	273	273	273	273	273
County Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
First Stage F-stat	157.81	37.85	22.54	46.93	16.48	71.49	15.91

The table reports IV estimates of the effect of changes in percentage non-Danish on changes in the percentage of seats won by the nationalist group between the 1981 and 2001 municipal elections. The employed instrument is the share of highrises in 1970 and each observation corresponds to a municipality. Besides county fixed effects, the potential controls used are the initial level of mean income, share of total employment in the secondary sector (manufacturing and construction), share of total employment in the tertiary sector (retail and services), the Gini-coefficient, the unemployment rate, total population, population density, share of population aged less than 30 years and percentage non-Danish, as well indicators for having a left-wing or right-wing mayor in 1970, plus the changes in mean income, the unemployment rate, fraction not in the workforce, the Gini-coefficient, share of population between 0 and 16 years old and share of population older than 65 years. The reported F-statistic is the measure of instrument strength proposed by Stock and Yogo (2005). Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .



Table 7: Effect of ethnic diversity on left-wing voting in national elections, IV

Dependent var.: Change in the % of <i>left-wing</i> votes		Time period: 1981-2001					
IV estimates: Highrise share in 1970 instrumenting for change in % non-Danish							
VARIABLES:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Change in % non-Danish	-2.644*** (0.315)	-3.288*** (0.777)	-5.235*** (1.492)	-2.369*** (0.526)	-3.905*** (1.233)	-3.325*** (0.490)	-4.127*** (1.272)
Initial mean income		-0.206*** (0.054)			-0.362*** (0.094)		-0.500*** (0.150)
Initial % secon. sect. empl.		-0.484*** (0.139)			-0.579*** (0.143)		-0.437*** (0.137)
Initial % tert. sect. empl.		-0.243 (0.159)			-0.382*** (0.132)		-0.230 (0.140)
Initial gini-coefficient		-0.395* (0.218)			-0.236 (0.219)		0.715** (0.307)
Initial unemp. rate		0.165 (0.391)			-0.070 (0.221)		-0.649 (0.443)
Initial total population			0.026 (0.028)		0.012 (0.017)		-0.013 (0.013)
Initial population density			6.562* (3.898)		4.125* (2.248)		4.180** (1.872)
Initial % non-Danish			3.570** (1.521)		2.531** (1.036)		2.118** (0.912)
Initial % aged 0-30 years			0.229 (0.245)		0.564** (0.229)		0.659*** (0.254)
Left-wing mayor in 1970				-2.889** (1.262)	-2.985*** (1.089)		-3.480*** (1.018)
Right-wing mayor in 1970				-1.769** (0.731)	-1.012 (0.755)		-0.976 (0.709)
Change in mean income						-0.010 (0.099)	-0.376** (0.174)
Change in unemp. rate						0.163 (0.246)	-0.251 (0.356)
Change in the % not in workf.						1.440*** (0.341)	0.728*** (0.255)
Change in Gini coefficient						0.146 (0.222)	0.848** (0.382)
Change in % aged 0-16						-0.970** (0.495)	-0.833** (0.370)
Change in % aged 65+						-1.418*** (0.470)	-0.833*** (0.310)
Observations	273	273	273	273	273	273	273
County Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
First Stage F-stat	157.81	37.85	22.54	46.93	16.48	71.49	15.91

The table reports IV estimates of the effect of changes in percentage non-Danish on changes in the percentage of votes received by the left-wing group between the 1981 and 2001 national elections. The employed instrument is the share of highrises in 1970 and each observation corresponds to a municipality. Besides county fixed effects, the potential controls used are the initial level of mean income, share of total employment in the secondary sector (manufacturing and construction), share of total employment in the tertiary sector (retail and services), the Gini-coefficient, the unemployment rate, total population, population density, share of population aged less than 30 years and percentage non-Danish, as well indicators for having a left-wing or right-wing mayor in 1970, plus the changes in mean income, the unemployment rate, fraction not in the workforce, the Gini-coefficient, share of population between 0 and 16 years old and share of population older than 65 years. The reported F-statistic is the measure of instrument strength proposed by Stock and Yogo (2005). Robust standard errors in parentheses. \*\*\* p<0.01, \*\* p<0.05, \* p<0.1.

Table 8: Effect of ethnic diversity on nationalist voting in national elections, IV

Dependent var.: Change in the % of <i>nationalist</i> votes		Time period: 1981-2001					
IV estimates: Highrise share in 1970 instrumenting for change in % non-Danish							
VARIABLES:	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Change in % non-Danish	0.992*** (0.189)	1.209*** (0.339)	2.086*** (0.550)	0.601*** (0.207)	1.383*** (0.488)	1.137*** (0.228)	1.614*** (0.522)
Initial mean income		0.019 (0.025)			0.094** (0.044)		0.125** (0.059)
Initial % secon. sect. empl.		-0.001 (0.064)			0.044 (0.057)		0.034 (0.059)
Initial % tert. sect. empl.		-0.052 (0.071)			0.018 (0.058)		-0.027 (0.059)
Initial gini-coefficient		-0.197** (0.089)			-0.289*** (0.095)		-0.494*** (0.146)
Initial unemp. rate		0.117 (0.170)			0.260** (0.103)		0.638*** (0.156)
Initial total population			-0.015 (0.012)		-0.009 (0.008)		0.001 (0.008)
Initial population density			-1.914 (1.239)		-1.125 (0.884)		-0.961 (0.840)
Initial % non-Danish			-1.756*** (0.484)		-1.116*** (0.377)		-1.226*** (0.350)
Initial % aged 0-30 years			-0.102 (0.082)		-0.268** (0.108)		-0.350*** (0.107)
Left-wing mayor in 1970				1.733*** (0.519)	1.205*** (0.438)		0.877** (0.429)
Right-wing mayor in 1970				0.161 (0.346)	0.076 (0.336)		-0.044 (0.329)
Change in mean income						-0.031 (0.050)	0.099 (0.078)
Change in unemp. rate						0.009 (0.103)	0.440*** (0.142)
Change in the % not in workf.						-0.165 (0.152)	-0.224 (0.139)
Change in Gini coefficient						-0.038 (0.102)	-0.391** (0.161)
Change in % aged 0-16						-0.047 (0.198)	-0.049 (0.173)
Change in % aged 65+						0.261 (0.189)	0.229 (0.143)
Observations	273	273	273	273	273	273	273
County Fixed Effects	No	Yes	Yes	Yes	Yes	Yes	Yes
First Stage F-stat	157.81	37.85	22.54	46.93	16.48	71.49	15.91

The table reports IV estimates of the effect of changes in percentage non-Danish on changes in the percentage of votes received by the nationalist group between the 1981 and 2001 national elections. The employed instrument is the share of highrises in 1970 and each observation corresponds to a municipality. Besides county fixed effects, the potential controls used are the initial level of mean income, share of total employment in the secondary sector (manufacturing and construction), share of total employment in the tertiary sector (retail and services), the Gini-coefficient, the unemployment rate, total population, population density, share of population aged less than 30 years and percentage non-Danish, as well indicators for having a left-wing or right-wing mayor in 1970, plus the changes in mean income, the unemployment rate, fraction not in the workforce, the Gini-coefficient, share of population between 0 and 16 years old and share of population older than 65 years. The reported F-statistic is the measure of instrument strength proposed by Stock and Yogo (2005). Robust standard errors in parentheses. \*\*\*  $p < 0.01$ , \*\*  $p < 0.05$ , \*  $p < 0.1$ .

Table 9: Details of variables used

<i>Share non-Danish</i>	A person is defined to be non-Danish if neither the father or mother was both born in Denmark and was a Danish citizen at the time of birth. The total number of non-Danish residing in the municipality is divided by the total population residing in the municipality. <i>Source tables: BEF3</i>
<i>Total population</i>	The total population residing in the municipality. <i>Source tables: BEF3</i>
<i>Population density</i>	Total population divided by the mean of the land area 1985-2001. The mean over the years available is taken because the measured land area actually shows some very small changes (less than 1 square kilometer) over the period despite the fact that municipal borders did not change. <i>Source tables: BEF3, ARE2</i>
<i>Mean income</i>	The total yearly income net of taxes and transfers divided by the total population in the municipality. <i>Source: Direct calculations on administrative data</i>
<i>Unemployment rate</i>	The number of unemployed divided by the sum of unemployed and employed. <i>Source tables: RAS1</i>
<i>Share not in the workforce</i>	The number of people not unemployed and not working divided by the total population in the municipality. <i>Source tables: RAS1</i>
<i>Gini coefficient</i>	The Gini-coefficient computed across households based on total yearly income net of taxes and transfers and using the square root equivalence scale. <i>Source: Direct calculations on administrative data</i>
<i>Share of the population aged 0 to 16</i>	The total number of people aged 0 to 16 divided by the total population residing in the municipality. <i>Source tables: BEF3</i>
<i>Share of the population older than 65</i>	The total number of people 65 or older divided by the total population residing in the municipality. <i>Source tables: BEF3</i>
<i>Share of the population aged 0 to 30</i>	The total number of people aged 0 to 30 divided by the total population residing in the municipality. <i>Source tables: BEF3</i>
<i>Share rental housing</i>	The total number of units rented out divided by the sum of owner occupied units, rented out units and "non-specified" units. <i>Source tables: BOL1</i>
<i>Share highrises in 1970</i>	The sum of all units classified as "multistory housing (two or more families, horizontal separation between units)" on January 1st, 1981 that was built by 1970, divided by the sum of all housing units on January 1st, 1981 that was built by 1970. <i>Source tables: BOL3</i>
<i>Share seats, left-wing group</i>	The total number of seats won by <i>Socialdemokraterne, Socialistisk Folkeparti, Enhedslisten, Internationalen-SAP, Danmarks Kommunistparti, Arbejderpartiet KAP</i> and <i>Venstresocialisterne</i> divided by the total number of seats in the municipality. <i>Source tables: VALG1, VALGK3X</i>
<i>Share seats, nationalist group</i>	The total number of seats won by <i>Fremskridtspartiet</i> and <i>Dansk Folkeparti</i> divided by the total number of seats in the municipality. <i>Source tables: VALG1, VALGK3X</i>
<i>Share votes in national elections, left-wing group</i>	The total number of votes received by <i>Socialdemokraterne, Socialistisk Folkeparti, Enhedslisten, Internationalen-SAP, Danmarks Kommunistparti, Arbejderpartiet KAP</i> and <i>Venstresocialisterne</i> divided by the total number of votes cast. <i>Source: Den Danske Valgdatabase</i>
<i>Share votes in national elections, nationalist group</i>	The total number of votes received by <i>Fremskridtspartiet</i> and <i>Dansk Folkeparti</i> divided by the total number of votes cast. <i>Source: Den Danske Valgdatabase</i>
<i>Left-wing mayor in 1970</i>	An indicator variable for whether the party of the municipal mayor in 1970 was <i>Socialdemokraterne, Socialistisk Folkeparti, Enhedslisten, Internationalen-SAP, Danmarks Kommunistparti, Arbejderpartiet KAP</i> or <i>Venstresocialisterne</i> . <i>Source: Hand collected from online data</i>
<i>Right-wing mayor in 1970</i>	An indicator variable for whether the party of the municipal mayor in 1970 was <i>Venstre</i> or <i>Det Konservative Folkeparti</i> . <i>Source: Hand collected from online data</i>
<i>Employment share, agriculture and natural resources</i>	The number of salaried workers living in the municipality and classified as working in agriculture or natural resources, divided by the total number of salaried workers living in the municipality without missing industry information. <i>Source: Direct calculations on administrative data</i>
<i>Employment share, manufacturing</i>	The number of salaried workers living in the municipality and classified as working in manufacturing, divided by the total number of salaried workers living in the municipality without missing industry information. <i>Source: Direct calculations on administrative data</i>
<i>Employment share, services and retail</i>	The number of salaried workers living in the municipality and classified as working services or retail, divided by the total number of salaried workers living in the municipality without missing industry information. <i>Source: Direct calculations on administrative data</i>

Source table names such as BEF3 refer to tables in *Statistics Denmark's* publicly available *Statistikbanken* database unless otherwise indicated.