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Defending Christ and the Fatherland

A panel data analysis of the impact immigration has on the electoral outcomes of Polish
far-right parties from 2001 to 2020

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Abstract

Voting for far-right parties in Europe is linked to many reasons, among them an increased presence of migrants. Using panel data from 372 Polish counties over the years 2001 – 2020, I run two-way fixed effects difference-in-differences and Bartik instrument models to test whether the share of migrants in a county has an effect on the share of votes far-right parties receive in different elections – presidential, parliamentary, local, and European. I estimate the effect of the migrant inflow and the effect of the cumulative migrant presence separately. I aim to explain the electoral performance of the ruling *Prawo i Sprawiedliwość* party as well as the cumulative far-right performance. I do not find that either migrant inflow or migrant presence treatment has significant effects on the electoral performance of Polish far-right parties in various elections. At most, there is a negative effect of the migrant inflow on the outcomes of *Prawo i Sprawiedliwość* in the first round of presidential elections, but its magnitude and statistical significance differ between specifications.

Keywords: voting, immigration, Polish far-right, difference-in-differences, Bartik instrument.

JEL: D72, F22, P29

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I want to dedicate this thesis to my grandmother, Svetlana Ogoleva. She taught me a woman could do anything she wanted to. I wish she were here so I could tell her how my master's program worked out.

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List of Abbreviations

ATE	Average Treatment Effect
CBOS	<i>Centrum Badania Opinii Społecznej</i> (Center for Public Opinion Research)
CEE	Central and Eastern Europe
DID	Difference in Differences
EP	European Parliament
FE	Fixed Effects
GUS	<i>Główny Urząd Statystyczny</i> (Central Statistical Office of Poland)
IOM	International Organization for Migration
OLS	Ordinary Least Squares
p.p.	percentage point
PiS	<i>Prawo i Sprawiedliwość</i> (Law and Justice)
PKW	<i>Państwowa Komisja Wyborcza</i> (National Electoral Commission of Poland)
UNHCR	The United Nations High Commissioner for Refugees

1 Introduction

Elections are a way for voters to express their sentiments on a multitude of problems. When it comes to specific points and policies, people vote on issues of taxation, climate change, social security, and reproductive rights, among others. The relative importance of these issues in motivating a person’s vote has been a subject of debate. Immigration is one such politically influential issue, whose importance has been growing in recent decades. Political parties at different points along the spectrum have been highlighting the consequences of foreigners arriving to their respective countries in their agendas. Right-of-center parties in Europe and the United States promise to curb immigration in order to limit the “drain on resources” migrants allegedly pose. The Republican Party candidate in the 2016 and 2020 US presidential elections, Donald J. Trump, wanted a physical barrier to illegal immigration in the shape of a wall on the US border with Mexico. In the UK, political forces backing Brexit motivated their stance by declaring the need to “take back control” of Britain’s borders. Marine Le Pen of the French *Rassemblement national*¹ calls for a total ban on migration into France, legal or illegal. The *Alternative für Deutschland*² is currently the third largest party in the Bundestag; they want migration to Germany to be reversed, with more people of non-German origin leaving the country than entering.

Why are far-right parties so popular in parts of Europe and the US? Their negative stance on migration might be a part of their appeal. If their anti-immigrant message does resonate with voters then the question is whether people voting for the far right is a response to changes in the extent of migrant presence in the localities where those voters live. These changes can be captured as an increase in the number of migrants relative to the native population, the rising degree of their difference from the native population, as well as sudden spikes in their arrival rates. Alternatively, the anti-migrant rhetoric of far-right parties may motivate people to vote for them regardless of the voters’ exposure to migrants, making us look for explanations of their electoral success elsewhere.

To study the connection between immigration and votes for far-right parties I select the case of Poland. Poland’s case is intriguing because the country has one of the lowest shares of non-native population in Europe at 0.4%. Yet parties espousing a strong anti-migrant rhetoric perform well at different levels of elections. Currently, *Prawo i Sprawiedliwość*³ (further referred to as PiS) is Poland’s ruling party. PiS won the 2015 and 2019 parliamentary elections, gaining the majority of seats in the Sejm, the lower chamber of the Polish parliament. PiS candidate, Andrzej Duda, is currently in his second term of the presidency, having won the 2015 and 2020 elections. PiS also dominated the most recent local elections in 2018. The party is conservative, nationalistic, and religious. PiS’ view on migrants coming into Poland is a negative one, particularly on those migrants who are not white and Christian. PiS’s strategy of building support has been to incite fear that migrants are there to take the jobs of Poles, their social benefits, and commit acts of political violence.

The number of migrants has been steadily rising in Poland since its breakaway from the socialist camp in 1989, really taking off around 2004, the year Poland joined the EU. If in 1995 the number of work permits issued to foreigners was slightly over 10 000, in 2019 Poland let over 400 000 foreign workers in. While Poland did not experience a large influx of refugees in 2015, the year of the refugee crisis in Europe, anti-migrant sentiment among the Polish population was still strong. The IOM/Ipsos opinion poll from 2016 established that nearly two-thirds of Polish respondents had some concerns about the inflow of foreigners to Poland.

¹National Rally.

²Alternative for Germany.

³Law and Justice.

45% of Polish respondents saw the impact of migrants on the economy and labor market as negative. I aim to see whether PiS' electoral success can be linked to the increased presence of migrants in the country. The political result of more frequent contacts between native Poles and the foreign-born might be the jump in polls enjoyed by the far right. Thus, this study aims to *establish a link between the number of migrants relative to the total population and the share of votes for PiS and other anti-migrant parties in Poland in various elections.*

To answer this question I focus on Polish counties as a self-contained economic and political unit.⁴ I construct a measure of the number of migrants incoming into a county in a certain year relative to the population of that county for years 2001 – 2020. That measure is aimed at capturing a year-to-year change in the number of migrants in a county, when a sudden inflow in immigration might make foreigners more visible in one's community thus prompting people in the county to make immigration one of their voting issues. A different hypothesis is that people react not to changes in the migrant population in their surroundings but to the relative frequency with which they are likely to encounter a foreigner in their daily lives. To test this hypothesis, I construct a cumulative measure of the migrants in a county relative to its population by adding the yearly inflows of migrants together over time. As to the outcome variable, I use the share of votes PiS received in an election in a respective county. I use the results of presidential, parliamentary, local, and European elections. Because the Polish political scene has a few far-right parties employing clear anti-immigrant rhetoric, to capture the full far-right vote all their vote shares need to be added together. I use two approaches to investigate the impact of immigration on the political outcomes of the far-right: panel regressions with county fixed effects and time fixed effects and Bartik shift-share instrumental variable regression using the distribution of immigrants in the year 2000 as a source of exogenous variation. As two-way fixed-effects OLS has been criticized for calculating invalid estimators in the presence of heterogeneous treatment effects I re-estimate difference in differences using the de Chaisemartin and D'Haultfœuille (2020) method.

This study has been inspired by research done in the United Kingdom, linking the rise in the number of migrants to the success of UKIP in the European Parliament elections (e.g., Becker & Fetzer, 2017) or to higher ratios of voting Leave during the Brexit referendum in 2016 (e.g., Tammes, 2017). A notable inspiration is the 2017 Halla et al. study on the impact an inflow of immigrants into a community has on the increase in the community's voting share for the *Freiheitliche Partei Österreichs*.⁵ Halla and Tammes use yearly inflows of migrants into local communities as a predictor of the FPÖ and Leave vote respectively, while Becker and Fetzer use the cumulative share of foreign-born residents in the UK localities. These studies are an example of the extensive literature that exists on studying the impact immigration has on voting in Western Europe, some of which I turn to in the literature review. When it comes to Central and Eastern Europe, such studies are scarcer. The region is different to an extent, since foreigners make up a tiny share of their population - compare Austria or the UK, where migrants make up 10% of their respective populations to the Czech Republic (4.5%), Hungary (1.6%), or Slovakia (1.2%) (Łaciak & Frelak, 2018). Yet anti-migrant parties are doing well in all the countries mentioned above. In the Czech Republic, anti-immigrant and Eurosceptic president Miloš Zeman was reelected for a second term in 2018. The neo-Nazi *Jobbik* is the second largest party in the present Hungarian parliament; the first largest party, *Fidesz*, is known for its nationalistic and xenophobic views. *Fidesz* member Viktor Orbán has become the longest serving Hungarian Prime Minister in history in 2020. Slovak politics has also been reported to slide further

⁴See Section 3.1 for a more detailed explanation of my choice of the geographic scope.

⁵Freedom Party of Austria.

right from the center, with the anti-migrant populist *Sme Rodina*⁶ becoming the third largest party in the Slovak parliament in 2020. Neo-Nazi *Ľudová strana – Naše Slovensko*⁷ is fourth. Can the recent increases in the migrant population in those countries, even if relative to a small base, explain the political success of the far-right in the region?

The studies I cite above find a positive relationship between migration and the far-right vote lending support to the idea that people do not like “the other” and are strongly motivated to express their dissatisfaction with their actions at the voting booth. Yet theories like Allport (1954) or Pettigrew and Tropp (2006) suggest that close contact between natives and immigrants might improve mutual understanding and alleviate fears about migration into a country, depending on the context and frequency of interactions. Studies point out that collaborative interactions between members of groups that could potentially be hostile to one another (different castes or religions, for instance) can build tolerant behaviors for the participants even if its effects might be limited to the duration of the intervention (Lowe, 2020; Mousa, 2020). If Poles experience frequent and positive contacts with migrants, the direction of the effect from the increased migration might be to reduce the share of votes that far-right parties receive in various elections. While my study does not find evidence of migration having an effect on the far-right vote shares in most types of elections, it does establish that in the first round of presidential elections far-right parties gain fewer votes in counties that have more migrants relative to the total population (the magnitude of the effect differs between specifications). If the relative abundance of migrants in a county is considered as a proxy for the frequency of contacts between migrants and the native-born population then my results lend further credibility to the contact hypothesis.

This study has its challenges such as the lack of reliable estimates for total migration, which impact its conclusions. Yet it manages to collect and merge data from multiple sources, including an original compilation of all the far-right parties participating in national, local, and European elections in Poland in years 2001-2020. Creating this dataset has allowed for studying connections between voting and immigration in Poland, which has not been attempted before. The study responds to the new critique levied against the two-way fixed effects estimator (de Chaisemartin & D’Haultfoeulle, 2020; Callaway & Sant’Anna, 2020) relaxing the homogenous treatment effect assumption when estimating coefficients. Answering the question of whether the extent of migration impacts the electoral success of the far right is important as it helps to predict the potential success of the anti-migrant rhetoric employed by different political forces. In times when the anti-globalization pull is felt across Europe and is used by political parties to their advantage we may witness more events like Brexit in the future. Poland is a particularly worrying example, with its leadership outright threatening to pull out from the European Union whenever they feel the need to appeal to patriotic feelings of its citizens. The weakening of the common European project that would ensue in that eventuality will make us all poorer and less secure.

This paper proceeds in the following way. Section 2 lays out an overview of the existing literature on voting behavior, the political consequences of immigration, and the specificity of Central and Eastern European context. Section 2 also provides an explanation of relevant Polish geography, history of immigration into the country, and its political landscape since 1989. Section 3 explains how I construct my variables that capture the extent of immigration into Poland and the far-right vote in the country. Section 4 covers methods used to study the effect that a migrant population in a county and its year-to-year changes have on the PiS vote and the far-right vote in general. I report results of the two-way fixed effects difference-in-differences baseline specifications, the shift-share instrumental inference, as well as DiD results once the homogenous treatment

⁶We Are Family.

⁷People’s Party Our Slovakia.

effect assumption is relaxed. Section 5 concludes, covers limitations of this analysis originating from the imperfect data and restrictive assumptions, and gives direction to the future research on the topic.

2 Literature Review and Country Background

2.1 Theories on how migration impacts voting

Voting behavior: why do people vote for the far right?

Theories that aim to explain voting behavior may elucidate the nature of the electoral success of anti-migrant, right-wing populist parties. I turn to literature that positions elections and political representation in general as a market, with a demand side (voters) and a supply side (political system in a country) (Eatwell, 2003). The demand-side literature aims to explain voters' choices with their sociodemographic characteristics, personal values, or their desire to punish an incumbent politician or party. Voting for the right-wing populists has been linked to certain characteristics of voters such as gender, with Betz (1994) and Lubbers et al. (2002) exposing a greater propensity to vote for the far right among men as compared to women. The level of a voter's education has also been shown to have a negative effect on a person's likelihood to vote for right-wing populists (Weil, 1985; Warwick, 1998; Weakliem, 2002). Blue-collar workers vote for the far right more eagerly compared to their white-collar counterparts (Kitschelt & McGann, 1995). These characteristics of the voter, tied together with their weak integration into society or being adversely impacted by the modernization of the economy, lead to a far-right vote (Betz, 2003).

Worldview and values impact one's voting, too. Voters that view the world in terms of competition for scarce resources may view "the other" such as immigrants as potential competitors for jobs, schools, benefits, and more (Olzak, 1992; Gibson, McAllister & Swenson, 2002). Voters who value nationalistic and ethnocentric ideals and those who value authority over freedom and individuality are also more likely to vote for the far right (Eatwell, 1998).

Finally, voting for far-right populists may be a reaction brought out in a voter by a general sense of being wronged by the elites, resenting the status quo, and looking for a change (Rydgren, 2004; Norris, 2005). These explanations focus on the voter's desire to punish the incumbent rather than pursuing their own agenda in voting.

Supply-side voting behavior theories highlight features of political systems that make it more likely for a right-wing populist party to do well in an election. A prominent finding of the supply-side literature is that in a more proportional electoral system with a lower threshold to enter the legislature a radical party is more likely to gain political representation (Blais & Carty, 1991; Norris, 2005). More decentralization allows small radical parties to set themselves apart in lower-tier elections, where it is easier for them to get through into state or provincial legislatures and launch their national career from there (Reif & Schmitt, 1980).

Another lens, through which success of the far right is studied, is their ability to capture high-importance issues and put them at the forefront of their agenda. These issues include immigration, unemployment, law and order, and regional integration, among others (Stefanova, 2009). The increase in the salience of immigration as a determining issue in voters behavior has been well documented (Arzheimer, 2009; Dennison & Geddes, 2018; Bischi et al., 2020). These studies note that while high immigration does generate an increase in the right-wing vote, the margin of the effect might differ from country to country, as well as from voter to voter. If a voter has certain characteristics, such as the ones described above, they might be more susceptible

to being convinced to vote for right-wing populists by an increase in immigration (Lubbers et al., 2002; Algan et al., 2017).

Immigration as an issue motivating the far-right vote

Voters' sentiments toward immigration have a strong explanatory power in predicting votes for the right-wing populists (Arzheimer, 2008). The attitudes towards migration are shaped by personal characteristics of a voter (Rydgren, 2008) as well as by frequency, nature, and quality of interactions with immigrants, whether direct or through media (Allport, 1954; Pettigrew & Tropp, 2006). If a direct contact takes place in the context of cooperation in pursuing a common goal this experience is likely to leave a positive impression on the interaction participants (Allport, 1954). This conclusion is applicable to situations when native inhabitants interact with immigrants. For example, Voci and Hewstone (2003) track a decrease in prejudice toward immigrants among Italians as a result of direct contact. Stephan et al. (2000) focus on a change in attitude of Americans toward Mexicans; in that study, when representatives of the two countries entered into a contact voluntarily, on equal footing, and the contact led to positive outcomes then the participants experienced a reduction in anxiety about members of the other group.

Yet contacts between people from different groups may also be negative, as a result of someone's refusal to cooperate, a conflict breaking out or people having difficulties in reaching a consensus (Kauff et al., 2017). For example, David (2019) studies direct interactions between members of groups, which have a history of conflict between them, such as Serbs, Croats, and Bosnians, or Israelis and Palestinians. Face-to face interactions between members of these groups lent support to their respective prejudices against each other, polarizing the participants while making them aware of their differences. Personal contact is found to be particularly lacking in potency when encounters between members of different groups happen at the backdrop of internalized images from media, which deal with issues of immigration and asylum-seeking in terms of certain vocabulary and attitudes (Wojcieszak & Azrout, 2016; Schemer & Meltzer, 2020). The relative importance of media over direct contact on forming the opinions about immigrants might be concerning since a few studies note that negative portrayals of immigrants are more common on TV than positive ones (Eberl et al., 2018; Heidenreich et al., 2019). Thus, studying consequences of coming into contact with immigrants as a potential motivation for voting can take the form of examining direct interactions as well as vicarious contacts through media, or a combination of the two.

Polish context

Many of the studies I quote above are done with data gathered in Western European countries and the US. The applicability of these findings in the Central and Eastern European (CEE) context is contested. Minkenberg (2002) believes that right-wing populism in post-socialist countries is different from the one in Western Europe, both in its ideology and in structure. Radical populism in CEE is more extreme, more comfortable in openly opposing democratic institutions, and thrives on insecurities introduced by the transition process from communism to capitalism. Support for the right-wing populists in this context can be viewed as a reaction to economic austerities and radical shifts in labor markets, although it is amplified by the presence of ethnic minorities in a country (Beichelt & Minkenberg, 2002).

Presently, researchers note that the far right has become a more mainstream political option in CEE,

with more radical populist parties winning elections and forming governments around the region (Mudde, 2007; Minkenberg, 2013). At the same time, as CEE countries are integrating into the European Union, the agendas of their political actors, including the far right, converge to the European “average”. For instance, the arrival of Middle Eastern and African refugees in 2015 has introduced Islamophobic and anti-migrant messages to the repertoire of CEE populist parties, which their Western European counterparts have been already dealing in for decades prior to the refugee crisis (Bustikova, 2018).

Poland has been identified by researchers as a special risk when it comes to falling prey to the right-wing populist message (see, e.g., Mudde, 2005) due to its strong culture of nationalism and political Catholicism. Yet when it comes to Polish attitudes on immigration, the surveys do not give a clear picture of how motivated Poles are by this issue in their voting behavior. In the Eurobarometer survey (November 2018) 43% of Polish respondents put immigration as the number one problem facing the European Union (number one concern for Polish respondents, above the 40% average for the EU respondents). However, when asked about their own country, Poles do not rank immigration as a primary issue, with 9% of respondents putting it in the first place. This results differs from the pooled answers of all European respondents, which cite immigration as their second-most source of concern for their respective countries (21% of mentions).

Studying the direct impact of immigration on voting outcomes

Thus, this study aims to establish a link between immigration into Poland and electoral outcomes for the far-right parties. I draw from the literature on voting behavior, seeing how the single issue of immigration impacts voting outcomes. Contact literature informs my hypothesis, helping me frame an idea that direct contacts between inhabitants of a county and migrants translate into votes. Finally, I do this study on data from Poland as a country identified as a potentially illuminating example of the rise in right-wing populism.

A behavioral criticism can be levied at the attempt to establish a direct link between immigration and voting, if the susceptibility to the radical populist message is interpreted as a cognitive feature inherent to a voter, thus not being able to change in response to an exogenous factor, such as a change in the number of immigrants in one’s surroundings (Dennison & Geddes 2018; Hawkins et al., 2019). My analysis is not meant to shed light on causes of populist success as a result of cognitive processes constituting the mentality of anti-immigration voters.

2.2 Polish politics in the context of migration

Administrative divisions of Poland

Poland consists of 16 provinces, or *voivodeships*, which further divide into 380 counties, or *powiats*. The detailed administrative division of Poland is presented in Appendix A.

During the three partitions of Poland in 1772 – 1795, the kingdom was divided between Imperial Russia, Prussia, and Austria-Hungary. Thus, considering the partitions and other border amendments that took place before 1945, the modern-day provinces of Lower Silesia, Kujawy-Pomerania, Lubusz, Opole, Pomerania, Warmia-Mazury, Greater Poland, and West Pomerania made part of the Prussian (later German) Empire; the provinces of Lublin, Łódz, Mazovia, Podlasie, and Holy Cross belonged to the Russian Empire; Lesser

Poland and Subcarpathia were part of the Austro-Hungarian Empire.⁸ Silesia was divided between the three empires.

In this paper, I will make references to the Polish partition to account for the lingering differences it had on the regions that used to belong to different empires (see Grosfeld & Zhuravskaya, 2015; Kościńska & Herbst, 2020 for a discussion of the persistent effects the partition of Poland has on institutions and outcomes in Poland today). The differences between the “German”, “Austro-Hungarian”, and “Russian” parts of Poland might be traceable in the extent of immigration to these parts as well as their relative willingness to vote far-right as will be shown in Section 3.

Migration to Poland

Since Poland joined the common market, its economy has been growing steadily, with its GDP more than doubling between 2004 and 2019.⁹ Polish workers can now relocate to any country in the EU, while European workers can live and work in Poland without obtaining a permit from authorities. Yet Poland is not a particularly popular destination for the EU workers because Polish salaries are not as competitive as the ones in Western Europe. But the booming economy, coupled with falling unemployment, is attracting workers from outside the EU. Polish salaries are much higher than the averages in Belarus, Ukraine, or Armenia. More than 630 000 foreigners received a residence permit in Poland in 2018 alone, and over 90% of the residence permits were issued for work purposes. Poland issues the largest number of residence permits to foreigners in all of the EU.¹⁰

Poles are typically opposed to accepting migrants who do not look like native Poles and particularly those who are not Christian. During the refugee crisis of 2015–2017, when the major bulk of migrants arriving to Europe came from Middle East and Africa, over half of Polish respondents opposed their resettlement in their country, while 40% of the respondents believed the refugees can only be allowed to stay in Poland on a temporary basis (CBOS, 2017). The same poll showed that 58% of the respondents are willing to allow Ukrainian refugees to resettle in Poland.

Legal migrants coming to Poland for work can apply for a temporary residence and work permit. These temporary permits are issued by starostas – heads of county executive boards. Starostas can only issue a permit if the foreigner’s employer provides a proof from the county Labor Office that the vacancy cannot be filled by a local worker. Temporary residence is granted for a period of up to 3 years, with the possibility to re-apply afterwards. Citizens of six states – Ukraine, Russia, Belarus, Georgia, Armenia, and Moldova – may work up to a year and a half without obtaining a work permit, provided that they are registered at the county labor office and have a formal contract.

Permanent residence permits are only issued to foreign nationals of Polish origin, including holders of a Pole’s Card,¹¹ foreign spouses of Polish nationals, and refugees. Foreign spouses must have lived at least three uninterrupted years in Poland prior to applying for a permanent residence permit. For refugees, the time lived in Poland must be five years at the time of application. Thus, migrants with a permanent residence

⁸Parts of Kujawy-Pomerania, Greater Poland, and Lesser Poland belonged to Russia, but the main territories of the provinces laid within Prussia and Austria-Hungary respectively.

⁹Source: World Development Indicators, World Bank.

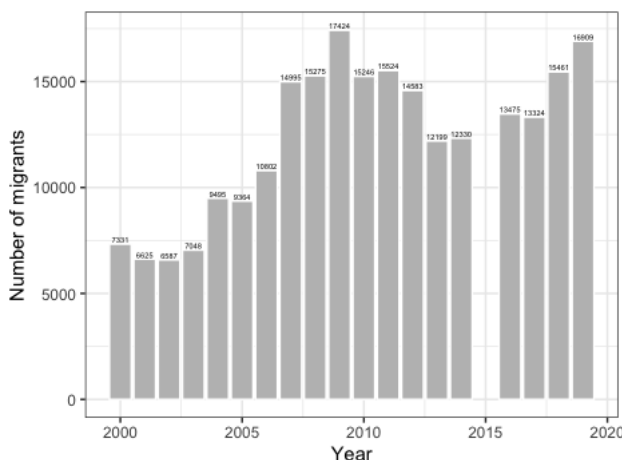
¹⁰Source: Eurostat, 2019.

¹¹*Karta Polaka*, or Pole’s Card, is a document granted by the Polish state to foreigners to confirm that they belong to the Polish nation, without granting them citizenship rights. To get a Pole’s Card a person needs to confirm they have Polish ancestry. This requirement gets interpreted freely as former parts of Poland such as modern-day Lithuania, Belarus, or Ukraine all used to report Polish speakers as Poles in their documents even if it was not the case.

permit are either ethnically Polish or have been reasonably well integrated into the Polish society compared to migrants with a temporary residence permit.

Figure 2.1 captures the development of immigration to Poland from 2000 to 2019, focusing on the permanent residence permits granted. The number of permanent residence permits issued to foreigners started to grow after Poland joined the European Union in 2004, peaking in 2009 at 17 424 permits given out that year. The number of issued permits starts to decline after 2009 and reached a trough around 2013 – 2015, after which period it starts to climb up again, reaching 16 909 permits in 2019. The decline in immigration after 2009 is likely associated with the lingering effects of the Great Recession, although I abstain from making a definitive judgment on the origin of the dip.

Figure 2.1: Number of permanent residence permits granted to foreigners



Notes: Chart shows the number of permanent residence permits issued to foreigners in Poland for years 2000 – 2019. The data for 2015 is not reported due to its “insufficient quality.” *Source:* GUS.

Polish government, migration policy, and elections

The president of the country is the head of the Polish state. Presidential elections take place every five years. If in the first round no candidate exceeds the 50% vote threshold, a runoff election is held between the top two candidates from the first round. The President’s office can participate in the legislative process by putting their bills forward for the parliament to vote on or by vetoing the legislation passed by the parliament. Hence, the President of the Republic can influence migration laws, which makes migration a possible topic of a candidate’s campaign platform.

The Polish parliament has two chambers - lower, the Sejm, and upper, the Senate. Parliamentary elections are held every four years. Members of the Sejm are elected by open party-list proportional representation, and parties need to pass a 5% threshold to get seats in the parliament. The Sejm is a legislative body; hence, it directly engages with the issues of migration policy.

Each administrative unit also has an elected representative body. Thus, each province elects an assembly called a sejmik every five years. Provincial governments are in charge of issuing work permits and permits for temporary and permanent residence to foreigners. Local law has a direct impact on the number of foreigners in a province.

As a member of the European Union, Poland holds elections to the European Parliament every five

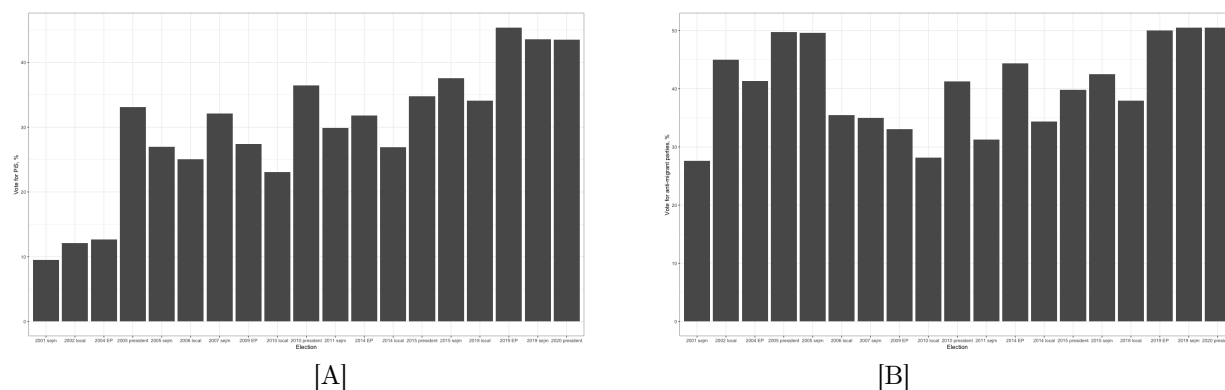
years. Immigration is often perceived as a problem “inflicted” on Poland by Europe, for instance, as a result of the refugee resettlement program. Thus, the issue of migration takes up significant space in the electoral campaigns of parties running for seats in the EP.

History of PiS and anti-immigration politics in Poland

Polish political life was invigorated by the Soviet Union losing control of the CEE region and the consequent breakdown of the socialist camp. The opposition movement *Solidarność* quickly disintegrated in post-socialist Poland, as different forces in it did not have a common political platform beyond gaining independence from Moscow and holding democratic elections. The 1990s and early 2000s saw various center-left parties controlling the parliament. Lech Wałęsa, the leader of the *Solidarność* movement and the first president of newly independent Poland, and Aleksander Kwaśniewski, the two-term president after Wałęsa, are both best described as social democrats. Immigration to Poland at the time mostly took form of re-patriating Polish emigres back to the motherland, and was not a politically contested issue.

Prawo i Sprawiedliwość was founded in 2001 by twin brothers, Lech and Jarosław Kaczyńskis, as a Christian Democrat party. In 2002, Lech Kaczyński was elected mayor of Warsaw, and in 2005 he became President of the Republic. The same year his brother Jarosław led PiS to victory in the Sejm election, allowing PiS to form a minority government. The minority government drew on support of more radical conservative populist parties and was brought down when a massive corruption scandal broke down around one of these coalition partners. PiS was undermined by coming second in the 2007 parliamentary elections and the tragic death of Lech Kaczyński in a plane crash in 2010. The party managed to stage a strong comeback in 2015, capturing both the Presidency and Sejm, which allowed them to form a majority government. PiS’ position remains very strong to this day, with Andrzej Duda winning a second term in 2020 (although with a small advantage over his opponent in the runoff) and Mateusz Morawiecki securing premiership as a result of PiS victory in the 2019 elections to Sejm. Figure 2.2 captures the rise of PiS since its founding set at the backdrop of the electoral performance of all far-right parties.

Figure 2.2: Performance of PiS and other far-right parties in the elections, 2001 – 2019



Notes: Figure [A] shows the percentage vote cast for PiS in the elections between 2001 and 2019. Figure [B] shows the summary percentage vote cast for all far-right parties taking part in respective elections, including PiS. For the presidential elections, only the results of first rounds are reported. Source: PKW.

The rise of PiS fits into the story about the political outcomes of the far-right parties at the time. In

2005, anti-migrant parties enjoyed support of about 50% of the population, judging from the outcomes of the presidential and parliamentary elections that years. Far-right parties lost ground in the late 2000s – early 2010s, showing a strong performance again in the 2014 European elections. In recent years almost all of the anti-migrant vote seems to be captured by PiS, judging from the results of the 2019 and 2020 elections.

The results of local elections constitute an exception to the pattern explained above. Both PiS and all the anti-migrant parties together seem to gather fewer votes in the elections to provincial parliaments than in other types of elections the parties participate in. This difference might indicate that people's voting in the local elections might not be galvanized by the far-right agenda to the same extent as in other elections. In local elections people might pursue a more practical agenda on local governance while the big picture issues, such as migration from abroad and its consequences for the Polish society, could be more prevalent in national or European elections. More lackluster support for the far right in local elections might be surprising, considering that residence permits to foreigners are issued by local authorities. There might be other reasons for why PiS performance in local elections is not as good as in other elections, like local politicians from the party being less charismatic or fewer resources being dedicated to local election campaigns.

Floated up by their partnership with far-right parties, PiS has grown more assertive in their nationalistic message. Their electoral manifesto from the 2007 election highlights a shift in tone. While not explicitly anti-migrant, the manifesto appeals to a sense of Polish distinctness and the need to protect Polish culture against outside influences (PiS, 2007). This message received a boost in 2015, as an inflow of refugees into Europe rose dramatically. Poland's government at the time, formed by the center-left *Platforma Obywatelska* (PO), resisted a pan-European refugee resettlement program that would oblige Poland to accept their share of the incoming migrants. Yet PiS, having built a strong brand of cultural and religious nationalism, stood to profit from the refugee crisis the most. Making the migrant issue one of the centerpieces of their electoral platform in 2015 (Tworzecki & Markowski, 2015), PiS solidified its grip on the executive and legislative branches of the government.¹² A successful combination of far-right migration views and populist economic measures such as generous welfare benefits and early retirement made PiS a dominant political force in Poland.

Paradoxically, while PiS politicians stoked fears about the migrants destroying Polish identity and taking Polish jobs, the number of migrants has consistently grown during the years of PiS leadership as seen from Figure 2.1. Far-right populist parties in Poland seem to take issue with Muslim arrivals as well as other migrants who do not look like Poles. White Christian immigration, notably from Ukraine and Belarus, is less frowned upon. After the 2014 political crisis in Ukraine, with war and economic downturn generating a lot of migrants, the Polish government expressed its readiness to absorb Ukrainians coming to seek work in Poland. The 2020 crisis in Belarus, which also produced a wave of refugees, generated a similar response in the Polish establishment. It remains to be seen whether the almost 2 million Ukrainians that have arrived to Poland so far will get absorbed seamlessly or whether this relocation will create problems down the road (Trofimov, 2019).

¹²PiS made a series of questionable efforts to take the judiciary branch under their control, too. This topic lies outside of the scope of this paper, however.

3 Data and Model Specification

I have assembled data on the number of immigrants, the share of votes PiS earned, and the cumulative share of votes the far-right parties earned for a panel of counties in Poland between the years 2001 and 2020. I extracted data from the webpages of the Central Statistical Office and the National Electoral Commission of Poland and sent additional queries to these organizations for any data missing. I merged the data on migrants and electoral results together, reconciling any border changes between counties that occurred between 2001 and 2020. I researched every party that took part in national, local, and European elections between 2001 and 2020 parties and, based on their programs, coded those that qualified as anti-migrant in their message. Finally, I transformed the data from absolute numbers to relative shares.

3.1 Geographic scope

I choose counties as a primary unit of analysis because of the geographic proximity of people living in them. I imagine that people spend the majority of their time within their county, living, working, and interacting with other people there. A larger unit of division, such as province, would be too big - a resident of a province would not have interactions with most of the province's residents. Meanwhile, a smaller unit of a district would be too restrictive, as people are likely to venture out between districts on a frequent basis. Thus, a county is a self-contained labor and economic zone big enough for political outcomes to be realized.

In order to avoid an unbalanced panel I had to address changes in the boundaries of counties that took place between 2001 and 2020. During the years 2003-2012 the city of Wałbrzych was part of the powiat wałbrzyski (Wałbrzych county), until in 2013 Wałbrzych was recognized as a city with the status of a county. I have merged the data entries for the city of Wałbrzych and the county of Wałbrzych for the duration of the dataset. In 2002 seven new counties were formed, either by taking a few districts (*gminas*) out of another county or merging a number of districts from a few different counties.¹³ I drop the observations for these, which leaves me with 372 counties in my dataset.

3.2 Arriving to an estimate for the number of migrants

Ideally, my estimates on yearly migration into Polish counties would include all the foreigners who arrived into a particular county in that year. Yet *Główny Urząd Statystyczny* (GUS, the Central Statistical Office of Poland), Poland's chief government statistical agency, does not report data on temporary residents, coming to work or study, at the county level. GUS does not report data on illegal immigration either, which is expected, since this data is notoriously hard to estimate. Finally, because Poland is a member of the European Union, European citizens do not have to register with the Polish authorities when coming to the country for work, studies, or permanent residence. Instead, I have to use the number of permanent residence permit holders who arrive to the county in a particular year.

¹³The seven new powiats are: 1) Powiat łobeski (Łobez County): previously divided between Gryfice County, Goleniów County and Stargard County; 2) Powiat gołdapski (Gołdap County): previously part of Olecko County; 3) Powiat węgorzewski (Węgorzewo County): created out of the northern part of Giżycko County; 4) Powiat sztumski (Sztum County): previously part of Malbork County; 5) Powiat leski (Lesko County): created out of the western part of Bieszczady County; 6) Powiat brzeziński (Brzeziny County): created out of the north-eastern part of Łódź East County; 7) Powiat wschowski (Wschowa County): previously part of Nowa Sól County.

I have extracted the data on the number of foreigners granted a permanent residence permit by county for each year between 2001 and 2019, with the exception of 2015. The source of data, GUS, explains the lack of international migration data for 2015 with “insufficient quality of data” in that year. The absence of 2015 data on migration is unfortunate since that year saw both presidential and parliamentary elections as well as the beginning of the European refugee crisis, with about 1 million refugees and migrants reaching Europe that year alone (UNHCR, 2015). I address this issue by regressing the outcome variable on lags of the treatment, which allows me to use the election data from 2015 as well as from 2020. I explain my approach further in the section on methods.

From the data I construct two treatment variables. First, there is a number of foreigners, who received permanent residence permits in a county in a given year, which I divide by the population of the county in that year.¹⁴ Because the foreign receivers of permanent residence permits are a small share of a county’s population, I report this data in terms of one-hundredths of a percent, which makes coefficients in my regressions more legible while more accurately reflecting the range of the migrant shares represented in the dataset. The resulting treatment variable is *hundredthpct_mig_{iwt}*. Second, there is a cumulative number of foreigners, who received permanent residence permits in a county, from 1995 up to a relevant year, relative to the population of the county in that year, *sum_hundredthpct_mig_{iwt}*.¹⁵ This treatment variable is also reported in one-hundredths of a percent. While the former treatment captures a more immediate effect of migration, the latter treatment might help encapsulate a longer-term development in the county immigration.

Since frequency of contact might be one of the determining factors in people’s attitudes towards migrants, as I established above, the treatment variable that captures the cumulative number of foreigners in a county should do a better job at capturing the likelihood that a person might encounter a foreigner in their county. Yet the data, which is used in constructing *sum_hundredthpct_mig_{iwt}*, is imperfect at estimating the size of the migrant population in a county at a given point in time. Due to the lack of information on the number of foreign-born in a county in a given year, I sum the inflows of foreign migrants into the county across years. However, there is no data on the outflows of foreign migrants from counties, which should be subtracted to give a more accurate estimate of the migrant population in a county that year. If there is a county with an unobserved high inflow-high outflow migration, for example, if a county attracts migrants for temporary jobs, such as agriculture or construction, but it is not an attractive place for the migrants to settle down, then the estimates of migrant population there would carry a systemic measurement error, reporting an overly large number of migrants when it is not the case. Such measurement error in my treatment variable would then translate into biased coefficients.

An additional problem is that GUS starts reporting data on the foreign migration numbers to and from districts in 1995. While it is reasonable to assume that not much immigration took place to Poland before 1989¹⁶ the years after the fall of the communist regime, 1989-1994, are still unaccounted for in my estimates of migrant populations in different counties. My estimates of the cumulative number of foreigners are thus plagued by the same concerns as most such estimates in the immigration literature.¹⁷

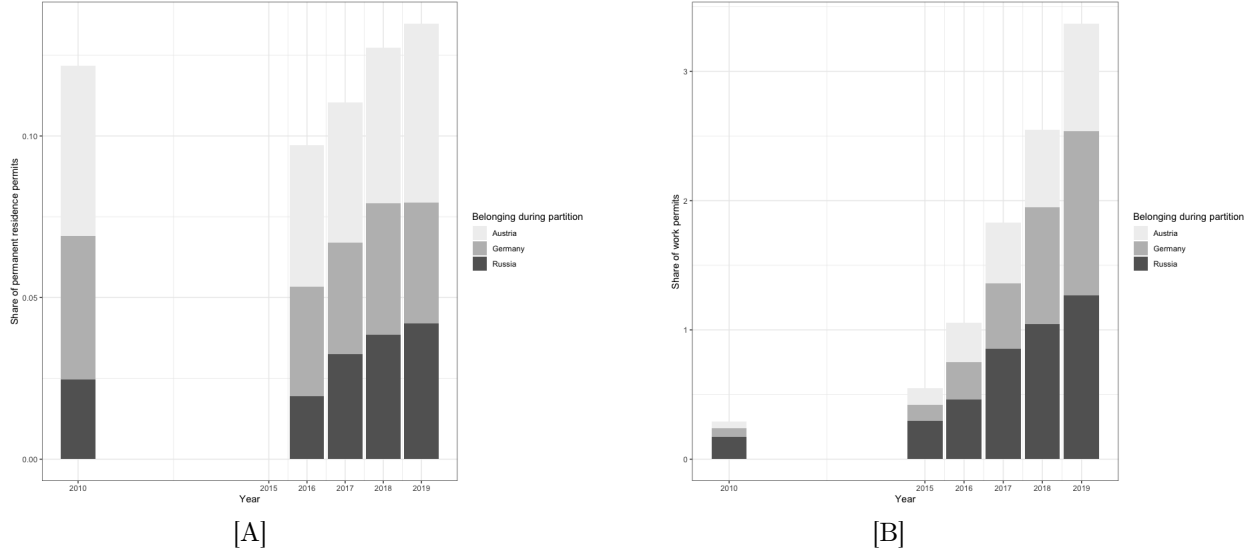
¹⁴The data on the population of counties by year is also taken from GUS.

¹⁵I am aware of the Gerdes (2011) criticism stating that using a share variable instead of a log variable might result in spurious statistical significance of coefficient estimates. However, this criticism does not apply to my research design since my treatment and response variables are defined relative to different populations: the former relative to the total county population, while the latter relative to the voting population. I use share variables because I am interested in the effect of the actual growth in the migrant population rather than the relative changes in the growth rate year-to-year.

¹⁶The number of immigrants into Poland had a discrete jump between years 1990 and 1991, when the immigration almost doubled from about 2600 to over 5000 permanent residence permits issued. Please, see Appendix B for the graphic representation of the immigration data before and after the fall of communist regime in Poland.

¹⁷Lemaitre and Thoreau (2006) claim that estimates of foreign-born populations in OECD countries are inflated due to higher non-response rates to surveys among non-native households and the fact that they are few. Correcting for this overestimation

Figure 3.1: Work permits and permanent residence permits per capita, 2010 – 2019



Notes: Figure [A] shows the number of work permits issued in different provinces of Poland that used to belong to the Austro-Hungarian, Prussian, and Russian Empires respectively, between 1723 and 1918, relative to the population of those regions in that year. The ratio is expressed in percentage points. Figure [B] shows the number of permanent residence permits issued in different provinces of Poland that used to belong to the Austro-Hungarian, Prussian, and Russian Empires respectively, between 1723 and 1918, relative to the population of those regions in that year. The ratio is expressed in percentage points. Note that data on Silesia is excluded from both figures because Silesia was divided three-ways between Austria, Prussia, and Russia for most of the partition.

Source: GUS; does not report data on the number of permanent residence permits issued in 2015.

As stated above, measuring the number of migrants with permanent residence permits in Poland does not reveal a full picture of the migration trends. In 2019, Poland issued almost half a million work permits,¹⁸ which give foreigners the right of temporary residence in the country, compared to about 17 000 permanent residence rights granted in the same year. Unfortunately, the data on the number of work permits issued each year exists only at the provincial level because provinces are in charge of granting foreigners the right to temporarily reside in the province and work there. Hence, I do not have access to data about temporary residencies granted to foreigners in different counties. Moreover, I expect there is illegal migration taking place but, of course, I do not have reliable estimates of the number of foreigners staying in Poland without a permit. The lack of data on Europeans residing in Poland might further bias my results, although the anti-migrant sentiment is likely not directed against them. I thus have to acknowledge that, while the number of foreigners moving to a county for a permanent residence is a decent estimate of the county’s “attractiveness” to migrants, it is an imperfect measure, which limits the external validity of my conclusions.

To compare the relative attractiveness of different parts of Poland for migrants I graph the distribution of migrants across regions that used to belong to different empires during the partition of Poland in 1722 – 1918. I show the differences in spatial distribution of both the migrants that come for work as well as the foreign receivers of permanent residence rights in Poland. Results are reported in Figure 3.1.

The chart makes the growth of work permits issued apparent, relative to the population. The number of legal foreign workers goes up from 0.5% to 3.3% of the population over nine years. The growth happens in

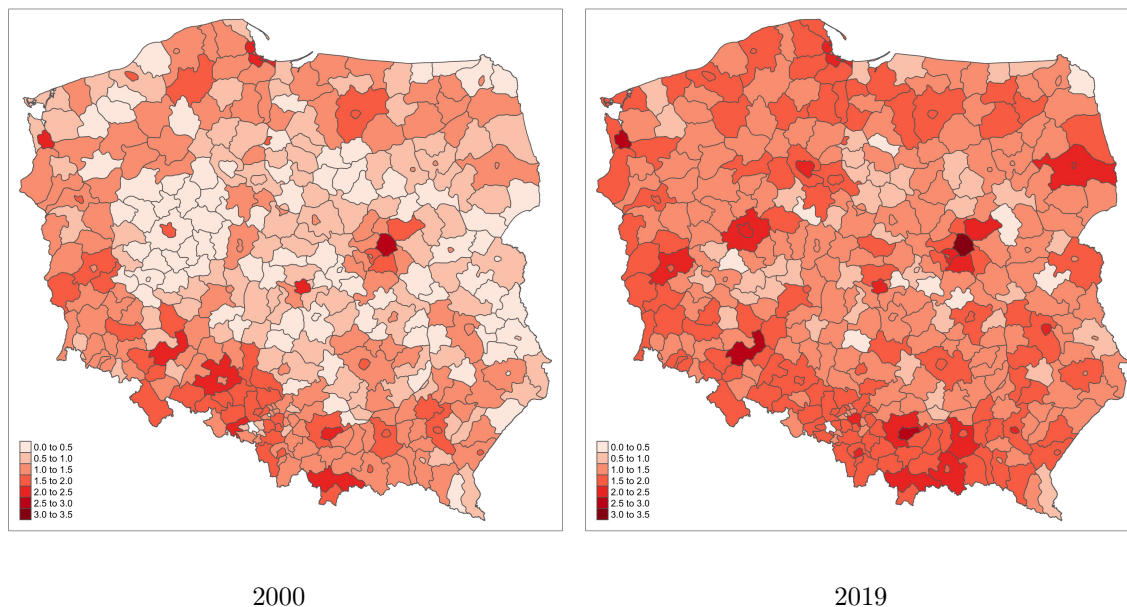
would entail having data on the death and outflow rates for the migrant population, which I requested, but, unfortunately, did not receive from GUS.

¹⁸Data comes from Ministry of Economic Development, Labour and Technology.

all regions of Poland, with the region that used to belong to Russia attracting the largest share of migrants, likely because Warsaw is located there. The shares of foreign permanent residents are more stable over years, temporarily dipping in 2016 but recovering by 2019. The formerly Austrian part is the main driver here, getting a larger share of permanent migrants relative to the other regions of Poland.

To link the main treatment variable to the geographic unit of analysis I map the spatial distribution of migrants across counties in Poland, comparing the number between 2000 and 2019.

Figure 3.2: Spatial distribution of migrants with permanent residence permits



Notes: The data mapped are natural logarithms of the following ratio: number of registrations for permanent residence, from abroad, in a given county in a given year relative to the population of the given county in the given year. *Source:* GUS.

The map shows an increase in the migrant inflows across the country. The border regions together with the big cities attracted the most migrants in 2000. By 2019, parts of inland Poland start experiencing larger inflows of foreign permanent residents. The Capital City of Warsaw has the largest share of migrants, with other big cities (Wroclaw, Poznan, Szczecin, and Krakow) also standing out for the number of migrants attracted. The number of job opportunities is likely larger in the cities so the attractiveness of these locations to migrants makes sense.

3.3 Electoral outcomes of PiS and other far-right parties in Poland

To construct the outcome variables, I use the performance of PiS and other far-right parties in the elections during years 2000–2020. The data on shares of votes that PiS or another far-right party received comes from the National Electoral Commission of Poland (PKW, Państwowa Komisja Wyborcza).

I look at the performance of far-right parties in four different types of elections: presidential (both first round and runoff), parliamentary (elections to the lower chamber, the Sejm), municipal (elections to provincial assemblies, sejmiks), and European. In total, I have data from 21 elections,¹⁹ if you count the

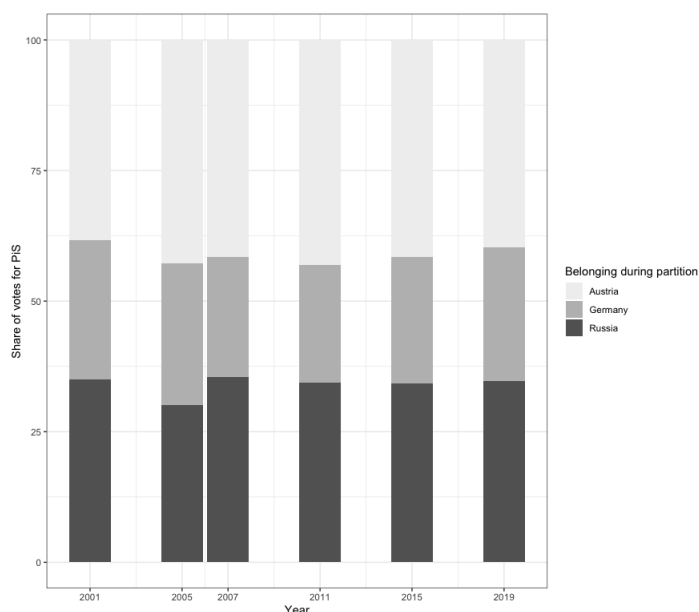
¹⁹The list of elections, for which I have data on the electoral outcomes of the far-right parties, is reported in Appendix C.

first round and runoff presidential votes as separate elections.

I evaluated which parties are close to PiS on the political spectrum or are even further to the right. The main criterion for the party to enter my dataset is their stance on migrants. Parties that employ cultural arguments in their programs, claiming that Poland needs more independence from the EU or that Christianity should be the *modus operandi* for Polish society, were added to my list even if their economic policies are left-wing. Similarly, parties that are economically right-wing but socially liberal were excluded from my dataset. I had to check the programs of parties before every election as parties' agendas may change with time. I ran checks on my classification using PopuList, a webpage run by the Amsterdam Institute for Social Science Research, the Amsterdam Centre for European Studies, The Guardian, and the European Consortium for Political Research Standing Group on Extremism and Democracy to provide an overview of populist, far-right, far-left and Eurosceptic parties in Europe, and CHES Data, the Chapel Hill expert surveys, which provide information on parties' stances on migration, European Union membership, and other issues. The two webpages cited are a convenient source of information but not exhaustive enough for the purpose of this study since they only deal with major parties, omitting smaller ones. Thus, I had to compile my own list of anti-migrant parties in Poland, active between 2001 and 2020, which I report in Appendix D.

As with migration, I am interested in the spatial distribution of voting for PiS. Thus, I divide Poland in three regions again, using the boundaries of the 1722 – 1918 partition. The results are reported in Figure 3.3.

Figure 3.3: Votes for PiS in elections to Sejm, 2001 – 2019



Notes: The figure shows the relative distribution of votes for PiS across different provinces of Poland that used to belong to the Austro-Hungarian, Prussian, and Russian Empires respectively, between 1723 and 1918. Silesia is once again excluded. The results are from the elections to the Sejm. *Source:* PKW.

Parts that used to belong to Austria-Hungary provide a significant contribution to the electoral votes for PiS. There are only two provinces which used to belong to the Austro-Hungarian Empire, Lesser Poland and

Subcarpathia. They house less than 15% of the Polish population but they provide over one-third of all the votes for PiS in the elections pictured. The relative shares of votes seem to be stable across time.

To link the main outcome variables to the geographic unit of analysis in this study I map the spatial distribution of votes for PiS and the cumulative vote for all anti-migrant parties across counties in Poland, comparing the numbers between the two Sejm elections, one in 2001 and the other one in 2019 (see Figure 3.4).

The rise of PiS has evidently been strong, with areas of Poland that used to belong to Austria-Hungary and Russia giving over half of their votes to PiS (with an evident exception of Warsaw). The enthusiasm for PiS in the former German parts is less strong. The maps also show that big cities give fewer votes to PiS compared to other counties: one can see how, for example, Poznan or Wroclaw are paler than their surroundings. PiS polls well in the poorer, more rural parts of Poland, which are more receptive to the message that traditional values need to be protected (Kalan, 2019). It is evident that the far-right parties overall have gained in the twenty-year period, with significant number of counties in the east and south-east (former Russia and Austria-Hungary respectively) giving 60 to 80% of their votes towards such parties. If we compare the voting maps to maps in Figure 3.2, we will see that migrants settle more or less equally in the border regions, be they in the east or in the west, so, at a first glance, there is no obvious relationship between the number of permits issued to foreigners and voting for anti-immigration parties. There are the big cities that attract more migrants than other counties while casting fewer votes for PiS but there are many confounding variables at play: more job opportunities in cities together with a more educated and more progressive population is a likely explanation here.

A quick check of correlation between the political outcomes of far right and the inflow of migrants shows no obvious link between the two. Correlation of the inflow of migrants in a year on the share of votes for PiS is 0.015, and on the joint vote for the anti-migrant parties is -0.088 . Running a check of whether the population of migrants and the outcomes of far right are correlated also returns weak results, 0.045 and -0.005 for PiS and cumulative far right respectively. I expect a large amount of heterogeneity in this panel though, with many variables changing from county to county and year to year, while being correlated with the treatment and outcome variables. Some heterogeneity is also unobserved since there are factors such cultural differences across different counties that might influence the outcome. Thus, I move on to studying my panel using the two-way fixed effects method.

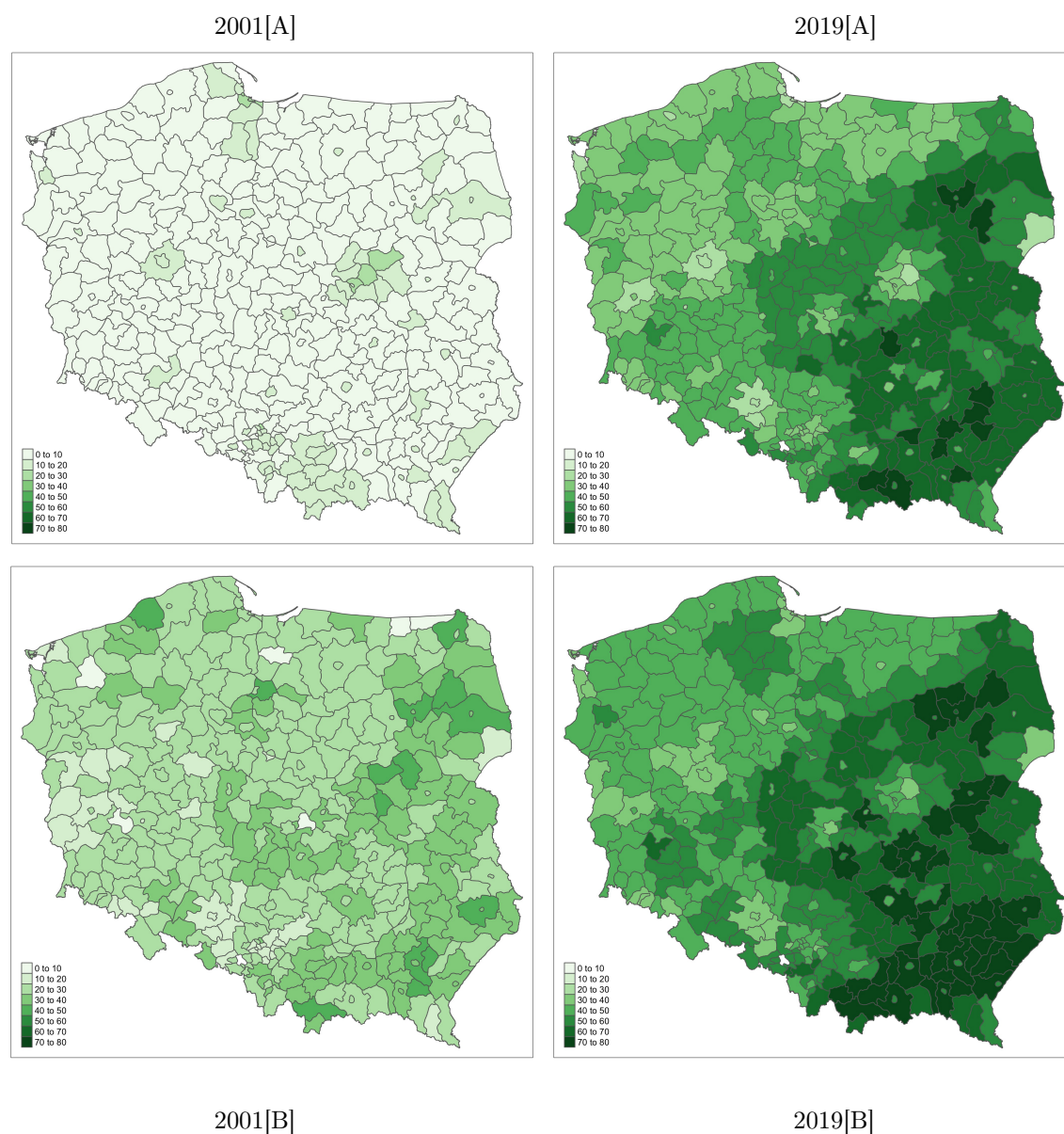
4 Methods

4.1 Two-way fixed effects difference-in-differences baseline specifications

Balanced panel data lends itself to two-way fixed effects analysis. I include the county fixed effects in all specifications to account for time-invariant characteristics of counties that make their inhabitants vote for far-right parties and might potentially be correlated with the number of migrants a county attracts; for example, a county that has a large presence of agriculture can attract migrants to work in farms while farmers living there might tend to vote conservative. I also include time fixed effects to control for special events that affect all of Poland, such as economic crises, which would likely impact the vote as well as the inflow of migrants.

First, I study the impact of migration on the rise of PiS. I regress *hundredthpct_migiwt-1*, the number of registrations for permanent residence, from abroad, in county i of province w in year $t - 1$, expressed

Figure 3.4: Spatial distribution of anti-migrant vote



Notes: Clockwise, starting with 2001[A] (top left): percentage of votes cast for PiS in the 2001 elections to Sejm, by county; 2019[A] (top right): percentage of votes cast for PiS in the 2019 elections to Sejm, by county; 2001[B] (bottom left): percentage of votes cast for all anti-migrant parties in the 2001 elections to Sejm, by county; 2019[B] (bottom right): percentage of votes cast for all anti-migrant parties in the 2019 elections to Sejm, by county. *Source:* PKW.

in hundredths of a percent of the population in county i of province w in year $t - 1$, on $outcome_{iwt}$, the percentage vote PiS received in an election in county i of province w in year t , in order to obtain the effect of previous year’s immigration into a county on the electoral performance of PiS. Next, I estimate the impact of immigration on the joint performance of far-right parties, $sum_outcome_{iwt}$, the percentage vote all far-right parties received in an election in county i of province w in year t .

The two baseline specifications are thus:

$$outcome_{iwt} = \beta_0 + \beta_1 hundredthpct_mig_{iwt-1} + \mu_i + \zeta_t + \eta_{wt} + \varepsilon_{iwt} \quad (4.1)$$

$$sum_outcome_{iwt} = \gamma_0 + \gamma_1 hundredthpct_mig_{iwt-1} + \phi_i + \rho_t + \kappa_{wt} + \xi_{iwt} \quad (4.2)$$

μ_i and ϕ_i capture county fixed effects, while ζ_t and ρ_t capture year fixed effects. η_{wt} and κ_{wt} are province-specific trends, $province \times year$, the province and year fixed effects. I include these interaction terms to allow for potentially different trends in provinces arising from the fact that decisions about extending residence permits to foreigners are made at the province level. ε_{iwt} and ξ_{iwt} are stochastic error terms clustered at the county level. The decision to cluster errors is motivated by the likely high positive serial correlation in the outcome variable, as a percentage of votes a party or parties receive in the election is likely related to their performance in past elections. Furthermore, the percentage of migrants does not vary by a lot in a county from year to year, which leads to conventional standard errors being understated (Bertrand, Duflo, & Mullainathan, 2004). Thus, clustering errors at the county level should take care of the issues of heteroscedasticity and autocorrelation. This panel’s fixed effects contains two dimensions but the errors are clustered on one of them, as was advocated by Bertrand et al. in their paper. Cameron and Miller (2015) explain why the clustering is done on the group level when the data is aggregated at the group and time level: “If the within-year clustering is due to shocks that are the same across all observations in a given year, then including year fixed effects as regressors will absorb within-year clustering, and inference then need only control for clustering on state.”

I make a decision not to include a conventional set of controls into my model. A broad range of demographic and industrial characteristics of a county can be interpreted as outcomes of migration, thus leading to collider bias if included in the regressions. A certain gender or age group of migrants might be more likely to settle down in a county, for example, if migrants come for work, and thus are of working age, or the jobs that are done by the migrants are typically male professions. The unemployment rate in a county can also be perceived by the population of the county as a consequence of migrants coming – the infamous “they took our jobs” argument. The county’s population can also attribute the changes in the average salary levels as a consequence of the migrant influx. The share of the urban population, the share of the population working in a specific industry, and the educational makeup of a county – all these could be channels through which the treatment affects the outcome.

The two-way fixed effects model takes care of controlling for the time-invariant and county-invariant characteristics, thus helping to limit omitted variable bias. Factors like geography, distance to other counties, distance to big cities, and others that could potentially influence both the vote and immigration are constant and, thus, are taken care of by the county fixed effects. Year fixed effects allow to control for common events that affect all counties such as economic downturns. Otherwise, controls that are determined at the same time or after the treatment and outcome variables are considered bad, and including them in the regression would hamper its causal interpretation (Angrist & Pischke, 2009).

One set of regressions for the entire dataset is not possible. A few elections took place in the same

year, for example, 2015 saw both presidential and parliamentary elections. The treatment variables for such elections would have the same values for the two different groups of county-election pairs. Thus, I run separate regressions for each election type in the dataset. This approach has an underpinning in the existing literature on patterns of voting. There is well-established empirical evidence that voters behave differently in national, local, and European elections. Local elections are of lesser importance to the voters so they are more likely to deviate from their national party preference (Heath et al. 1999). In European elections, voters also display less loyalty to their usual parties of choice, while smaller parties centered on specific issues (in this case, the immigration) find it easier to break through (Reif, 1984, van der Eijk & Franklin, 1996, Hix & Marsh, 2007, Hix & Marsh, 2011). I expect to see the effect of immigration differing by the type of election in my sample.

Cumulative population of migrants

Measuring the impact of immigration on political outcomes means trying to capture an idea of how people react to seeing migrants in their communities, i.e. getting a grasp of the frequency of encountering people who look different from native Poles or hearing languages around oneself which are different from Polish. The inflow of migrants in the previous year might not be an adequate measure for that so I try to measure the cumulative population of migrants by summing the number of migrants receiving permanent residence permit in a county from 1995, the years when the observations start, to 2019, the latest year for which data is reported. Certainly, this is not a perfect estimate either. The Chief Statistical Agency reports the inflow of foreigners into the county, but does not report the outflow. Thus, it is not clear how many residence permit receivers stick around in that county and for how long. Furthermore, since the change in cumulative stock is the same as change in the inflow from year, the coefficients reported are chiefly driven by the population of migrants accumulated before the first election in the dataset, from 1995 to 2000.

To get an estimate of the cumulative effect the population of migrants in the county has on the electoral performance of PiS, I regress *hundredthpct_summig_{iwt-1}*, the sum of all registrations for permanent residence, from abroad, in county *i* of province *w* up to year *t*, expressed in hundredths of a percent of the population of in county *i* of province *w* in year *t* - 1, on *outcome_{iwt}*. Similarly, I estimate the effect migrant population has on the electoral performance of all the far-right parties, *sum_outcome_{iwt}*.

$$outcome_{iwt} = \alpha_0 + \alpha_1 hundredthpct_summig_{iwt-1} + \theta_i + \iota_t + \lambda_{wt} + \nu_{iwt} \quad (4.3)$$

$$sum_outcome_{iwt} = \delta_0 + \delta_1 hundredthpct_summig_{iwt-1} + \pi_i + \sigma_t + \tau_{wt} + \chi_{iwt} \quad (4.4)$$

θ_i and π_i capture county fixed effects, while ι_t and σ_t capture year fixed effects. λ_{wt} and τ_{wt} are province-specific trends, *province* $\times$ *year*, the province and year fixed effects. ν_{iwt} and χ_{iwt} are stochastic error terms clustered at the county level.

Granger causality test

To make inference based on OLS with fixed effects the assumption of strict exogeneity needs to hold. The treatment variable cannot be correlated with the idiosyncratic error for all the years in the panel. To see if this assumption holds I need to see if changes in migrant shares lead to a lasting effect in

the future elections, or if the shocks in period t lead to changes in the outcome in years $t + 1$, $t + 2$, etc. In other words, I need to test whether my model adheres to principles of Granger causality with causes preceding consequences (Granger, 1969). My model would not be appropriate if the treatment applied in years following an election had a statistically significant impact on the outcome (Angrist & Pischke, 2009). I regress the outcome variables, $outcome_{iwt}$ and $sum_outcome_{iwt}$, on the lags of the treatment variable, $hundredthpct_mig_{iwt-1} - hundredthpct_mig_{iwt-5}$, and leads of the treatment variable, $hundredthpct_mig_{iwt+1} - hundredthpct_mig_{iwt+2}$, conditional on county and year fixed effects and region-specific trends. I want to establish whether the number of migrants from the past years predicts the PiS electoral outcome, and whether the future ones do not. This test cannot be run on the data from local or European elections in my sample because there is a missing lag from 2015, for which the Chief Statistical Agency does not report data. Since there is data for only three local and European elections respectively, and in each case two of them need information from 2015, the test is not possible for this part of my sample. Hence, the test is performed on the observations from presidential and parliamentary elections. Table 1 reports results of the test.

My suggested model seems to work well in predicting the outcome of the first round of presidential elections in the sample. The coefficient on the number of migrants receiving permanent residence in a county in the year preceding the election is the only statistically significant one. The coefficients on leads are not statistically different from zero, which supports the causal interpretation of the results obtained from the data on the first round of presidential elections in my sample. In the regression performed on data from parliamentary elections, the coefficients on the leads are not statistically different from zero either. The coefficients on the number of migrants receiving permanent residence in a county are significant for two and three years before the election. However, in the regression performed on data from runoff presidential elections, a lead of the treatment from two years after the election gains statistical significance at the 10% level, which indicates that the explanatory variable is not perfectly exogenous (Wooldridge, 2014), but the fact that it is significant only at the 10% level suggests the relationship is not especially strong and could be a false positive. Alternatively there might be reverse causality here, with migrants making a choice to settle down in a county on the basis of outcomes of the runoff presidential elections in the past. Runoff presidential elections have two candidates, and in the years presented in the sample the candidate pairs include a PiS candidate and a politician with a more friendly stance towards migrants. The presidential runoffs are high stakes since president holds a wide range of executive and to an extent legislative power in Poland. Thus, the electorate might feel compelled to vote for the candidate closest aligned with their traditional choices. As we saw above, geography is correlated with people's likelihood to vote for PiS; thus, migrants might avoid those parts of the country, which proved to be a PiS stronghold in the past. Thus, OLS with fixed effects in case of the runoff presidential elections may produce a biased estimator.

I cannot run Granger causality tests on cumulative data since it is strictly increasing from year to year.

Results

Table 2 reports results of fixed effects regressions aimed at estimating the effect of the year-to-year changes in the inflow of migrants as well as the effect of the changes in the total migrant population of a county on the electoral performance of PiS and other far-right parties (equations 4.1-4.4).

Whenever coefficients are statistically significant, controlling for regional trends decreases the absolute magnitude of the treatment effect. This might indicate that regional differences through years explain a

Table 1: Lags and leads of the treatment regressed on the outcome

Number of migrants receiving permanent residence permit in a county	Change in the % point vote cast for PiS by the type of election		
	Presidential, first round	Presidential, runoff	Parliamentary, sejm
Five years before	−0.159 (0.127)	0.030 (0.081)	−0.094 (0.114)
Four years before	−0.159 (0.210)	0.257** (0.118)	0.122 (0.120)
Three years before	−0.063 (0.184)	0.001 (0.104)	−0.210* (0.114)
Two years before	−0.226 (0.174)	−0.102 (0.071)	−0.155* (0.080)
One year before	0.254* (0.142)	−0.027 (0.072)	0.153 (0.109)
The year of the election	−0.140 (0.097)	0.029 (0.038)	−0.090 (0.071)
One year after	−0.070 (0.137)	0.079 (0.081)	−0.023 (0.093)
Two years after	−0.047 (0.127)	−0.135* (0.075)	−0.127 (0.095)
Observations	823	823	1416
Number of clusters	364	364	366

Notes: The number of migrants in a specific year is measured relative to the total population of the county.

Source of data: PKW and GUS.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

part of the change in vote for PiS and other far-right parties. The effects of an additional 0.01% in the total migrant population in a county are smaller than the effects of an additional 0.01% of migrant inflow into a county for presidential and parliamentary elections, but are larger for local and European elections.

The coefficients on treatment in the regressions done on the outcomes of the first round of presidential elections indicates a 0.26 – 0.39 p.p. decrease in PiS results associated with an additional 0.01% of migrant inflow relative to the population of a county. An additional 0.01% in the total migrant population in the county shaves off 0.11 – 0.12 p.p from PiS results.

PiS results in Sejm elections can also be explained with changes in migrant inflows. PiS loses 0.29 – 0.33 p.p. for every 0.01% increase in the number of migrants incoming to a county. The effect from changes in the total migrant population is smaller, at 0.12 – 0.13 p.p.

The electoral performance of PiS in elections to provincial parliaments cannot be explained by the migrant inflow into counties in the year preceding the election. The two-way fixed effect regressions, with and without

Table 2: Estimates of the Effect Immigration Has on the Far Right Electoral Performance

Effect of an additional 0.01% of migrant inflow into a county			Effect of an additional 0.01% in the total migrant population in a county		Number of observations	Number of counties				
Type of election	Change in percentage points of votes cast for PiS OLS with FE OLS with FE and regional trends	Change in percentage points of votes cast for far-right parties OLS with FE OLS with FE and regional trends	Change in percentage points of votes cast for PiS OLS with FE OLS with FE and regional trends	Change in percentage points of votes cast for far-right parties OLS with FE OLS with FE and regional trends						
Presidential, round 1	-0.391*** (0.077)	-0.261*** (0.078)	-0.200** (0.084)	-0.116** (0.056)	-0.122*** (0.013)	-0.113*** (0.015)	-0.035*** (0.011)	-0.032*** (0.009)	1181	372
Presidential, runoff	-0.268*** (0.063)	-0.156*** (0.051)	-	-	0.057*** 0.009	0.011 (0.008)	-	-	1181	372
Parliamentary, Sejm	-0.330*** (0.096)	-0.287*** (0.086)	-0.272*** (0.070)	-0.203*** (0.066)	-0.131*** (0.017)	-0.119*** (0.018)	-0.044*** (0.012)	-0.047*** (0.012)	1618	372
Provincial assemblies	-0.009 (0.115)	-0.060 (0.125)	-0.183 (0.122)	-0.095 (0.135)	-0.107*** (0.015)	-0.072*** (0.017)	-0.010 (0.014)	0.021 (0.016)	1116	372
European Parliament	-0.055 (0.122)	-0.170 (0.122)	-0.142 (0.099)	-0.124 (0.099)	-0.157*** (0.016)	-0.132*** (0.018)	-0.092*** (0.014)	-0.100*** (0.015)	1116	372

Notes: The table reports OLS fixed-effects estimates of the effect of the inflow of migrants and the cumulative migrant population on the electoral outcomes of far-right parties. I report results with time and county fixed effects as well as those with the two-way fixed effects and province-specific trends. A description of all the variables included can be found in Appendix E. Standard errors are clustered at county level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

regional trends, show no statistically significant impact of the previous-year immigration on the percentage votes PiS earned in the local elections. However, the effect of changes in the total migrant population on PiS performance in local elections is statistically significant. A 0.01% increase in migrant population is associated with a 0.1 percentage point drop in PiS results (0.07 p.p. if regional trends are controlled for).

Finally, changes in migrant inflows do not appear to explain PiS results in the European elections. Yet the effect of changes in the total migrant population is highly significant, an increase of 0.01% explaining a 0.13 – 0.16 p.p. drop in PiS results.

Interestingly, the effects of changes in migrant inflow and total migrant population appear to be less pronounced on far-right cumulative performance in different elections as compared to PiS alone. Far-right vote in the first round of presidential elections drops by 0.11 – 0.20 p.p. with an additional 0.01% of migrant inflow, and by about 0.03 p.p. with an additional 0.01% increase in the total migrant population. For the far-right results in parliamentary elections the numbers are 0.20 – 0.27 and 0.04 – 0.05 p.p. respectively. The far-right performance in local elections cannot be explained with migration variables. Curiously, like with PiS results, migrant inflow has no effect on the far right vote in the European elections, yet an additional 0.01% increase in the total migrant population is associated with a 0.1 p.p. drop in the far right vote.

Due to imperfections of the variables constructed I am careful in interpreting these results. I obtain no clear pattern in the effects of migration on voting for the far right other than an understanding that immigration seems to have a negative or neutral impact on PiS and far right performance in various elections.

4.2 Retrieving average treatment effect (ATE) in the presence of heterogenous treatment effects

The results from the two-way fixed effects regression are estimated under the assumption that the treatment effect is common for all the treated groups across time, or, for those estimations done with regional trends included, that the treatment effect is common for all treated counties within a province. This assumption, however, is not likely to hold here. The effect that immigration has on people’s decision to vote for a far-right party is likely to differ across counties in the sample as well as change over time. The same inflow of migrants might result in different changes in the PiS vote across counties, and the changes might even differ in direction: for instance, an 0.01% might be associated with a 0.02% increase in votes for PiS in one county but then be associated with a 0.03% decrease in votes for PiS in another county. If the treatment has heterogenous effects on different counties and across years then OLS with fixed effects will not be a consistent estimator of the average treatment effect (Gibbons et al., 2019). The OLS with fixed effects estimator is a weighted sum of difference-in-differences (DID) calculated between consecutive years and across pairs of counties. The treatment in this paper is fuzzy, meaning that the number of migrants increases by different rates in counties, with no county going from having no migrants to receiving a “full treatment” of migration, and there is no county that starts off with having no migrants and remains such throughout years. If all counties receive a different degree of the treatment then the treatment effect might get differenced out as the DID estimator gets calculated, leading to an invalid coefficient on the treatment variable (de Chaisemartin & D’Haultfœuille, 2020). Thus, I follow the recommendations of de Chaisemartin and D’Haultfœuille and compute a $DID_{Mestimator}$, which keeps validity in the presence of heterogenous treatment effects.

When calculating the coefficient on treatment in the two-way fixed effects model we first compute difference-in-differences (DID) estimators between consecutive county-year pairs, then sum them together,

Table 3: Percentage of Negative Weights in $\hat{\beta}_{fe}$ Estimations and Ratios of $\hat{\beta}_{fe}$ to the Standard Deviation of Negative Weights

Type of election	Outcome variable: $outcome_{iwt}$		Outcome variable: $sum_outcome_{iwt}$	
	% of negative weights	$\frac{ \hat{\beta}_{fe} }{\hat{\sigma}_{weights}}$	% of negative weights	$\frac{ \hat{\beta}_{fe} }{\hat{\sigma}_{weights}}$
Presidential, round 1	52%	2.12	53%	1.74
Presidential, runoff	52%	1.84	—	—
Parliamentary, sejm	54%	2.59	54%	2.21
Voivodeship sejmiks	52%	20.7	52%	1.65
European Parliament	51%	11.1	51%	3.13

Notes: I run the regressions reported in equations 4.1 and 4.2. $\hat{\beta}_{fe}$ is thus $\hat{\beta}_1$ and $\hat{\gamma}_1$ respectively.

with a weight assigned to each DID produced. Because the DID design with this dataset is fuzzy, meaning there are no “clean” control groups, some of the weights assigned to the DID estimators might be negative. If the treatment effect is different in different counties and in different years, for example, if an increase of one-hundredth percent in the migrant population leads to a 0.1% decrease in voting for PiS in county A in year t but in county B an increase of one half of a hundredth percent in the migrant population leads to a 0.3% decrease in voting for PiS in county B in year $t + 1$, then calculating the difference between these two will end up generating a negative weight in the DID estimator summation. Therefore, the coefficient on treatment might end up being positive even if all the treatment effects are negative.

Thus, by using *twowayfeweights* package in Stata, I check how many weights in the regression are negative, and what the ratio of the absolute value of the coefficient of treatment, $\hat{\beta}_{fe}$, to the standard deviation of the weights is (the ratio is calculated to see how much the coefficient could have been affected by the negative weights; if the ratio is small then there is a high chance $\hat{\beta}_{fe}$ does not correspond to the average treatment effect). Results are reported in Table 3.

In the regressions that aim to explain PiS outcomes, the negative weights make up slightly over half of all weights assigned in the regressions, with the highest proportion observed in the model aiming to explain voting behavior in the parliamentary elections. None of the ratios of $|\beta_{fe}|$ are very small. Thus, I do not expect there to be a large difference between the $\hat{\beta}_{fe}$ calculated and the DID_M estimators, with a possible exception of the treatment coefficient in the parliamentary regression.

In the regressions that aim to explain the cumulative far-right electoral performance, none of the ratios of $|\beta_{fe}|$ are very small either. Regressions on data from the first round of presidential elections and parliamentary elections have 53% and 54% negative weights assigned respectively. Thus, the coefficients on treatment in these regressions might be significantly different, once re-calculated using DID_M method of estimation.

The DID_M estimator put forward by de Chaisemartin and D’Haultfœuille works by computing a weighted average of the two mean outcomes between years $t - 1$ and t : one for the difference between the counties remaining untreated and those that change from being untreated to treated and another one for the difference between the counties that remain treated and those that change from being treated to untreated. Since the treatment is not binary I set the difference between what I consider treated and untreated myself. I consider all changes in the migrant inflow below 0.01% of the population of the county to be lack of treatment.

For DID_M to be a consistent and asymptotically normal estimator of the treatment effect, a number of assumptions has to hold for my data. First, my panel data has to be balanced, which it is. Next, the treatment has to be a group-level variable. This assumption also holds since the migrant share is calculated relative to the population of the county. The third assumption is strict exogeneity of the treatment relative to shocks that counties might experience. This is the same assumption I had to make to estimate the two-way fixed effects OLS. Since DID_M compares the outcomes between the counties remaining untreated and those that change from being untreated to treated, on one hand, then between each pair of consecutive years there should be a county remaining untreated whenever there is a county that receives treatment. On the other hand, DID_M compares the outcomes between the counties that move from being treated to untreated and those that remain treated, which requires presence of at least one county that remains treated whenever there are counties where the inflow of migrants went down below 0.01% of the county’s population between two consecutive years. The fifth assumption requires that the treatment of other counties does not affect the outcome in a county – an assumption that could be violated if, for instance, people living on the border with a different county are exposed to the extent of the migration there and react to it more than to the extent of migration in their county.

A final assumption to allow me to draw causal inferences from the DID_M estimator is the common trends assumption. Counties that do not receive treatment are expected to follow the same trajectory of changes in the percentage of votes they cast for PiS/far-right parties. To test this assumption I estimate the $DID_M^{placebo}$ estimator, the placebo analogue of DID_M. $DID_M^{placebo}$ restricts the sample to the counties where there was no change in migration inflow (i.e., $< 0.01\%$) between years $t - 2$ and $t - 1$, and within those counties discerns those where the migration inflow changed and those where it did not between years $t - 1$ and t , and compares how the voting for PiS/far-right parties changed for those two groups of counties from year $t - 2$ to $t - 1$. The placebo estimator aims to establish whether the future has any predictive power for the past outcomes, in the spirit of the Granger causality test I did above. DID_M estimators in regressions where the $DID_M^{placebo}$ estimator is statistically significant cannot be causally interpreted.

The code I used to calculate these estimators comes from de Chaisemartin, D’Haultfœuille, and Guyonvarch (2019). The results of the DID_M and $DID_M^{placebo}$ regressions are reported in Tables 4 and 5 together with OLS with fixed effects estimates for PiS and the far-right vote respectively. Additionally, I report the DID estimates on the placebo sample in order to see if any potential anticipatory effects may have biased my coefficients upwards or downwards.

The effect of migration on the share of votes PiS received in local elections is not significantly different from zero in either specification, and even that small coefficient of -0.011 is likely overstating the impact that immigration has on the local vote because the $DID_M^{placebo}$ estimator is positive and highly statistically

Table 4: Estimates of the Effect an Additional 0.01% of Migrants in a County's Population Has on PiS Electoral Performance

Type of election	Change in percentage of votes cast for PiS				Observations	Number of clusters
	OLS with FE	OLS with FE and regional trends	DID _M	$DID_M^{placebo}$		
Presidential, round 1	−0.391*** (0.077)	−0.261*** (0.078)	−0.250** (0.120)	−0.036 (0.610)	1488	372
Presidential, runoff	−0.268*** (0.063)	−0.156*** (0.051)	−0.148** (0.069)	0.909*** (0.311)	1488	372
Parliamentary, sejm	−0.330*** (0.096)	−0.287*** (0.086)	−0.096 (0.090)	−1.322*** (0.473)	2232	372
Voivodeship sejmiks	−0.009 (0.115)	−0.060 (0.125)	−0.011 (0.190)	1.925*** (0.747)	1116	372
European Parliament	−0.055 (0.122)	−0.170 (0.122)	−0.293** (0.143)	0.284 (0.912)	1116	372

Notes: The table reports OLS fixed-effects and DID_M estimates of the effect of the inflow of migrants on the electoral outcomes of PiS. Results of the placebo tests are reported in the $DID_M^{placebo}$ column. A description of all the variables included can be found in Appendix E. Standard errors are clustered at county level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 5: Estimates of the Effect an Additional 0.01% of Migrants in a County's Population Has on the Far Right Parties Electoral Performance

Type of election	Change in percentage of votes cast for far-right parties					
	OLS with FE	OLS with FE and regional trends	DID _M	$DID_M^{placebo}$	Observations	Number of clusters
Presidential, round 1	-0.200** (0.084)	-0.116** (0.056)	-0.077 (0.086)	-2.080 (0.285)	1488	372
Parliamentary, sejm	-0.272*** (0.070)	-0.203*** (0.066)	-0.130 (0.081)	-4.000* (2.100)	2232	372
Voivodeship sejmiks	-0.183 (0.122)	-0.095 (0.135)	-0.062 (0.228)	0.715 (0.886)	1116	372
European Parliament	-0.142 (0.099)	-0.124 (0.099)	-0.149 (0.150)	7.308** (3.188)	1116	372

Notes: The table reports OLS fixed-effects and DID_M estimates of the effect of the inflow of migrants on the electoral outcomes of PiS. Results of the placebo tests are reported in the $DID_M^{placebo}$ column. There are no results for the runoff presidential elections because only PiS candidates got through to the second round to face off against a center-left candidate in the time period defined. A description of all the variables included can be found in Appendix E. Standard errors are clustered at county level.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

significant.

The coefficients from the first round presidential election regressions are similar for DID and DID_M. The DID_M estimator, however, is only significant at the 5% level. The placebo test indicates no anticipatory effects potentially biasing the results. A similar loss in significance happens for the coefficients estimated on the data from the runoff presidential elections. There, however, the $DID_M^{placebo}$ estimator is positive and highly statistically significant, which means the effect reported is likely upwards biased. Voting outcomes in the runoff elections experience a positive pre-trend one year before the migrant inflow changes, according to my model.

The coefficient on the share of migrant inflow does not lend itself to causal interpretation in the case of the elections to the lower chamber of Polish parliament, the Sejm. A highly statistically significant coefficient in the fixed effects regression turns into a distinctly lower and not statistically significant one in the DID_M estimation. The placebo estimator indicates that the leads of treatment variables put a downward pressure on the coefficient. However, with the placebo coefficient being statistically significant it is not possible to estimate the real effect of migration in this set of elections.

Finally, the OLS regressions with fixed effects performed on data from elections to the European Parliament return coefficients which are not significantly different from zero. However, DID_M estimates a 0.29% decrease in PiS results associated with an additional 0.01% of migrant inflow relative to the population of a county, significant at 5% level.

Thus, the effect of the previous year migrant inflow as a share of the county’s population impacts the percentage vote that PiS received in the first round of presidential elections in this sample. Results from other types of elections are inconclusive.

When the regressions are run on the joint outcome of all the far-right parties in the same elections I get no statistically significant results from DID_M regressions as Table 5 demonstrates. One possible exception is the effect of immigration on the far-right performance in the Sejm elections, where the $DID_M^{placebo}$ estimator points towards DID_M being biased downwards. However, this piece of evidence is rather flimsy.

At most I can claim that there is a 0.25 – 0.26 p.p. decrease in the share of votes PiS received in first rounds of presidential elections associated with a 0.01% increase in the migrant inflow. There is also a 0.29 p.p. decrease in the share of votes PiS received in European elections which DID_M reports but OLS with fixed effects does not detect. Both results are statistically significant at 5%. The results of other regressions using PiS data fail the placebo test, indicating simultaneity, with the results of previous elections influencing migrants’ decision on where to settle. I am moved to employ an instrumental variable to address the simultaneity concern.

4.3 Bartik instrument

The results of the fixed effects regressions above do not necessarily establish a causal relationship between a share of migrants in a county and a share of votes for PiS and other far-right parties. The causal interpretation can be undermined by potential unobserved time-varying heterogeneity. For instance, an economic depression hitting a county could lead to lower house prices in that area, enticing the migrant population to settle there. Such events would be in violation of the strict exogeneity assumption, on which my interpretation of the fixed effects regressions rests. The treatment variable of migrant share in the county would thus be affected by the factors that could also impact the share of the votes far-right parties gather (in this case, economic depression might make people more likely to vote for radical, populist parties, which include the far right) and I cannot control for these factors in my regressions.

Thus, I am moved to employ an instrument – a variable that is fully exogenous to my model, impacting the outcome only through the channel of treatment. I turn to the shift-share instrument, widely employed in the immigration literature (Altonji & Card, 1991; Card, 2001; Borjas, 2014; Card & Peri, 2016 are among the examples). The instrument is named after Timothy J. Bartik (1991), who interacted local employment rates in different industries with the industries’ national growth rates to obtain an exogenous predictor of labor demand in estimating the inverse labor supply in the US counties. My model, however, relates more closely to the one used by Card (2009), who estimated the effect of the migrant share in a city on the wage gap between native and migrant workers; my model, however, also includes a time dimension.

An initial population of migrants is recorded at each province²⁰ before the time period, which I study (i.e., 2001 – 2020), and is differentiated by the region of origin for the migrants. The Central Statistical Office of Poland keeps track of what continent a migrant arrives from. Data from South America started to be reported separately from the data from North and Central America in 2004, so I had to combine the Americas into one region. In total, there are five regions in my dataset: Africa, the Americas, Asia, Europe, and Oceania. Collecting data on migrant origin at the level of their continent is not ideal since people from, for example, Canada and Ecuador might not come from the same culture and are, thus, less

²⁰Please, mind that I have changed the level of analysis in this part of the paper from county to province. This was done due to lack of data on the origin of migrants at the county level. Further information on Poland’s administrative division can be found in Appendix A.

likely to be motivated to settle together. Furthermore, segregating migrants by their continent of origin holds implication for my inferences about the impact of migration on the political outcomes of the far right. One can assume that people perceive the extent of immigration in their community by looking around and having a mental estimate of the incidence of encounters with people looking different from them. In this setting, a white migrant from Canada might have a different impact compared to a migrant from Ecuador. Unfortunately, the Central Statistical Office does not report data on the country of a migrant’s origin, which potentially weakens my identification strategy.

The number of migrants from a certain region of origin in a province is called a “share.” “Shares” are calculated relative to the total number of migrants from a certain region of origin into Poland as a whole and are normalized relative to the province’s population today.²¹ I have to estimate “shares” as they were in 2001, so I add the numbers of migrants calculated from a certain region of origin in a province from 1995 to 2000. 1995 is the first year, for which the GUS reports the data on the origin of migrants. Ideally, I would need more data on the number of migrants, for the years 1991-1995, and even before 1991. But I assume that before 1991, immigration to Poland was negligible. The graph in Appendix B confirms my intuition, showing a structural break in the immigration to Poland around 1991. Thus, the lack of pre-1995 data does not interfere much with my research design.

Next, I multiply “shares” by the number of migrants arriving to Poland from their respective regions of origin in a year – “the shift.” In this manner, I obtain a prediction of the number of migrants arriving from a different region in the world to each province for every year, which is the actual inflow of migrants from that region in that year weighted by their initial spatial distribution across the provinces. Summing the predicted arrivals from each region produces an estimate for the predicted total inflow of migrants into the province, which is the instrumental variable. The predicted total inflow of migrants into a province w in a year t is, therefore:

$$migr_share_{wt} = \sum_c \frac{N_{cw,2000}}{N_{c,2000}} \times \frac{1}{P_{w,2019}} \times N_{ct} \quad (4.5)$$

where $N_{cw,2000}$ is the number of migrants with a permanent residence permit from a region c residing in a province w in year 2000, $N_{c,2000}$ is the number of migrants with a permanent residence permit from region c in Poland in year 2000, $P_{w,2019}$ is the population of a province w in year 2019, and N_{ct} is the number of people from region c receiving the permanent residence permit in Poland in year t .

There are three instances in my dataset when provinces had no migrants from Oceania there by 2000, those provinces being Greater Poland, Holy Cross, and Podlasie. Coding the “shares,” I assign the value of 1 to the number of migrants from Oceania in those provinces in 2000. Similarly, if in any year the inflow of migrants from a certain region into a province was zero I would code the “shift” as one. This is done to avoid an instrumental variable of value zero, which would predict no migration into a province from a certain region. To check whether editing my instrument affects the results I re-run the regressions specified below allowing the instrument to be zero when appropriate. The coefficients of interest do not change, which indicates that editing the instrument did not affect my results.

As I explained above, the data on international migration in 2015 data is missing from GUS datasets. Thus, I had to remove the elections that took place in 2015 – presidential (first round and runoff) and parliamentary – from my dataset. Furthermore, I exclude the 2020 presidential elections since the data on the number of migrants is not yet available for this year.

²¹I use the 2019 population estimates since it is the most recent data that GUS reports.

The shift-share instrument model

Here I estimate the model similar to the one in (4.1). I end up with the following two-way fixed effects difference-in-differences specification:

$$outcome_{iwt} = \beta_0 + \beta_1 migr_share_{iwt} + \omega_i + \varphi_t + \epsilon_{iwt} \quad (4.6)$$

where $outcome_{iwt}$ is the share of votes PiS received in an election in county i of province w in year t , $migr_share_{iwt}$ is the ratio of the number of immigrants with a permanent residence permit in county i of province w relative to the population of the county i of province w in year t , ω_i and φ_t are county and year fixed effects respectively, and ϵ_{iwt} is the stochastic error.

Instrumenting for the potentially endogenous $migr_share_{iwt}$ with the predicted migrant share per province w in year t , $\widehat{migr_share}_{wt}$ produces the following first-stage regression:

$$migr_share_{iwt} = \gamma_0 + \gamma_1 \widehat{migr_share}_{wt} + \eta_w + \sigma_t + \zeta_{wt} \quad (4.7)$$

where η_w and σ_t are province and year fixed effects respectively, and ζ_{wt} is the stochastic error.

The relevance of instrumenting the migrant inflow by the prediction based on their region of origin is traced in literature on migrants' settlement decisions. Migrants are attracted to the existing communities of shared culture and language, where they can rely on the social networks to provide assistance in job search, school choice, low-interest loans and numerous other aspects of their life, including making it more "familiar" for them in a foreign land (Bartel, 1989; Åslund, 2005; Jaeger, 2007). To further establish the relevance of my instrument I show the extent of correlation between the initial stock of migrants from a certain region from year 2000 and the inflows of migrants from those regions in 2019. The correlation is strong (above 0.78) for all the regions of origin, particularly for the migrant shares and shifts from Africa and Asia (0.93 and 0.98 respectively). If I estimate the extent of correlation between the initial stock of migrants from a certain region and the inflows of migrants from those regions in different years, from 2001 to 2019, then the correlation estimates go down, still being strongest for the migrant shares and shifts from Africa and Asia (0.77 and 0.83 respectively), while the correlation between the migrants share and shifts in Europe is the weakest (0.55).²²The results are further reported in Appendix F.

Validity of the shift-share instrument rests on the assumption that the shares of migrants across provinces in the initial year are exogenous and thus are determined before the outcome, the share of votes PiS receives in year t in county i of province w . Since PiS did not exist until 2001 measuring the stock of migrants in provinces in 2000 is technically a valid approach.²³ However, the anti-migration sentiment motivating people to vote PiS existed before 2000, and, thus, I cannot claim that the shares of migrants per province in 2000 are not correlated with the levels of PiS votes in later years. According to Goldsmith-Pinkham et al. (2020) the shares in the shift-share instrument can be correlated with the levels of the outcome variable as long as the shares are the only channel through which the outcome is predicted. To conduct a robust evaluation of the plausibility of the exclusion restriction in my model I will run placebo test on parallel pre-trends in the section below.

²²These results are not surprising, I suppose, considering that migrants from another European country would still feel more "at home" in Poland than migrants from more culturally and geographically distant places. However, exploring the veracity of this assumption goes beyond the scope of this paper.

²³I do not try to explain the vote for far-right parties using the Bartik instrument because the far-right as a political movement existed before 2001.

Results of the instrumental regression

Table 6 reports the results of estimating, with the help of the instrumental variable, the effect that an increase in the share of migrants in county i of province w in year t has on the share of votes PiS received.

The F-statistics for the first stage of all five specifications range from 26.64 to 47.40, indicating that the initial assessment of the instrument’s relevance stands.²⁴ The instrumental regression produces a larger estimate of the effect that migrant population has on the electoral outcome of PiS in the first round of presidential elections as compared to the DiD baseline specification. An additional one-hundredth of a percent of migrants relative to the county’s population is associated with a 2% decrease in the share of votes PiS receives in the first round of presidential contests, a highly statistically significant result. Unlike the coefficients in the DiD regressions, the effect of migration on the share of votes for PiS is not significant in the instrumental regression either for the runoff elections or for parliamentary contests. However, statistical significance is gained by coefficients in regressions done on the results from the municipal and European Parliament elections. The direction of the effect is unexpected – an additional one-hundredth of a percent of migrants relative to the county’s population is now associated with a 2 p.p. *increase* in the share of votes PiS receives in the local and European elections.

Suspicious about these results, I turn to testing for the plausibility of my instrument’s validity. I run placebo tests on the data from the parliamentary, local, and European elections to see if anticipatory effects bias my results.²⁵ I restrict my sample to the counties where there was no change in migration inflow (i.e., $< 0.01\%$) between years $t - 2$ and $t - 1$, and within those counties discern those where the migration inflow changed and those where it did not between years $t - 1$ and t , and compare how the voting for PiS changed for those two groups of counties from year $t - 2$ to $t - 1$. The results are reported in Table 7. The placebo test further confirms the lack of effect that migration has on the electoral outcomes of PiS in parliamentary elections as anticipatory effects are likely biasing my results upwards. The coefficient on the effect of migration on PiS vote shares in municipal elections is likely to be highly overestimated too, judging by the size and statistical significance of the placebo regression coefficient. The coefficient from the placebo regression run on the European elections data is negative, albeit at a low level of statistical significance. The future outcomes might be causing the effect migration has on the vote shares in the European elections to be underestimated.

The results from the instrumental regressions do not lend themselves to a straightforward interpretation. The data from the presidential elections is limited as I only could use the observations from the 2005 and 2010 elections. The effect estimated in case of the municipal elections is likely to be overblown, as indicated by the placebo test. The puzzle is the positive effect migration is predicted to have on the vote share of PiS in the European elections. This result is different from the estimate I received in the DID baseline specification, where the coefficient was negative, albeit not statistically significant. However, in the case of European elections the placebo test also produces a coefficient statistically significant at 10%. A conservative approach would be to discard the results of the IV regression run on the European data due to potential effect that time-varying unobserved heterogeneity has on the migrants’ decision to settle before 2000.

The IV regression performed on the data from the first round of presidential elections is thus the only one that potentially delivers statistically significant results. The coefficient produced, however, is an order of magnitude larger than the one from OLS with fixed effects. An explanation for this difference could be

²⁴Lee et al. (2020) have made waves with their claim that a 5 percent t -test in instrumental inference requires an F above 104.7. The paper has yet been published in a peer-reviewed journal thus I refrain from applying its findings in my work.

²⁵I cannot run placebo tests on the presidential vote regressions because I only use results from two elections there.

Table 6: The Instrument Variable Estimate of the Effect an Additional Hundredth of a Percentage Point of Migrants in a County's Population Has on the Share of Votes PiS Received in an Election

	Type of election			
	Presidential, first round	Presidential, runoff	Parliamentary, sejm	Voivodeship sejmiks
Second stage				
Share of migrants with a permanent residence permit in a county i in year t	-2.056*** (0.686)	0.880 (0.554)	0.778 (0.715)	2.089*** (0.774)
				2.247*** (0.624)
First stage				
Predicted share of migrants with a permanent residence permit in a province w in year t	5.316*** (1.030)	5.316*** (1.030)	2.454*** (0.382)	3.425*** (0.610)
				3.389*** (0.492)
F-stat (excl.)	26.64	26.64	41.22	31.48
R ² - uncent.	-0.030	-0.293	-0.072	-0.363
Observations	744	744	1860	1116
Number of counties	362	362	362	362

Notes: All coefficients and standard errors are divided by 10^4 for the ease of interpretation as these values are more befitting for the range of data in the sample.
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Table 7: Testing for Plausible Validity of Bartik Instrument: Placebo Tests for Anticipatory Effects
Placebo Two-Way Fixed
Effects IV Estimator

Parliamentary elections	4.227** (1.995)
Municipal elections	11.918*** (3.702)
European elections	-5.720* (3.277)

Notes: All coefficients and standard errors are divided by 10^4 for the ease of interpretation as these values are more befitting for the range of data in the sample.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

that the IV is invalid, which I cannot confirm or disprove since there is not enough data to run a placebo test. If the IV is valid, however, a larger coefficient could be an indicator of attenuation bias in my original OLS with fixed effects regression. The estimates for migrant inflows can be noisy if there is a measurement error present, which obscures the true effect of immigration on voting by resulting in lower OLS coefficients. In the absence of a reliable placebo test I cannot conclude with certainty that IV estimation corrects the omitted variable bias or the attenuation bias of the original two-way fixed-effects regression and uncovers the accurate effect of immigration on voting far right in the first round of presidential elections. Finally, the IV estimate can be uncovering the local average treatment effect, i.e. the effect of migration on voting in the counties affected by the cultural proximity settling, as compared to the OLS estimate, which shows an average effect of migration on the far-right vote in all counties. In this case, the IV estimates the effect of migration inflows that occurred following the spatial distribution of migrants from specific regions as of 2000. This interpretation is possible as long as no migration took place in defying the 2000 allocation, i.e., no migrants have made a choice to relocate to a Polish county with the goal to avoid their former compatriots.

5 Conclusions and Limitations

This study set out to establish a connection between immigration into Poland and the levels of votes received by PiS and other far right parties in the country. I attempt to capture the effects of immigration both as a change in the migrant inflow (reaction to sudden spikes in arrivals) as well as a change in the total number of migrants relative to the entire population (reaction to the potential frequency of encounters with non-native Poles). I run the analysis for different types of elections: presidential, parliamentary, local, and European.

Using a two-way fixed-effects model, this paper shows little to no effect of immigration on the share of votes PiS and far-right parties receive in local and European elections. Controlling for heterogeneous treatment effects in DiD specifications undermines the highly statistically significant effect the migration showed exerting on the PiS and far-right outcomes in the parliamentary elections when a standard DiD fixed-effects model was applied. The effect of migration on PiS and far-right outcomes in presidential elections has remained robust to different specifications. There is a 0.25 – 0.26 p.p. drop in PiS results in the first round of presidential polling associated with an additional 0.01% increase in the inflow of migrants. There is no similar effect demonstrated for the cumulative results of far-right parties in the first round of presidential elections. The effect of immigration seems to dissipate in the runoff stage of presidential elections, the demonstrated 0.15 – 0.16 p.p. drop in PiS results associated with an additional 0.01% increase

in the inflow of migrants undermined by the data not passing the Granger causality test, indicating there might be reverse causality in place. The IV results confirm the negative impact that migration has on PiS results in the first round presidential contests although I cannot check the instrument’s validity for that specification of the model.

The effect of changes in migrant inflow and total migrant population appears to be less salient on the far-right cumulative performance when compared to their effect on the PiS vote in all the elections studied. Controlling for regional trends also consistently brings the coefficients down indicating that differences between Polish provinces through years might explain a part of variation in PiS and cumulative far-right performance. To account for heterogeneous treatment effects in the two-way fixed-effects estimation I employ the method of de Chaisemartin and D’Haultfoeulle and correct my DiD estimators. Once the “fuzzy” nature of treatment is corrected for the coefficients on migration go down for all types of elections indicating that the baseline DiD has overestimated the effect of migration on PiS and far-right vote. A final observation is that the impact of variation in total migrant population seems to be smaller than the effect of changes in yearly migrant inflow for both PiS and cumulative far-right vote. Due to the imperfect nature of the variable constructed to capture the effects of variation in total migrant population in a county I cannot comment on those results with confidence. The way variable was constructed, by summing yearly inflows of migrants, made permanently increasing values overtime (even once corrected for the total county population), which did not allow me to apply the instrumental and fuzzy DiD methods of inference to it. Moreover, the variable does not account for the outflow of migrants from counties, further implying that any inference done with that data would be biased.

The results obtained for the first round of presidential elections are in line with the contact literature predictions. An exposure to migrants seems to dissipate fears about the potential harm from their arrival, reducing the incentive of native Poles to vote for the far-right. Interestingly, the studies I quote above done in Austria and the UK demonstrate a positive effect of immigration on the far-right vote. My results might be a signal that the CEE region is indeed different, with the far-right vote galvanized by issues other than immigration. The reason why this effect is only visible in the first round of presidential elections as compared to other elections remains to be uncovered. Presidential elections might be seen as high stakes due to the high power of the chief executive office in the republic. Presidential campaigns bring out clashes on many issues with candidates treated as symbols of the values of the country. Immigration could be one of such symbolic issues on which a president is expected to take a stance and to which the electorate reacts at polling stations.

The imperfections of data used in this study indicate its limitations while also providing guidance for future research on the topic of the impact of migration on election performance of the far right in Poland. GUS collects data on the number of temporary residence permits issued for work or study purposes at provincial level only, which made me exclude this data from my study. Temporary residence permits follow a different trend as compared to the permanent residence permits as made evident by Figure 3.1. Migrants settling in Poland permanently are a small share of the total migrant population. Moreover, by the time migrants qualify for a permanent residence permit they are likely more assimilated into Poland. They are also more likely to hold higher levels of education, have better jobs, and speak better Polish than an average temporary resident. EU migrants into Poland, while not numerous, might also impact people’s voting behavior by their presence in communities, particularly if those migrants come from certain backgrounds that might be interpreted as hostile by Poles; Germans come to mind as an example. If data on legal migration is patchy but existent, data on illegal immigration is hard to come by. Coming up with an estimate for illegal

migration into Poland might be a challenging yet rewarding task for a future researcher on the topic.

In my study I have focused on counties as a unit of my analysis. Yet my assumption that a county is a self-contained political and economic unit with county inhabitants only observing the migrants within that county is flawed. People might frequently travel to neighboring counties for work, family visits, or shopping generating a spillover effect that none of the model specifications used in the paper can account for. Furthermore, media expose people to migration as a national issue. Even if migrants do not come to their county in big numbers people might still be engaged with the questions of immigration, reacting to it in polls. The extent of migration presented by the media may well be false or exaggerated, yet create a response in voting booths for those believing in the picture created. Studying people's response to media portrayals of migration is another angle, through which the connection between migration and PiS outcomes can be investigated. Finally, the connection between economic opportunity and the propensity of voters to react to immigration issues in elections should be studied as it is likely that people disenfranchised by economic transition in a post-socialist country like Poland will vote for more extreme options. Looking at the voting patterns in the wake of the partition of Poland is a starting point for such analysis but interacting cultural and geographic factors on one hand and economic factors on the other would give a fuller picture.

Given the blurry evidence I have obtained the implications of my analysis are not easy to discuss. I cannot say with certainty that the case of migration and voting behavior in Poland lends evidence to the fact that contact with migrants undermines the chances of far right in the elections. Yet seeing that the opposite is not true and that the presence of migrants is not associated with a higher vote for PiS and similar parties gives me hope that inter-cultural dialogue in Poland is possible.

References

- [1] Algan, Y., Guriev, S., Papaioannou, E., & Passari, E. (2017). The European trust crisis and the rise of populism. *Brookings Papers on Economic Activity*, 309-382. <http://www.jstor.org/stable/90019460>
- [2] Allport, G. W. (1955). *The Nature of Prejudice*. Cambridge, Mass: Addison-Wesley Pub. Co.
- [3] Altonji, J., & Card, D. (1991). The effects of immigration on the labor market outcomes of natives. In J. M. Abowd & R. B. Freeman (Eds.), *Immigration, Trade, and the Labour Market* (pp. 201-234). University of Chicago Press for NBER.
- [4] Angrist, J. D., & Pischke, J.-S. (2009). *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press.
- [5] Arzheimer, K. (2008). Protest, neo-liberalism or anti-immigrant sentiment: What motivates the voters of the extreme right in Western Europe? *Zeitschrift für Vergleichende Politikwissenschaft*, 2(2), 173-197. <https://doi.org/10.1007/s12286-008-0011-4>
- [6] Arzheimer, K. (2009). Contextual factors and the extreme right vote in Western Europe, 1980-2002. *American Journal of Political Science*, 53(2), 259-275. <https://doi.org/10.1111/j.1540-5907.2009.00369.x>
- [7] Åslund, O. (2005). Now and forever? Initial and subsequent location choices of immigrants. *Regional Science and Urban Economics*, 35(2), 141-165. <https://doi.org/10.1016/j.regsciurbeco.2004.02.001>
- [8] Bartel, A. P. (1989). Where do the New United States immigrants live? *Journal of Labor Economics*, 7(4), 371-391. <http://dx.doi.org/10.1086/298213>
- [9] Bartik, T. J. (1991). *Who Benefits from State and Local Economic Development Policies?* Kalamazoo, MI: W.E. Upjohn Institute.
- [10] Becker, S. O., Fetzer, T., & Novy, D. (2017). Who voted for Brexit? A comprehensive district-level analysis, *Economic Policy*, 32(92), 601-650. <https://doi.org/10.1093/epolic/eix012>
- [11] Beichelt, T., & Minkenberg, M. (2002). Rechtsradikalismus in Transformationsgesellschaften: Entstehungsbedingungen und Erklärungsmodell. *Osteuropa*, 52(3), 247-262. <https://www.jstor.org/stable/44917660>
- [12] Bertrand, M., Duflo, E., & Mullainathan, S. (2004). How much should we trust differences-in-differences estimates? *Quarterly Journal of Economics*, 119(1), 249-275. <https://doi.org/10.3386/w8841>
- [13] Betz, H.-G. (1993). The new politics of resentment: radical right-wing populist parties in Western Europe. *Comparative Politics*, 25(4), 413-427. <https://doi.org/10.2307/422034>
- [14] Bischi, G. I., Favaretto, F. & Carrera, E. J. S. (2020). Long-term causes of populism. *Journal of Economic Interaction and Coordination*. <https://doi.org/10.1007/s11403-020-00300-7>
- [15] Blais, A., & Carty, R. K. (1991). The psychological impact of electoral laws: Measuring Duverger's elusive factor. *British Journal of Political Science*, 21(1), 79- 93. doi:10.1017/S0007123400006037
- [16] Borjas, G. J. (2014). *Immigration Economics*. Harvard University Press.
- [17] Buřtíková, L. (2018). The radical right in Eastern Europe. In J. Rydgren (Ed.), *The Oxford Handbook of the Radical Right* (Online). Oxford University Press.
- [18] Callaway, B., & Sant'Anna, P. H. C. (2020). Difference-in-differences with multiple time periods. *Journal of Econometrics*. <https://doi.org/10.1016/j.jeconom.2020.12.001>
- [19] Cameron, A. C., & Miller D. L. (2015). A practitioner's guide to cluster-robust inference. *Journal of Human Resources*, 50(2), 317-372. <https://doi.org/10.3368/jhr.50.2.317>

- [20] Card, D. (2001). Immigrant inflows, native outflows, and the local labor market impacts of higher immigration, *Journal of Labor Economics*, 19(1), 22–64. <https://doi.org/10.1086/209979>
- [21] Card, D. (2009). Immigration and inequality. *American Economic Review*, 99(2), 1–21. <https://doi.org/10.1257/aer.99.2.1>
- [22] Card, D., & Peri, G. (2016). Immigration Economics by George J. Borjas: A review essay. *Journal of Economic Literature*, 54(4), 1333–1349. <https://doi.org/10.1257/jel.20151248>
- [23] CBOS. (2017) Stosunek Polaków do przyjmowania uchodźców. *Centrum Badania Opinii Społecznej*. Warszawa. https://www.cbos.pl/SPISKOM.POL/2017/K_001_17.PDF
- [24] de Chaisemartin, C., & D’Haultfoeulle, X. (2017). Fuzzy differences-in-differences. *The Review of Economic Studies*, 85(2), 999–1028. <https://doi.org/10.1093/restud/rdx049>
- [25] de Chaisemartin, C., D’Haultfoeulle, X., & Guyonvarch, Y. (2019). Fuzzy differences-in-differences with Stata. *The Stata Journal*, 19(2), 435–458. <https://doi.org/10.1177/1536867x19854019>
- [26] de Chaisemartin, C., & D’Haultfoeulle, X. (2020). Two-way fixed effects estimators with heterogeneous treatment effects. *American Economic Review*, 110(9), 2964–2996. <https://doi.org/10.1257/aer.20181169>
- [27] CHES Data. (n.d.). *Chapel Hill Expert Survey*. <https://www.chesdata.eu>
- [28] David, L. (2019). Historical narratives as foundations for ethnicized identities: “facing the past” encounters in the Western Balkans and in Israel/Palestine. *East European Politics*, 35(4), 415–432. <https://doi.org/10.1080/21599165.2019.1616545>
- [29] Dennison, J., & Geddes, A. (2018). A rising tide? The salience of immigration and the rise of anti-immigration political parties in Western Europe. *The Political Quarterly*, 90(1), 107–116. <https://doi.org/10.1111/1467-923x.12620>
- [30] Eatwell, R. (1998). The dynamics of right-wing electoral breakthrough. *Patterns of Prejudice*, 32(3), 3–31. <https://doi.org/10.1080/0031322x.1998.9970263>
- [31] Eatwell, R. (2003). Ten theories of the extreme right. In P. Merkl & L. Weinberg (Eds.), *Right-Wing Extremism in the Twenty-First Century* (pp. 47–73). London: Frank Cass.
- [32] Eberl, J.-M., Meltzer, C. E., Heidenreich, T., Herrero, B., Theorin, N., Lind, F., ... Strömback, J. (2018). The European media discourse on immigration and its effects: A literature review. *Annals of the International Communication Association*, 42(3), 207–223. European Commission. <https://doi.org/10.1080/23808985.2018.1497452>
- [33] van der Eijk, C., & Franklin, M. (1996). *Choosing Europe? the European Electorate and National Politics in the Face of Union*. The University of Michigan Press, Ann Arbor.
- [34] Eurobarometer 90. (2018). *Public opinion in the European Union. First results, fieldwork*. https://data.europa.eu/data/datasets/s2215_90_3_std90_eng?locale=en
- [35] Gerdes, C. (2011). Using “shares” vs. “log of shares” in fixed-effect estimations. *Journal of Economics and Econometrics*, 54(1), 1–7. https://www.researchgate.net/publication/46442651_Using_Shares_vs_Log_of_Shares_in_Fixed-Effect_Estimations
- [36] Gibbons C. E., Suárez Serrato J. C., & Urbancic M. B. (2019). Broken or fixed effects? *Journal of Econometric Methods*, 8(1), 1–12. <https://doi.org/10.1515/jem-2017-0002>
- [37] Gibson, R., Mcallister, I., & Swenson, T. (2002). The politics of race and immigration in Australia: one nation voting in the 1998 election. *Ethnic and Racial Studies*, 25(5), 823–844. <https://doi.org/10.1080/0141987022000000286>

- [38] Goldsmith-Pinkham, P., Sorkin, I., & Swift H. (2020). Bartik instruments: What, when, why, and how. *American Economic Review*, 110(8), 2586-2624. <https://doi.org/10.1257/aer.20181047>
- [39] Granger, C. (1969). Investigating causal relations by econometric models and cross-spectral methods. *Econometrica*, 37(3), 424-438. <https://doi.org/10.2307/1912791>
- [40] Grosfeld, I., & Zhuravskaya, E. (2015). Cultural vs. economic legacies of empires: Evidence from the partition of Poland. *Journal of Comparative Economics*, 43(1), 55-75. <https://doi.org/10.1016/j.jce.2014.11.004>
- [41] Główny Urząd Statystyczny, GUS. <https://stat.gov.pl/en/>.
- [42] Halla, M., Wagner A. F., & Zweimüller J. (2017). Immigration and voting for the far right. *Journal of the European Economic Association*, 15(6), 1341-1385. <https://doi.org/10.1093/jeea/jvx003>
- [43] Hawkins, K., Read M., & Pauwels, T. (2019). Populism and its causes. In C. R. Kaltwasser, P. A. Taggart, P. O. Espejo, & P. Ostiguy (Eds.), *The Oxford Handbook of Populism* (Online). Oxford University Press.
- [44] Heath, A., McLean, I., Taylor, B., & Curtice, J. (1999). Between first and second order: a comparison of voting behaviour in European and local elections in Britain. *European Journal of Political Research*, 35(3), 389-414. <https://doi.org/10.1111/1475-6765.00454>
- [45] Heidenreich, T., Lind, F., Eberl, J.-M., & Boomgaarden, H. G. (2019). Media framing dynamics of the 'European refugee crisis': A comparative topic modelling approach. *Journal of Refugee Studies*, 32(1), 172-182. <https://doi.org/10.1093/jrs/fez025>
- [46] Hix, S., & Marsh, M. (2007). Punishment or protest? Understanding European Parliament elections. *The Journal of Politics*, 69(2), 495-510. <https://doi.org/10.1111/j.1468-2508.2007.00546.x>
- [47] Hix, S., & Marsh, M. (2011). Second-order effects plus pan-European political swings: an analysis of European Parliament elections across time. *Electoral Studies*, 30(1), 4-15. <https://doi.org/10.1016/j.electstud.2010.09.017>
- [48] IOM. (2016). Badanie na temat postaw wobec cudzoziemców w Polsce. *International Organization on Migration*. https://poland.iom.int/sites/default/files/IOM_Cudzoziemcy_raport_IX_2016.pdf
- [49] Jaeger, D. A. (2007). Green cards and the location choices of immigrants in the United States, 1971-2000. *Research in Labor Economics*, 27, 131-183. [https://doi.org/10.1016/s0147-9121\(07\)00004-0](https://doi.org/10.1016/s0147-9121(07)00004-0)
- [50] Jaeger, D. A., Ruist, J., & Stuhler, J. (2019). Shift-share instruments and dynamic adjustments: The case of immigration. NBER Working Paper 24285. *National Bureau of Economic Research*. <https://doi.org/10.3386/w24285>
- [51] Kalan, D. (2019, October 11). A tale of two Polands. *Foreign Policy*. <https://foreignpolicy.com/2019/10/11/pis-centuries-old-divides-polands-east-west-elections/>
- [52] Kauff, M., Asbrock, F., Wagner, U., Pettigrew, T. F., Hewstone, M., Schäfer, S. J., & Christ, O. (2017). (Bad) feelings about meeting them? Episodic and chronic intergroup emotions associated with positive and negative intergroup contact as predictors of intergroup behavior. *Frontiers in Psychology*, 8. <https://doi.org/10.3389/fpsyg.2017.01449>
- [53] Kitschelt, H., & McGann, A. (1995). *The Radical Right in Western Europe: A Comparative Analysis*. Ann Arbor: University of Michigan Press.
- [54] Kościńska, J., & Herbst, M. (2019). An interdisciplinary approach to the persistent effects of Polish partitions on educational achievements. In M. Molema & S. Svensson (Eds.), *Regional Economic Development and History* (pp. 63-81). <https://doi.org/10.4324/9780429445545-5>

- [55] Łaciak, B., & Frelak, J.S. (2018). *The Wages of Fear: Attitudes towards refugees and migrants in Poland*. Institute of Public Affairs, British Council, Warsaw. https://www.britishcouncil.pl/sites/default/files/attitudes_towards_migrants_pl.pdf
- [56] Lee, D. L., McCrary, J., Moreira, M. J., & Porter, J. (2020). Valid t-ratio Inference for IV. *arXiv preprint arXiv:2010.05058*
- [57] Lemaitre, G., & Thoreau, C. (2006). Estimating the foreign-born population on a current basis. *Organisation for Economic Co-operation and Development*. <https://www.oecd.org/els/mig/37835877.pdf>
- [58] Lowe, M. (Forthcoming). Types of contact: A field experiment on collaborative and adversarial caste integration. *American Economic Review*.
- [59] Lubbers, M., Gijsberts, M., & Scheepers, P. (2002). Extreme-right voting in Western Europe. *European Journal of Political Research*, 41(3), 345–378. <https://doi.org/10.1111/1475-6765.00015>
- [60] Ministry of Economic Development, Labour and Technology (Ministerstwo Rozwoju, Pracy i Technologii). (2020). Zezwolenia na pracę cudzoziemców. <https://psz.praca.gov.pl/web/urzed-pracy/-/8180075-zezwolenia-na-prace-cudzoziemcow>
- [61] Minkenberg, M. (2002). The radical right in postsocialist Central and Eastern Europe: Comparative observations and interpretations. *East European Politics and Societies*, 16(2), 335–362. <https://doi.org/10.1177/088832502766275975>
- [62] Minkenberg, M. (2013). From pariah to policy-maker? The radical right in Europe, West and East: Between margin and mainstream. *Journal of Contemporary European Studies*, 21(1), 5-24. <https://doi.org/10.1080/14782804.2013.766473>
- [63] Mousa, S. (2020). Building social cohesion between Christians and Muslims through soccer in post-ISIS Iraq. *Science*, 369(6505), 866–870. <https://doi.org/10.1126/science.abb3153>
- [64] Mudde, C. (2005). *Racist Extremism in Central and Eastern Europe*. London: Routledge. <https://doi.org/10.4324/9780203002377>
- [65] Mudde, C. (2007). *Populist Radical Right Parties in Europe*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511492037>
- [66] Norris, P. (2005). *Radical Right: Voters and Parties in the Electoral Market*. Cambridge: Cambridge University Press. <https://doi.org/10.1017/CBO9780511615955>
- [67] OECD Center for Entrepreneurship, SMEs, Regions and Cities. (2020). *OECD Territorial Grids*. <http://www.oecd.org/cfe/regionaldevelopment/territorial-grid.pdf>
- [68] Olzak, S. (1992). *The Dynamics of Ethnic Competition and Conflict*. Stanford, CA: Stanford University Press.
- [69] Państwowa Komisja Wyborcza, PKW. <https://www.pkw.gov.pl>
- [70] Pettigrew, T. F., & Tropp, L. R. (2006). A meta-analytic test of intergroup contact theory. *Journal of Personality and Social Psychology*, 90(5), 751–783. <https://doi.org/10.1037/0022-3514.90.5.751>
- [71] PiS. (2007). Program 2007 Prawa i Sprawiedliwości. <https://www.piotrbabinetz.pl/pdf/programpis2007.pdf>
- [72] Reif, K. (1984). National election cycles and European elections, 1979 and 1984. *Electoral Studies*, 3(3), 244-255. [https://doi.org/10.1016/0261-3794\(84\)90005-2](https://doi.org/10.1016/0261-3794(84)90005-2)
- [73] Reif, K., & Schmitt, H. (1980). Nine national second-order elections: A systematic framework for the analysis of European elections results. *European Journal of Political Research*, 8, 3-44. <https://doi.org/10.1111/j.1475-6765.1980.tb00737.x>

- [74] Rooduijn, M., Van Kessel, S., Froio, C., Pirro, A., De Lange, S., Halikiopoulou, D., Lewis, P., Mudde, C., & Taggart, P. (2019). *The PopuList: An Overview of Populist, Far Right, Far Left and Eurosceptic Parties in Europe*. www.popu-list.org
- [75] Rydgren, J. (2004). *The Populist Challenge: Political Protest and Ethno-Nationalist Mobilization in France*. New York: Berghahn Books.
- [76] Rydgren, J. (2008). Immigration sceptics, xenophobes or racists? Radical right-wing voting in six West European countries. *European Journal of Political Research*, 47, 737-765. <https://doi.org/10.1111/j.1475-6765.2008.00784.x>
- [77] Schemer, C. & Meltzer, C. E. (2020). The impact of negative parasocial and vicarious contact with refugees in the media on attitudes toward refugees. *Mass Communication and Society*, 23(2), 230-248. <https://doi.org/10.1080/15205436.2019.1692037>
- [78] Spindler, W. (2015). 2015: The year of Europe's refugee crisis. *United Nations High Commissioner for Refugees*. <https://www.unhcr.org/news/stories/2015/12/56ec1ebde/2015-year-europes-refugee-crisis.html>
- [79] Stefanova, B. (2009). Ethnic nationalism, social structure, and political agency: explaining electoral support for the radical right in Bulgaria. *Ethnic and Racial Studies*, 32(9), 1534-1556. <https://doi.org/10.1080/01419870802541754>
- [80] Stephan, W. G., Diaz-Loving, R., & Duran, A. (2000). Integrated threat theory and intercultural attitudes: Mexico and the United States. *Journal of Cross-Cultural Psychology*, 31(2), 240-249. <https://doi.org/10.1177/0022022100031002006>
- [81] Tammes P. (2017). Investigating differences in Brexit-vote among local authorities in the UK: An ecological study on migration- and economy-related issues. *Sociological Research Online*, 22(3), 143-164. <https://doi.org/10.1177/1360780417724067>
- [82] Trofimov, Y. (2019, March 26). Turning Muslims away, Poland welcomes Ukrainians: Warsaw opens door to biggest recent wave of migration into the European Union. *The Wall Street Journal*. <https://www.wsj.com/articles/turning-muslims-away-poland-welcomes-ukrainians-11553598000>
- [83] Tworzecki, H., & Markowski, R. (2015, November 3). Did Poland just vote in an authoritarian government? *Washington Post*. <https://www.washingtonpost.com/news/monkey-cage/wp/2015/11/03/did-poland-just-vote-in-an-authoritarian-government/>
- [84] Urząd do Spraw Cudzoziemców (The Office for Foreigners). <https://udsc.gov.pl/en/>
- [85] Voci, A., & Hewstone, M. (2003). Intergroup contact and prejudice toward immigrants in Italy: The mediational role of anxiety and the moderational role of group salience. *Group Processes & Intergroup Relations*, 6(1), 37-54. <https://doi.org/10.1177/1368430203006001011>
- [86] Warwick, P.V. (1998). Disputed cause, disputed effect: The postmaterialist thesis re-examined. *Public Opinion Quarterly*, 62(4), 583-609. <https://doi.org/10.1086/297861>
- [87] Weakliem, D.L. (2002). The effects of education on political opinions: An international study. *International Journal of Public Opinion Research*, 14(2), 141-157. <https://doi.org/10.1093/ijpor/14.2.141>
- [88] Weil, F. (1985). The variable effects of education on liberal attitudes: A comparative historical analysis of anti-semitism using public opinion survey data. *American Sociological Review*, 50(4), 458-474. <https://doi.org/10.2307/2095433>
- [89] Wojcieszak, M., & Azrout, R. (2016). I saw you in the news: Mediated and direct intergroup contact improve outgroup attitudes. *Journal of Communication*, 66(6), 1032-1060. <https://doi.org/10.1111/jcom.12266>
- [90] Wooldridge, J. M. (2014). *Introduction to Econometrics: a Modern Approach*. Cengage Learning.

Appendix

A The Administrative Division of Poland

Poland's units of administrative division are, in descending order, voivodeships (provinces),²⁶ powiats (counties),²⁷ and gminas (districts). The following administrative division was introduced during the Polish administrative reform in 1999. In 2002, seven new counties were added (underlined in the table). In 2013, city of Wałbrzych was separated from Wałbrzych county into a separate powiat. Big cities that hold status of county are signed.

Voivodeships	Powiats
Dolnośląskie (Lower Silesia)	Powiats: bolesławiecki, dzierzoniowski, głogowski, górowski, jaworski, jeleniogórski, kamiennogórski, kłodzki, legnicki, lubański, lubiński, lwówecki, milicki, oleśnicki, oławski, polkowicki, średzki, strzeliński, świdnicki, trzebnicki, wałbrzyski, wołowski, wrocławski, ząbkowicki, zgorzelecki, złotoryjski. Cities with status of county: Jelenia Góra, Legnica, Wałbrzych, Wrocław.
Kujawsko-pomorskie (Kujawy-Pomerania)	Powiats: aleksandrowski, brodnicki, bydgoski, chełmiński, golubsko-dobrzyński, grudziądzki, inowrocławski, lipnowski, mogileński, nakielski, radziejowski, rypiński, sępoleński, świecki, toruński, tucholski, wąbrzeski, włocławski, żniński. Cities with status of county: Bydgoszcz, Grudziądz, Toruń, Włocławek.
Lubelskie (Lublin)	Powiats: bialski, biłgorajski, chełmski, hrubieszowski, janowski, kraśnicki, krasnostawski, lubartowski, lubelski, łęczyński, łukowski, opolski, parczewski, puławski, radzyński, rycki, świdnicki, tomaszowski, włodawski, zamojski. Cities with status of county: Biała Podlaska, Chełm, Lublin, Zamość.
Lubuskie (Lubusz)	Powiats: gorzowski, krośnieński, międzyrzecki, nowosolski, słubicki, strzelecko-drezdenecki, sulęciński, świebodziński, <u>wschowski</u> , żagański, żarski, zielonogórski. Cities with status of county: Gorzów Wielkopolski, Zielona Góra.
Łódzkie (Łódź)	Powiats: bełchatowski, <u>brzeziński</u> , kutnowski, łaski, łęczycki, łódzki, wschodni, łowicki, opoczyński, pabianicki, pajęczański, piotrkowski, poddębicki, radomszczański, rawski, sieradzki, skierniewicki, tomaszowski, wieluński, wieruszowski, zduńskowolski, zgierski. Cities with status of county: Łódź, Piotrków Trybunalski, Skierniewice.

²⁶Correspond to Territorial Levels 2 (TL2) in the OECD classification of sub-national division.

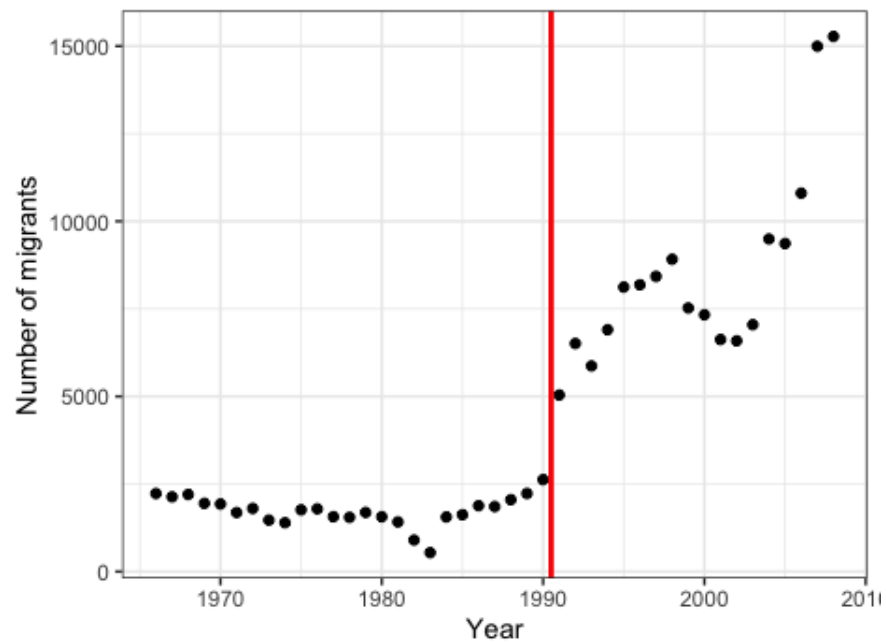
²⁷Correspond to Territorial Levels 3 (TL3) in the OECD classification of sub-national division.

Małopolskie (Lesser Poland)	Powiats: bocheński, brzeski, chrzanowski, dąbrowski, gorlicki, krakowski, limanowski, miechowski, myślenicki, nowosądecki, nowotarski, olkuski, oświęcimski, proszowicki, suski, tarnowski, tatrzański, wadowicki, wielicki. Cities with status of county: Kraków, Nowy Sącz, Tarnów.
Mazowieckie (Mazovia)	Powiats: białobrzegi, ciechanowski, garwoliński, gostyniński, grodziski, grójecki, kozienicki, legionowski, lipski, łosicki, makowski, miński, mławski, nowodworski, ostrołęcki, ostrowski, otwocki, piaseczyński, płocki, płoński, pruszkowski, przasnyski, przysuski, pułtuski, radomski, siedlecki, sierpecki, sochaczewski, sokołowski, szydłowiecki, warszawski, zachodni, węgrowski, wołomiński, wyszkowski, żuromiński, zwoleński, żyrardowski. Cities with status of county: Ostrołęka, Płock, Radom, Siedlce, Warszawa.
Opolskie (Opole)	Powiats: brzeski, głubczycki, kędzierzyńsko-kozielski, kluczborski, krapkowicki, namysłowski, nyski, oleski, opolski, prudnicki, strzelecki. Cities with status of county: Opole.
Podkarpackie (Subcarpathia)	Powiats: bieszczadzki, brzozowski, dębicki, jarosławski, jasielski, kolbuszowski, krośnieński, <u>leski</u> , leżajski, lubaczowski, łańcucki, mielecki, niżański, przemyski, przeworski, ropczycko-sędziszowski, rzeszowski, sanocki, stalowowolski, strzyżowski, tarnobrzegi. Cities with status of county: Krosno, Przemyśl, Rzeszów, Tarnobrzeg.
Podlaskie (Podlasie)	Powiats: augustowski, białostocki, bielski, grajewski, hajnowski, kolneński, łomżyński, moniecki, sejneński, siemiatycki, sokółski, suwalski, wysokomazowiecki, zambrowski. Cities with status of county: Białystok, Łomża, Suwałki.
Pomorskie (Pomerania)	Powiats: bytowski, chojnicki, człuchowski, gdański, kartuski, kościerski, kwidzyński, lęborski, malborski, nowodworski, pucki, słupski, starogardzki, <u>sztumski</u> , tczewski, wejherowski. Cities with status of county: Gdańsk, Gdynia, Słupsk, Sopot.
Śląskie (Silesia)	Powiats: będziński, bielski, bieruńsko-lędziński, cieszyński, częstochowski, gliwicki, kłobucki, lubliniecki, mikołowski, myszkowski, pszczyński, raciborski, rybnicki, tarnogórski, wodzisławski, zawierciański, żywiecki. Cities with status of county: Bielsko-Biała, Bytom, Chorzów, Częstochowa, Dąbrowa Górnicza, Gliwice, Jastrzębie-Zdrój, Jaworzno, Katowice, Mysłowice, Piekary Śląskie, Ruda Śląska, Rybnik, Siemianowice Śląskie, Sosnowiec, Świętochłowice, Tychy, Zabrze, Żory.

Świętokrzyskie (Holy Cross)	Powiats: buski, jędrzejowski, kazimierski, kielecki, konecki, opatowski, ostrowiecki, pińczowski, sandomierski, skarżyski, starachowicki, staszowski, włoszczowski. Cities with status of county: Kielce.
Warmińsko-mazurskie (Warmia-Mazury)	Powiats: bartoszycki, braniewski, działdowski, elbląski, ełcki, giżycki, <u>gołdapski</u> , iławski, kętrzyński, lidzbarski, mrągowski, nidzicki, nowomiejski, olecki, olsztyński, ostródzki, piski, szczycieński, <u>węgorzewski</u> . Cities with status of county: Elbląg, Olsztyn.
Wielkopolskie (Greater Poland)	Powiats: chodzieski, czarnkowsko-trzcianecki, gnieźnieński, gostyński, grodziski, jarociński, kaliski, kępiński, kolski, koniński, kościański, krotoszyński, leszczyński, międzychodzki, nowotomyski, obornicki, ostrowski, ostrzeszowski, pilski, pleszewski, poznański, rawicki, słupecki, średzki, śremski, szamotulski, turecki, wągrowiecki, wolsztyński, wrzesiński, złotowski. Cities with status of county: Kalisz, Konin, Leszno, Poznań.
Zachodniopomorskie (West Pomerania)	Powiats: białogardzki, choszczeński, drawski, goleniowski, gryficki, gryfiński, kamieński, kołobrzegi, koszaliński, <u>łobeski</u> , myśliborski, policki, pyrzycki, sławieński, stargardzki, świdwiński, szczecinecki, wałecki. Cities with status of county: Koszalin, Świnoujście, Szczecin.

B A Structural Break in the Number of Migrants in Poland Before and After the Fall of Communism

Figure B.1: The number of immigrants receiving a permanent residence permit in Poland in years 1961–2008



Data is taken from Central Statistical Office of Poland (Główny Urząd Statystyczny).

C The Elections Studied

Below, I list the elections, the results of which I study in this paper. The numbers correspond to the code I use for the *election* variable.

1. 2020 presidential elections (first round)
2. 2020 presidential elections (runoff)
3. 2019 sejm elections
4. 2019 elections to the European Parliament
5. 2018 elections to voivodeship sejmiks
6. 2015 sejm elections
7. 2015 presidential elections (first round)
8. 2015 presidential elections (runoff)
9. 2014 elections to the European Parliament
10. 2014 elections to voivodeship sejmiks
11. 2011 sejm elections
12. 2010 presidential elections (first round)
13. 2010 presidential elections (runoff)
14. 2009 elections to the European Parliament
15. 2007 sejm elections
16. 2006 elections to voivodeship sejmiks
17. 2005 presidential elections (first round)
18. 2005 presidential elections (runoff)
19. 2005 sejm elections
20. 2001 sejm elections
21. 2000 presidential elections

There are two elections in the chosen time period, for which the data is unavailable at the powiat level. These are the European Parliament elections in 2004 and the local elections in 2002. The National Electoral Commission reports the results for these elections at the level of electoral districts, which typically include a few powiats in them. The results for the elections to voivodeship sejmiks (i.e., provincial parliaments) in 2010 are reported only at the voivodeship level, so this election is also excluded from the dataset.

D Anti-Migrant Parties in Poland, Active between 2000 and 2020

Name of the party	Years Represented in the Dataset	Agenda
PiS (<i>Prawo i Sprawiedliwość</i> – Law and Justice)	2001 – present	Currently, PiS is the ruling party in Poland, holding both the majority in Sejm and the Presidency of the Republic. PiS took part in all the elections presented in the dataset, apart from the presidential contest in 2000. The party was formed in 2001.
WiN (<i>Konfederacja Wolność i Niepodległość</i> – Confederation Liberty and Independence)	2018 – 2020	Often referred to as Confederation (Konfederacja) in media. This is a far-right party, which appeared in the result of a merger between KORWiN and National Movement parties in 2018. The party explicitly opposes the European Union refugee resettlement program and opening Poland to mass labor immigration. [https://konfederacja.net/bezpieczenstwo-narodowe/]
PolExit	2019 – 2020	A Eurosceptic party formed by the former members of the Congress of the New Right. PolExit considers that the EU oversteps its mandate with resettling refugees: “Each of the Member States should decide on its own foreign policy. We cannot afford a situation in which the European Union imposes quotas on us or orders the admission of migrants that could potentially threaten the security of Poles or Polish culture.” [https://europarlament.pap.pl/polska-ogolem/9-koalicyjny-komitet-wyborczy-polexit-koalicja]
Effective (<i>Skuteczni</i>)	2019	Soft Eurosceptics, opposed to the refugee resettlement program. [https://rb.gy/4rron4]
Right Wing of the Republic (<i>Prawica Rzeczypospolitej</i>)	2009 – 2011, 2019	The party aims for Europe to remain a loose association of states built on basis of Christian values. [https://rb.gy/pqebap]
People’s Unity (<i>Jedność Narodu</i>)	2018, 2019	Founded in 2015 by the former members of the League of Polish Families. A populist right-wing party that advocates for Europe to remain Christian. [https://politykapolska.eu/2019/07/31/jednosc-narodu-to-nowy-ruch-polityczny-w-polsce-o-kulisach-jego-powstania-opowiada-jego-lider-romuald-starosielec/]

Name of the party	Years Represented in the Dataset	Agenda
The National Movement (<i>Ruch Narodowy</i>)	2014, 2015, 2018	A far-right party that opposed the admission of immigrants to Poland. Today, National Movement is part of Confederation. [https://ruchnarodowy.net/wp-content/uploads/Program-Ruchu-Narodowego.pdf]
Union of Christian Families (<i>Zjednoczenie Chrześcijańskich Rodzin</i>)	2018	A populist party that advocates for Europe to remain Christian and for the preservation of Polish culture in what they regard as an encroachment of multiculturalism. [https://www.zchr.pl/2020/02/25/deklaracja-ideowa/]
Slavic Union (<i>Związek Słowiański</i>)	2014, 2018	A party in favor of leaving the European Union and having closer ties to Russia. Aims to preserve “Slavic” makeup of Poland. [https://wiadomosci.wp.pl/zwiazek-slowianski-6376732077872769c]
KORWiN (<i>Koalicja Odnowy Rzeczypospolitej Wolność i Nadzieja – Coalition for the Renewal of the Republic – Liberty and Hope</i>)	2005, 2010 – 2015	A paleolibertarian, nationalistic party, now part of Confederation. [https://wolnosc.pl/deklaracja-ideowa/]
Self-Defense of the Republic of Poland (<i>Samoobrona Rzeczypospolitej Polskiej</i>)	2000 – 2015	A left-wing populist, nationalist, religiously conservative party. The party is Eurosceptic and isolationist. [http://samoobrona.net.pl/zwiazek/program/]
God Bless („ <i>Szczęść Boże!</i> ”)	2015	The election committee formed by Grzegorz Braun, then candidate for presidency, to put forward candidates in the parliamentary elections. Braun is a far-right traditionalist, opposed to the idea of Poland “being controlled by the European Union. [https://www.grzegorzbraun.pl]
Congress of the New Right (<i>Nowa Prawica</i>)	2015	The party advocates for Poland’s withdrawal from the European Union. Opposes the refugee relocation program. [https://www.cozadzien.pl/radom/nowa-prawica-nie-dla-relokacji-imigrantow/10111]

Name of the party	Years Represented in the Dataset	Agenda
United Poland (<i>Solidarna Polska</i>)	2014	A right-wing, nationalist, and Eurosceptic party. Aligned with PiS, votes with them in the current parliament. [https://polskieradio24.pl/130/8356/Artykul/2527948,Jestesmy-za-udzielaniem-pomocy-na-miejscu-Posel-Solidarnej-Polski-o-relokacji-imigrantow]
National Revival of Poland (<i>Narodowe Odrodzenie Polski</i>)	2005, 2006, 2014	A neo-Nazi party. [https://www.nop.org.pl]
The Indignant (<i>Oburzeni</i>)	2014	An election committee that believed in Poland being “oppressed” by the EU policies, such as refugee relocation. [http://oburzeni.pl/program/]
Patriotic Poland (<i>Polska Patriotyczna</i>)	2014	An election committee promoting ideas of Poland, independent from the EU [https://wiernipolsce1.wordpress.com/2018/08/28/komitet-wyborczy-polska-patriotyczna/]
Poland-Polish Independence Assembly (<i>Polsko-Polonijne Zgromadzenie Niepodległościowe</i>)	2014	A hard-Eurosceptic party. [http://ppzn.fc.pl/program/]
Self-Defense Revival (<i>Samoobrona Odrodzenie</i>)	2014	A party formed by the former members of Self-Defense of the Republic of Poland, with the views that largely correspond to the ones of SDRP (see above).
Libertas	2009	A Eurosceptic and nationalist party. [https://tvn24.pl/-1,1596616,0,1,libertas--lpr--naprzod-polsko-i-psl-piast-razem,wiadomosc.html]
Forward Poland (<i>Naprzod Polsko</i>)	2009	A Eurosceptic movement. [http://archive.is/drxG]

Name of the party	Years Represented in the Dataset	Agenda
League of Polish Families (<i>Liga Polskich Rodzin</i>)	2001 – 2007	A conservative party, which, at the times marked, was distinctly far-right. [http://www.ceeidentity.eu/database/manifestoesoun/league-polish]
Patriotic Self-Defense (<i>Samobrona Patriotyczna</i>)	2006, 2007	Another branch of the SDPR (see above).
Defending Polish People (<i>Obrona Narodu Polskiego</i>)	2006	A nationalist party. [https://rb.gy/qmzbc2]
Polish National Party (<i>Polska Partia Narodowa</i>)	2005	An ultra-nationalist party.
Ancestral Home (<i>Dom Ojczysty</i>)	2005	A political party in Poland, which was a splinter of the League of Polish Families.
Polish People Commonwealth (<i>Polska Wspólnota Narodowa</i>)	2001	A nationalist, hard-Eurosceptic, and racist party.

I cross-check my classification with PopuList and CHES Data to see if I am in consensus with the experts. One point of disagreement comes from classifying Kukiz'15, a populist movement that gained prominence in Poland in 2015. PopuList classifies Kukiz'15 as a far-right party, which it briefly was in 2015. However, that year the party ran under the umbrella of WiN, coded in my dataset. For the other years Kukiz'15 amended its stance on migration, which makes me exclude the party from my list. CHES Data does not mark Kukiz'15 as an anti-migrant party either.

E List of Variables Used in the Analysis

Variable	Description and Sources
<i>voivodeship, w</i>	The highest-level administrative subdivision of Poland, corresponding to a province in English. There are 16 voivodeships in Poland.
<i>powiat, i</i>	The second-level administrative subdivision of Poland, equivalent to a county. There are 380 powiats in Poland, but 372 powiats in my dataset (see section on Data and Model Specification for the explanation). Warszawa used to be powiat warszawski before 2002; I code it as “capital city with powiat status Warszawa” throughout the dataset.
<i>year, t</i>	Year when an election took place, 2000-2020.
<i>party</i>	Name of the a political party running for seats in a national sejm, voivodeship sejm, or the European parliament. For the presidential elections I code each candidate in accordance with the party they represent, with the exception of Grzegorz Braun, who ran as Independent in 2015. The list of all anti-migrant parties for the years in question is reported in Appendix D. ²⁸
<i>outcome_{iwt}</i>	Share of votes cast in favor of PiS in the given powiat in the given election (expressed in percents). Source: PKW.
<i>sum_outcome_{iwt}</i>	Share of votes cast in favor of all anti-migrant in the given powiat in the given election (expressed in percents). Source: PKW.
<i>pres_first_round</i>	A dummy variable for the first round of presidential elections.
<i>pres_runoff</i>	A dummy variable for runoff presidential elections.
<i>sejm</i>	A dummy variable for elections to the lower chamber of the Polish parliament.
<i>municipal</i>	A dummy variable for elections to voivodeship sejmiks (i.e., provincial parliaments).
<i>EP</i>	A dummy variable for elections to the European Parliament.
<i>mig_{iwt}</i>	Number of registrations for permanent residence, from abroad, in a given powiat in a given year. Source: GUS.
<i>sum_mig_{iwt}</i>	Sum of all registrations for permanent residence, from abroad, in a given powiat up to a given year. Source: GUS.
<i>hundredthpct_mig_{iwt}</i>	Number of registrations for permanent residence, from abroad, in a given powiat in a given year expressed in one-hundredths of a percent of the population of the given powiat in the given year. Source: GUS.

²⁸Sources for the data on party agenda are also reported there.

$hundredthpct_summig_{iwt}$	Sum of all registrations for permanent residence, from abroad, in a given powiat up to a given year expressed in one-hundredths of a percent of the population of the given powiat in the given year. Source: GUS.
$migr_share_{wt}$	Number of registrations for permanent residence, from abroad, in a given voivodeship in a given year. Source: GUS.
$\widehat{migr_share}_{wt}$	Predicted number of registrations for permanent residence, from abroad, in a given voivodeship in a given year; an instrumental variable for $migr_share_{wt}$. Sources: GUS; The Office for Foreigners.
$population_{iwt}$ or $population_{wt}$	Population size in a given powiat (voivodeship) in a given year. Source: GUS.
$election$	A number assigned to an election. There are 21 elections in the dataset. See Appendix C for the full list.

F Establishing the Relevance of Instrument

Figure F.1: Correlations between the initial population of migrants from different regions in year 2000 and the inflows of migrants in 2001–2019

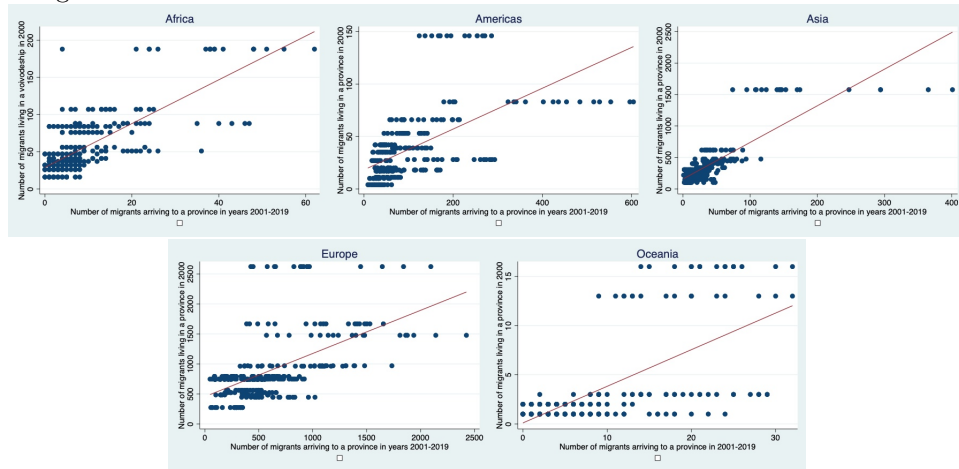


Figure F.2: Correlations between the initial population of migrants from different regions in year 2000 and the inflows of migrants in 2019

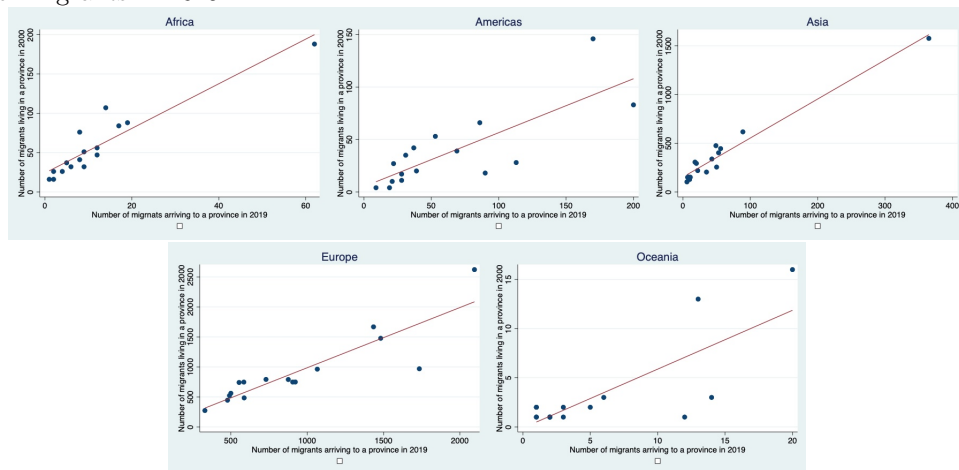


Table 11: Values of correlations reported in Figures F.1 and F.2

Region	Correlation 2001-2019	Correlation 2019
Africa	0.765	0.927
Americas	0.581	0.791
Asia	0.831	0.979
Europe	0.552	0.887
Oceania	0.658	0.785

Notes: The correlations are calculated between the initial population of migrants originating from a respective region and the inflows of migrants in years 2001–2019 and then only the year 2019. For the correlations calculated using data on inflows of migrants in the years 2001–2019 the average value is reported. *Source of data:* GUS.