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Understanding the Origins of Populist Political Parties and the Role of External Shocks

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Abstract

We use electoral survey data to examine the impact that two large external shocks had on the development of New Zealand First (NZF), one of the oldest populist parties in the OECD. We find that structural reforms, which led to large negative impacts on particular locations, and immigration reforms, which led to large spatially concentrated increases in skilled migration, both increased voting for NZF in its first years of existence. These shocks led to changes in political attitudes and policy preferences and had persistent effects on voting for NZF even twenty years later. Overall, they play an important role in explaining the rise of populism in NZ. Understanding how these shocks led to the development of NZF is particularly relevant for thinking about how populism has been extending its reach in the 2010s.

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Keywords: populism; political parties; trade; immigration; shocks

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1. Introduction

There are many explanations for the success of populist political parties (see Colantone and Stanig 2019; Margalit 2019; and Guriev and Papaioannou 2020, for recent reviews). But why have they emerged in the first place? Most populist parties, e.g., UKIP in UK, the Five-Star Movement in Italy, AfD in Germany, and Podemos in Spain, appear almost overnight and then a moment later they are changing the political landscape and obliging mainstream parties to adapt to their rhetoric and priorities (Mudde, 2019).[1] Populist parties are defined by their anti-elitism, as they champion the "people" against a corrupt elite. This suggests that distributional issues are the ultimate driver of populism (Rodrik 2018). However, it is difficult to escape the feeling that economic and political crises also help explain the emergence of populist parties.[2] Moreover, research on populists' communication style point out that crises are a specific and recurring feature of the populist discourse (Moffitt 2016).

There is little empirical evidence on what drives the birth of populist parties, and specifically the role of economic and political shocks in this process. To fill this gap, we examine the impact that two large external shocks had on the initial development of New Zealand First (NZF), a populist and nationalist anti-immigration party with an otherwise centrist agenda founded in 1993, making it one of the oldest populist parties in the OECD. In the early 1980s, New Zealand (NZ) experienced a large economic crisis, mostly caused by external forces, that led to structural reforms and the opening of free trade. These changes had large negative impacts on particular industries, many which were geographically concentrated. Later, as part of a gradual shift away from an immigration system based on country-of-origin quotas, the Immigration Reform Act of 1987 was passed, which led to the development of a skilled migration system and large changes in the composition of migrant inflows.

We use electoral survey data to examine the impact that these two shocks had: i) on voting for NZF in its first years of existence; ii) on individual beliefs and political preferences; iii) on long-run persistence in voting for NZF; and iv) relative to other factors that encouraged people to vote for NZF. Our use of an electoral survey, as opposed to voting data, allows us to examine the pathways through which these shocks affect voting behaviors and heterogeneity in their

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[1] Populism in many ways feels like a contagious disease the ends up causing a pandemic.
[2] This partly comes for observation. Most populist political parties, especially in the Western world, have emerged after an economic shock: in Europe, a big burst of both left-wing and right-wing populist parties followed the 2008 economic downturn, while a specific role seems to have been played also by the large migration shocks following the 2004 enlargement round of the European Union and the 2015 refugee crisis (Guriev and Papaioannou 2020).

impacts, as well as to compare their importance to other channels that have been shown to influence populist voting.[3]

Importantly, this survey data contains very localized geographic identifiers that allow us to combine it with five-yearly census data to measure the two shocks, as well as to control for socioeconomic characteristics of each local area. Specifically, we measure the two shocks as: i) the percentage loss in income between 1986 and 1991 in a local area (which we call the "income shock" from now on) and ii) the share of the local population that has immigrated to NZ in the previous five years ("immigration shock").[4] We also use these data to build instruments to account for any potential endogeneity of these shocks. For the impact of structural reforms, we use the distribution of 265 industries in an area in 1986 combined with the change in incomes in these industries between 1986 and 1991. And for the impact of immigration, we use detailed information on the country of birth (124 CoBs) of recent immigrants in 1993 and 1996 combined with the distribution of immigrants by CoB in local areas before the reform of the immigration system in 1986. We show that our instruments are uncorrelated to voting patterns in 1984 prior to the shocks being experienced.

We find that these shocks are positively related with votes for NZF already in 1993 at the electoral district level and that these effects become statistically significant in 1996 after NZ switched its electoral system from First Past the Post (FPP) to Mixed-Member Proportional (MMP) and NZF experienced a doubling in vote share. If we instead focus on a more natural geography of local labor market areas, which we can do only starting in 1996, we find stronger impacts of the shocks. In our preferred specification using the instruments described above, we find that a 1 percentage-point increase in recent arrivals increases the NZF vote share by 4.8 percentage points and the same size negative income shock increases it by 1.3 percentage points relative to an actual vote share of 11 percent. The impact of the immigration shock is found to be entirely driven by increased immigration from Asia and there is no impact of these shocks on turnout or voting for other political parties, indicating that there is a specific link between these shocks and populist voting.

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[3] As shown in Figure 1, responses in the survey closely mirror actual voting behavior and we find similar results when we use official data to measure voting outcomes (available from the authors on request).
[4] We measure the income shock between 1986 and 1991 because previous work has shown that this is when the largest industry specific shocks were experienced (Stillman et al. 2010). This paper also shows that findings are similar when 1981 census data is used to measure the baseline situation, but there are several comparability issues when using this older data, in particular, a completely different industry classification is used.

To better understand why these shocks lead to an increase in populist voting, we next examine their impact on people's political opinions, beliefs, and policy preferences. Consistent with our findings on voting, we find no impact of these shocks on an individual's political position, but both shocks lead to an increase in populist attitudes, such as mistrust of the mainstream political parties and preferences for a strong leader. We also find that increasing skilled migration makes people more hostile to migration and more likely to consider security issues as important. On the other hand, individuals who experience a larger income shock have increased preferences for redistribution, have increased feelings that the economy has been badly managed, and feel that unemployment is a more relevant issue. These changes in preferences and beliefs explain around 30 percent of the overall impact of each shock on voting for NZF.

Given that we find these shocks lead to changes in individual preferences and that previous work has found that the income shock persists at the local level (Stillman et al. 2010), we examine whether the shocks continue to have an impact on voting for NZF further into the future. Importantly, persistent effects on shocks could explain why populist parties survive for long periods and become a structural part of the political landscape. Examining the impact of these shocks on voting for NZF in the six elections from 1999 to 2014, we find that they continue to influence voting, particular when NZF is in opposition and also when the economy is doing well. We suspect that the latter occurs because NZF does not focus on economic policy and the rhetoric around immigration is NZ is more about the negative impact of inflows on house prices and local amenities rather than on labor markets and hence tends to be more in focus when the economy is doing well. Overall, the shocks seem to have some long-term memory in them.

We next examine heterogeneity in the impact of these shocks to better understand the channels underlying the short-run effects. In general, the impact of both shocks is homogeneous across sociodemographic characteristics, suggesting that competition effects do not drive our results. Consistent with previous research that has focused solely on the impact of immigration shocks, we find larger impacts of recent immigration on populist voting in less densely populated places and areas that have less immigration prior to the policy change (Dustmann et al. 2019). Income shocks also have smaller effects in more densely populated areas. This is consistent with urban populations being more flexible and less resistant to change, and also to cultural concerns being more important in rural areas (Di Tella and Rotemberg 2018).

We also examine whether the impact of shocks varies with the preferences and beliefs of individuals. This analysis is merely suggestive as we find that shocks also directly impact these

variables. In general, the impact of the immigration shock does not depend on individual preferences and beliefs, but the income shock has a larger impact on individuals with negative views about immigration, preferences for more redistribution, negative feelings about the quality of recent policies, mistrust towards political parties, and positive feelings about Winston Peters, the founder and leader of NZF. These results suggest that the large income shock at the end of the '80s translated into the emergence of NZF through its impact on <u>and</u> interaction with anti-immigration and anti-elite attitudes.

Finally, we examine the relevance of different explanations for populism by calculating the partial R-squared associated with different groups of variables that are included in our regressions. In our main model, variation in shocks explains almost 10 percent of the variation in voting for NZF, which is of a similar relevance to the combined effect of individual demographic, social, and economic characteristics. However, in our extended model, it is clear that differences in preferences, beliefs, and opinions are even more important for explaining the variation in populist voting. Overall, we find an important role for shocks in explaining the rise of populism in NZ, and the impact of these shocks both amplify and are amplified by differences in political beliefs and opinions.

This paper brings together two separate strands of an emerging political economy literature on populism. The first focuses on the impact of economic shocks on populist voting. Papers have examined the role of trade shocks (Autor et al. 2016; Colantone and Stanig 2018a; 2018b; 2019; Becker et al. 2017; Alabrese et al. 2019; Dippel et al. 2017), macroeconomic shocks (Algan et al. 2017; Dal Bó et al. 2019), and the recent rise in automation (Im et al., 2019, Anelli et al., 2019). The second focuses on the impact of immigration with a number of papers finding an impact on populist voting (Edo et al. 2019; Halla et al. 2017; Barone et al. 2016; Levi et al. 2020; Dustmann et al. 2019). None of these papers study the joint role of economic and immigration shocks where both come from exogenous sources, which is the first major contribution of our paper.

Almost all of these previous papers take an epidemiological approach and relate geographical patterns in voting to quasi-experimental variation in the spatial distribution of shocks.[5] This makes it difficult to evaluate the channels through which the shocks impact populist voting. By using electoral survey data combined with spatially distributed shocks, we are able to examine

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[5] Exceptions include Burgoon et al. (2019) and Guiso et al. (2017), which both use European Social Survey data to investigate the relation between economic insecurity and votes for populist parties at an individual level, and Moriconi et al. (2019) who use the same data to study the impact of immigration on nationalistic voting.

the pathways through which shocks impact voting as well as heterogeneity in impacts. In the second major contribution of our paper, we show that shocks impact political preferences, beliefs, and opinions, that these political variables are important for explaining populist voting and that having particular preferences, beliefs, and opinions amplify the impact of experiencing shocks. These results support previous arguments that labor market competition is not the main pathway through which immigration shocks lead to populist voting (e.g., Card et al. 2012; Hainmueller and Hopkins 2014; Margalit 2019). Our evidence suggests that the same is true of income shocks driven by structural reforms and increased trade exposure.

A unique aspect of our paper is the focus on the initial years of development of an 'old' populist party. In the third major contribution of our paper, we exploit this setup to examine the persistence of the impact of economic and immigration shocks and understand under what circumstances these shocks have long-run impacts on support for populism. This is particularly important for understanding what we should expect to happen in the future in European countries that have 'young' populist parties. Our evidence suggests that, while support for populism fluctuates with both political and economic conditions, it never goes away entirely and under the right combination of conditions tends to reappear in the same locations as in the past. In the end, we find that voters dissatisfied with mainstream parties are still around in the same places even 30 years after the initial events that caused their dissatisfaction.

In our final major contribution, we also evaluate the role of political preferences, beliefs, and opinions on populist voting and how these interact with the economic shocks. A large literature in political science discusses the importance of 'cultural backlash' in explaining populist voting (Norris and Inglehart 2019; Cramer 2016; Hochschild 2016; Gest 2016; Eribon 2013). A separate literature examines the importance of populist attitudes, such as disenchantment with traditional parties and democracy (Mudde 2007; Akkermann et al. 2014; Spruyt et al. 2016). We show that these explanations are indeed relevant and that economic and political explanations for populism appear, in fact, to be highly intertwined.

While NZ is a small country at the end of the world, it is a forerunner to many of the current trends affecting OECD countries. In the 1980s, NZ experienced a deep economic crisis that led to large decreases in government support and increases in competition within certain industries. This shock was similar in many ways to the impact that China joining the WTO had on the rest of the developed world in the 2000s. Similarly, NZ was at the forefront in developing a skilled migration system that had no restrictions on country of origin and led to large inflows of immigrants from culturally distant countries. The country's populist party, NZF, was formed

just before the 1993 election and, by the next in 1996, it acquired a remarkable 13 percent of the vote. Focusing on this case study allows us to investigate the origins of a populist party without confounding effects from the recent global emergence of populism – Trump, Brexit, etc. – and, given that NZF has been part of NZ politics for almost 30 years, to understand why populist parties survive in the face of the general incompetence of their personnel (Funke et al. 2020).

2. Background

2.1. New Zealand First

NZF is in many ways, consistent with its populist traits, the story of Winston Peters, its ongoing leader from its foundation in 1993. Peters was first elected to Parliament in 1978 as a member of the mainstream center-right National party. Like many recent populist leaders, such as Salvini, Farange, Le Pen, Melanchon, Lafontaine, etc. he has a long-term involvement with politics. From the end of the '80s, he started criticizing National leadership in public on a variety of issues without any clear ideology. His focus on anti-corruption and political accountability rocketed his popularity with polls in 1993 indicating that 31% of NZers were ready to vote for a Winston Peters party. In 1992, he was expelled from the Cabinet and told that he could not stand again as National candidate in his electoral district. In July 1993, only 5 months before the new general elections, he launched NZF.

As Boston and McLeay (1997) put it, "*the party quickly developed an image as being strongly nationalistic, anti-establishment, populist, and mildly protectionist. Its most publicised policy commitments emphasised the need to stop the sale of state assets, limit the sale of NZ land and resources to overseas investors, restrict immigration, protect local industry, and hold politicians more accountable*". Because of an anti-elite stance fueled by disgruntlement toward traditional politics and of the identification of the party with its leader, NZF can clearly be categorized as a populist party. However, unlike most European populist parties that clearly belong to either the left or the right, NZF promotes a mixture of (far-) right and (far-) left policies. It is against big business, unions, and big government, critical of the '80s pro-market reforms and wanting NZ to go back to a "golden age" where the country was more isolated from the rest of the world. The organization of the party, as it is typical of populist parties, is very loose and all decisions are left to the central direction of the party.

In 1993, NZF got 8.4% of the total votes and won two seats (out of 99) in NZ's unicameral parliament, which at that point used a first-past-the-post (FPP) electoral system as in the US

and UK. In same election, a referendum was held that changed the electoral system from FPP to MMP (mixed-member proportional, see Riambau et al. (2021) for more details). In this new system, political representation is based on the national percentage of the vote received by each party, provided that the party reaches a 5 percent threshold.[6] As the 1996 election approached, NZF increased its anti-immigration stance, with Peters blaming immigrants for 'placing a significant strain on education and health services' and 'causing high home mortgage rates'. It ended up getting 13.5% of the party vote and a corresponding 17 MPs. In a very controversial move, the party decided to use its pivotal role in the Parliament to become part of a government with the National party with Winston Peters taking for himself the role of Minister of Treasury.

In Table 1, we show for which parties the initial supporters of NZF previously voted in 1990 (using the electoral survey data described in detail below). The party built up a support base of its own rather than relying on exit flows from a specific mainstream party. While a slight majority of voters in 1996 previously voted for the National party (36%), many other NZF supporters previously voted for the Labour Party (28%). If we instead look at the share of individuals who previously voted for other parties in 1990 who then voted for NZF, this picture becomes even clearer. More or less 10% of the voters of each party in 1990, from the right-wing National to the far-left Alliance switched to voting for NZF in 1996 election. Interestingly, this is true even though Peters was previously a leading member of the National party.

After 1996, NZF never reached the same percentage of votes, ranging from a high of 10.4% in 2002 to a low of 2.6% in 2020 (Figure 1). In 2008 and 2020, the party also failed to win a directly elected seat and hence fell out of Parliament entirely. However, thanks to its pivotal role in some years, it succeeded in becoming part of the government again in 2005 and 2017, both times in coalition with the center-left Labour Party. Hence, even though it is in many ways a marginal party in NZ, it has played an important role in helping to set the policy agenda, in particular on immigration policy and on support for older individuals and rural interests.

2.2. Brief Economic History of New Zealand

Up to 1984, NZ had a highly regulated economy, with subsidies for agriculture, protection for industry and a closed capital account. By that time, the country was facing unsustainable fiscal

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[6] In practice, everyone has two votes, one for a local FPP election and the other a party vote. In 1996, sixty-five MPs were chosen based on the first vote while the other 55 were selected from a national list with the total elected (in the local elections and from the list) for each party reflecting only the proportion of party votes received.

and current account deficits, runaway inflation, and a foreign exchange crisis. This led to widespread recognition that macroeconomic reforms were needed to correct imbalances and reduce inflation, and microeconomic reforms were needed to improve productivity (McMillan 1998). A vast program of reforms later labelled "Rogernomics", after the Labour Finance Minister Roger Douglas who enacted most of these reforms, was implemented.

From 1984 to 1987, the Labour government increasingly deregulated the economy, opened the capital account, and eliminated subsidies to agriculture. Under a re-elected Labour government, between 1987 and 1990 most major publicly owned companies were privatized. In the 1990 election, the National party won on the promise to slow down the pace of the reforms and to steer away from "Rogernomics". However, the party's liberal wing took control after the election and pushed through large reforms to the welfare system and labour market policy. Welfare was scaled back from universal provision to a tightly targeted welfare system (Boston et al. 1999) while labour market regulations, among other things, decentralized the employer–employee bargaining process (Evans et al. 1996).

From 1986 and 1991, real per capita GDP growth averaged -0.83% and unemployment rose from 5% in 1984 to almost 11% in 1992. Mean real household income dropped by 4.7% between 1986 and 1991. The reform process had a particularly strong impact on the manufacturing sector with employment falling by 30% between 1987 and 1995 (Gibson and Harris 1996). There were also strong negative impacts on employment in the agriculture sector. Stillman et al. (2010) show that the negative impact of the reforms was strongly spatially concentrated because of the spatial distribution of industries and that the reforms had long-run impacts on the labor market in local communities even twenty years later. We take advantage of the spatial aspect of the impact of these reforms to examine the impact on voting for NZF.

2.3. Immigration in New Zealand

NZ is historically a high immigration country with most migrants settling in the larger cities of Auckland, Wellington, and Christchurch (Maré et al. 2007). In 1986, 15% of the population was already foreign-born, but immigrants were mostly of European descent (49% of them were British compared with 6% Asian) as migration up to that point was mainly allowed from traditional source countries along with some low-skill migration from the Pacific Islands. Independent of the economic reforms discussed above, an Immigration Policy Review was held in 1986. This review aimed to develop new policy initiatives that would "enrich the multicultural fabric of New Zealand society through the selection of new settlers principally

on the strength of their personal contribution to the future well-being of New Zealand" (Burke, 1986: 10). The ensuing Immigration Act 1987 removed the traditional source country preference for European or Anglo-Saxon countries. The Immigration Amendment Act 1991 then replaced the previous 'occupational priority list' system with a point system.

These Acts combined inverted a previous trend in net migration by increasing arrivals. While between 1980 and 1989 NZ lost a net 122,500 migrants, mainly because of unfavorable economic conditions, from 1990 net migration turned positive even though the economy was still struggling. In 1995, a peak net inflow of 28,500 was reached and by 1996 immigrants were 21% of the total population. More importantly, there was a large change in the composition of the immigrant population. Specifically, 15% of the immigrant population was now of Asian descent, with the number of Chinese-born in NZ increasing between 1986 and 1996 from 4,900 to 19,500, Hong Kong-born from 1,881 to 11,760, Korean-born from 390 to 12,183 and Taiwan-born from 165 to 10,930.

3. Data and Empirical Strategy

3.1. Data

To assess the impact of economic and migration shocks on the emergence of populism, we use data from the New Zealand Election Study (NZES). NZES is a telephone survey that is designed to be representative of the voting population and has been fielded by the University of Auckland since 1990 immediately after each general election. It collects extensive data on opinions about political parties, own politics and voting behaviors, as well as individual and household characteristics. In particular, individuals are asked whether they voted in the election that just occurred, and if yes, for which candidate and party they voted. They are also asked who they voted for in the two previous elections. Whether an individual voted or not is later certified by the Electoral Committee and self-reported party votes closely match actual voting patterns in aggregate data (refer to Figure 1). In 1993, 2,232 individuals were surveyed, increasing to 4,113 individuals in 1996.

The main advantage of using the NZES as opposed to using official election data is that it collects a wide range of information on individual characteristics, political opinions, political behaviors, and policy concerns that allow us to examine the channels through which shocks influence voting behavior and examine the importance of other factors that lead individuals to vote for NZF. Importantly, starting in 1996, an individual's place of residence is geocoded to their census meshblock, which is the smallest geographic area defined by Statistics NZ and

contain, on average, 150 individuals. We exploit this information to both measure the characteristics of the local area (at the area unit – AU – level which is equivalent to an urban suburb or rural town) and to link individuals to their local labor market area (LMA or commuting zone), which is the natural geography for assessing the political impact of the shocks borne by local communities. Unfortunately, in 1993, we can link individuals only to their electoral district (ED), which reduces the precision of our estimates of the impact of localized shocks.[7]

3.2. Defining Shocks

We define two shocks related to the economic history of NZ using the universe of individual-level observations from the 1986, 1991, and 1996 census. Beyond having access to data on the full population, we also know the meshblock of each household and hence can match individuals perfectly to AUs, LMAs, and EDs. This allows us to measure shocks and local area characteristics with minimal measurement error.

We define the 'income shock' experienced by an individual living in a particular LMA or ED, as the change in average log real income between 1986 and 1991 in that location. We focus on the difference in this five-year period because previous work has shown that this is when the largest industry-specific shocks were experienced (Stillman et al. 2010). Similarly, we define the 'immigration shock' experienced by an individual living in a particular LMA or ED as the inflow of new migrants in the five years prior to the election being examined as a percentage of the local population at the start of the period (so the 1988-1993 period for the 1993 elections and the 1991-1996 period for the 1996 elections).[8] As discussed above, during this period the migration inflow was historically large and the ethnic composition of the inflow was a radical departure from previous migration waves (Statistics New Zealand, 2010).

Figure 2 shows the spatial distribution of the shocks as well as vote shares for NZF across electoral districts. There appears to be a strong correlation between local areas experiencing a larger income shock and a higher local vote share for NZF. There is less evidence of a

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[7] Papps and Newell (2002) use travel-to-work data from the 1991 census data to define 140 LMAs that are self-contained commuting zones. In urban areas, LMAs generally encompass the main urban area and an extensive catchment area. In rural areas, LMAs tend to consist of numerous small areas, each centred on a minor service centre. Electoral districts (ED) are updated after each census by a special commission and designed to contain the same number of individuals with only a 5% permitted variation. Hence, in urban areas they tend to be quite small, while they can be very large in sparsely populated rural areas.

[8] New migrants include all foreign-born individuals who arrived in NZ in the previous five years. As 1993 is not a census year, we use the self-reported number of years spent in NZ for immigrants in the 1996 census to calculate the inflow between 1988 and 1993.

relationship between immigrant inflows and voting for NZF. This is unsurprising as immigration is highest in the big cities where voting for NZF is less prevalent.

3.3. Empirical Strategy

We start by examining the relationship between the income and immigration shock experienced by an individual and whether they cast their party vote for NZF in the 1993 and 1996 elections. Specifically, we estimate the following regression model by OLS separately using the 1993 and 1996 waves of the NZES linked to the appropriate census data:

$$VoteNZF_{ij} = \alpha + \delta \text{ImmSh}_j + \lambda IncSh_j + XB + e_{ij}$$

where *VoteNZF$_{ij}$* is an indicator for whether individual *i* living in community *j* voted for NZF, *ImmSh$_j$* is the share of recent immigrants in that community, *IncSh$_j$* is the mean (log) decline in income experienced between 1986 and 1991 in that community and X is a vector of control variables that varies across specifications with all regressions including controls for gender, age-group, ethnicity, immigration status, education, employment status, (log) household income, religiousness, and place of residence among big cities (Auckland, Wellington, Christchurch), cities, towns and rural areas.[9]

We begin by focusing on electoral districts (EDs) as our measure of community as this is the most disaggregated geographical information available in the 1993 data. However, the majority of our analysis focuses on the impact of shocks on local labor market areas (LMAs) because, as discussed above, these are a more relevant geographical unit for thinking about how individuals living in an area experience the two shocks we measure. As shocks vary only at the ED or LMA level, standard errors in all models are clustered at the appropriate geographical level.

Beyond LMAs being a more relevant geography, starting in 1996, when we focus on variation at the LMA level, we also further control for characteristics of the local area (suburb or rural town) in which an individual lives. Specifically, we control for the total population, the unemployment and employment rate, the average (log) individual income, the Gini index, and the percentage of people with different qualifications, in different age groups, who are female, and who are Maori.[10] In these models, we also control for the electoral district in which a person

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[9] We categorize as religious any individual who attends a religious service at least 2 times a month. Household income is categorical; we impute a continuous measure using the mid-point of each category.
[10] When we examine the impact on voting in later elections, we interpolate these socio-economic characteristics from the closest censuses: given that in New Zealand there are elections every 3 years and censuses collection every 5 years, there is no election that is far more than 2 years from the census.

resides. In urban areas, LMAs include many electoral districts, while in rural areas, electoral districts always overlap with multiple LMAs. Hence, we can always separately identify the impact of being in a particular ED. This is potential important as it controls for any localized political responses to having experienced shocks.

Table 2 provides summary statistics for the 1993 and 1996 NZES, as well as our measures of shocks and local area characteristics. We present these for the full samples and for the samples we use in our analysis. In 1993, we drop from our analysis sample 7 people because they are missing gender and 14 because they did not provide information on their electorate. In 1996, we drop from our analysis sample 18 people because they are missing gender and 622 because they did not provide enough information for their address to be matched to a census meshblock. For all other independent variables in our regression, we include dummies for individuals missing the information so they can be included in the analysis. Fortunately, as can be seen in Table 2, the characteristics of the individuals missing locational information are quite similar in general to the overall sample, hence we do not expect this to impact the external validity of our findings even in 1996. Supporting this, we are able to include most of these individuals in our ED level analysis for 1996, and this has little qualitative impact on our results.

The average individual in the NZES in both 1993 and 1996 lives in an area where nearly 3 percent of the population are immigrants who have arrived in the previous five years. On average, almost half of these new arrivals are from Asia. The average individual also lives in a community which experienced around a 5 percent income decline between 1986 and 1991. Comparing individual to local characteristics in 1996 makes apparent that participants in the NZES are, on average, older and more educated than the general population.[11] This is typically found in electoral surveys. As discussed later in the paper, we find very little heterogeneity in the impact of shocks by sociodemographic characteristics, suggesting that this skewness is not important for interpreting out results.

A concern with the regression model outlined above is that shocks could be endogenously determined with voting behavior. For example, immigrants might avoid moving to areas with anti-immigrant sentiments and instead locate in more open-minded areas where populism tends to be less attractive. This endogenous sorting would lead us to underestimate the impact of immigration on populist voting. Similar issues exist when examining the impact of income

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[11] This is the case even after using the provided weights that are designed to increase the representativeness of the survey. We use these weights throughout our analyses. The NZES collects household income and the census individual income so these cannot be directly compared.

shocks. For example, if workers most affected by negative economic shocks are both more likely to leave a community and to vote for a populist party, this sorting would lead to a downward bias in estimated impact of the income shock. It is also possible that biases could work in the other direction, for example, if factors influencing the severity of the impact of the structural reforms also directly influencing voting preferences a decade later.

In order to address these endogeneity concerns and produce consistent estimates of the impact of immigration and economic shocks on voting for NZF, we use an instrumental variable approach. As is well known, new migrants to settle in locations where co-nationals from earlier immigration waves already live (Bartel 1989). Hence, we follow the approach originally proposed in Altonji and Card (1991) and used in many subsequent papers, and predict the number of migrants who would move to a local community only because of network effects. Specifically, we calculate

$$\widehat{ImmSh}_{jt} = \sum_k \frac{\lambda_{jk}^{86} ImmSh_{kt}}{Pop_j^t} \tag{2}$$

where $\widehat{ImmSh}_{jt}$ is the predicted share of recent immigrants in location j at time t and is equal to the number of immigrants originating from country k in the five years prior to time t at the national level multiplied by the county of birth distribution in each location in 1986. As we have access to the full population census data, we are able to examine networks at an extremely disaggregated level aggregating over 124 country of origins.

While this instrument has been used in thousands of past papers, recent work has argued that, if the spatial distribution of immigrant inflows is stable over time, the instrument is likely to be correlated with previous location decisions leading to mis-estimation of the causal impact of recent migration (Jaeger et al. 2018). In our context, the large reform of the immigration system that started in 1987 reduces concerns that new immigrants are drawn to the same areas as past immigrants because of economic fundamentals. Furthermore, prior to the reform, the political debate around immigration in NZ was drastically different, as outflows were larger than inflows and migration was mainly from European countries.

We use a similar approach to derive an instrument for the size of the income shock experienced by each community. As discussed earlier, the impact of the structural reform process varied a great deal across industries with manufacturing and agriculture strongly impacted by the opening of free trade and removal of subsidies. Hence, we use the industry distribution in different locations to predict the spatial distribution of the income shock.

Specifically, we calculate

$$\widehat{IncSh_j} = \sum_n \delta_{jn}^{86} IncSh_n \tag{3}$$

where $\widehat{IncSh_j}$ is the predicted income loss in location j and is equal to the distribution of employment in 265 4-digit industries in each location j in 1986 multiplied by the loss in income at the national level in each of these industries between 1986 and 1991. We also treat non-employment as an industry in order to capture the impact of the large changes in the welfare system that accompanied the reforms. The industry distribution in 1986 was primarily driven by long-term comparative advantage and the incentives of the pre-structural reform period, hence the distribution of shocks should be exogenous relative to prior economic and political outcomes.

To access the validity of our instruments, in Table 3, we present results from regressions of the two instruments on voting in the 1984 election, which was prior to the start of the structural reform process and change in the immigration system. Here, we use official polling data at the area unit level and also include controls for AU characteristics. We find no relationship between either predicted migration flows or income shocks and whether individuals voted in 1984 for the traditional parties of Labour and National as opposed to a precursor protest party called Social Credit, which received 7.63 percent of the vote in that election. The effect sizes for both variables are small and we fail to reject that they are jointly unrelated to voting patterns with a p-value greater than 0.70.

Figure 3 plots predicted versus actual shocks across the 140 LMAs in 1996 with the size of each point reflecting the population of the LMA. Each graph also shows the fitted linear relationship between predicated and actual shocks where LMAs are weighted by their population. This is a graphical representation of the two first-stages of our regression model.[12] A one percentage-point change in the predicted migration (income) shock is correlated with a 0.95 (2.41) percentage-point change in the actual migration (income) shock, which is significant at the 0.01 (0.001) percent level. This shows that both of our instruments have good predictive power. We discuss the first-stage regressions in more detail below.

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[12] This is only true in a simplified sense because in the actual instrumental variables model both instruments are included as regressors in the each first-stage along with all the other included control variables.

4. Results

4.1 Main Results

In Table 4, we report results from estimating variation specifications of regression model (1). The first four columns present the OLS results from 1993 and 1996 elections at ED level. Shocks are positively correlated with voting for NZF in both years, although only the coefficient for the immigration shock in the 1996 elections is (weakly) significant. If we instead estimate the model for 1996 using LMA level variation, but otherwise keep the same control variables, we find similar point estimates for our shock variables and both are now statistically significant at the 5 percent level. Here, a one percentage-point increase in recent arrivals is associated with a 0.82 percentage-point increase in the share of votes for NZF and a one percentage-point increase in income loss is associated with a 0.53 percentage-point increase. Including additional controls for local area characteristics and electoral district fixed effects has a small impact on the point estimates, although now the impact of the immigration shock is no longer significant.

As discussed above, one might be concerned about the endogeneity of shocks, particularly in regard to the sorting of immigrants and natives across locations. The next four columns of Table 4 present the results for the same models but using the instrumental variables described above. Appendix Table 1 presents the two first-stage regressions corresponding to each of these specifications. As hinted at in Figure 3, the instruments are generally strong, particularly in our preferred specification that focuses on LMAs and controls for local area characteristics and ED fixed effects (here, the F-stat is 20.0 for the immigration shock and 38.7 for the income shock, and the joint significance F-stat is 847). In each specification, we can rule out that the model is underidentified. While the estimates for 1993 are still imprecise, all specifications for 1996 find a significant effect of the immigration and income shocks on voting for NZF.

In our preferred specification with the most complete set of controls, we find that a one percentage-point increase in recent arrivals causes a 4.78 percentage-point increase in the NZF vote share while a one percentage-point greater income loss causes a 1.32 percentage-point increase in vote share relative to a mean vote share of 10.7 percent for NZF. The increased size of the coefficients with respect to the OLS estimates likely indicates that immigrants do indeed avoid moving to locations that are receptive to populist voting and that individuals most negatively impacted by economic reforms and likely to vote for NZF are more likely to have moved away from impacted locations.

In Figure 4, we illustrate the size of these impacts by predicting the vote share for NZF in 1996 across the quantile distribution of each shock variable, holding all other variables constant. This is done using the preferred IV specification with the most complete set of controls. In LMAs where recent arrivals are in the first quartile, NZF is predicted to get slightly more than 4 percent of the votes, while if the arrivals are in the highest quartile, the votes share for NZF would instead be 25.8 percent. For the income shock, the vote share for NZF increases from 5.7 percent in LMAs in the first quartile of the income shock distribution to 19.8 percent in the highest quartile. It is clear from this figure that the size of the shocks experienced by an individual are important for explaining whether they voted for NZF in 1996.

In column 9 of Table 4, we examine whether the source of recent immigration matters. We do this by splitting the immigration shock variable into additive "Asian" and "Non-Asian" components. Recalling that most Asian immigration is new to NZ since the change in the immigration system, our instrument for Asian immigration is unsurprisingly weaker than for non-Asian immigration. However, we find a large statistically significant impact of Asian immigration and a negative but very imprecisely estimated impact of non-Asian immigration. While we need more precision to say anything definitely here, there is strong suggestive evidence that the changing composition of migration to NZ was an important component leading to the development of NZF. We also examined whether there was an interaction between the immigration and income shock and, perhaps surprisingly, found the impacts are essentially orthogonal.

In our final specification, we add controls for a wide range of political opinions, beliefs, and policy preferences. Specifically, we include variables for own ideological position, own opinion on the position of NZF, trust in the Labour and National parties, mistrust toward mainstream parties, opinions about main party leaders, opinions about the country's financial situation, immigration, taxes, redistribution and social conservatism, and previous voting in 1990. The variables are clearly along the causal chain when evaluating the impact of the shocks on voting for NZF; we also consider them as outcomes in later analysis. Including them here allows us to estimate how much of the effect of shocks on voting for NZF occurs via changes in these characteristics. The estimated coefficients on both shock variables decrease in this specification by 29%, so nearly one-third of the impact of shocks on voting for NZF occurs because of the impact of these shocks on political opinions, beliefs, and policy preferences.

In Table 5, we use our preferred IV specification to estimate the impact of shocks on voting for other political parties and whether people vote.[13] We do not find any significant impact of the shocks on the other political parties or turnout. Votes for Labour move in the same direction as those for NZF, while votes for National and Alliance move in the opposite direction, but all point estimates have very high standard errors compared with the size of the coefficients. Labour and National could well have been considered by the electorate as responsible for the effect of the reforms that followed the economic crisis and for opening up NZ to new migration in the same respect, but Alliance was never in government and was a left-wing party whose policy platform focused on mitigating the impact of the economic shocks causes by the structural reform process. Hence, the results here are consistent with shocks pushing people towards populism as opposed to towards parties with particular policy platforms.

4.2 Impact on Beliefs and Political Preferences

In this section, we examine the impact of shocks on beliefs and political preferences. We do this to better understand how the impact of the shocks translated into the emergence of populism. We estimate the same model as in the previous section focusing on the instrumental variable specification that includes controls for area characteristics as well as ED fixed effects, but now we examine the impact on a wide range of outcome variables that measure beliefs and political preferences in 1996.

Table 6 presents the results of this analysis: each line corresponds to a separate regression run for a different dependent variable with only the coefficients on the shock variables and their associated standard errors presented in the columns next to them. Shocks do not impact own left/right ideology or an index of self-reported social conservatism. On the other hand, we find impacts on particular policy preferences with the two shocks working through quite distinct channels. Experiencing a larger immigration shock causes individuals to report themselves as being more hostile to immigration and that defense and law and order should be more important policy areas. Experiencing a larger income shock causes individuals to report themselves as being more in favor of redistribution, that they believe recent policies were bad for the country, and that unemployment should be a larger and economic growth a smaller policy concern.[14] In

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[13] Guiso et al. (2017) finds that populist parties impact turnout in Europe and that this is an important component of how they gain votes.

[14] These variables are generally yes/no questions where individuals can also choose "indifferent or undecided". We code these variables as 0 for no, 1 for yes and 0.5 for neither yes nor no. The results are generally insensitive to instead dropping undecided people. We have included here the full set of policy areas that individuals were asked about in the survey.

both cases, the results are consistent with how one would imagine these particular shocks impacting individuals.

We next examine whether shocks impacted populist beliefs, in particular whether people believe that a strong leader is needed and if they mistrust both traditional political parties. Here, we assign the value 1 if the subject trusts neither the Labour nor the National party and 0 if they trust both parties. When they express a positive judgment only on one of them, the variable is coded as 0.5. A majority of individuals (50%) aspires for a strong leader, while only 27% are against a strong leader, and 15% of individuals mistrust both traditional parties in comparison to 10% who trust both. We find that experiencing a larger size of either shock causes people to think that a strong leader is needed and increases their mistrust of traditional parties. The magnitudes of the effects are similar in size to the impacts that the shocks have on voting for NZF.

A strand of the political science literature emphasizes the role of leaders in explaining the emergence of populism (Weyland 2001; Laclau 2005). For this reason, we also test whether experiencing shocks affects how individuals feel about the leaders of the main political parties, namely Winston Peters for NZF, Jim Bolger for National, and Helen Clark for Labour. These variables are coded as 1 if an individual says they trust the specific politician. We find some weak evidence that individuals who experience an income shock are more trusting of Peters, but more generally feelings for leaders appear to be a noisier mediator than the other opinions.

To sum up, shocks not only impact populist voting but also individual beliefs and political preferences, in particular the desire for a strong leader and mistrust toward both mainstream parties. As discussed above, the impact of shocks on these variables explains around 30 percent of the overall impact of shocks on voting for NZF, hence changing beliefs and preferences are an important part of the story of how NZF initially developed.

4.3 Persistence of the Impact of the Shocks

We next examine if the impact of the shocks on voting for NZF persists over time. We continue to estimate our preferred specification from Table 4 but now examine voting for NZF in the next six elections, from 1999 to 2014. Turning to Table 7, we can see that the shocks have persistent impacts on voting for NZF. In 1999, the impacts are about half the size as in 1996 but significant for both shocks. Shocks then appear be become less important over time, until the 2014 election, when the immigration shock (experienced in a LMA between 1991 and 1996) again has a large impact on voting for NZF. Pooling all six elections together and

including election fixed effects, we find similar long-run impacts of both shocks, but only the impact of the income shock is statistically significant.

There is some evidence that populist parties thrive when they are in opposition but do not perform so well once they are in power (Heinisch 2010). On the relationship between populists' performance and the economic outlook, there is mixed evidence: at the individual level, research suggests there is a relationship between votes for populist parties and economic insecurity (Guiso et al. 2017), while macro evidence does not support this (Boeri et al. 2018). In our final specification, we examine whether macro political or economic factors are related to the observed variation over time in the impact of the shocks on voting for NZF. Specifically, we interact whether NZF is an opposition at the time of the election and the change in the unemployment rate since the last election with both shock variables in a regression that pools all elections since 1999 and includes election fixed effects.

We find that both shocks are important for explaining voting for NZF whenever they are in opposition (and generally that voting is higher for NZF when they are in opposition). There is also some evidence that the income shock has a larger impact when the economy is improving (which is also correlated with NZF doing better). We suspect that the latter occurs because NZF does not focus on economic policy and the rhetoric around immigration is NZ is more about the negative impact of inflows on house prices and local amenities rather than on labor markets and hence tends to be more in focus when the economy is doing well. Overall, the shocks seem to have some long-term memory in them. They wound an area, and this comes to the surface whenever particular conditions are realized.

4.4 Heterogeneity Analysis

We next examine heterogeneity in impact of shocks in order to better understand the potential channels behind our findings. Populism is a complex phenomenon characterized over a wide range of economic, sociological, and psychological angles, so we investigate several transmission mechanisms without a definite theoretical structure. We examine two potential mechanisms. First, we examine how the impact of the shocks varies by individual and community characteristics. Given that these characteristics are exogenous to the shocks, we are able to identify how the causal impact of each shock varies across individuals and communities with different characteristics. Then, we examine how the shocks interact with political preferences and beliefs. This analysis is only suggestive as we have already shown that shocks directly influence preferences and beliefs.

Table 8 presents the results from our individual heterogeneity analysis. In each column, we consider a different dimension of potential variation. In each case, we interact a dummy variable for the noted category with each of the shock variables and also include it as a control if it is not already included.[15] These models are again estimated using instrumental variables, with instruments for the interactions as well, and include controls for local characteristics and ED fixed effects. For example, in the first column we report results where a dummy variable for being under age 35 is interacted with the shock variables.

In general, we find little evidence of heterogenous impacts of shocks across individual characteristics. The only exceptions are that we find that income shocks have larger effects on voting for NZF for older individuals and individuals who are not employed. NZF has a strong focus on improving policies for older individuals, such as free use of health services and public transit, and keeping the retirement age from increasing, which may explain these results. The overall lack of heterogenous impacts in relationship to individual, as opposed to community characteristics as discussed next, occurs even though the economic shock clearly had large negative impacts on low skill, poor, and less educated individuals, and high-skilled migrants are most likely to compete in the labor market with more educated higher-skilled workers. Taken together, this evidence suggests that standard economic explanations for populism are not what drove the emergence of NZF.

In our final two specifications, we examine the role of community characteristics. Specifically, we examine whether the shocks have differential impacts in areas with a long-run history of immigration and in urban versus rural areas.[16] Consistent with previous research (Dustmann et al. 2018, Levi et al. 2020), we find that in high density areas neither immigration nor income shocks impact voting for NZF. The impact of shocks is full concentrated in lower density LMAs. This may occur because the distinction between rural areas and urban areas carries forward long-lasting political preferences and different ways of organizing political life

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[15] Low skilled workers are those not in groups 1 (managers), 2 (high-level professionals), or 3 (low-level professionals) based on self-reported occupation. High income is defined as being above the median. Benefits include unemployment benefits, support for sickness and domestic purposes benefits to single parent families. Eligibility for these benefits was greatly reduced between 1991 and 1993, for example in our sample the number of people receiving benefits declined from 41% in 1990 to 16% in 1996. We use the 1990 NZES to examine the relationship between benefit receipt and individual characteristics and then predict who receives benefits in 1996 holding all else constant. We do not find an impact of losing benefit eligibility on voting for NZF.

[16] High density areas have a population density greater than 50 people per square km. This splits the sample in a balanced way, while only 26 LMAs out of 141 are classified as high density they have an average 56 thousand inhabitants compared with 11 thousand in the low density LMAs. High immigration areas are defined as areas where the immigration share was above the mean level.

(Cramer 2016) or because people in more densely populated regions are exposed to cosmopolitan beliefs. We also find that the impact of the immigration shocks on voting for NZF is much higher in areas that historically had less immigration and that there is no impact in areas that already had high levels of immigration in 1986. This is consistent with the cultural channel being particularly important for understanding how immigration shocks lead to populist voting.

In Table 9, we present the results of a further heterogeneity analysis where we examine whether the impact of shocks varies by political preferences and beliefs.[17] Here, we present results from models that measure political preferences and beliefs contemporaneously with voting. As we have shown in Table 5, shocks impact these variables, hence they are clearly along the causal chain and cannot be interpreted as providing causal estimates of interaction effects. However, they can still provide suggestive evidence on which transmission mechanisms are important and help discriminate between different potential explanations of the shocks' impact on populism.

A number of patterns stand out. First, the immigration shock had strong impacts on voting for NZF for individuals with a wide variety of opinions and beliefs. Second, this is generally true for the income shocks as well, but here there is more heterogeneity. In particular, the income shock is more strongly related to voting for NZF among individuals who are left-wing, hostile to immigration, in favor of redistribution, think that recent policies are bad for the country, have mistrust towards mainstream parties and have more positive feelings about Winston Peters. This suggests that the large income shock at the end of the 1980s translated into the emergence of NZF through both its impact on <u>and</u> interaction with anti-immigration, pro-redistribution, and anti-elite attitudes.

4.5 Relative Importance of Shocks

Up to now, we have focused on the role of the two shocks experienced by NZers in the early 1990s. We have shown that these shocks impacted political party preferences and opinions and encouraged the emergence of populism. However, some political scientists argue that economic factors are unlikely to be the main drivers of populism (Oesch, 2008, Norris and Inglehart, 2019). Our analysis has already shown that cultural aspects appear to be important for understanding the impact of these shocks, particularly the immigration shock. In our last

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[17] We attempted to do this analysis exploiting the longitudinal component of the NZES to measure these variables in 1990 before the emergence of NZF, but we did not have enough precision to say anything meaningful.

analysis, we compare the explanatory power of different factors related to voting for NZF in order to demonstrate the relative importance of the two shocks we examine vis a vis other factors that might explain the overall variability in voting for NZF.

In Figure 5, we graph the partial R-squared (squared partial correlation) for different groups of variables as estimated in our preferred regression model, as well as in the extended specification that includes controls for political preferences, beliefs, and opinions. This is the proportion of the variation in voting for NZF that is left unexplained by other predictors (x_2) in the model but is explained by a particular group (x_1).[18] This provides a ranking of the explanatory power of different groups of non-overlapping variables. The dotted lines are at 0.17, the overall R-squared for the first model, and 0.36, the overall R-squared for the second model.

In our main model, variation in shocks explains a bit more than 10 percent of the overall variation in voting for NZF, slightly less than the combined effect of variation individual demographic, social, and economics characteristics. However, in our extended model, it is clear that differences in preferences, beliefs, and opinions are even more important for explaining the variation in populist voting. Variation in these variables accounts for 30 percent of the overall variation in voting for NZF. However, it is important to remember that experiencing shocks also impacts these variables, which is why additively the total variation explained by shocks and preferences, beliefs, and opinions is greater than the model R-squared. Taken together, these results show that there is an important role for economic and immigration shocks in explaining the rise of populism in NZ, and that the impact of these shocks both amplifies and is amplified by differences in political beliefs and opinions.

Conclusions

In this paper, we use electoral survey data to examine the impact that two large external shocks had on the development of New Zealand First, one of the oldest populist parties in the OECD. We examine the impact of structural reforms that led to large negative impacts on particular industries and immigration reforms that led to large increases in skilled migration: i) on voting for New Zealand First in its first years of existence; ii) on individual beliefs and political

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[18] The partial R-squared of a group of variables, x_1, is calculated as the reduction in the overall R-squared of the model when these variables are excluded relative to the proportion of the variance that is left unexplained in the model that only includes x_2 as controls (in other words, $1 - \text{R-squared}(x_2)$). The partials out both the influence of x_2 on the outcome variable and the influence of x_2 on x_1.

preferences; iii) on the long-run persistence in voting for New Zealand First; and iv) relative to other factors that encourage people to vote for New Zealand First.

We find that these shocks had large impacts on voting for New Zealand First in its initial years, that they also impacted preferences and beliefs, that they continue to influence voting even 30 years later. Overall, the occurrence of these shocks appears to be an important driver of the emergence of a strong populist party in New Zealand. Even though one of the shocks we examine is 'economic' and then second has a strong economic component, our evidence suggests that cultural and political channels are more important than economic ones for understanding how populism told hold in New Zealand.

New Zealand is in many ways a forerunner to many of the current trends affecting OECD countries. The income shock we examine was caused by a structural reform process that increased competition for certain industries in a similar way that China joining the WTO impacted industries in the rest of the developed world in the 2000s. Similarly, New Zealand was one of the first countries to develop a skilled migration system that had no restrictions on country of origin. In this sense, it is unsurprising that populist parties are emerging in European countries that in recent years have featured increased competition in many economic sectors and a large inflow of ethnically diverse migrants, despite little experience receiving immigrants from locations other than former colonies.

Reference

Akkermann, A., Mudde, C., & Zaslove, A. (2014). How populist are the people? Measuring populist attitudes in voters. *Comparative Political Studies*, *47*(9), 1324-1353.

Alabrese, E., Becker, S. O., Fetzer, T., & Novy, D. (2019). Who voted for Brexit? Individual and regional data combined. *European Journal of Political Economy*, *56*, 132-150.

Algan, Y., Guriev, S., Papaioannou, E., & Passari, E. (2017). The European trust crisis and the rise of populism. *Brookings Papers on Economic Activity*, *2017*(2), 309-400.

Altonji, J. G., & Card, D. (1991). The effects of immigration on the labor market outcomes of less-skilled natives. In *Immigration, Trade, and the Labor Market* (pp. 201-234). University of Chicago Press.

Anelli, M., Colantone, I., & Stanig, P. (2019). We were the robots: Automation and voting behavior in western Europe. *BAFFI CAREFIN Centre Research Paper*, (2019-115).

Autor, D., Dorn, D., Hanson, G., & Majlesi, K. (2016). Importing political polarization? The electoral consequences of rising trade exposure. *NBER Working Paper w22637*.

Barone, G., D'Ignazio, A., de Blasio, G., & Naticchioni, P. (2016). Mr. Rossi, Mr. Hu and politics. The role of immigration in shaping natives' voting behavior. *Journal of Public Economics*, *136*, 1-13.

Bartel, A. P. (1989). Where do the new US immigrants live? *Journal of Labor Economics*, *7*(4), 371-391.

Becker, S. O., Fetzer, T., & Novy, D. (2017). Who voted for Brexit? A comprehensive district-level analysis. *Economic Policy*, *32*(92), 601-650.

Boeri, T., Mishra, P., Papageorgiou, C., & Spilimbergo, A. (2018, May). A Dialogue between a Populist and an Economist. *AEA Papers and Proceedings* (Vol. 108, pp. 191-95).

Boston, J., & McLeay, E. (1997). "Forming the first MMP government: theory, practice, prospects." In Boston, J., Levine, S., McLeay, E., & Roberts, N. (eds). *From Campaign to Coalition: New Zealand's First General Election Under Proportional Representation*. Dunmore Press.

Boston, J., Dalziel, P., & John, S. S. (Eds.). (1999). *Redesigning the Welfare State in New Zealand: Problems, Policies, Prospects*. Auckland: Oxford University Press.

Burgoon, B., van Noort, S., Rooduijn, M., & Underhill, G. (2019). Positional deprivation and support for radical right and radical left parties. *Economic Policy*, *34*(97), 49-93.

Burke, Hon. K. (1986). *Review of Immigration Policy*, August 1986, Appendices to the Journal of the House of Representatives G42, Government Printer, Wellington.

Card, D., Dustmann, C., & Preston, I. (2012). Immigration, wages, and compositional amenities. *Journal of the European Economic Association*, *10*(1), 78-119.

Colantone, I., & Stanig, P. (2018a). Global competition and Brexit. *American Political Science Review*, *112*(2), 201-218.

Colantone, I., & Stanig, P. (2018b). The trade origins of economic nationalism: Import competition and voting behavior in Western Europe. *American Journal of Political Science*, *62*(4), 936-953.

Colantone, I., & Stanig, P. (2019). The surge of economic nationalism in western Europe. *Journal of Economic Perspectives*, *33*(4), 128-51.

Cramer, K.J. (2016). *The Politics of Resentment: Rural Consciousness in Wisconsin and the Rise of Scott Walker.* University of Chicago Press.

Dal Bó, E, Finan, F., Folke, O., Persson, T., & Rickne, J. (2019). Economic losers and political winners: Sweden's Radical Right. Unpublished Manuscript.

Di Tella, R., & Rotemberg, J. J. (2018). Populism and the return of the "paranoid style": Some evidence and a simple model of demand for incompetence as insurance against elite betrayal. *Journal of Comparative Economics*, *46*(4), 988-1005.

Dippel, C., Gold, R., Heblich, S., & Pinto, R. (2017). Instrumental variables and causal mechanisms: Unpacking the effect of trade on workers and voters. *NBER Working Paper* 23209.

Dustmann, C., Vasiljeva, K., & Damm, A. P. (2019). Refugee migration and electoral outcomes. *The Review of Economic Studies*.

Edo, A., Giesing, Y., Öztunc, J., & Poutvaara, P. (2019). Immigration and electoral support for the far-left and the far-right. *European Economic Review*, *115*, 99-143.

Eribon, D. (2013). *Returning to Reims.* Cambridge MIT Press.

Evans, L., Grimes, A., Wilkinson, B., & Teece, D. (1996). Economic reform in New Zealand 1984-95: The pursuit of efficiency. *Journal of Economic Literature*, *34*(4), 1856-1902.

Funke, M., Schularick, M. & Trebesch, C. (2020). Populist Leaders and the Economy. *CEPR Discussion Paper* 15405.

Gest, J. (2016). *The New Minority: White Working Class Politics in an Age of Immigration and Inequality*. Oxford University Press.

Gibson, J. K., & Harris, R. I. (1996). Trade liberalisation and plant exit in New Zealand manufacturing. *The Review of Economics and Statistics*, 521-529.

Guiso, L., Herrera, H., Morelli, M., & Sonno, T. (2017). Populism: Demand and Supply. *CEPR Discussion Paper*, No. DP11871.

Guriev, S., & Papaioannou, E. (2020). The political economy of populism. *Journal of Economic Literature*, forthcoming.

Hainmueller, J., & Hopkins, D. J. (2014). Public attitudes toward immigration. *Annual Review of Political Science*, *17*, 225-249.

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.

Heinisch, R. (2003). Success in opposition–failure in government: explaining the performance of right-wing populist parties in public office. *West European Politics*, *26*(3), 91-130.

Hochschild, A. R. (2016). The ecstatic edge of politics: Sociology and Donald Trump. *Contemporary Sociology*, *45*(6), 683-689.

Im, Z. J., Mayer, N., Palier, B., & Rovny, J. (2019). The "losers of automation": A reservoir of votes for the radical right? *Research & Politics*, *6*(1), 2053168018822395.

Jaeger D. A., Ruist J., & Stuhler J. (2018). Shift-Share Instruments and the Impact of Immigration. *NBER Working Paper* 24285 (February).

Laclau, E. (2005). *On Populist Reason*. Verso.

Levi, E., Mariani, R. D., & Patriarca, F. (2020). Hate at first sight? Dynamic aspects of the electoral impact of migration: the case of Ukip. *Journal of Population Economics*, *33*(1), 1-32.

Maré, D. C., Morten, M. & Stillman, S. (2007). Settlement Patterns and the Geographic Mobility of Recent Migrants to New Zealand. *New Zealand Economic Papers* 41(2), 163-96.

Margalit, Y. (2019). Economic Insecurity and the Causes of Populism, Reconsidered. *Journal of Economic Perspectives*, *33*(4), 152-70.

McMillan, J. (1998). Managing Economic Change: Lessons from New Zealand. *World Economy*, *21*(6), 827-843.

Moffitt, B. (2016). *The Global Rise of Populism: Performance, Political Style, and Representation*. Stanford University Press.

Moriconi, S., Peri, G., & Turati, R. (2019). Immigration and voting for redistribution: Evidence from European elections. *Labour Economics*, *61*, 101765.

Mudde, C. (2007). *Populist Radical Right Parties in Europe* (Vol. 22, No. 8). Cambridge: Cambridge University Press.

Mudde, C. (2019). *The Far Right Today*. John Wiley & Sons.

Norris, P., & Inglehart, R. (2019). *Cultural Backlash: Trump, Brexit, and Authoritarian Populism*. Cambridge University Press.

Oesch, D. (2008). Explaining workers' support for right-wing populist parties in Western Europe: Evidence from Austria, Belgium, France, Norway, and Switzerland. *International Political Science Review*, *29*(3), 349-373.

Papps, K.L. & Newell, J.O. (2002). Identifying Functional Labour Market Areas in New Zealand: A Reconnaissance Study Using Travel-to-Work Data. *IZA Discussion Paper* 443.

Riambau, G., Stillman S. & Boe-Gibson, G. (2021). What Determines Preferences for an Electoral System? Evidence from a Binding Referendum. *Public Choice*, forthcoming

Rodrik, D. (2018). Populism and the Economics of Globalization. *Journal of International Business Policy*, *1*(1-2), 12-33.

Spruyt, B., Keppens, G., & Van Droogenbroeck, F. (2016). Who supports populism and what attracts people to it? *Political Research Quarterly*, *69*(2), 335-346.

Stillman, S., Velamuri, M., & Aitken, A. (2010). The long-run impact of New Zealand's structural reform on local communities. *Journal of Comparative Economics*, *38*(4), 432-448.

Weyland, K. (2001). Clarifying a contested concept: Populism in the study of Latin American politics. *Comparative Politics*, 1-22.

Figure 1: Evolution of Voting for New Zealand First
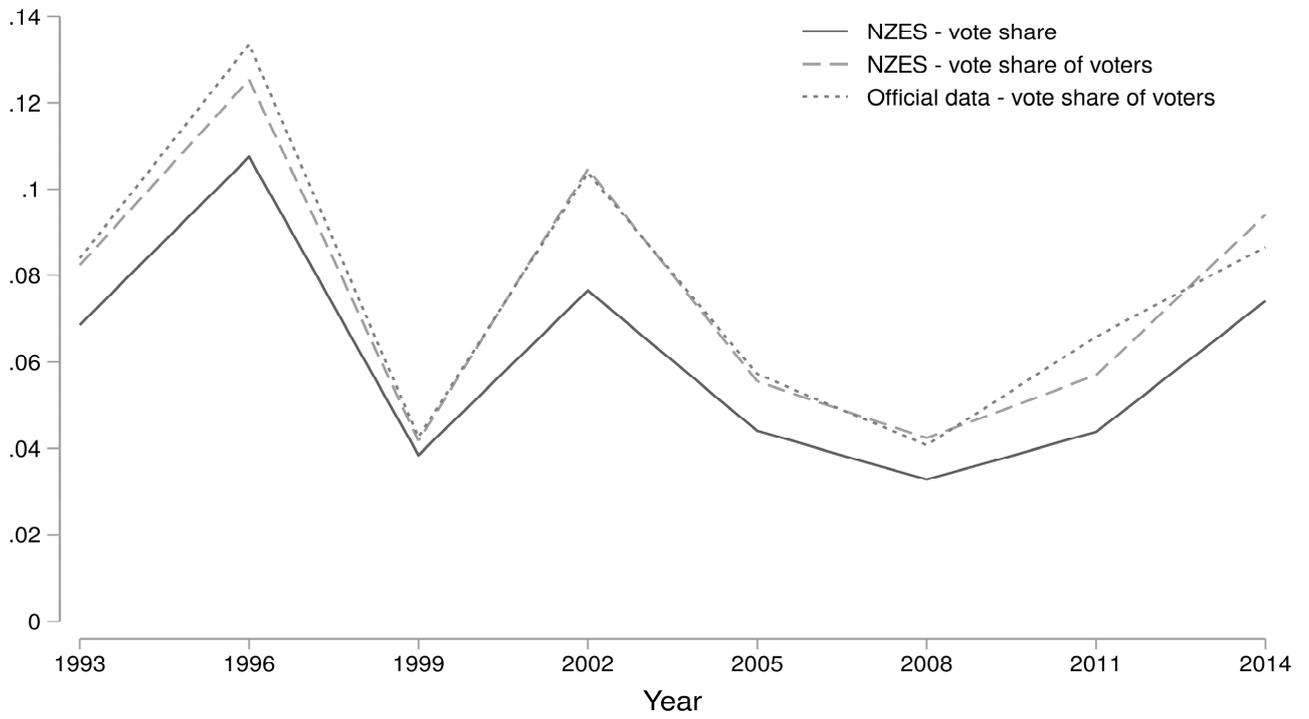
Figure 2. Spatial Distribution of Immigration and Income Shocks and Votes for New Zealand First

NZ First in 1993

(.4..6]
(.2..4]
(.15..2]
(.1..15]
(.05..1]
(.025..05]
(.01..025]
[0..01]

NZ First in 1996

(.4..6]
(.2..4]
(.15..2]
(.1..15]
(.05..1]
(.025..05]
(.01..025]
[0..01]

5-years Immigrant Arrivals in 1996

(.0384955..1014719]
(.0166242..0384955]
(.0098028..0166242]
[.0055438..0098028]

Percent Change in Income between 1986 and 1991

(-.0222461..0644644]
(-.0546753,-.0222461]
(-.082514,-.0546753]
[-.1823887,-.082514]
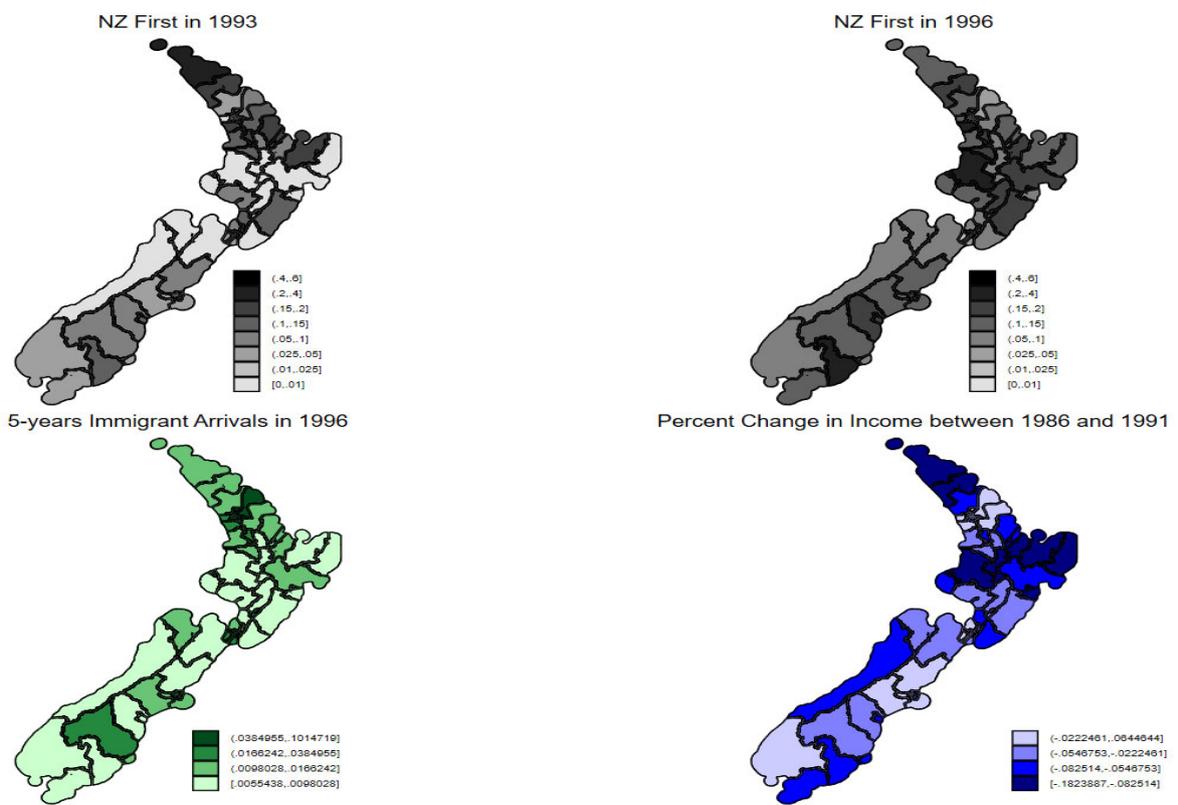
Figure 3. Scatter Plots of Predicted and Actual Shocks Across Labor Market Areas in 1996
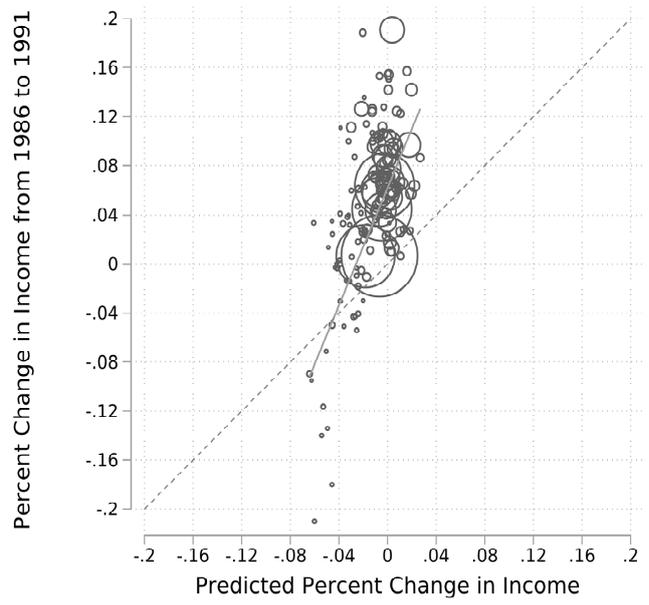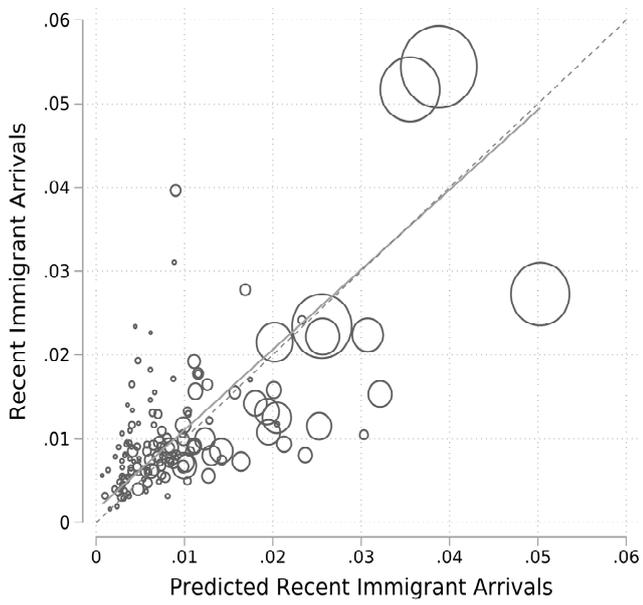
Figure 4: Predicted Impact of Shocks on Voting for New Zealand First in 1996
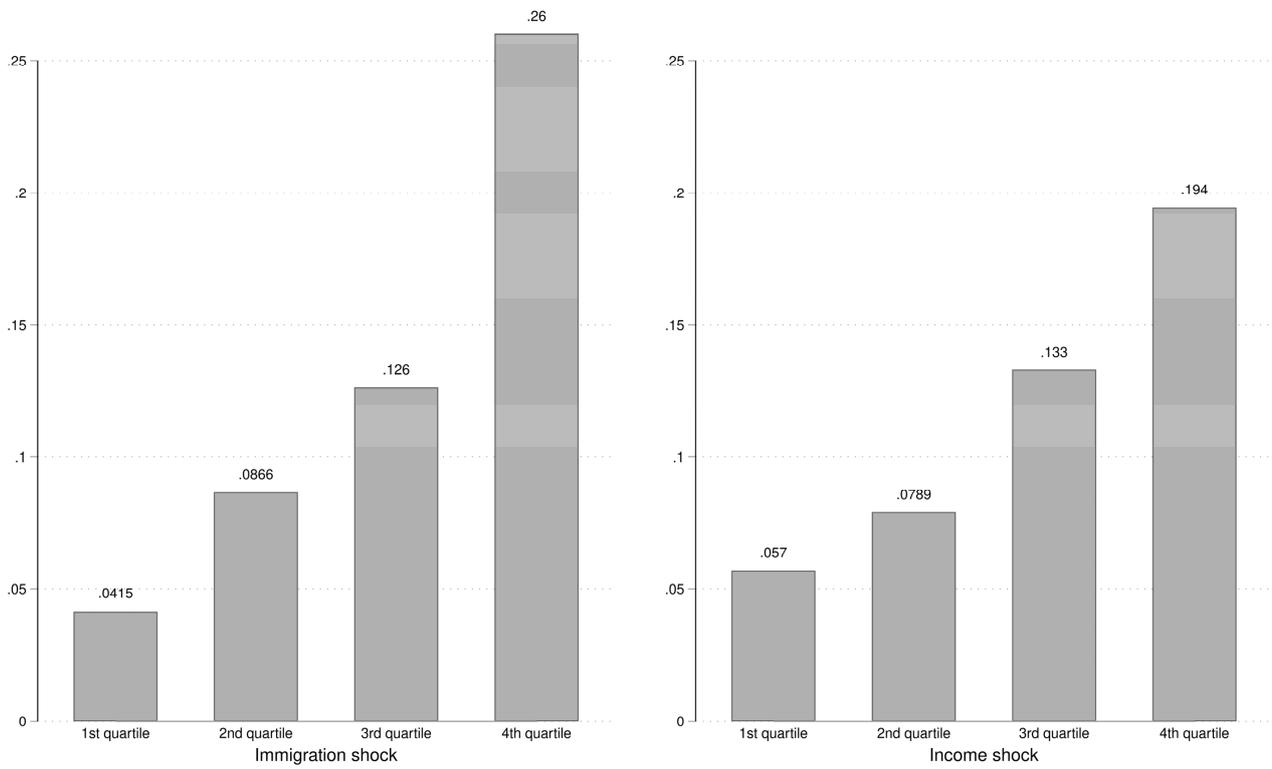
Figure 5. A Partial R-Squared Analysis of What Explains Voting for New Zealand First in 1996
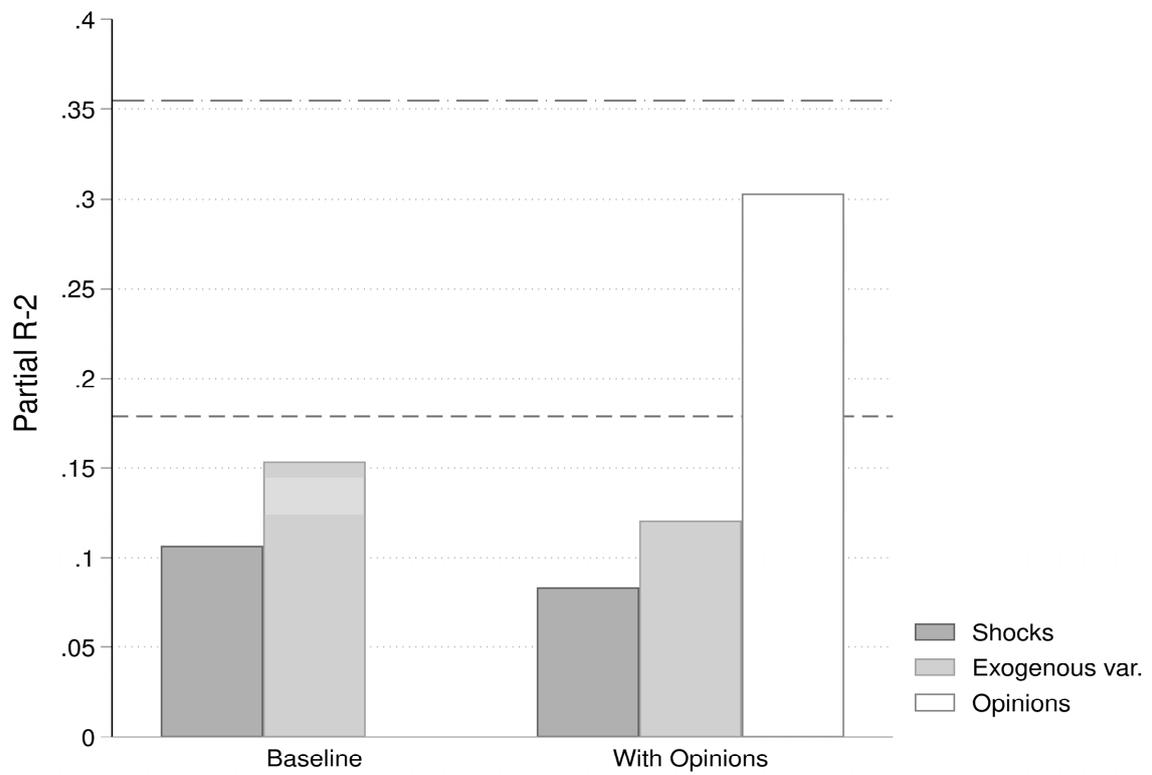
Table 1: Who Voted for New Zealand First in 1993 and 1996?

	A) Among Those Who Voted for NZF in 1993/96, Share Who Voted for Party X in 1990		B) Among Those Who Voted for Party X in 1990, Share Who Voted for NZF in 1993/96	
	1993	1996	1993	1996
National Party	0.544	0.358	0.092	0.121
Labour Party	0.181	0.278	0.042	0.105
Alliance	0.094	0.041	0.097	0.119
Social Credit	0.041	0.044	0.122	0.150
Other Parties	0.006	0.015	0.025	0.216
Did Not Vote	0.041	0.050	0.038	0.107
Ineligible or Missing	0.094	0.213	0.055	0.091

Note: Results are weighted. Panel A shows voting in 1990 for people that voted for New Zealand First in either 1993 or 1996. Panel B shows the share that voted for New Zealand First in 1993 and 1996 among voters for different parties in 1990.

Table 2: Summary Statistics for 1993 and 1996

| | 1993 | | | | 1996 | | | |
| | Full Sample | | Analysis Sample | | Full Sample | | Analysis Sample | |
	Mean	SD	Mean	SD	Mean	SD	Mean	SD
Voted for:								
NZ First	0.069	0.253	0.068	0.252	0.110	0.312	0.107	0.310
Labour	0.281	0.450	0.281	0.449	0.248	0.432	0.255	0.436
National	0.287	0.452	0.288	0.453	0.279	0.449	0.274	0.446
Far Left	0.148	0.355	0.149	0.356	0.094	0.292	0.097	0.296
No vote	0.167	0.373	0.167	0.373	0.127	0.333	0.123	0.328
Shocks:								
Immigration Shock	0.027	0.023	0.027	0.023	0.026	0.017	0.026	0.017
Asian Immig. Shock					0.012	0.011	0.012	0.011
Non-Asian Immig. Shock					0.014	0.007	0.014	0.007
Income Shock	0.051	0.045	0.051	0.045	0.049	0.042	0.049	0.042
Individual Characteristics:								
Female	0.505	0.500	0.506	0.500	0.524	0.500	0.527	0.499
Under 35	0.294	0.456	0.295	0.456	0.334	0.472	0.337	0.473
Over 65	0.188	0.391	0.189	0.391	0.172	0.377	0.169	0.375
Maori	0.063	0.242	0.063	0.243	0.081	0.273	0.085	0.279
European	0.847	0.360	0.848	0.359	0.869	0.337	0.870	0.337
Pacific	0.016	0.124	0.016	0.125	0.013	0.113	0.013	0.113
Other ethnicity	0.032	0.175	0.032	0.176	0.027	0.163	0.027	0.162
Immigrant	0.162	0.369	0.164	0.370	0.168	0.374	0.175	0.380
School Qualifications	0.383	0.486	0.383	0.486	0.499	0.500	0.500	0.500
Post-School Quals	0.189	0.391	0.189	0.392	0.302	0.459	0.308	0.462
University Degree	0.101	0.302	0.101	0.302	0.108	0.311	0.109	0.312
Employed	0.554	0.497	0.556	0.497	0.619	0.486	0.625	0.484
Unemployed	0.046	0.210	0.046	0.210	0.031	0.172	0.030	0.171
NILF	0.377	0.485	0.376	0.485	0.328	0.469	0.327	0.469
Household Income	72430	41098	72,543	41,155	83,119	33,889	83,069	34,106
Religious	0.192	0.394	0.192	0.394	0.174	0.379	0.171	0.376
Big Cities	0.405	0.491	0.404	0.491	0.433	0.496	0.437	0.496
Other Cities	0.269	0.443	0.270	0.444	0.239	0.427	0.243	0.429
Towns	0.106	0.308	0.107	0.309	0.182	0.386	0.182	0.386
Rural	0.206	0.405	0.208	0.406	0.122	0.328	0.115	0.319
Area unit characteristics:								
Female					0.519	0.028	0.519	0.025
Under 35					0.456	0.093	0.457	0.091
Over 65					0.169	0.072	0.169	0.072
Maori					0.060	0.074	0.060	0.074
School Quals					0.252	0.046	0.252	0.045
Post-school Quals					0.190	0.041	0.190	0.041
University Degree					0.087	0.075	0.087	0.075
Employment rate					0.600	0.098	0.600	0.095
Unemployment rate					0.072	0.040	0.071	0.040
Individual Income					31,320	7,973	31,400	7,854
Gini index					0.403	0.041	0.403	0.037
Population					2,304	998	2,312	994
Observations	2,232		2,211		4,113		3,473	

Means and standard deviations are presented. Results are weighted to reflect the average New Zealander age 18 and above. The immigration shock variables are defined as the number of recent arrivals relative to the total population in an area and the Asian and Non-Asian shock are additive. The income shocks is defined as the percent decline in income between 1986 and 1991 in an area.

Table 3: The Relationship Between Shock Instruments and Official Voting in 1984

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	Labour and National	Social Credit
Predicted Immigration Shock 1986 to 1991	-0.129	-0.336
	(0.340)	(0.423)
Predicted Income Shock 1986 to 1991	-0.280	0.158
	(0.478)	(0.542)
P-value for Test of Joint Signifiance	0.722	0.752
Vote Share	0.786	0.076
R-squared	0.181	0.075
Area Units	1,419	1,419

*** p<0.01, ** p<0.05, * p<0.1. Official voting data at the area unit level is used in these regresisons. Robust standard errors in parentheses which allow for clustering at the LMA level. The two instruments are described in the paper. All regressions also include controls for the following area unit characteristics: (log) population, employment rate, unemployment rate, (log) mean income, gini index, and the proportion with school qualifications, vocational qualifications and university degrees, under 35 and over 65, female and Maori.

Table 4: Impact of Shocks on Voting for NZ First in 1993 and 1996

	OLS				IV for Shocks Using Shift-Share Instruments					
Year	1993	1996	1996	1996	1993	1996	1996	1996	1996	1996
Shocks Measured at:	ED	ED	LMA	LMA	ED	ED	LMA	LMA	LMA	LMA
Immigration Shock (% Recent Arrivals)	0.904	0.617*	0.823**	1.222	0.563	1.255*	1.881***	4.779***		3.391***
	(0.602)	(0.338)	(0.407)	(0.751)	(0.596)	(0.651)	(0.702)	(1.526)		(1.226)
Income Shock (% Change 1986 to 1991)	0.183	0.127	0.530***	0.470***	0.383	0.519**	0.933***	1.321***	1.109**	0.935***
	(0.165)	(0.116)	(0.121)	(0.178)	(0.371)	(0.262)	(0.217)	(0.338)	(0.452)	(0.307)
Asian Imm. Shock (% Recent Arrivals)									13.83**	
									(5.939)	
Non-Asian Imm. Shock (% Recent Arrivals)									-14.13	
									(9.572)	
Vote Share for NZ First	0.068	0.107	0.107	0.107	0.068	0.107	0.107	0.107	0.107	0.107
Electoral District FEs and AU controls	No	No	No	Yes	No	No	No	Yes	Yes	Yes
Controls for Opinions and Previous Voting	No	No	No	No	No	No	No	No	No	Yes
R-squared	0.027	0.055	0.058	0.083	0.025	0.052	0.055	0.077	0.067	0.277
F-Stat for Immigration Shock					18.5	7.4	6.3	20.0		19.8
F-Stat for Income Shock					7.4	13.0	27.7	38.7	26.8	38.4
F-Stat Asian immigration shock									15.8	
F-Stat Non-Asian immigration shock									49.7	
Observations	2,211	3,473	3,473	3,473	2,211	3,473	3,473	3,473	3,473	3,473

*** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in parentheses which allow for clustering at electorate district (ED) or labor market area (LMA) level. In all IV regressions, the two shock variables are instrumented using shift-share instruments as described in the paper. Shocks are measured at either the ED or LMA level depending on the regression. All regressions also include controls for gender, age-group, ethnicity, immigration status, education, employment status, religiousness, (log) household income, and urban/rural. Columns four, eight and nine includes additional control variables for the following area unit characteristics: (log) population, employment rate, unemployment rate, (log) mean income, gini index, and the proportion with school qualifications, vocational qualifications and university degrees, under 35 and over 65, female and Maori; and electoral district FEs. Column ten includes additional control variables for own ideological position, own opinion on the position of NZ First, trust in the different political parties, opinions about party leaders, opinions about the countries financial situation, immigration, taxes, redistribution, social conservatism and previous voting in 1990.

Table 5: The Impact of Shocks on Voting for Other Poiltical Parties in 1996

	NZ First	Labour	National	Far Left	Other Parties	Did Not Vote
Immigration Shock (% Recent Arrivals)	4.779***	1.585	-1.778	-1.185	-2.200	-0.214
	(1.526)	(1.654)	(2.324)	(1.606)	(1.360)	(1.806)
Income Shock (% Change 1986 to 1991)	1.321***	0.330	-0.741	-0.457	-0.759*	0.169
	(0.338)	(0.456)	(0.562)	(0.383)	(0.432)	(0.411)
Vote Share	0.107	0.255	0.274	0.097	0.124	0.123
R-squared	0.077	0.089	0.104	0.058	0.097	0.135
Observations	3,473	3,473	3,473	3,473	3,473	3,473

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses which allow for clustering at the LMA level. The two shock variables are measured at the LMA level and are instrumented using shift-share instruments as described in the paper. All regressions also include controls for gender, age-group, ethnicity, immigration status, education, employment status, religiousness, (log) household income, urban/rural; the following area unit characteristics: (log) population, employment rate, unemployment rate, (log) mean income, gini index, and the proportion with school qualifications, vocational qualifications and university degrees, under 35 and over 65, female and Maori; and electoral district FEs.

Table 6: Do Economic Shocks Change People's Opinions and Ideology in 1996?

	Immigration Shock		Income Shock		Mean DV	R-squared	Observations
Own Ideology Left/Right Scale	-0.338	(5.144)	-1.531	(1.181)	3.230	0.121	2,792
Socially Conservative	-0.322	(1.318)	-0.665*	(0.379)	0.241	0.267	3,473
Hostile to Immigration	3.698***	(1.284)	0.320	(0.325)	0.728	0.118	3,473
Want to Reduce Taxes	2.282	(1.931)	-0.0564	(0.557)	0.636	0.066	3,473
In Favour of Redistribution	-1.748	(1.933)	1.232**	(0.497)	0.608	0.112	3,473
Recent Policies Bad for the Country	1.144	(1.635)	0.860**	(0.420)	0.407	0.106	3,473
Importance of Immigration	-0.201	(1.225)	0.365	(0.252)	0.106	0.082	3,473
Importance of Unemployment	1.162	(2.044)	1.163**	(0.548)	0.606	0.088	3,473
Importance of Economic Growth	-0.0801	(2.142)	-1.114*	(0.650)	0.592	0.068	3,473
Importance of Tax Rates	1.575	(2.044)	-0.529	(0.595)	0.631	0.064	3,473
Importance of Education	1.797	(1.672)	-0.617	(0.466)	0.821	0.051	3,473
Importance of Social Welfare	0.950	(1.715)	0.113	(0.592)	0.575	0.093	3,473
Importance of Defence	3.280*	(1.794)	0.467	(0.382)	0.132	0.084	3,473
Importance of Law and Order	4.345**	(2.179)	-0.299	(0.564)	0.699	0.138	3,473
Strong Leader is Needed	3.614**	(1.533)	0.896*	(0.523)	0.613	0.099	3,473
Mistrust Toward Parties	2.219**	(1.107)	0.652**	(0.304)	0.521	0.087	3,473
Better Feelings about Peters	2.714	(1.891)	0.966*	(0.534)	0.279	0.129	3,473
Better Feelings about Clark	-0.422	(2.119)	-0.222	(0.566)	0.411	0.097	3,473
Better Feelings about Bolger	-1.771	(1.871)	-0.466	(0.557)	0.290	0.096	3,473

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses which allow for clustering at the LMA level. Each row presents the results from a separate regression. The two shock variables are instrumented using shift-share instruments as described in the paper. All regressions also include controls for gender, age-group, ethnicity, immigration status, education, employment status, religiousness, (log) household income, urban/rural; the following area unit characteristics: (log) population, employment rate, unemployment rate, (log) mean income, gini index, and the proportion with school qualifications, vocational qualifications and university degrees, under 35 and over 65, female and Maori; and electoral district FEs.

Table 7: Long-Run Persistence of the Impact of Shocks on Voting for New Zealand First

	1999	2002	2005	2008	2011	2014	1999-2014	1999-2014
Immigration Shock (% Arrivals 1991 to 1996	1.991*	-0.593	-0.734	-0.155	-0.727	5.331**	0.435	-0.143
	(1.138)	(1.832)	(1.030)	(1.196)	(1.102)	(2.716)	(0.709)	(0.721)
Income Shock (% Change 1986 to 1991)	0.535***	0.621*	-0.179	-0.686	0.138	0.235	0.358**	-0.0426
	(0.198)	(0.360)	(0.471)	(0.727)	(0.481)	(0.769)	(0.176)	(0.238)
Immigration Shock * NZ First in Opposition								0.833**
								(0.371)
Income Shock * NZ First in Opposition								0.432**
								(0.185)
Immigration Shock * Change in UE Rate								-0.418
								(0.677)
Income Shock * Change in UE Rate								-0.504*
								(0.291)
NZ First in Opposition								0.0560*
								(0.0308)
Change in Unemployment Rate								-0.121**
								(0.0610)
Vote Share for NZ First	0.042	0.083	0.044	0.033	0.043	0.075	0.053	0.053
R-squared	0.069	0.061	0.057	0.079	0.073	0.166	0.034	0.035
F-Stat for Immigration Shock	18.47	16.53	18.47	17.88	20.56	17.11	17.90	6.897
F-Stat for Income Shock	29.26	18.48	11.33	7.952	7.483	7.941	17.45	8.196
Observations	4,228	4,495	3,624	2,809	3,066	1,402	19,624	19,624

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses which allow for clustering at the LMA level. The two shock variables are measured at the LMA level and are instrumented using shift-share instruments as described in the paper. All regressions also include controls for gender, age-group, ethnicity, immigration status, education, employment status, religiousness, (log) household income, urban/rural; the following area unit characteristics: (log) population, employment rate, unemployment rate, (log) mean income, gini index, and the proportion with school qualifications, vocational qualifications and university degrees, under 35 and over 65, female and Maori; and electoral district FEs. The last two columns also control for survey year FEs.

Table 8: Heterogeneity in the Impact of Shocks on Voting for NZ First in 1996

	Age < 35	Age > 65	Female	Low skilled	High Income	University Degree	Non-Employed	Receiving Benefits	High Density Areas	1986 High Immig. Areas
Immigration Shock	4.471***	4.775***	4.920***	4.124**	4.662***	4.592***	4.951***	4.603***	3.477*	9.861**
	(1.607)	(1.521)	(1.599)	(1.610)	(1.540)	(1.517)	(1.649)	(1.528)	(2.042)	(4.178)
Income Shock	1.424***	1.188***	1.353***	1.173**	1.321***	1.370***	1.017***	1.237***	1.600***	1.271***
	(0.326)	(0.337)	(0.378)	(0.494)	(0.352)	(0.345)	(0.340)	(0.338)	(0.418)	(0.382)
Imm Shock * Interaction	0.650	1.427	-0.239	0.899	0.374	-0.629	0.507	1.063	-5.004**	-10.35*
	(1.297)	(1.614)	(0.679)	(1.124)	(0.987)	(1.060)	(0.807)	(1.360)	(2.109)	(5.347)
Inc Shock * Interaction	-0.449	1.496**	-0.0692	0.207	-0.0857	-0.447	0.960**	0.490	-2.206**	-1.015
	(0.556)	(0.745)	(0.374)	(0.400)	(0.474)	(0.533)	(0.422)	(0.627)	(0.938)	(0.989)
R-squared	0.077	0.074	0.077	0.078	0.079	0.077	0.074	0.076	0.079	0.080
Observations	3,473	3,473	3,473	3,473	3.473	3,473	3,473	3,473	3,473	3,473

*** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in parentheses which allow for clustering at the LMA level. The two shock variables are measured at the LMA level and are instrumented using shift-share instruments as described in the paper. Each regression also includes an interaction between each of the two shocks and the variable listed in the header of the column, as well as the main effect for the interaction variable if it is not already included in the regression as a control variable. All regressions also include controls for gender, age-group, ethnicity, immigration status, education, employment status, religiousness, (log) household income, urban/rural; the following area unit characteristics: (log) population, employment rate, unemployment rate, (log) mean income, gini index, and the proportion with school qualifications, vocational qualifications and university degrees, under 35 and over 65, female and Maori; and electoral district FEs.

Table 9: Do the Impact of Shocks on Voting for NZ First in 1996 Vary by People's Opinions?

	Left-right ideology	Socially Conservative	Hostile to Immigration	Want to Reduce Taxes	In Favor of Redistribution	Recent Policies Bad for the Country	Mistrust Toward Parties	More Positive Feelings about Peters
Immigration Shock (% Recent Arrivals)	6.257**	4.616***	3.625**	6.779***	5.017***	4.197***	4.006**	3.474**
	(2.539)	(1.530)	(1.442)	(1.769)	(1.748)	(1.495)	(1.593)	(1.381)
Income Shock (% Change 1986 to 1991)	2.407***	1.287***	0.101	1.805***	0.693*	0.818***	-0.106	0.555*
	(0.680)	(0.377)	(0.353)	(0.546)	(0.369)	(0.284)	(0.376)	(0.300)
Immigration Shock * Interaction	-2.125	0.940	1.093	-2.994**	0.226	2.099*	1.100	3.058
	(1.648)	(0.959)	(1.159)	(1.395)	(1.167)	(1.240)	(1.601)	(1.865)
Income Shock * Interaction	-1.338**	0.272	1.655***	-0.665	1.038**	1.238*	2.603***	2.090***
	(0.656)	(0.522)	(0.492)	(0.555)	(0.468)	(0.701)	(0.672)	(0.788)
R-squared	0.075	0.079	0.095	0.079	0.084	0.089	0.101	0.215
Observations	2,792	3,473	3,473	3,473	3,473	3,473	3,473	3,473

*** p<0.01, ** p<0.05, * p<0.1. Robust standard errors in parentheses which allow for clustering at the LMA level. The two shock variables are measured at the LMA level and are instrumented using shift-share instruments as described in the paper. Each regression also includes an interaction between each of the two shocks and the variable listed in the header of the column, as well as the main effect for the interaction variable. All regressions also include controls for gender, age-group, ethnicity, immigration status, education, employment status, religiousness, (log) household income, urban/rural; the following area unit characteristics: (log) population, employment rate, unemployment rate, (log) mean income, gini index, and the proportion with school qualifications, vocational qualifications and university degrees, under 35 and over 65, female and Maori; and electoral district FEs.

Appendix Table 1: First-Stage Regressions for Impact of Shocks on Voting for NZ First in 1993 and 1996

Year	1993		1996		1996		1996	
Shocks Measured at:	ED		ED		LMA		LMA	
First Stage Dependent Variable	Immigration Shock	Income Shock	Immigration Shock	Income Shock	Immigration Shock	Income Shock	Immigration Shock	Income Shock
Predicted Immigration Shock (% Recent Arrivals)	0.808***	-0.0514	0.627***	-0.461	0.310**	-0.356***	0.398***	-0.440***
	(0.150)	(0.367)	(0.191)	(0.282)	(0.147)	(0.130)	(0.0644)	(0.140)
Predicted Income Shock (% Change 1986 to 1991)	0.616***	2.242***	0.476**	2.030***	0.315	1.925***	0.0162	1.993***
	(0.194)	(0.641)	(0.189)	(0.681)	(0.204)	(0.379)	(0.0390)	(0.255)
Mean Shock	0.027	0.051	0.026	0.050	0.026	0.049	0.026	0.049
Electoral District FEs and AU controls	No		No		No		Yes	
R-squared	0.653	0.321	0.530	0.329	0.637	0.494	0.948	0.789
F-Stat for Excluded Instruments	18.5	7.42	7.45	12.98	6.25	27.69	19.98	38.67
Cragg-Donald Wald F Statistic for Joint Excluded Instrume	192.3		311.2		531.6		847.2	
Kleibergen-Paap LM Statistic - H0: Underidentified (P-valu	0.00		0.00		0.04		0.00	
Observations	2,211		3,473		3,473		3,473	

*** $p<0.01$, ** $p<0.05$, * $p<0.1$. Robust standard errors in parentheses which allow for clustering at electorate district (ED) or labor market area (LMA) level. Shocks are measured at either the ED or LMA level depending on the regression. All regressions also include controls for gender, age-group, ethnicity, immigration status, education, employment status, religiousness, (log) household income, and urban/rural. Columns four, eight and nine includes additional control variables for the following area unit characteristics: (log) population, employment rate, unemployment rate, (log) mean income, gini index, and the proportion with school qualifications, vocational qualifications and university degrees, under 35 and over 65, female and Maori; and electoral district FEs.

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