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The Financial Drivers of Populism in Europe*

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Abstract

This paper argues that the financial crisis was a watershed in the burst of populism both on the demand side (voters behaviour) and on the supply side (political parties behaviour). On the demand side, we provide novel results on the causal effect of the financial crisis on trust, turnout and voting choices via its effects on voters economic insecurity. Economic insecurity peaks during the financial crisis and extends to segments of the population untouched by the globalization and robotization shocks. To establish causality, we use a pseudo-panel analysis and instrument the economic insecurity of different cohorts leveraging on a new methodology designed to highlight the different sensitivity to financial constraints for people in different occupations. On the supply side, we trace from manifestos the policy positions of old and new parties showing that the supply of populism had the largest jump right after the financial crisis. The size of the jump is largest in countries with low fiscal space and for parties on the left of the political spectrum. We provide a formal rationalization for the key role of fiscal space, showing how the pre-financial crisis shocks enter the picture as sources of a shrinking fiscal space.

Keywords: Demand and Supply of Populism; Financial Crisis; Fiscal Space; Age-Earning Profiles.
JEL codes: D72, D78, D14, H30.

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1 Introduction

This paper argues that the financial crisis and the associated great recession was a watershed for the dynamics of populism in Europe in the 21st century, on the demand as well as on the supply side. Guriev and Papaioannou (2021) provide the most comprehensive overview of the vast literature on the causes of populism on the demand side, where economic insecurity has been recognized as a key factor in general. In particular, much has been written on the role played by the globalization and automation threats which, by shaking workers economic security, created voters disillusion in liberal democracies, determining smooth changes in the demand of policies.[1] The financial crisis has been treated as yet another economic shock that may have further contributed to the demand of populism, but without focusing much on the exact mechanism and on which segment of society was hit differently with respect to other types of shocks or smooth transformations. We aim to fill this gap.

We argue that financial crises differ from globalization and automation shocks and may trigger more pervasive dynamic political consequences. There are several reasons for why this may be the case. First, while globalization and automation create losers, there is no doubt that there are also winners from these processes. This is not true for financial crises: most people, across all the spectrum of the voters population, lose. Hence, the discontent fostered by the insuing economic insecurity tends to be more pervasive and thus politically relevant. Second, globalization and robotization are typically associated with increases in average productivity and growth, hence losers can potentially find alternatives to the jobs destroyed by these shocks. Needless to say, the process can be costly and slow but at least some opportunities may be in sight to cushion the adverse component of these shocks. Third, globalization and robotization entail benefits to all in terms of lower final good prices: China import penetration has meant not only jobs destruction and lower wages for blue collars in firms hit by competition from China, but also lower prices for the final goods entering consumers' consumption bundle (and firms intermediate inputs). The same logic applies to robotization. Importantly, these benefits are broadly enjoyed by the whole population of voters. Even though direct evidence on the political consequences of this channel is still lacking, in principle it may have tempered the political backlash of the globalization and robotization shocks.

Recessions induced by a financial crisis lack these beneficial effects. Income losses tend to be deep, protracted and universal: because of this, for those hit hard, finding alternative jobs and income sources may be particularly difficult. Importantly, for economies like those of the advanced Western countries where both firms and households are heavily dependent on finance, financial collapses are particularly hard to cope with. One important mechanism to buffer income shocks in these economies - borrowing in the market - is hampered by the crisis, as financial markets stop working smoothly and financial constraints become more binding. In addition, the fall in asset prices caused by the crises impoverishes any precautionary savings workers may have accumulated, limiting people capacity to deal with economic insecurity. On the contrary, up until the financial crisis financial markets were

[1] The logic and mechanisms to understand intuitively such demand side transformation can be found e.g. in Rodrik (2018).

intact and credit abundant, implying that some of the people hit by the first wave of the globalization and robotization shocks could cope with them relying on borrowing or own savings when asset prices were still high.

To show the key role of the financial crisis in the spread of consensus to populist parties in Europe (the "demand" side) we rely on data from the collection of waves of the European Social Survey; we use them to conduct a pseudo-panel empirical analysis of the economic and financial drivers of changes in individual political demands and attitudes around the key 2008 juncture. We exploit political parties manifestos to study the supply dynamics on both sides of the political spectrum around the same time.

We first document that indeed 2008 seems to be a turning point: economic insecurity spikes around the financial crisis, while the appearance of populist parties peaks right after. We then move to show that the economic insecurity triggered by the great recession has a causal effect on voters trust in political parties, turnout and voting choices. In order to establish causality we build a novel instrument that leverages on the idea that financial crises are most damaging for people that depend more on borrowing to buffer income shocks and thus to manage economic insecurity. In turn, dependence on borrowing varies as a function of the steepness of an individual age-earnings profile: people with a steeper profile must rely more on borrowing to smooth consumption, which makes them more vulnerable to financial shocks.

Different cohorts of respondents to the European Social Survey over time and across countries in our pseudo-panel analysis have different compositions in terms of occupations, and different occupations display marked differences in the steepness of the age-earnings profiles. Hence, different occupations display heterogeneous sensitivity to a financial crisis. Using heterogeneity in the steepness of the income profiles, we construct a shift-share instrument where the shifter is the aggregate economic shock affecting a country, and the share determining the sensitivity of each cohort is the weighted average sensitivity in the cohort, using as weights the shares of the different occupations in the cohort. We find that the instrument has a strong predictive power on both self-reported as well as wage-shocks based measures of economic insecurity. In turn, in IV regressions that control for cohort fixed effects as well as for country and time fixed effects, shocks to economic insecurity tend to cause a reduction in turnout and trust and to determine populist voting (conditional on turnout). The effects on voters behaviour along all three dimensions are relevant: a one standard deviation in economic insecurity causes an increase in populist voting of 7 percentage points, around 94% of the sample mean; lowers turnout by more than 8 percentage points (about 10% of the sample mean) and lowers trust in political parties by as much as 35% of the sample mean.

We obtain therefore a first sense of the specific role of financial shocks that affect the ability to borrow. While the globalization, automation and immigration threats naturally affected blue collar workers in the manufacturing sector the most, the financial crisis has greatly affected also segments in the middle class with steep age-earnings profiles, thereby enlarging significantly the pool of voters seeking protection and doubting that the status quo governance of the economy could deliver it.[2] We show suggestive evidence in support of

[2]In some countries the financial crisis aftermath saw the birth of movements that urged removal of constraining institutions. Various forms of exit, rejection of international treaties previously subscribed,

the idea that the enlargement of the fraction of disillusioned voters caused by the financial crisis triggered an increase of abstensionism especially among those who had not been hit hard already by the previous globalization related problems, whereas the latter segment of cohorts of voters (already disillusioned before the financial crisis) reacted to the new shock by turning out massively for populist parties.

This heterogeneity analysis suggests then the hypothesis that the financial crisis may have been indeed the moment of maximum entry and transformation of parties on the supply side, which gave the disillusioned voters a new hope for simple and monitorable protection.[3] To investigate this hypothesis we conduct a novel analysis of the dynamics of the supply of populism in Europe. We look at the manifestos for all European parties, distinguishing long-lived parties (present both before and after the financial crisis) from the parties that died or were born with the crisis. The first order conclusion is that the 2008 financial crisis has led to the biggest discontinuous jump towards populist platforms. Much of the exit of old parties and entry of new populist parties, as well as much of the transformation of platforms of parties that became populist but were not counted as such before, happened after the financial crisis. Moreover, we find that such supply side transformation has been particularly significant in countries with a shrinking fiscal space, and especially on the left of the political spectrum. Our interpretation of the finding is that a shrinking fiscal space has dramatic differential effects on left and right oriented parties. It shatters the viability and thus the credibility of protection policies centered on the supply of expensive public goods and redistributive spending. Hence the traditional left parties suffered the most in terms of credibility, leading to exit of traditional left parties, entry of new parties like Five Star Movement in Italy or Podemos in Spain with different focus. The nationalism and identity protection policies championed by right-wing parties did not need to be altered because less dependent on public spending. The nationalist or far-right ideology does not change as a function of the financial and fiscal crisis; instead, because money matters on the left, the crises forced a significant shift from (unaffordable) redistributive politics to protection rhetoric among left oriented parties. This gives an advantage to right leaning parties because they can keep the same policies and offer a cheap type of protection.

We finally provide a formal rationalization for the key role of a shrinking fiscal space in a world where private borrowing is shut down by the crisis, and use the simple model also

construction of walls, and so on, are just examples of simple protection policies that have traction today but would not have attracted votes in other decades. One rationalization of this demand shift towards simple protection policies is that their pursuit is easy to monitor, while more complex contingent platforms require trust, which has collapsed with the accumulation of crises. See Fox and Shotts (2009), Morelli, Nicolò and Roberti (2021), and Sonin, Eilat and Agranon (2021) for formal models showing indeed that the traditional competent trustee model of representation tends to be replaced by a committed delegate type of desired representation when the fear of capture or influence by elites is sufficiently large and trust in uncommitted delegation is low.

[3]As one can see from the definition of populism in the Encyclopedia Britannica (www.britannica.com/topic/populism), populist politicians are characterized by anti-elite rhetoric as well as short-term protection policy proposals. We indeed provide confirming descriptive evidence of this in section 7: The classification of populist parties in political science is all based on the anti-elite rhetoric component derived from Mudde (2004) original definition, but our Lasso regressions indeed confirm that protection policies are the most relevant in their manifestos after the financial crisis.

to see in what ways the pre-existing globalization, robotization and immigration threats complement the financial crisis through the fiscal space channel.

The paper is organized as follows. In Section 2 we relate the paper to relevant strands of the vast literature on the populist backlash. In Section 3 we provide stylized evidence that the financial crisis marks a watershed. Section 4 presents our methodology to trace the causal effect of the burst of economic insecurity on voters behaviour, and Section 5 contains a detailed description of our data. In section 6 we show the results on the voters' (demand) side and next in section 7 we analyze extensively the dynamics of party and policy platform transformation (supply side). Section 8 sketches a simple model that rationalizes why a crisis may trigger a populist response when it occurs in conjunction with a vanishing fiscal space. Section 9 concludes.

2 Relationship with the literature

The literature on the economic and cultural causes of populism demand is humongous.[4] Given our motivation and findings sketched in the introduction, it is perhaps useful to zoom in this section on the strands of this literature that relate to the financial crisis; to emphasize the difference from the existing work on extremism; to discuss our contribution on the role of fiscal space; and finally to highlight the relationship with the literature focusing on globalization. We stress these four contributions in turn.

Correlations between the financial crisis and some of our key political variables are displayed in a number of works: Foster and Frieden (2017) show correlations between distrust measures and debt using the Eurobarometer survey ; Algan et al. (2017) show that in elections after 2008 the regions where unemployment rose saw the sharpest decline of trust in institutions and traditional politics, and Dustmann et al. (2017) show that, in the aftermath of the crisis, mistrust of European institutions is correlated with the populist vote. Looking at the age earning profiles typical of different types of occupations we identify directly the channel through which the specific features of the financial crisis (mostly related to the consequent inability to borrow) impacted differently the different cohorts of citizens in all European countries. With this insight, our paper goes beyond the above mentioned country-level correlations, providing evidence of causal effects and differentiating such effects across cohorts with different occupation characteristics.

An interesting literature exists on the role of financial crises as determinant of extremism (see e.g. Funke et al., 2016, and Galofré-Vilà et al., 2020). Our demand and supply analysis of the 2008 financial crisis emphasizes the connections with political orientation and the feasibility of policy platforms on each side of the political spectrum, more than focusing on extremism.[5] Voth et al. (2020) are the first to show causal evidence that a financial crisis

[4]For a review of the literature on the demand of populism in the social sciences in general, see e.g. Gidron and Bonikowski (2013) and Mudde and Kaltwasser (2017). The most recent survey in economics is Guriev and Papaioannou (2021). Norris and Inglehart (2019) highlight the relevance of cultural backlashes, which certainly happened at the same time as the economic insecurity transformation were taking place, but in this paper we are not interested in the horse-race between economic and cultural drivers of populism. Note also the methodological caveats against such a horse race in Margalit (2019).

[5]A well known signalling theory that links populism to extremism can be found in Acemoglu et al. (2014).

can act as a fan on extreme right populism, using different regional exposure to failing banks in Germany before 1932 elections. As a first contrast with their findings, we show that the financial crisis in 2008 has modified politics in the direction of populism much more broadly, and not only on the right: to the contrary, the transformation has been mainly on the left.[6] Second, our method of identification allows to zoom on the heterogeneous impact of the financial crisis on people in different occupations and clarify the mechanism of creation of economic insecurity, without any relevance of pre-existing anti-Semitism or other types of ideologies.

We clarify for the first time that the mechanism determining the above points requires the key ingredient of a shrinking fiscal space, and we explain with a simple model that the mechanism could be quite general.[7] On the relevance of fiscal space, Arias and Stasavage (2019) and Fetzer (2019) look at the political costs of austerity politics without looking at the dynamic transformation we emphasize. We are the first to find (and explain) that it is precisely in the countries with the smallest fiscal space that the financial crisis transformed policies and politics the most (and especially on the left) as a consequence of the financial crisis.

Rodrik (2018) traces the origin of today's populism to the globalization shock. While the shock of globalization generates demand for populist policies when considered in isolation and for specific events,[8] Guiso et al. (2019) show that globalization shocks alone cannot account for the cross-country evidence of populist outbreak in Europe. They show that the interaction of globalization with a euro-dummy captures all the explanatory power, and, in presence of such an interaction variable, globalization shocks alone lose relevance. In section 7 we show that the supply of populism displays an enormous jump in 2008, while 2004 – broadly considered a moment of globalization concerns due to the expansion of the EU – had no similar effect. The results of our paper could also be consistent with a simple accumulation mechanism, and the financial crisis could simply be viewed as the straw that broke the camel's back. A more subtle interpretation of the findings could be, in line with Rajan (2019), that globalization threats gave rise primarily to concerns about markets, whereas the financial crisis in conjunction with shrinking fiscal space and policy straight jackets decreased significantly any sort of confidence in the protection role of the state, given the current institutions of representative democracy. It is when such a confidence in representative democracy collapses that people and parties find it rational to demand and supply simple protection commitment policies like walls, protectionism, brexit (see Morelli et al., 2021, for a commitment theory of populism delivering such a prediction).

[6] Gyöngyösi and Verner (2020) emphasize for the case of Hungary the effectiveness of debt relief policies to attract populist voters towards far-right parties, while we show that when looking at the whole Europe the political transformation caused by the financial crisis happened mostly on the left.

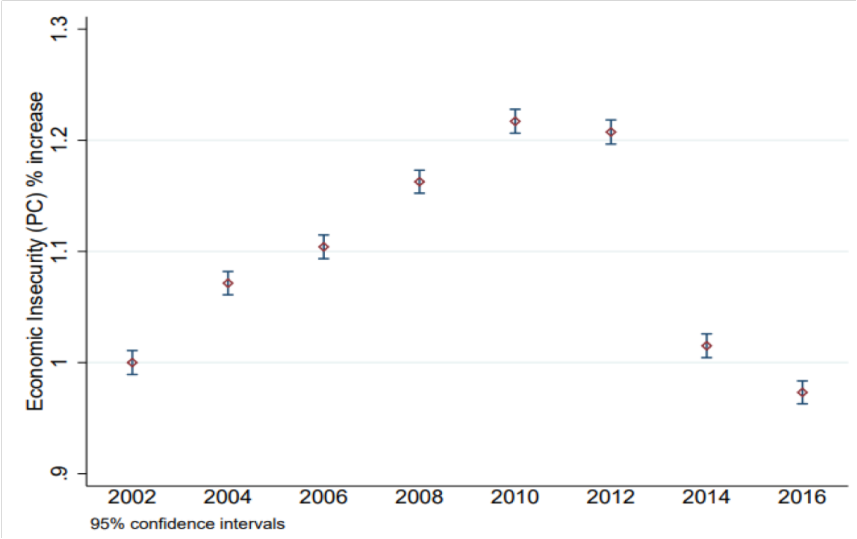
[7] Enke (2021) and Enke et al. (2021) suggest implicitly an alternative hypothesis for the interpretation of the left-right differential results: they show that left is associated significantly with moral universalism, but a series of crises can (i) reduce moral universalism of many individuals and (ii) give an electoral advantage to those who focus instead on nationalism and communal values, since they seem more feasible to protect given the shrinking resources.

[8] Autor et al. (2020 and references therein), Colantone and Stanig (2017, 2018), Jensen et al. (2016) are clear examples of well identified effects of the China shock on specific manifestations like Brexit. Pastor and Veronesi (2018) show that the backlash against globalization is a response to rising income inequality if aversion to inequality is assumed in voter's preferences.

3 The financial crises watershed

In this section we display descriptive evidence showing that the 2008 financial crisis that started in the US and spilled over to the European countries represents a watershed for the dynamics of economic insecurity and the populist backlash. Figure 1 plots a measure of the evolution of average economic insecurity (discussed in detail in Section 6) in the 28 European countries covered by the European Social Survey, setting its level to 1 in 2002 – the first sample year, marking also the acceleration of globalization after China entry into the WTO in December 2001. While economic insecurity increases already in the years before the financial crisis when globalization was unfolding, it spikes in the years of the great recession and of the European sovereign debt crisis, when it is 20% higher than in 2002. In the final years of the sample, when the effects of the great recession are slowly absorbed and GDP returns to pre-crisis levels, economic insecurity goes back to the levels prevailing in the early 2000s.

Figure 1: Economic insecurity

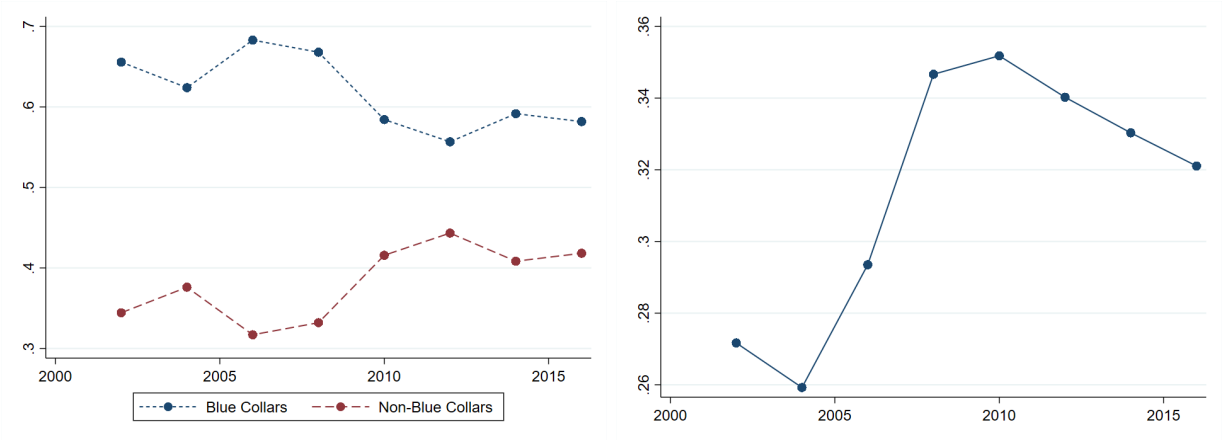


Notes: The graph plots the evolution of a measure of average economic insecurity (and its 95% confidence interval)) in the 28 European countries covered by the European Social Survey. Its level is set to 1 in 2002.

Importantly, not only the level of insecurity has spiked during the financial crisis but, consistent with the nature of this shock, the composition of those suffering serious insecurity has also changed and extended to segments of the population that were less hit by the globalization shock. Figure 2, panel (a) shows the share of blue and non-blue collars in the top quartile of economic insecurity in each year of our sample. Prior to the financial crisis, in the years of the globalization wave, the incidence of blue collars among those experiencing high insecurity is dominant (66% on average); in the years after 2008 the share of non-blue collars increases substantially by more than 8 percentage points compared to the pre-financial crisis years. Panel (b) shows that the financial crisis injected economic insecurity also in the middle class, defined as people in the middle 50% of the distribution of income in each country-wave. The share of middle class voters suffering serious insecurity (in the

top quartile of insecurity) climbs in the years of the great recession. Thus, the financial crisis not only increased insecurity among social strata that were already distressed by the globalization shocks prior to the crisis (typically blue collars and low skill workers at the bottom of the income distribution) but extended insecurity to segments of the population that were more sheltered by the globalization shock.

Figure 2: Blue-collar and Middle-class



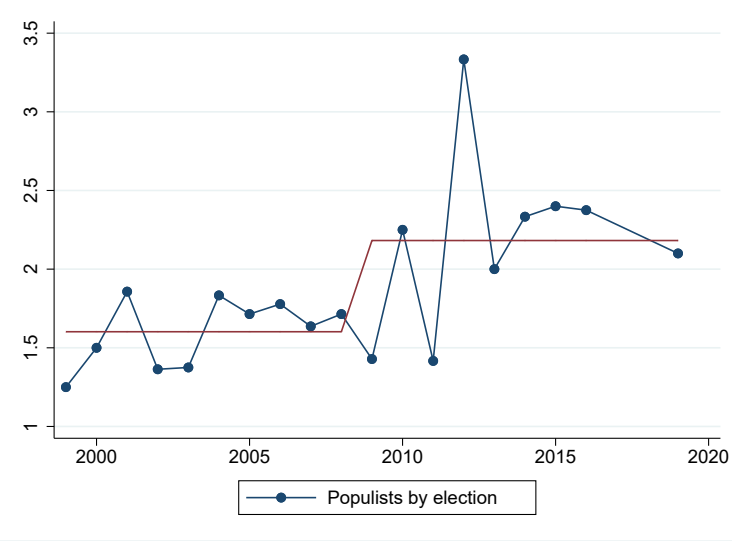
(a) Blue-Collar (b) Middle-Class

Notes: Panel (a) plots the share of blue and non-blue collars in the top quartile of economic insecurity in the years of our sample. Panel (b) shows the share of people in the middle 50% of the distribution of income in each country-wave.

This broadened the pool of disappointed voters, prompting political parties to enter the political arena with platforms offering protection to all. To highlight this, Figure 3 plots the average number of populist parties showing up in elections up to 2008 in the years since the start of the great recession. It is clear that the great recession marks a watershed in terms of supply of populist parties competing for voters consensus. Up until 2008 the number of populist parties running in an election is around 1.7 with no clear trend. In the years following 2008, the average number of populists available for vote jumps to 2.4 – a 33% increase compared to the pre-crisis mean – with a spike in the 2012 elections. Again, the financial crisis seems to constitute a structural break in the supply of populist platforms.

Finally, Figure 4 shows summary measures of fiscal space – the room available to a country's government to expand transfers or the supply of public goods. Panel (a) shows the number of countries in Europe (including the Eastern European countries before the enlargement) with a debt to GDP ratio in excess of the 60% threshold of the Maastricht Treaty. Interestingly, the number of countries violating the Maastricht threshold already jumps from 6 to 10 after the start of globalization and before the financial crisis, suggesting that the globalization shock contributed to shrinking the available fiscal space countries could count on when the financial crisis arrived. The number of violators of the threshold jump to 15 during the years of the crisis, both because GDP per capita shrunk and because countries accumulated debt to recapitalize banks during the crisis. Figure 4 panel (b) shows the time pattern of the average 10 years government bond spread vis a vis the German bond among the EU countries. The dramatic spike in the spread in the years

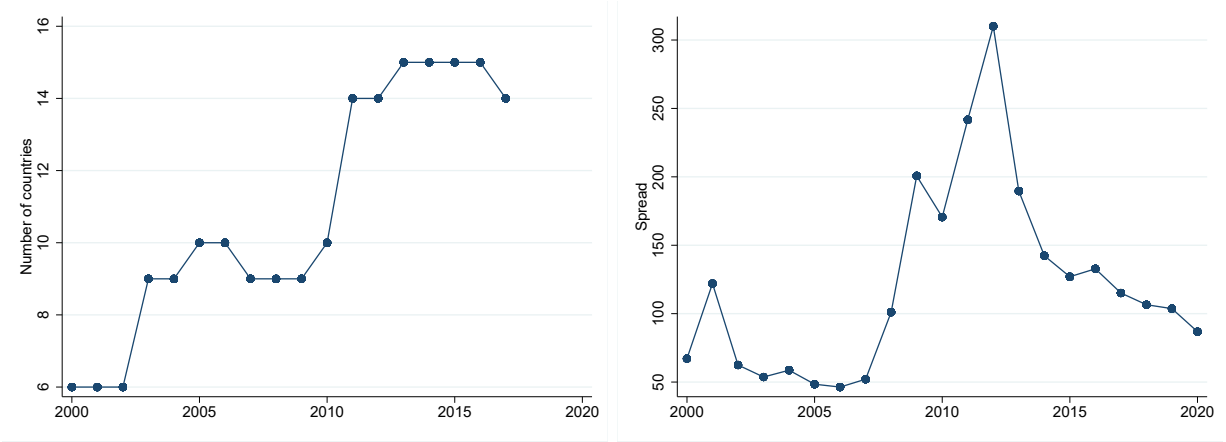
Figure 3: Populist parties



Notes: The graph shows number of populist parties (blue line) and the the average number of populist parties (red line) showing up in elections.

of the European sovereign debt crisis documents quite clearly how difficult it became for governments to secure funding to run their programs during the financial crisis compared to the globalization years, when the average spread gravitates around 50 basis. Recent research shows that countries that are constrained in the amount of fiscal space before a crisis suffer large and long-lasting output losses compared to countries that have larger fiscal space (e.g. Jordà, Schularick, and Taylor, 2016; Romer and Romer, 2019).

Figure 4: Fiscal space



(a) Debt/GDP Maastricht criteria (b) Spread

Notes: Panel (a) shows the number of countries in Europe (Eastern European countries before the enlargement included) with a debt/GDP ratio in excess of the 60% threshold of the Maastricht Treaty. Panel (b) shows the average 10 years government bond spread with respect to the German bond among the EU countries.

All in all, these broad trends strongly suggest that the financial crisis is indeed a turning point for the level of economic insecurity experienced by the population, for its extension

to social strata that tended to be more sheltered from the pre-crisis shocks, for the activity on the supply side of politics and for the available room to tackle economic insecurity with standard expansionary fiscal policies and transfers.

In the next section we explain our empirical framework and methodology to identify the effects of insecurity prompted by the crisis on voters behaviour.

4 Empirical framework

Providing evidence that economic insecurity causes changes in voters preferences for parties and in their willingness to turn out in elections presents several challenges. An obvious one is that just showing a correlation between a measure of economic insecurity in a cross section of voters and their support for populist parties (or with these citizens participation in elections) suffers from standard problems of unobserved heterogeneity. Individual-level panel data would help address them. Unfortunately, they are not available to us and, as far as we know, individual panel data with information on voting behaviour do not currently exist for the set of European countries, in particular on voting for a specific party. To overcome this problem we follow Deaton (1985) and build a synthetic panel of male and female individuals that belong to a common birth year (as described in detail in Section 5). We then estimate the panel data model:

$$v_{jct} = \gamma_1 x_{jct} + \gamma_2 EI_{jct} + f_j + f_c + f_t + u_{jct} \tag{1}$$

where v_{jct} denotes a generic outcome variable (voting to a populist party, turnout in election or trust in politics) of cohort j in country c in year t; $\mathbf{x}_{jct}$ a vector of time varying voters controls, EI_{jct} the index of economic insecurity, and u_{jct} an error term that varies across cohorts, countries and time. Unobserved heterogeneity is controlled for by the cohort-specific fixed effects f_j. We include also country fixed effects (f_c) and wave fixed effects (f_t) to capture common trends in the outcome variables and in economic insecurity and systematic differences in both across European countries.[9]

Any effect of economic insecurity on the outcome variable stems from the correlation between changes over time in the economic insecuirty of the various cohorts and the corresponding change in the outcome variable. An OLS estimate would produce a consistent estimate of the parameter γ_2 – i.e. identifying the causal effect of economic insecurity on the outcome variable – if, conditional on the controls and fixed effects, one could assume that economic insecurity is uncorrelated with the error term. There are two reasons why this may fail: first, despite the presence of cohort-level time varying controls, the control function may not capture all relevant variables that affect the change in the outcome – some may end up in the error term and may be correlated with economic insecurity (an omitted variable bias). The second realistic possibility is measurement error in economic insecurity. As we will discuss in the next section, we use various proxies to gauge individual

[9]Notice that we cannot control for time-country fixed effects. This is because the sinthetic panel is constructed by averaging individual level variables by cohort-country-wave. Hence, the cohort fixed effects and the country-wave fixed effects would absorb all the variability in the data.

economic insecurity, yet precisely because they are proxies they are likely to capture the true state of an individual economic insecurity only imperfectly.

In order to address the above problems, while focusing at the same time on the financial sources of economic insecurity, we propose a new instrument. We exploit heterogeneity across members of the different cohorts in terms of exposure to the financial crisis, to generate an instrument and obtain exogenous variation in each cohort's economic insecurity. Specifically, we rely on the idea that individuals who are more dependent on external finance tend to be hit harder by the restraints to borrowing entailed by the financial crisis. To obtain a measure of dependence on external finance we leverage on the idea that individuals that face steeper age earning profiles need to borrow more intensively in order to smooth lifetime consumption. Accordingly they suffer more when a financial shock hits the economy compared to individuals with less steep income profiles. We exploit variation in the steepness of the income profile across types of occupations (e.g. originating by differences across occupations in education requirement or on the job accumulation of human capital in the tradition of Becker, 1962, and Mincer, 1974).

Let β_k denote the steepness parameter in the age earnings profile of workers in occupation k and let s_{jkc} denote the share of workers that belong to cohort j in country c employed in occupation k relative to the total workers in the cohort, at the beginning of our sample. Our instrument is then:

$$z_{jct} = y_{ct} \left(\sum_{k=1}^{K} \beta_k s_{jkc} \right) \tag{2}$$

where y_{ct} is country's c GDP in year t, set to 1 in 2008. Hence it measures the dynamics of GDP in a country relatively to 2008 and it captures differences across countries in terms of impact of the crisis on the country economy. The instrument allocates the shock to a country GDP to the various cohorts according to the relative importance of the various occupations in each cohort and the exposure of each occupation to financial shocks. Hence, when a country GDP falls following the financial crisis, cohorts that have a higher incidence of occupations with higher dependence on external finance should experience a higher increase in economic insecurity: that is, the instrument z_{jct} should correlate negatively with the cohort economic insecurity EI_{jct}. In Section 5 we discuss how we obtain measures of β_k and construct the instrument.

5 The Data

Our main source of individual data is the European Social Survey (ESS). The ESS systematically tracks changing situations, values and attitudes. It covers all European countries, though not every country participates in every wave. Data has been collected every two years since September 2002, by face-to-face interviews, each time interviewing a random sample of individuals for each country. Sample size varies by country, ranging between 1,000 for smaller countries and 3,000 for larger ones. Hence, the ESS is a sequence of cross sections, one for each participating country. To study the dynamics of populist party support, we use all eight waves up to 2016 and extract from them a synthetic panel after grouping people into fourteen 5-year birth cohorts of men and women in each country.

These waves cover the full cycle preceding and following the financial crisis. By 2016 almost all European countries had recovered the levels of income prevailing in 2006 and, as we document below, by 2016 individual economic insecurity was back to the pre-crisis values. The ESS questionnaire consists of a core module, constant from round to round, and smaller rotating modules, repeated at intervals, on selected substantive topics. We will use the core module, which covers a wide range of social, economic, political, psychological and demographic variables. Table 1 shows summary statistics for the variables described in this section.

Table 1: Descriptive statistics

	Obs.	Mean	St. Dev	Median
ESS Dataset				
Economic Insecurity (PC)	2,310	0.22	0.09	0.22
Instrument	2,310	2.48	0.60	2.59
Turnout	2,310	0.80	0.12	0.83
Populist Vote	2,310	0.08	0.11	0.03
Trust Parties	1,981	3.41	1.10	3.32
Trust Politician	2,310	3.46	1.06	3.39
Trust Parliament	2,310	4.30	1.15	4.28
Trust (PC)	1,981	0.34	0.11	0.34
Importance Adventure	2,310	4.13	0.54	4.12
Population Region (thousands)	2,310	2262	2295	1223
TV Total	2,310	4.41	0.76	4.39
TV Politics	2,310	2.19	0.57	2.12
Left-Right Orientation	2,310	5.16	0.61	5.15
Age	2,310	54.66	16.25	54.60
Education	2,310	11.93	2.37	12.44
EU-SILC Dataset				
Age	3,097,970	48.49	18.56	48.00
Income	1,053,770	12734	14583	9376
Marital status	3,079,617	0.56	0.50	1.00
Education	3,004,680	2.85	1.30	3.00

Notes: Authors' computation from the European Social Survey (ESS) data, and the European Union Statistics on Income and Living Conditions (EU-SILC) data.

Voting and turnout. The ESS asks people whether they voted in the last parliamentary election in their country and which party they voted for.[10] From these we obtained a turnout indicator and an indicator for voting for a populist party, and we discuss below how we identify these parties.[11]

[10] An important characteristics of the ESS repeated cross-section data is that each individual is asked what (s)he voted for in the *last* parliamentary election, on top of her/his *current* economic insecurity. Because ESS interviews are performed every two years, some adjustments are needed. In particular, two problematic cases might arise: (i) cases in which multiple waves are associated with the same election, and (ii) cases in which the election happened too far in advance with respect to the survey. For these reasons, we associate to each election in each country only one wave of interviews, with a maximum lag of 2 years between the wave and the election. See Appendix A for details and examples of this problem in the data.

[11] Responses to the ESS do not necessarily correspond to what people actually did in the voting booth.

Age earning profiles. As we discuss in Section 6, to build our instrument for economic insecurity we need true individual panel data with well measured labor income for each European country in our sample. For this we rely on the European Union Statistics on Income and Living Conditions (EU-SILC) data, covering from 2003 to 2012. The main purpose of EU-SILC is to collect information on labor market experiences and outcomes for a panel of individuals in each European country, following them over time. In particular, it collects data on employment spells and labor earnings, besides a wealth of demographic characteristics. Data is collected at annual frequency. Since we know the year of birth, gender and country of the respondents, we can use EU-SILC to retrieve several measures for our synthetic panel that are relevant for our analysis, notably the steepness of the earnings profiles β_k for each occupation k and the occupation weights s_{jkc} in each cohort and country prior to the 2008 financial crisis.

Trust in traditional politics and institutions. The ESS has several proxies for confidence in institutions, governments and political parties, all on a scale between 0 (no trust) and 10 (full trust). These indicators tend to be closely correlated and thus hard to tell apart. In analyzing people political response to economic insecurity we use trust in political parties, which speaks directly to our narrative (we check our results also using all the measures and nothing changes when considering alternatives such as trust in parliament, trust in politicians, or principal component of the three).

Controls. We use as controls two proxies for voters' ability to foresee the pitfalls of the populist platforms. The first is education, measured by four dummies indicating in which quartile of education the cohort stands. The second is a measure of attention to politics, captured by two variables: how many hours per week people devote to watching TV in general and how many of these hours are spent watching news or programs about politics and current affairs.[12] Watching TV in general is taken as a proxy for little interest in politics, and thus as a proxy for poor information. Watching news and programs about politics, given the time spent watching TV, is used to proxy for information level. Voting for an anti establishment party may entail some risk and be more appealing for risk prone voters. Similarly, sensitivity to policies that offer short term protection at the expense of long term policies may depend on people subjective discount. We use four age dummies indicating the cohort age quartile as a proxy for subjective discounting, on the presumption that older people are less likely to have to bear for the future cost of current policies. As a proxy for risk tolerance we use the ESS indicator of whether people consider it important to avoid taking risks. In all regressions we control for political orientation, measured on a scale from 0 (far left) to 10 (far right). Needless to say, some of the variables can proxy for more than one of the dimensions of heterogeneity that we have listed. For instance gender may also reflect risk preferences as may age.

Economic insecurity. The key variable that we construct from the ESS data is economic insecurity. We capture heterogeneity in economic insecurity with three measures. First, whether the voter has been unemployed at some time in the past five years, forcing search for a new job; second, as a measure of financial distress, whether the voter is ex-

The correlation between turnout in the ESS and actual turnout is however quite high, 78%. The correlation between ESS votes for populist parties conditional on participation and actual voting is higher, at 80%.

[12]For wave eight of the ESS we use the variables "internet use time" and "time spent watching/listening to/reading the news" since the questions on media use have been slightly changed.

periencing income difficulties, i.e. finds it hard to live on her current income;[13] and third, an indicator of exposure to the business cycle, constructed exploiting information in the ESS on type of employment, industry and skill level – classifying as more exposed low-skill workers in manufacturing. The indicator takes value 1 if the individual is a blue-collar worker in manufacturing; 0 otherwise. We will find it useful to combine these three objective measures of financial and economic distress in a single composite index of economic insecurity by taking the first principal component, rescaled to vary between 0 (least insecure) and 1 (most insecure). With this measure we are agnostic about the specific factor causing economic insecurity.

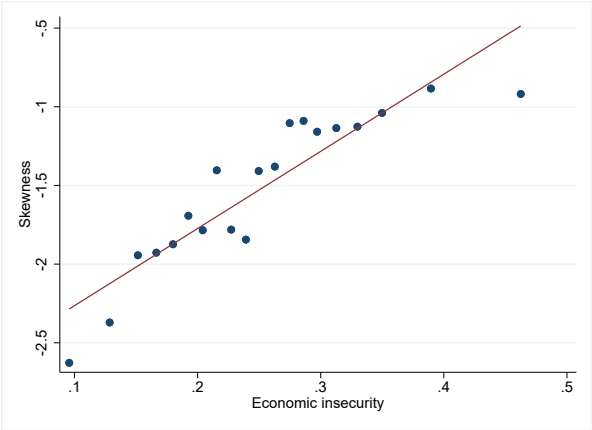
Figure 1 shows the time profile of our index of economic insecurity using individual-level data when we pool the data in our full sample of European countries. The index is on the rise in the early 2000s, presumably as a consequence of the globalization shock. But, as noticed, it jumps with the financial crisis. In 2010 and 2012 it is 20% higher that it was in the first wave of the ESS in 2002. Economic insecurity reverts back to the level prevailing in 2002 after the 2014 wave, when most countries had recovered from the great recession.

The measure introduced above has the great advantage that it is obtained from the same sample that we use to obtain our outcome political variables and we use it as our reference measure. One potential limitation is that it is self reported, rather than being based on hard, observed data. To check whether this is an issue we validate our reference measure comparing it with a data-driven measure of economic insecurity obtained from the EU-SILC panel. Following Guvenen, Ozkan and Song (2014) we use the EU-SILC panel data to estimate a process for log-labor income, from which we retrieve the estimated residual and compute measures of its variance and skewness for each cohort and wave in our ESS sample. As discussed by Guvenen et al. (2014) more than the variance of labor income shocks it is the skewness of the left tail that best characterizes income risk and moves countercyclically. In recessions the distribution of shocks to labor income gains mass on the left tail when large drops in earnings become more likely. Besides a measure of skewness we also compute the fraction of cohort members that in each wave/year experience negative shocks to their labor income and the fraction with a large negative shock (below the 25th percentile). These measures, even more than the skewness, can capture the spirit of Guvenen et al. (2014) measure of uncertainty. Figure 5 shows plots of the skewness of the residuals, panel (a), the fraction of cohort members with negative shocks, panel (b), and the fraction with large negative shocks to labor income, panel (c), against the average value of our survey-based measure of economic insecurity. Interestingly, the Guvenen et al. (2014) measures all correlate positively and strongly with our measure of economic insecurity based on self reported data. This suggests that: (i) what people report very likely reflects their actual experiences; and (ii) that drops in income is what really shakes people economic insecurity.[14]

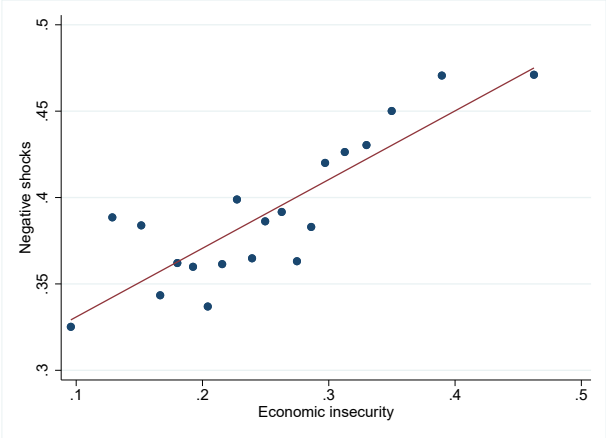
[13] Answers range from 1 (*"Living comfortably on present income"*) to 4 (*"Finding it very difficult on present income"*).

[14] Consistent with Guvenen et al. (2014), the correlation between the variance of the residuals and the survey measure of economic insecurity is positive but not as strong as that between the share of cohort members that suffer a drop in income and our measure of economic insecurity. Further, while skewness and the share suffering negative (and strongly negative) income shocks is strongly countercyclical, the variance shows less action over the cycle.

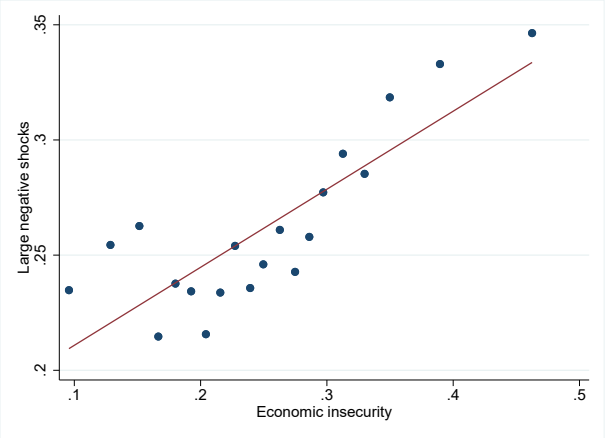
Figure 5: Labour income shocks and economic insecurity



(a) Skewness



(b) Negative shocks



(c) Large negative shocks

Notes: This figure compares data-driven measures of economic insecurity with our survey-based measure of economic insecurity. For the former, we follow the spirit of Guvenen et al. (2014), estimating the skewness of labour income shocks. In all figures, on the horizontal axis we have our survey-based measure of economic insecurity. On the vertical axis we have: in Panel (a), the skewness of the residuals of the labour income shock estimation (details in section 6.1, equation 3); in Panel (b) the fraction of cohort members with negative shocks to labor income; in Panel the fraction with large negative shocks (lower than the 25%) to labor income.

Parties. To identify populist parties in Europe, we rely on the PopuList proposed by Rooduijn et al. (2019) available at *www.popu-list.org*. The PopuList is a list of populist European parties that obtained at least 2% of the votes in at least one national parliamentary election since 1998. Peer-reviewed by more than 30 academics, the list is kept up to date and records changes in the classification of individual parties over time. All of these features make the classification reliable and useful for our analysis. Rooduijn et al. (2019) base their classification of populist parties on the classic definition provided by Mudde (2004).[15] Using criteria compatible with Mudde (2004) definition, the authors identify 121 populist parties in the 30 countries examined. The full list of parties is available in Appendix B.

Manifestos. We obtain parties' policy positions from the Manifesto Project, which provides a content analysis of parties' electoral manifestos during electoral years. The data covers over a thousand political parties from 1945 onward. For each party, it relies on textual analysis to identify the party position on a very large collection of issues grouped in seven domains for a total of 56 variables.[16] Each variable is assigned a score increasing in the party support to the issue. The latter is sometimes measured separately for positive mentions and for negative mentions in the manifestos.[17] In our analysis of the change in parties positions we select a pre- and a post-period manifesto with respect to the 2008 crisis. Specifically, we choose the closest-to-2006 manifesto, but (strictly) before 2008, and the closest-to-2013 manifesto, but (strictly) subsequent 2008.

6 Financial crisis and voters' reactions

In order to estimate model (1) we follow Deaton (1985) and construct a pseudo-panel from the sequence of ESS waves. As mentioned above, we group the data into fourteen 5-year age cohorts of men and women in each country, respectively. Our pseudo-panel consists of 840 age/country/year-of-birth/gender groups. Cohorts are relatively large, with 358 observations on average. This reassures us that measurement error in the cohort means is likely to be negligible. Dropping cohorts with fewer than 50 observations (4.8% of the total) does not alter the results.

6.1 Building the instrument

We start with the explanation of how we build our instrument. First, we use the EU-SILC panel data covering all the years from 2003 to 2012 and estimate for each of two-digit ISCO occupation codes (comprising 26 occupations) the following model of labor income:

$$y_{ict}^k = \alpha_0^k + \alpha_1^k Z_{ict} + \beta^k log(age)_{ict} + f_i + f_t + \varepsilon_{ict}^k \tag{3}$$

[15] Mudde (2004) defines a party as populist if (a) it endorses the set of ideas that society is ultimately separated into two homogeneous and antagonistic groups, "the pure people" versus "the corrupt elite," and (b) it argues that politics should be an expression of the volonté générale (general will) of the people.

[16] The seven domains are: External Relations, Freedom and Democracy, Political System, Economy, Welfare and Quality of Life, Fabric of Society, Social Groups.

[17] For example, the variable "Traditional Morality: Positive", measures the party "Favourable mentions of traditional and/or religious moral values" in the manifesto while "Traditional Morality: Negative" measures "Opposition to traditional and/or religious moral values" as inferred from the manifesto text.

where k denotes the occupation, i the individual, c the country, t time. The variable y_{ict} is log labor income, age_{ict} is individual age, ε_{ict} the residual shock to labor income; the model includes an individual fixed effect f_i which absorbs relevant time invariant individual characteristics, a vector Z_{ict} of controls which include time-varying individual demographics (marital status and education, which varies over time for some members of the sample), and year fixed effects (f_t) reflecting business cycle and aggregate productivity dynamics.

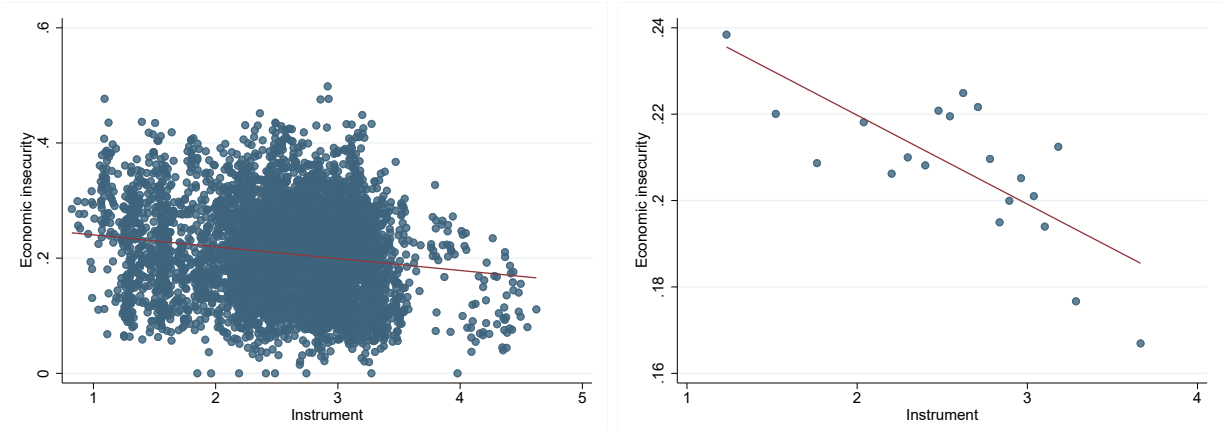
From this estimate we retrieve the slope of the profile $\hat{\beta}^k$. The estimated values of β^k range between 1.99 and 4.37, with a mean of 3.18 and a standard deviation of 0.53, suggesting that there is remarkable heterogeneity in ISCO occupations age-earnings profiles. At age 40, an extra year on the job is associated with an increase in labor income between 5% in the occupation with the lowest steepness profile and 11% in that with the steepest profile. Table A3 in Appendix C lists the occupations and their relative $\hat{\beta}^k$.

Next, for each cohort j and country c we use the EU-SILC 2003, 2004, 2005 waves to compute the weights $\hat{s}_{jkc}$, that is the share of workers in occupation k belonging to cohort j in country c before the financial crisis shock. Then we compute the instrument

$$\hat{z}_{jct} = y_{ct} \left(\sum_{k=1}^{K} \hat{\beta}^k \hat{s}_{jkc} \right). \tag{4}$$

Panel (a) of Figure 6 shows the scatter plot of the instrument against the index of economic insecurity across the cohorts in our sample. Panel (b) shows the bin scatter plot, which highlights a clear negative correlation between the instrument and economic insecurity: cohorts with a higher than average share of people in occupations characterized by steep age-earnings profiles face a higher increase in economic insecurity when the crisis causes a fall in the country GDP – that is, when y_{ct} drops below 1 in the years following the financial crisis.

Figure 6: Instrument and economic insecurity



(a) Scatter plot

(b) Binscatter

Notes: Panel (a) shows the scatter plot of the instrument (equation 4) against the index of economic insecurity across the cohorts in our sample, while Panel (b) shows the bin scatter plot of the same two variables.

Table 2 shows formal regressions of the instrument against economic insecurity, the first column controlling for cohort, country, and wave fixed effects, the second adding also

cohort-level time-varying controls described in section 5, which reproduces the first stage of our IV estimates. The instrument has the expected sign and is highly statistically significant, suggesting that we are likely to have enough power to use this instrument in regressions studying the effect of economic insecurity on voting and the other outcome variables that we discuss next.

Table 2: Economic insecurity and populist vote - First stage

	(1)	(2)
Dep. Variable	Economic Insecurity	
Estimation:	OLS	
Instrument	-0.0380***	-0.0368***
	(0.00876)	(0.00865)
Obs	2,310	2,310
Wave, Country, Cohort FE	Yes	Yes
Controls	No	Yes

Notes: OLS estimation. Dependent variable: Economic insecurity. *Instrument* is the variable computed as in equation 4. In both regressions we control for cohort, country, and wave fixed effects. In column 2 we add also cohort-level time-varying controls described in section 5. Errors are clustered at the cohort level.

6.2 Voting populist

Table 3 shows the results of the estimates of model (1) when the outcome variable is the share of votes to populist parties. The first two columns show OLS estimates, the first column controlling for cohort, wave, and country fixed effects and the second adding also the time-varying cohort controls. In both cases a cohort support to populist parties correlates positively with the variation over time in the level of economic insecurity faced by a cohort in a country. The effect is highly statistically significant and of the same size in both specifications. The other two columns show the 2SLS regressions of the corresponding specification. The effect of economic insecurity on populist voting is strongly positive and significant; compared to the OLS, the IV estimates show a larger effect, which is consistent with the idea that the index of economic insecurity imperfectly captures people economic distress, creating attenuation bias in the OLS estimates. Using the estimates in the last column, one standard deviation in economic insecurity causes an increase in populist voting of 7 percentage points, around 94% of the sample mean. The Kleibergen-Paap Wald F statistic reported at the bottom of the table shows that our estimates do not suffer from a weak instrument problem.

6.3 Turnout

Table 4 shows the results for participation in election, first for the OLS (first column) and than for the 2SLS (next three columns) estimates, including in all cases all the controls (cohort, wave, and country fixed effects and time-varying cohort controls). A surge in

Table 3: Economic insecurity and populist vote

Dep. Variable	(1)	(2)	(3)	(4)
	Populist vote			
Estimation	OLS		2SLS	
Economic insecurity	0.0956***	0.128***	0.790***	0.850***
	(0.0301)	(0.0234)	(0.149)	(0.193)
Obs	2,310	2,310	2,310	2,310
Wave, Country, Cohort FE	Yes	Yes	Yes	Yes
Controls	No	Yes	No	Yes
KP F			18.80	18.10

Notes: OLS estimation in columns 1 and 2, 2SLS estimation in columns 3 and 4. Dependent variable: Populist vote. *Economic insecurity* is the survey-based measure of economic insecurity. In all regressions we control for cohort, country, and wave fixed effects. In columns 2 and 4 we add also cohort-level time-varying controls described in section 5. Errors are clustered at the cohort level. Kleibergen-Paap F-statistic are reported for columns 3 and 4.

economic insecurity discourages people from voting. This is true in OLS estimates as well as in the 2SLS estimates. As in the case of voting populist, the IV estimate of the effect of economic insecurity is much stronger than the OLS estimate, which is consistent with the presence of measurement error in the index of economic insecurity. Economically, the estimates in the second column imply that a one standard deviation increase in economic insecurity lowers turnout by more than 8 percentage points - about 10% of the sample mean.

The evidence shown is strongly consistent with the idea that economic insecurity induced by the crisis creates disappointment with traditional political parties inducing voters either to believe the populist anti-elite, protectionist rhetoric and support populist parties with a vote, or to exit the political market avoiding to turnout.

Next we investigate whether the appearance of a populist party offers a valid outlet to disappointed voters, limiting their disincentive to turnout. In the third column we interact economic insecurity with an indicator for whether in the aftermath of the crisis a new populist party exists in the country and whether it is of the same orientation as that of the voters in the cohort. A cohort orientation is defined to be on the right if the average orientation of the cohort is above the median orientation in the country wave and vice versa for left oriented; the latter is than compared with the orientation of the populist party. Neither of the two variables is statistically significant. In the last column we replace the indicator for the new populist party with one for whether a populist party appears *just after* the burst of the financial crisis; there is some evidence that the presence of a populist party of the same orientation precisely when the crisis pops up mitigates the voter incentive to withdraw from elections participation. This suggests that political orientation matters and that a populist party can more easily fish in the pond of the disappointed voters that share its orientation. Among the latter, the effect of economic insecurity on turnout is 1/3 smaller (in absolute value) than among voters that do not share orientation with the populist party (-0.976 compared to -0.622, obtained from the difference between -0.976 and 0.354).

Table 4: Economic Insecurity and Turnout

Dep. Variable	(1)	(2)	(3)	(4)
	Turnout			
Estimation	OLS	2SLS	2SLS	2SLS
Economic insecurity	-0.383***	-0.972***	-0.962***	-0.976***
	(0.0514)	(0.306)	(0.306)	(0.313)
Economic insecurity × New populist same orientation			0.203	
			(0.188)	
Economic insecurity × New populist same orientation post crisis				0.354*
				(0.179)
New Populist same orientation			-0.0426	
			(0.0486)	
New Populist same orientation post crisis				-0.0788*
				(0.0438)
Obs	2,310	2,310	2,310	2,310
Wave, Country, Cohort FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
KP F		18.10	8.97	8.94

Notes: OLS estimation in column 1, 2SLS estimation in columns 2-4. Dependent variable: Populist vote. *Economic insecurity* is the survey-based measure of economic insecurity. *New populist same orientation* is a dummy equal one if a new populist party exists in the country and whether it is of the same orientation as that of the voters in the cohort. *New populist same orientation post crisis* is a dummy assuming value one when the new populist appears just after the burst of the financial crisis. In all regressions we control for cohort, country, and wave fixed effects, together with cohort-level time-varying controls described in section 5. Errors are clustered at the cohort level. Kleibergen-Paap F-statistic are reported for columns 2-4.

6.4 Trust in political parties

Finally, columns 1 and 2 of Table 5 show the effect of economic insecurity on trust in political parties. OLS estimates show that trust in political parties dropped more in cohorts that were facing greater economic uncertainty, controlling for cohort fixed effects as well as country and time effects common to all cohorts and time varying characteristics of the cohort. The second column shows the 2SLS regression. As with voting and turnout, also the IV estimate of the effect of economic insecurity on trust, beside being precisely estimated, is much stronger than the OLS estimates (-13.8 compared to -2.8), lending support to the idea that OLS estimates are biased towards zero because of measurement error in economic insecurity. Economically, one standard deviation in economic insecurity lowers trust in political parties by as much as 35% of the sample mean - a non negligible effect. In columns 3-6 we show that the effect of economic insecurity is strong also on other variables related to individual level of trust, namely trust in politicians and trust towards the parliament. The results lend support to our thesis that a deterioration in individual economic security causes a loss of confidence in political parties, which may induce disappointment and lead voters to abstain in elections. Below we expand the evidence on the effect of insecurity on voting populist, turnout and trust.

6.5 Robustness

Table 6 re-runs our IV estimates for our three outcome measures (voting populist, turnout and trust in political parties) using this time the Guvenen et al. (2014) measure of

Table 5: Economic Insecurity and Trust

Dep. Variable	(1)	(2)	(3)	(4)	(5)	(6)
	Trust on Parties		Trust on Politicians		Trust on Parliament	
Estimation	OLS	2SLS	OLS	2SLS	OLS	2SLS
Economic insecurity	-2.795***	-13.77***	-2.967***	-11.80***	-3.367***	-15.31***
	(0.255)	(3.037)	(0.219)	(2.278)	(0.317)	(2.584)
Obs	1,981	1,981	2,310	2,310	2,310	2,310
Wave, Country, Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
KP F		14.37		18.10		18.10

Notes: OLS estimation in columns 1, 3, and 5, 2SLS estimation in columns 2, 4, and 6. Dependent variable: Trust in political parties in columns 1 and 2, Trust in politicians in columns 3 and 4, and Trust in Parliament in columns 5 and 6. *Economic insecurity* is the survey-based measure of economic insecurity. In all regressions we control for cohort, country, and wave fixed effects, together with cohort-level time-varying controls described in section 5. Errors are clustered at the cohort level. Kleibergen-Paap F-statistic are reported for columns 2, 4, and 6.

economic insecurity, captured either by the fraction of cohort members experiencing a drop in income or the fraction of cohort members experiencing a large drop (in the top quartile of drops for the whole sample in the country-year) in labor income.[18]

Even using these non-self reported, alternative measures, an increase in economic insecurity causes an increase in the share of votes to populist parties, a decrease in turnout and in trust in political parties, confirming the results obtained with our reference measure. This reassures us that what we are capturing is truly the effect on people political decisions and beliefs caused by economic uncertainty. In the last two columns of Table 6 we test the robustness of our result on populist vote to the fact that our classification of populist parties only applies to parties that gain at least one seat in parliament. Hence, in some countries populist votes may be zero even if one or more such parties are present but none gains a seat. To account for this possibility we use a Tobit estimator. We obtain very similar results: the simple Tobit regression shows a positive and significant effect of economic insecurity; the IV Tobit estimate is much larger, consistent with the difference between the OLS and IV estimates in the other tables.

As pointed out by Borusyak and Hull (2020), one issue with the shift-share identification strategy is that the exogeneity of the shares may fail to hold even when shares are measured before the relevant experiment (the financial crisis shock in our case). To assess the robustness of our results to this issue, in Appendix D we perform a falsification analysis. First, we replace the shift component in the shift-share instrument (that is the actual changes in GDP at the country level - y_{ct} in equation 2) with randomly generated instruments. We generate these counterfactual GDP shocks from a distribution with mean and standard deviation equal to the corresponding moments of the historical GDP distribution. We then show that the counterfactual shift share instruments (we create 1,000 of them) have no predictive power when used in the voting, participation and trust regressions. Second, one

[18]To be more precise, the first percentage is the percentage of the cohort members who have a negative residual when comparing their labor income with the one predicted by her characteristics up to that moment; the second percentage is the percentage of the cohort members with a residual in the worst quartile of residuals in such a regression, for all the data in the country and year.

Table 6: Robustness

Dep. ariable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Populist vote		Turnout		Trust on parties		Populist vote	
Estimator	2SLS	2SLS	2SLS	2SLS	2SLS	2SLS	Tobit	IV Tobit
Share Income Drop	0.218***		-0.357***		-5.055***			
	(0.0620)		(0.0958)		(0.746)			
Share Large Income Drop		0.209***		-0.344***		-4.863***		
		(0.0598)		(0.0931)		(0.801)		
Economic insecurity							0.198***	1.769***
							(0.0392)	(0.325)
Observations	724	724	724	724	724	724	2,310	2,310
Wave, Country, Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
KP F	98.21	82.45	98.21	82.45	98.21	82.45		

Notes: 2SLS estimation in columns 1-6, Tobit in column 7 and IV Tobit in column 8. Dependent variable: Populist vote in columns 1, 2, 7, and 8, Turnout in columns 3 and 4, Trust in political parties in columns 5 and 6. *Share Income Drop* is the fraction of cohort members experiencing a drop in income. *Share Large Income Drop* is the fraction of cohort members experiencing a large drop (in the top quartile of drops for the whole sample in the country-year) in labor income. *Economic insecurity* is the survey-based measure of economic insecurity. In all regressions we control for cohort, country, and wave fixed effects, together with cohort-level time-varying controls described in section 5. Errors are clustered at the cohort level. Kleibergen-Paap F-statistic are reported for columns 1-6.

may be concerned about non-random exposure to the shocks, which could give rise to an omitted variable bias. To deal with this concern, also in Appendix D, we show that the 2SLS results are robust when applying the re-centering methodology proposed by Borusyak and Hull (2020).[19]

Finally, we test the robustness of our results to different clustering of the standard errors and/or different fixed effect schemes. Specifically, our results are unchanged if: (i) we cluster standard errors at the country-cohort level, instead of cohort level; (ii) we replace country and cohort fixed effects with country×cohort fixed effects; or (iii) we perform both changes described in (i) and (ii) simultaneously. Notice that the specification we present in the text is the one than minimizes the Kleibergen-Paap Wald F statistic, therefore the most demanding in terms of power of our instrument.

6.6 Heterogeneity analysis

We use the heterogeneity in voters' reaction to the crisis to suggest an interpretation of the dynamics. Let's begin from turnout. In Table 7 we present some descriptive evidence on the dynamics of turnout. We split cohorts between left and right oriented ones and then compute average turnout in elections taking place before and after the financial crisis, that is before and after voters economic security was shaken by the arrival of the great recession. The table suggests that all the drop in turnout took place on the left: left oriented voters tend to turnout more on average, but when the crisis arrived their participation rate fell by 1.5 percent. Instead, turnout for right oriented voters hardly changed (and if anything slightly increased). This suggests that left-leaning voters suffered greater disappointment

[19]"Re-centering" consists in subtracting the mean of the counterfactual instruments from the IV, or adding it as a control variable. Borusyak and Hull (2020) show that recentering effectively removes the bias from non-random shock exposure, without having to impose further assumptions (like parallel trends). All our results are robust when we apply the re-centering methodology.

with traditional political parties, and this was not tempered by the appearance of left-oriented populist parties.

Table 7: Drop in turnout

	Left	Right
Pre	0.834	0.744
Post	0.821	0.746
% change	*-1.52%*	*0.24%*

Notes: The table shows the pre- and post-crisis average level of turnout among left and right oriented individuals, together with their relevant percentage change.

To be more precise, we first compute the cohort-specific growth rate of abstentionism around the crisis (comparing the first election after the financial crisis with the last before). Second, we create a country dummy that takes value one when in that period there is an increase in the number of populist parties available to voters. Third, we introduce a same-orientation dummy, which takes value 1 when in that period the number of populist parties available to voters of the same orientation of the cohort increases. Column 1 of Table 8 confirms that an increase in the number of populist parties is associated with a decrease in abstentionism. Column 2, on the other hand, confirms that this effect is magnified when the new political parties are aligned in terms of orientation with the cohorts' political preferences. As it appears, the drop in turnout following the financial crisis shock is smaller when voters can count on a populist party that shares their same ideology.

Table 8: Abstention growth

	(1)	(2)
Dependent variable	Abstentionism growth rate	
Estimation	OLS	
New populist party	-0.561**	
	(0.271)	
New populist party same orientation		-0.784***
		(0.225)
Obs	659	659
Wave FE	Yes	Yes
Controls	Yes	Yes

Notes: OLS estimation. Dependent variable: Abstentionism growth rate (comparing the first election after the financial crisis with the last before). *New populist party* is a dummy equal one if the country-year there is an increase in the number of populist parties. *New populist party same orientation* is a dummy equal one if the country-year there is an increase in the number of populist parties of the same orientation of the cohort. In all regressions we control for wave fixed effects, together with cohort-level time-varying controls described in section 5. Errors are clustered at the cohort level.

This evidence shows suggestive correlations that are consistent with the idea that populist platforms offered a way out to disappointed voters on the left and on the right of the political spectrum but only when the populist party had the same orientation as the voter. Otherwise disappointment translated in abstentionism.

Table 9 enriches the evidence on the dynamics of turnout and vote choice. We split our cohorts in two groups. The group that we call high abstainers, *HA*, contains for

each country the cohorts with the highest abstention rate in the last election before the crisis.[20] The other group, O, is the complement set of cohorts. We compute the change in abstentionism for the two groups from before to after the crisis. From panel (a), we can observe that among the cohorts in the O group, abstentionism increases by 9% relatively to the pre-crisis level; however, among the HA cohorts an opposite dynamic appears: after the crisis, abstentionism falls by a remarkable 29%. Panel (b) shows means of vote shares to populist parties in elections before and after the crisis in the two groups. Populist vote share increases by 32% in the O set of cohorts, but it jumps by twice as much (65%) for HA cohorts - that is in cohorts characterized by a high degree of disappointment, suggesting that populist platforms were particularly appealing for these voters. In panel (c) and (d) we split the HA set in two, namely those who have suffered from high- and low-level of economic insecurity (EI).[21] Panel (c) documents that the abstentionism drop in HA does not differ between the two subgroups - in both groups it drops by 30%; there is, instead, a huge difference between the two subgroups in terms of vote choice: vote to populist parties increases by more than 100% within the *high EI AH* subset, compared to only 18% among the *low EI HA* cohorts. These data suggest that when a populist alternative was available, disappointment translated in a remarkable increase in consensus to populist parties among the most insecure cohorts, contributing greatly to draw people into the polls, driving abstentionism down. Said differently, without the emergence of populist parties, disappointment with traditional parties would have produced a much higher drop in turnout than the one observed. The flip side is that the abstentionism pond was the reservoir for populist parties votes. This motivates the analysis of the supply side, to which now we turn.

7 Financial crisis and party dynamics

In this section we show evidence that the political supply changed substantially around the financial crisis. In the heterogeneity analysis in the previous section we have mentioned that voters' reaction to changes in economic insecurity were greatly affected by entry of new populist parties. We now provide a full account of the transformation of political supply looking at the entire set of manifestos of all political parties during that period. Recall from section 5 that for each party and each country we focus on the last manifesto before 2008 and the first after 2008. Before delving into this analysis, the following summary figures provide a first impression of the political transformation following the crisis: the number of *long lived* parties, i.e. those present before and after the 2008 crisis, is 173; the number of *dead* parties, i.e. present only in the pre-crisis period, is 92; the number of *new born* parties, i.e. appeared after the 2008 crisis, is 152, of which 30 populist. Defining the turnover ratio as the sum of *new born* and *dead* divided by the pre-crisis total number of parties, the turnover rate in 2008 is 58%. Such a turnover rate around the crisis is abnormal compared to turnover before the crisis: it is 38% higher than in 2004 - a year that represents another

[20] This people - already high abstainers before the financial crisis - are, according to our interpretation, those who had been hit hard already by previous economic insecurity shocks.

[21] *High-EI HA* cohorts are those cohorts who are above the median of economic insecurity within the *HA* group, and *low-EI HA* is the complement set.

Table 9: Abstentionism and economic insecurity

Panel (a): Abstentionism

	High Absteiners	Other
Pre	0.373	0.172
Post	0.263	0.188
	-29%	9%

Panel (b): Populism Vote

	High Absteiners	Other
Pre	0.054	0.072
Post	0.089	0.095
	65%	32%

Panel (c): Abstentionism

	High Absteiners - high EI	High Absteiners - low EI
Pre	0.450	0.290
Post	0.320	0.202
	-29%	-30%

Panel (d): Populist Vote

	High Abstainers - high EI	High Absteiners - low EI
Pre	0.057	0.050
Post	0.116	0.060
	104%	18%

Notes: In Panel (a) we compare the pre- and post-crisis average level of Abstentionism among *High Abstainers* (which contains for each country the cohorts with the highest abstention rate in the last election before the crisis) and *Other* (the complement set of cohorts). In Panel (b) we make the same comparison in terms of Populist Vote. In the last two panels we replicate the analyses on Abstentionism, Panel (c), and Populist Vote, Panel (d) but focusing on *High Abstainers* only, splitting them among *High Abstainers - high EI* (who are above the median of economic insecurity within the *High Abstainers* group) and *High Abstainers - low EI* (the complement set).

important juncture, namely Europe's enlargement.

To measure changes in political manifestos we use lasso regressions and isolate the first six policy items that (separately before and after the financial crisis) tend to be most associated with populist positions. They are: anti-EU, protectionism, anti-internationalism, anti-multiculturalism, national way of life, anti-political corruption (the methodology is fully explained in Appendix E). Among those six policies, anti-multiculturalism and national way of life appear very relevant for populists on the right of the political spectrum (we refer to them as "right policies"), whereas the other four policies are present in all populist parties, and in particular two of these four seem to be even stronger among the left-oriented populists (anti-EU and protectionism, we refer to them as "left policies"). Anti-political corruption and anti-internationalism belong to both, therefore we do not consider them in the comparative analysis between the two orientations.

The common characteristic of the six policies is that they tend to stress protection against some type of threat or shock (economic, cultural, vis a vis immigrants/foreigners). As argued by Guiso et al. (2017), this is indeed one distinctive feature of populist parties; the other being the anti-elite rhetoric captured by the anti-political corruption policy.

Next, we take the positions on the six policy dimensions of all *long lived* parties before and after the crisis and we construct a *delta policy* variable for the change in such positions. To identify possible drivers of the change in the position on these policies among all parties we run the following regression model:

$$\delta_{ipc} = \sigma_1 y_{ipc}^{pre} + \sigma_2 pop_{pc} + \sigma_3 left_{pc} + \sigma_4 left_{pc} \times ds_c + f_i + f_c + u_{ipc} \tag{5}$$

where $i \in \{1, ..., 6\}$ refers to one of the six policies, p the party, and c the country; δ_{ipc} is the delta policy variable described above; y_{ipc}^{pre} is the party pre-crisis position on policy i; pop_{pc} and $left_{pc}$ are dummies indicating whether party p is respectively populist and left-oriented; and ds_c measures the difference between the (average of the) 2009-2012 country-level 5-year sovereign CDS spread and the (average of the) 2005-2007 country-level 5-year sovereign CDS spread. This captures the deterioration in a country access to the bond market and thus the ability to finance fiscal policy. That is, it is a proxy for the change in fiscal space following the financial crisis. Finally, f_i and f_c are respectively policy and country fixed effect. The OLS estimates of model (5) are presented in Table 10. The first column pools the six policies together. Pre-period policy is relevant for explaining the change in parties policies: the higher the initial score on a policy - that is the more protection oriented was the party position already before the crisis - the lower the "available space for manoeuvrer" when the crisis comes. Holding orientation constant, populist parties on average show bigger policy change - i.e. they respond to the crisis biasing their policies even more towards extending protection. The opposite is true for left oriented parties, which tend to move their policies away from supplying protection. However, the effect of orientation on policy change depends on the available fiscal space. When the latter shrinks, left oriented parties tend to move their policies towards increased protection. However, the regression in the first column makes no distinction between the nature of the policies. In the other two columns we estimate the same model but separately for "right-policies" (second column) and "left-policies" (third column). Interestingly, when we focus on "right policies", left-oriented parties are less prone to offer more protection of this type in response to the crises even when fiscal space tighten, as documented by the fact that the interaction between the left party variable and the fiscal space proxy loses significance. When we focus on "left-policies", we see that left oriented parties supply protection that is supported by left-oriented voters when fiscal space shrinks, with a magnitude of the interaction term that is more than 4 times the one estimated in column 1.[22] Before the financial crisis and even more so before the acceleration of globalization, left parties policies often involved spending as a way to address people insecurity and demand for protection. Thus, a shrinking fiscal space that occurs at the same time of a financial crisis requires a much bigger re-adjustment with respect to the right, whose identity-protection policies require no spending.

In Tables 11 we compare the average policy positions of the 534 *dead parties* with those

[22]All these results are robust if we include as additional control an interaction between the percentage delta in GDP (measured consistently with the percentage spread delta) and the variable left.

Table 10: Protection dynamics

Dep. Variable	(1)	(2) Delta Policy	(3)
Policies analised	All policies	Right policies	Left policies
Policy pre-period	-0.719***	-0.743***	-0.617***
	(0.110)	(0.125)	(0.0912)
Populist	0.794**	0.861	0.901*
	(0.314)	(0.747)	(0.442)
Left	-0.299**	-0.778**	-0.0261
	(0.135)	(0.338)	(0.149)
Percentage change spread × Left	0.000482***	-0.000349	0.00228***
	(0.000163)	(0.000445)	(0.000179)
Obs.	720	240	240
R2	0.410	0.513	0.318
Policy FE, Country FE	Yes	Yes	Yes

Notes: OLS estimation. Dependent variable: *Delta policy*, defined as the difference between the policy in the (closest) manifestos in 2013 and 2006; in column (1) all policies are included; in column (2) only left policies are included; in column (3) only right policies are included. ***,**,* = indicate significance at the 1, 5, and 10% level, respectively. *Policy pre-period* is the policy in the (closest) manifesto in 2006. *Populist* is a dummy = 1 when the party is populist. *Left* is a dummy = 1 when the party is left-oriented. *Percentage change spread* is the country-level spread (5-year sovereign CDS spread) percentage change between pre-crisis (average 2005-2007) and post-crisis (average 2009-2012) periods. All specifications include policy FE and country FE. Standard errors are clustered at the country level.

of the 882 *new born* parties. The first are obviously measured only before the crisis, the second only after. A comparison between the two offers some insight on how the financial crisis has shaped the platforms of new parties. If we look at all policies together we find a significant difference between the *dead* parties and the *new born* parties. Compared to dead parties, new born parties offer policies that are more protection intensive. This difference is even stronger if we single out parties in high spread countries where fiscal space is more constrained. When we focus separately on right- and left-policies , we find that right policies of new born parties are no different (in level and statistically) from the right policies of dead parties. Instead, left-policies of new born parties are much more tilted towards protection than those of dead parties, particularly in countries with smaller fiscal space (high spread countries) .

The evidence in Tables 10 and 11 is consistent with the idea that the 2008 crisis indeed constituted a source of great transformation of the political supply in Europe in the direction of populism. To test whether this is unique to the crises we run a placebo test focusing on the 2004 Enlargement of the EU. As Guiso, Sapienza and Zingales (2016) argue, the 2004 Enlargement constitutes one of the three critical junctures for the European construction process.[23] As they document, it was a source of tension reflected in people sentiments towards the union. Yet, it did *not* cause the same political effects. More precisely, running the same model as in equation (5), but anchoring the pre and post around the 2004 instead of 2008, displays no significant change in policy positions on the six dimensions of populism

[23]The other two are the signing of the Maastricht treaty and the Great Recession.

Table 11: Policies comparison

Policies	Countries	Observations		Mean policies		Absolute
		Dead parties	New born parties	Dead parties	New born parties	diff means
All policies	All	534	882	0.96	1.29	0.32*
	High spread	252	410	0.47	1.09	0.62***
Right policies	All	178	294	1.89	1.76	0.13
	High spread	84	138	0.75	1.11	0.35
Left policies	All	178	294	0.36	0.75	0.39**
	High spread	14784	138	0.33	0.82	0.49**

Notes: The table reports the difference in (mean) policies and its significance among parties who did not survived the 2008 crisis (*Dead parties*) and parties who were born after the 2008 crisis (*New born parties*). The policies analysed are either *All policies* (anti-EU, protectionism, anti-internationalism, anti-multiculturalism, national way of life, anti-political corruption), *Right policies* (anti-multiculturalism, national way of live), or *Left policies* (anti-EU, protectionism). The comparison is performed among *All* countries and *High spread* (above the median) countries.

mentioned above.[24] Similarly, when comparing *new born* and *dead* parties replacing 2008 with 2004, no significant average increase in the populist policy position can be found (not even focusing on high spread countries).

In sum, the difference in difference results shown in this section suggest that the pre-financial crisis globalization related challenges were not enough to determine significant changes in parties' strategies (looking at *long lived* parties) nor to create new parties at an abnormal rate. Our interpretation is that globalization-related challenges affected the economic insecurity only on the "market side", leaving still room for political competition on state provision of welfare protection, which is consistent with an increasing number of countries violating the Maastricht government debt threshold after the entry of China in the WTO and before the start of the Great Recession, as shown in Figure 4, panel (a). On the other hand, the financial crisis combined with (or triggering itself) a shrinking fiscal space determined much bigger disillusion also on the "state side". Thus, the double distrust in markets as well as in state institutions already facing constraints made it possible to enter political competition with platforms that focused on radical changes of market and state institutional constraints.

8 A rationalization of the role of fiscal space

This section provides a simple, very stilized model that rationalizes why a crisis may trigger a political response that resembles the populist backlash that we observe in the data when it occurs in conjunction with a vanishing fiscal space.

Consider an economy with one firm, with production function

$$F(L) = L$$

[24]To perform this exercise, we selected as pre-election the election closest to 2002 but (strictly) before 2004, and as post-election the election closest to 2006 but (strictly) before 2008 and after 2004. The change in spread is measured as the difference between the (average of the) 2005-2006 country-level 5-year sovereign CDS spread and the (average of the) 2002-2003 country-level 5-year sovereign CDS spread.

where L is the employed labor force. Let the total population of potential workers be denoted by N, and assume each worker earns a wage w. For a given wage w, and for a given aggregate demand G, the firm hires $L = \min\{G, N\}$ workers, as long as $w < 1$. Assume throughout that the subsistence level is $u < w < 1$, so that there always exists a non-empty space of w that makes the economy viable. To focus on the interesting case, therefore, assume $u < w < 1$ and $N > G$, so that this simple economy produces output G and displays unemployment of $N - G$ workers.

The state that wants to guarantee subsistence to all should raise tax revenue $u(N-G)$.

Consider a standard linear tax system with tax rate τ. The minimum tax rate necessary to guarantee subsistence to all is therefore

$$\underline{\tau} = \frac{u(N-G)}{G}. \tag{6}$$

The tax rate must also have two upper bounds, since if it is too high then i) the firm earns a negative profit and ii) workers obtain a net payoff below subsistence, respectively. These two incentive compatibility constraints are:

$$(1-\tau)G - wG \geq 0 \tag{7}$$

and

$$(1-\tau)w \geq u. \tag{8}$$

The two corresponding upper bounds on the tax rate are

$$\bar{\tau}_f \equiv 1 - w \tag{9}$$

and

$$\bar{\tau}_l \equiv \frac{w-u}{w}. \tag{10}$$

Given that we need to have both upper bounds satisfied, the chosen tax rate must be less than or equal to $\min\{\bar{\tau}_f, \bar{\tau}_l\}$. Note that $\bar{\tau}_f < \bar{\tau}_l$ iff $w > \sqrt{u}$. We will call an economy satisfying this inequality a *high wage economy*, while in a *low wage economy* $w < \sqrt{u}$.

In a high(low) wage economy we call *fiscal space* the interval $[\bar{\tau}_f - \underline{\tau}]([\bar{\tau}_l - \underline{\tau}])$. The fiscal space is therefore empty in a high(low) wage economy if $\underline{\tau} > \bar{\tau}_f(\bar{\tau}_l)$. The two threshold values of G below which the fiscal space becomes empty in a high and low wage economy are respectively the following:

$$\underline{G}^h \equiv \frac{uN}{1-w+u} \tag{11}$$

in a high wage economy and

$$\underline{G}^l \equiv \frac{uNw}{w-u+wu} \tag{12}$$

for a low wage economy.

Note that the threat of a larger N caused by immigration makes the risk of an empty fiscal space greater, since for simplicity we have not included in the simple model any complementarities. If globalization lowers w but wage still remains within the bounds of a

high-wage economy, then $\underline{G}^h$ decreases, and hence the possibility of a fiscal crisis is actually reduced.[25]

On the other hand, for $w < \sqrt{u}$, it can be shown that fiscal space shrinks *both* with immigration and wage-reducing globalization, since $\underline{G}_l$ is increasing in N and decreasing in w.[26]

This implies that in a low-wage economy it is easy to perceive immigration and globalization as threats for citizens who fear an empty fiscal space, which would make it difficult even to guarantee minimum subsistence.

Viewed from the other side of the same medal, it should be clear that if countries differ in initial fiscal space (e.g. because of differences in N) then a crisis that lowers G by the same amount in all countries is more likely to create the fear that subsistence may not be assured- i.e. boost economic insecuirty - in those countries with an initial condition of lower fiscal space.

Consider a viable economy with aggregate demand G and consider a crisis that causes aggregate demand to drop to $G' < G$. $G - G'$ is a given crisis size, but we evaluate the effects of equally sized crises for economies at different levels of viability. If the same size crisis is such that the new G' is below $\underline{G}_l$, then the political space changes completely and abruptly: political conflict on τ or w is useless; instead all the people can be united behind a populist political campaign to reduce N, for example a construction of a wall to block immigration.

Thus, a given size crisis can have dramatically different effects on political conflict depending on the amount of fiscal space available to the economy. Even if the crises of the 21st century were not to be considered significantly bigger than some other previous crises that western democracies have experienced, such as those in the 70s, the fact that in the 70s the fiscal space was much larger implied that the type of political game did not have to change, and entry by an anti-immigration and anti-globalization populist would not have been likely to succeed. On the other hand, a same size crisis but occurring in economies with much smaller fiscal space can generate a complete change of the political conflict dimensions.

9 Concluding remarks

This paper contributes to the literature on populism by showing that the financial crisis has been the tipping point that has transformed politics in Europe, on the demand as well as on the supply side. On the demand side we have documented this with a novel methodology, while on the supply side a standard difference in differences methodology has revealed a consistent pattern of change both within long-lived parties and between dead and newborn parties. We have provided informal as well as formal explanations for our findings, and in future research we plan to analyze the medium and long run prospects of populism in the

[25] If G realistically is decreasing in w, then even in a high-wage economy the effect of a marginal reduction of the wage could in principle make the possibility of a fiscal crisis higher.

[26] It is immediate upon inspection that it is increasing in N, whereas to see that it is decreasing in w one needs to notice that the first derivative of $\underline{G}_l$ w.r.t. w is negative if $w < 1/2$, which is satisfied in the low-wage economy when $u < 1/4$.

aftermath of the great recession. Even though the level of economic insecurity on average returned to pre-crisis levels in 2016, Covid19 is clearly affecting economic security again, but this time the blame for mishandling the crisis is likely to affect incumbents, populists and not. Fiscal space was temporarily restored in some countries due to central banks expansionary monetary policy, but obviously monetary policy cannot continue forever to induce low interest rates with overly expansionary money supply. Therefore eventually the accumulated debts during Covid19 may bring many countries back to the empty fiscal space condition. This means that it remains to be seen whether the populism wave is temporary or will transform politics in Europe more permanently. Scattered observations suggest that on the left of the political spectrum the continuation of empty fiscal space will very likely force further mutations , as one can see from the exit of Podemos and the transformation (and potential split) of the five stars movement in Italy. On the other hand, given our argument that right wing parties are less dependent on budget fluctuations, they can keep offering identity protection and keep more stable platforms. Hence, one could expect that populist right wing platforms will continue to exist much longer and perhaps continue to succeed in multiple contexts, especially those able to avoid mishandling unexpected crises when incumbents.

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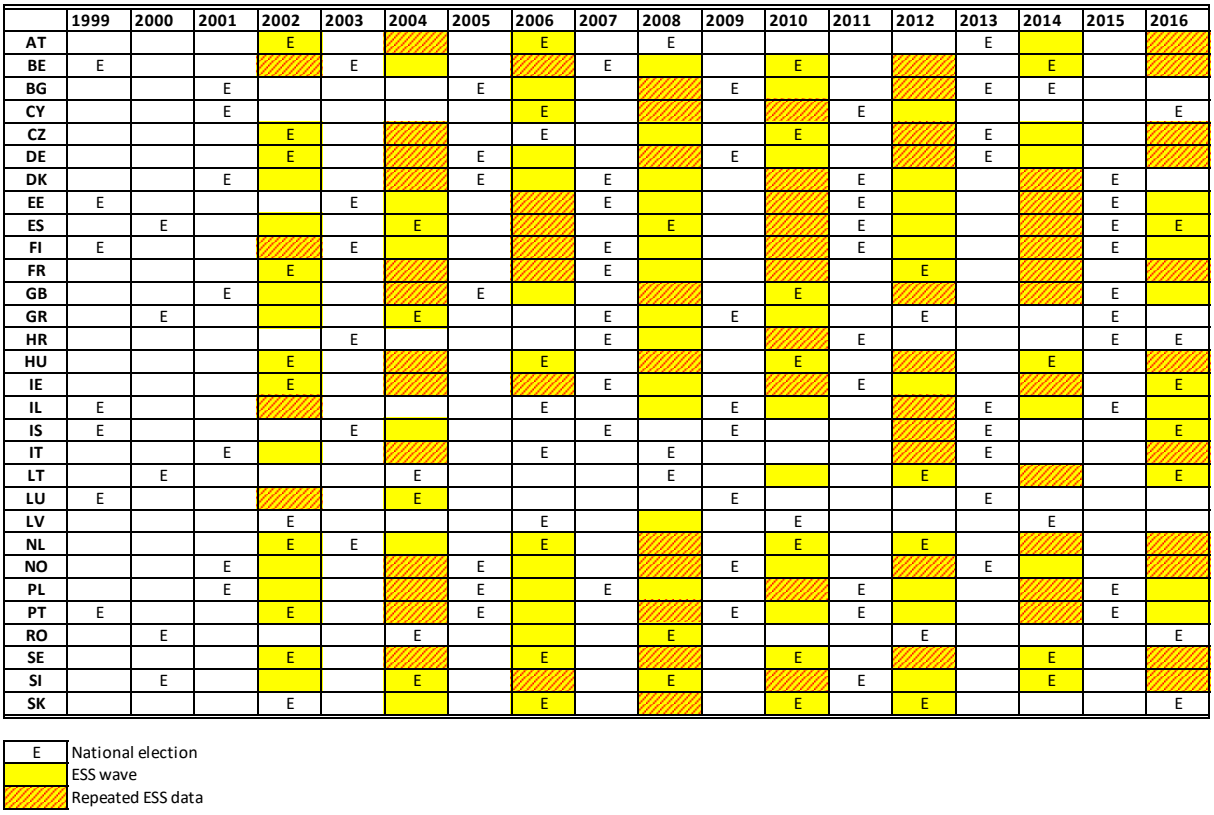
Appendix

A ESS waves selection

In the ESS data each individual is asked who she/he voted for in the *last* parliamentary election, on top of her/his *current* economic insecurity. ESS interviews are performed on a two years basis, therefore we need to ensure that we avoid: every two years, some adjustments are needed. In particular, two problematic cases might arise: (i) cases in which multiple waves are associated with the same election, and (ii) cases in which the election happened too far in advance with respect to the survey. These two cases are, for example, present in Belgium, where we had elections in 1999, 2003, and 2007. Without adjustments, (i) both waves 2 (2004) and 3 (2006) would refer to the same election in 2007, and (ii) wave 1 (2002) would refer to an election which took place 4 years before. For these reasons, we associate to each election in each country only one wave of interviews, with a maximum lag of 2 years between the wave and the election. In Figure A1 we show the ESS waves considered for each country (yellow) and those we exclude for the above mentioned reasons (yellow-red).

Figure A1: ESS waves' selection



Notes: The table presents for each country and year the ESS waves available (yellow), the years with an election (E), and the ESS waves we exclude from our analysis (yellow-red).

B Populist parties

Table A1: Populist parties - 1/2

Country	Party name
Austria	Alliance for the Future of Austria
	Freedom Party of Austria
	Hans-Peter Martin's List
	Team Stronach
Belgium	National Front
	Libertarian, Direct, Democratic
	People's Party
	Flemish Interest
Bulgaria	Attack
	Reload Bulgaria / Bulgaria Without Censorship
	Bulgarian Business Bloc
	Citizens for European Development of Bulgaria
	National Front for the Salvation of Bulgaria
	National Movement Simeon II
	Order, Law and Justice
	IMRO - National Bulgarian Movement
	Will
Croatia	Croatian Civic Party
	Croatian Democratic Alliance of Slavonia and Baranja
	Croatian Labourists - Labour Party
	Bridge of Independent Lists
	Human Shield
Cyprus	Citizens' Alliance
Czech Republic	Action of Dissatisfied Citizens
	Coalition for Republic - Republican Party of Czechoslovakia
	Sovereignty – Jana Bobosikova Bloc
	Freedom and Direct Democracy Tomio Okamura
	Dawn-National Coalition
	Public Affairs
Denmark	Danish People's Party
	Progress Party
	The New Right
Estonia	Estonian Citizens
	Estonian Conservative People's Party
	Independent Royalists
Finland	Blue Reform
	Finns Party
France	Republic Arise | France Arise
	National Front / Rally
	France Unbowed
Germany	Alternative for Germany
	The Left (Germany)
Greece	Independent Greeks
	Democratic Social Movement
	Greek Solution
	European Realistic Disobedience Front [MeRa25]
	Popular Orthodox Rally
	Political Spring
	Syriza - The Coalition of the Radical Left
	Synaspismos - The Coalition of the Left
Hungary	Fidesz - Hungarian Civic Alliance
	Fidesz – Hungarian Civic Party / Christian Democratic People's Party
	Jobbik, the Movement for a Better Hungary
	Hungarian Justice and Life Party
	Our Homeland Movement
Iceland	Civic Movement – The Movement
	People's Party
	Centre Party

Notes: The table presents the list of populist parties from PopuList.

Table A2: Populist parties - 2/2

Country	Party name
Ireland	Sinn Fein
Italy	The People of Freedom / Forza Italia (FI)
	Brothers of Italy
	The People of Freedom / Forza Italia (FI)
	(Northern) League
	Southern Action League
	Venetian League
	Five Star Movement
Latvia	Who owns the state?
	Reform Party
Lithuania	Labour Party
	The Way of Courage
	Young Lithuania
	Lithuanian Centre Party
	Lithuanian Liberty Union
	National Resurrection Party
	Order and Justice
Luxembourg	Alternative Democratic Reform Party
Netherlands	Centre Democrats
	Forum for Democracy
	Livable Netherlands
	Fortuyn List
	Party for Freedom
	Socialist Party (Netherlands)
Norway	Progress Party (Norway)
	Coastal Party
Poland	Kukiz '15
	League of Polish Families
	Party X
	Law and Justice
	Self-Defense of the Republic Poland
Portugal	Enough!
Romania	People's Party Dan Diaconescu
	Greater Romania Party
	United Romania Party
	Romanian National Unity Party
Slovakia	Alliance of the New Citizen
	Ordinary People
	Real Slovak National Party
	Slovak National Party
	We are family
	Direction - Social Democracy
	Party of Civic Understanding
	Association of Workers of Slovakia
Slovenia	The Left
	List of Marjan Sarec
	Slovenian Democratic Party
	Slovenian National Party
	United Left / The Left
Spain	In Common We Can
	In Tide
	Podemos
	Voice
Sweden	New Democracy
	Sweden Democrats
Switzerland	Automobile Party | Freedom Party of Switzerland
	Federal Democratic Union of Switzerland
	Ticino League
	Geneva Citizens' Movement
	Swiss People's Party
United Kingdom	Respect – The Unity Coalition
	Sinn Fein
	United Kingdom Independence Party

Notes: The table presents the list of populist parties from PopuList.

C Age earning profile

Table A3 presents the estimated values of β^k. These are obtained from equation (2), as explained in details in section 6.1.

Table A3: Income elasticity w.r.t. age

β_k	ISCO88 occupation
1.987	Skilled agricultural and fishery workers
2.234	Managers of small enterprises
2.613	Corporate managers
2.886	Office clerks
2.886	Life science and health associate professionals
2.896	Precision, handicraft, craft printing and related trades workers
2.922	Teaching associate professionals
2.937	Extraction and building trades workers
2.964	Other associate professionals
3.016	Physical, mathematical and engineering science professionals
3.054	Other professionals
3.059	Physical and engineering science associate professionals
3.059	Drivers and mobile plant operators
3.065	Machine operators and assemblers
3.065	Sales and services elementary occupations
3.093	Personal and protective services workers
3.315	Teaching professionals
3.339	Customer services clerks
3.345	Metal, machinery and related trades workers
3.424	Agricultural, fishery and related labourers
3.462	Stationary plant and related operators
3.477	Labourers in mining, construction, manufacturing and transport
3.651	Other craft and related trades workers
3.871	Models, salespersons and demonstrators
4.346	Life science and health professionals
4.374	Legislators and senior officials

Notes: The table presents the estimated values of β^k, from equation (2). Details are explained in section 6.1.

D Falsification analysis and Omitted Variable Bias

To check the validity of the presented instrumental strategy, we construct counterfactual shocks by randomly choosing country-level measures of GDP. More specifically, starting from the distribution of the actual shifter (y_{ct}) at the country level, we conduct 1,000 independent random draws assigning a random value for the shock to each country. We then obtain 1,000 placebo instruments z^P_{jct} and estimate the baseline regression on them. Among our 1,000 randomizations, the number of significant coefficients are well below 5% thus confirming that substituting the real instrument with this "simulated instrument" provides no significant effects.[27]

Second, we address omitted variable concerns. Even if the shares capturing heterogeneous exposure to the shocks are constructed using data from the first years available, namely 2003-2005, one may be still concerned about non-random exposure to the shocks, which could give rise to an omitted variable bias (OVB) in the IV estimates. In a recent work, Borusyak and Hull (2020) explain how to effectively purge OVB from non-random exposure to the shocks, without having to impose further assumptions, such as parallel trends. Their methodology, called "recentering", proposes to control for the simulated instrument described above (or subtracting it from the IV) in order to remove the bias from non-random shock exposure.

We apply the recentering methodology by averaging across the 1,000 randomizations described above, therefore obtaining an average simulated instrument $\bar{z}^P_{jct}$. In Table A4, we include the simulated instruments constructed based on the randomization in our main specifications (Table 3, column 4; Table 4, column 2; Table 5, column 2). The coefficient of *Economic insecurity* is always positive and significant, and very similar in magnitude to the corresponding estimates in our main specifications, therefore confirming that our results on the impact of economic insecurity on populist vote, turnout, and trust are robust to addressing OVB concerns.

[27] Considering the large number of results, these results are available upon request.

Table A4: Omitted Variable Bias

Dep. Variable	(1) Populist vote	(2) Turnout	(3) Trust on parties
Estimation	2SLS	2SLS	2SLS
Economic insecurity	0.889***	-0.797***	-13.00***
	(0.106)	(0.218)	(1.707)
Avarage simulated instrument	0.00376	0.0170	0.0649
	(0.0143)	(0.0115)	(0.151)
Obs.	2,310	2,310	1,981
Wave, Country, Cohort FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
KP F	53.53	53.53	61.68

Notes: 2SLS estimations. Dependent variable: Populist vote in column 1, Turnout in column 2, Trust in parties in column 3. *Economic insecurity* is the survey-based measure of economic insecurity. *Average simulated instrument* is the average of the 1,000 placebo instruments ($\tilde{z}^P_{jct}$). In all regressions we control for cohort, country, and wave fixed effects. In columns 2 and 4 we add also cohort-level time-varying controls described in section 5. Errors are clustered at the cohort level. Kleibergen-Paap F-statistic are reported at the bottom of the table.

E Lasso analysis

In this section we first show that populist parties are not only far-right parties and, therefore, focusing only on them would bias the analysis. Then, we use lasso regressions to identify the most relevant policies for populist parties.

Table A5 below summarizes the distribution of Populist v. Nationalist and Socialist or other left parties. The classification "Nationalist" /"Socialist or other left parties"/"Other" is taken directly from variable "party family" in the Manifesto dataset.

As we can see from the table, 54% of populist parties in our dataset are neither nationalist nor socialist/left. Also, we can see that 30 out of 45 nationalist parties are also populist whereas only 7 out of 57 socialist/left parties are also populist.

Table A5: Parties' families

	Populist		
	0	1	Total
Party Family (Manifesto)			
0 (Other)	324	43	367
	83%	54%	78%
1 (Nationalist)	15	30	45
	4%	38%	10%
2 (Socialist or other left party)	50	7	57
	13%	9%	12%
Total	389	80	469
	100%	100%	100%

Notes: Authors' computation from the Manifesto Project dataset.

Subsequently, we used a Lasso regression to identify which variables are the most likely to predict populist party (according to PopuList definition) for both Manifesto. We focus on the Manifesto data because, being available for each year, it allows to study the changes before/after the crisis.

In table A6, we study for each variable its relevance before (column 1) and after (column 2) the crisis for all populist parties. Then, we replicate this exercise for the 4 sub-groups populist far-right nationalist (FR NA), populist far-right not nationalist (FR noNA), populist not far-right nationalist (noFR NA), and populist not far-right and not nationalist (noFR noNA). A variable which is relevant before and after the crisis for all populist parties and also for all sub-groups, will appear 10 times in these lassos. We order these variables according to their frequency, and we keep those appearing at least in 8 out of the 10 lassos. When a policy appears two times in the lasso (one positive and one negative), we choose only one of them. This process selects six variables: anti-multiculturalism, national way of live, anti-EU, protectionism, anti-political corruption, anti-internationalism.

Table A6: Lasso analysis

Variable	P		P FR NA		P FR noNA		P noFR NA		P noFR noNA		Relevance
	Pre	Post	Pre	Post	Pre	Post	Pre	Post	Pre	Post	
EU (-)	0.243	0.271	0.111	0.145	0.197	0.233	0.266	0.260	0.401	0.388	10
Protectionism (+)	0.182	0.168	0.165	-0.030	0.220	0.156	0.198	0.175	0.221	0.220	10
Internationalism (-)	0.160	0.264	0.091	0.149	0.070	0.188	0.146	0.277	0.427	0.352	10
Multiculturalism (+)	-0.097	-0.389		-0.056	-0.040	-0.172	-0.069	-0.279	-0.086	-0.765	9
National way of live (+)	0.108	0.324		0.174	0.076	0.242	0.098	0.188	0.184	0.559	9
Multiculturalism (-)	0.126	0.271			0.154	0.288	0.128	0.295	0.279	0.292	8
Political Corruption (-)	0.013	0.170		0.109	0.045	0.148	0.014	0.196		0.110	8
EU (+)	-0.259	-0.106	-0.055		-0.349	-0.042	-0.208	-0.081	-0.141		8
Law and Order (+)	0.187	0.056	0.021		0.196		0.158	0.098	0.239		7
Environment (+)	-0.065	-0.215			-0.217	-0.141	-0.009	-0.102		-0.379	7
Labour Groups (+)	-0.335		-0.287	-0.004	-0.350		-0.361		-0.141	-0.011	7
Corporatism/Mixed Economy (+)	-0.119	-0.077			-0.283	-0.017	-0.056	-0.073	-0.010		7
Democracy (+)	-0.096	-0.029	-0.067		-0.075		-0.046	-0.020			6
Governmental and Administrative Efficiency (+)		0.290		0.206		0.141		0.304	0.188	0.220	6
Costitutionalism (-)		0.107				0.089		0.123	0.154	0.021	5
Imperialism (-)		0.065		0.059		0.026		0.011	-0.114		5
Agriculture and Farmers (+)		0.219		0.083		0.169		0.178		0.227	5
Equality (+)		-0.132		-0.016		-0.066		-0.181		-0.315	5
Peace (+)	-0.093				-0.007		-0.076		-0.656	-0.102	5
Traditional Morality (-)		-0.106			0.021			-0.082	0.180	-0.382	5
Military power and expenses (+)	0.018				0.037		0.023		0.270		4
Economic Growth (+)		-0.069				-0.013		-0.046		-0.297	4
Controlled Economy (+)	0.079				0.059		0.087		0.301		4
Free Market Economy (+)	0.049				0.083		0.028		0.104		4
Economic Planning (+)		-0.068						-0.102	0.001		3
Internationalism (-)		0.081		0.109		0.071		0.018			3
Non-economic Demographic Groups (+)	-0.077						-0.030		-0.183		3
Labour Groups (-)	0.015				0.040				0.063		3
Economic Orthodoxy (+)		-0.108			-0.054			-0.223			3
Market Regulation (+)		0.146						0.173	-0.096		3
Culture (+)		0.088						0.105		0.018	3
Civic Mindness (+)	0.001									0.063	2
Anti-Growth Economy (+)		-0.008						-0.009		-0.045	2
Welfare State Expansion (+)		-0.047		-0.003							2
Economic Goals (+)	-0.005									-0.062	2
Decentralization (+)					-0.203					-0.114	2
National way of live (-)		0.075						0.053			2
Nationalisation (+)		-0.015								-0.106	2
Military power and expenses (-)									-0.078		1
Political Authority (+)									0.053		1
Traditional Morality (+)			0.052						0.133		1
Keynesian Demand Management (+)									-0.013		1
Underpriviledged Minority Groups (+)					0.023						1
Centralisation (+)									-0.042		1
Military (-)										-0.207	1
Constitutionalism (+)					0.021						1
Marxist Analysis		-0.012									1
Foreign Special Relationship (-)										-0.037	1

Notes: The table presents the results from 10 different lasso regressions. Each column represents one regression. The first two columns show the coefficients each item in the Manifesto Project database scores in a regression where the dependent variable is a dummy = 1 if the party is a populist party (P), respectively pre- and post-crisis. For example, from column 1 we can see that negative mentions of the EU has a coefficient of 0.243 in the lasso explaining populist parties (P) before the crisis. *P FR NA* is = 1 when the party is a populist far-right nationalist. *P FR noNA* is = 1 when the party is a populist far-right non-nationalist. *P noFR NA* is = 1 when the party is a populist non-far-right nationalist. *P noFR noNA* is = 1 when the party is a populist non-far-right not-nationalist. *Relevance* is an index measuring for how many columns the items are significant for each Manifesto Project item.