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## Journal of Comparative Economics

journal homepage: [www.elsevier.com/locate/jce](http://www.elsevier.com/locate/jce)

# Past exposure to macroeconomic shocks and populist attitudes in Europe<sup>☆</sup>

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## ARTICLE INFO

### JEL classification:

D72  
E60  
F68  
G01  
P00  
P16  
Z10  
Z13

### Keywords:

Macroeconomic shocks  
Trust  
Attitudes  
Populism  
Experience-based learning

## ABSTRACT

This paper explores the interplay between past exposure to macroeconomic shocks and populist attitudes. We document that individuals who experienced a macroeconomic shock during their impressionable years (between 18 and 25 years of age), are currently more prone to voting for populist parties, and manifest lower trust both in national and European institutions. We use data for EU countries from the European Social Survey (ESS) to construct the differential individual exposure to macroeconomic shocks during impressionable years. Our findings suggest that it is not only current exposure to shocks that matters (see e.g., Guiso et al., 2020) but also past exposure to economic recessions, which has a persistent positive effect on the rise of populism. Interestingly, the interplay between the two, i.e., past and current exposure to economic shocks, has a mitigating effect on the rise of populism. Individuals who were exposed to economic shocks in the past are less likely to manifest populist attitudes when faced with a current crisis, as suggested by the experience-based learning literature.

## 1. Introduction

In recent years, European countries have seen an unprecedented demand for populism as a result of the economic crisis that hit Europe and the world. The aftermath of the crisis found Europe with a number of new and existing populist parties succeeding to enter national parliaments.

A vast literature, initially from the domains of political science and sociology attempted to explain the origins of populism.<sup>1</sup> Recently an emerging strand of the literature in economics has theoretically discussed and empirically established the economic drivers of populism. Our paper contributes to this literature by arguing that it is not only socioeconomic conditions and recent shocks that drive populist attitudes, but also past experiences.

We use as a starting point the analysis in [Guiso et al. \(2020\)](#) to shed light to an additional dimension of the implications of economic shocks on populist attitudes, i.e., the impact of the impressionable exposure to economic shocks ([Giuliano and Spilimbergo](#),

<sup>☆</sup> The authors would like to thank the editor and the anonymous referees for useful comments and suggestions that substantially improved the paper. Moreover, the authors would like to thank all the participants at the 15th CESifo Workshop on Political Economy, 4th CefES International Conference, Max Planck Summer School on the Political Economy of Conflict and Redistribution (PolEcCon) and the Maastricht University Conference on the “Past, Present and Future of European Integration”. Special thanks to Alessandra Cassar, Max Deter, Kai Konrad, Dan Kovenock, Massimo Morelli, Ronny Razin and Ivan Rubinic. Many thanks also to Nikos Benos, Nikolaos Mylonidis and Paraskevi Salamaliki.

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<sup>1</sup> In “Making Democracy Work”, [Putnam et al. \(1992\)](#) argue that the success of democratic institutions in Italy is due to the presence of strong civic traditions, which create a sense of trust and cooperation among citizens. They also show that these traditions are not innate, but rather can be fostered through deliberate policies and practices. Overall, the book highlights the importance of civic engagement and social capital in the functioning of democracy.

<https://doi.org/10.1016/j.jce.2023.04.002>

Received 27 October 2021; Received in revised form 13 April 2023; Accepted 24 April 2023

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2023). In our analysis, on top of accounting for current exposure to economic shocks, we explore the effect of macroeconomic shocks during the critical years of early adulthood (the so-called impressionable years) on voting for populist parties, low participation in national elections, mistrust in political institutions and negative attitudes towards immigrants. As a macroeconomic shock we define the GDP per capita growth rate equal or lower than  $-3.4\%$ .<sup>2</sup> This threshold represents the lowest 10th percentile of the GDP per capita growth distribution for all countries from 1960 to 2020.

Analytically, we use data from the eight waves (2002–2017) of the European Social Survey (ESS) and we associate each individual to his/her past exposure to economic shocks during their impressionable years. The impressionable years hypothesis supports that core attitudes, beliefs, and values are crystallized during a period of great mental plasticity in early adulthood (between 18 and 25 years of age) and remain largely unchanged thereafter (Krosnick and Alwin, 1989). As additional controls we include the individual current shocks as in Guiso et al. (2020), a set of individual controls, and a wide set of fixed effects such as wave, country, age and cohort fixed effects and in a more demanding specification we use as well country  $\times$  age fixed effects, thereby capturing a wide set of unobservables and comparing same age individuals across different countries.

Our findings suggest that both current and impressionable exposure to shocks matters for the formation of populist attitudes. A 1 standard deviation increase in exposure to economic shocks between the age range 18 and 25 (impressionable years) is associated with a 0.014 standard deviations increase in voting in last elections, a 0.011 standard deviations rise in voting for populist parties and roughly a 0.02 decrease in trust in political parties, national parliament, EU, politicians and satisfaction with government. Additionally, impressionable exposure to macroeconomic shocks gives rise to negative attitudes towards immigrants coming from countries outside the EU, having different ethnicity and the beliefs that immigrants worsen the host countries.

Our findings remain significant and robust to various specifications. First, we eliminate from our analysis both the first and the second generation immigrants to make sure that inertia in cultural attitudes does not affect our analysis. Then, we use an alternative measure of macroeconomic shock exposure during the impressionable years. Analytically, we define the GDP per capita growth rate to be equal or lower than  $-6.3\%$ , representing the 5th percentile of the GDP per capita growth rate. Third, we shift our analysis to other age ranges between 18 and 33 years combining the impressionable years hypothesis with the increasing persistence hypothesis (Sears, 1983). Fourth, we replicate the benchmark analysis, restricting the sample to countries with at least one populist party. Last, following Aassve et al. (2018), we replicate our benchmark analysis controlling for past exposure to political corruption. As established in Aassve et al. (2018) such a shock experienced during the individuals' impressionable years confers significant effects on trust.

Having tested the sensitivity of our results to a series of robustness checks we proceed to introducing a section where we explore several sources of heterogeneity. Analytically, we explore the differential exposure to media and differential interaction with family and friends, as both can be a critical determinant of attitudes and voting decisions for people. Our findings suggest that media systematically shape voting, trust and immigration-related attitudes, and so does the interaction with friends/family (it should be noted though that the effect of media is stronger). In both cases however, the interaction between media, friends/family and the shock is not systematically significant, thus suggesting that the one does not reinforce/mitigate the other.

Last, we explore the interplay between current shocks and past exposure. Interestingly, we find also that when we interact both past and current exposure to economic shocks, the two experiences mitigate each other's effect. Meaning that an individual who is currently exposed to an economic shock, is less likely to manifest populist attitudes if he/she was exposed to economic shocks in the past.

What can explain this intriguing finding concerning the interplay between current and past exposure? Our findings can be motivated based upon the experience-based learning process (Malmendier and Nagel, 2011; Malmendier, 2021). More broadly Malmendier (2021) argues that past experiences alter us and shape our future reactions. As the author mentions “*The term experience effects was coined to describe the empirical finding that individuals living through and personally experiencing the realizations of macro, finance, and other economic processes respond to these experiences differently from people who are fully informed about the same outcomes, but did not personally experience them. This literature has found that personal experiences are significantly more powerful in shaping risk attitudes, beliefs, and decision-making than “information”.*” Interestingly, Malmendier and Nagel (2016) illustrate that in the context of past and current exposure to inflation and its implications on the weight that young and older individuals place on new information, young individuals react more strongly to an inflation surprise than older individuals who have past inflation-related experiences.

In a similar rationale, individuals in our sample can react in the same way in terms of populism when exposed to a shock. However, individuals who have experienced higher exposure to past shocks, react more moderately compared to individuals who have not had much exposure to past shocks.

Uncovering the importance of the past experiences and the interplay between present and the past economic experiences is particularly important. It provides an explanation as to why people from different countries, with similar otherwise economic profiles, respond differently to modern-day economic challenges. Moreover, it is a factor to consider when shaping policies that affect the economic life of individuals and through it their political attitudes, suggesting that history plays a crucial role and should be factored in any political decision.

The structure of the paper is organized as follows. Section 2 discusses the existing literature and Section 3 introduces the data and the empirical strategy. Section 4 presents the benchmark results. Section 5 conducts robustness exercises. Section 6 lays out the discussion whereas Section 7 discusses heterogeneity sources and Section 8 concludes.

<sup>2</sup> Giuliano and Spilimbergo (2023) choose the lowest 10th percentile ( $-3.4\%$ ) rather than simply negative GDP growth because 80% of the individuals experienced at least one year of negative growth during their critical age period in their sample when using this definition. They also illustrate that individuals who experienced a recession when young believe that success in life depends more on luck than effort, support more government redistribution, and tend to vote for left-wing parties. The effect of recessions on beliefs is long-lasting.

## 2. Related literature

The rise of populism in Europe and particularly in EU countries is a major concern for a number of reasons. The EU is a historically unprecedented supranational unification project (Spolaore, 2013). It has been quite successful in both preserving political peace in Europe and in integrating into the European democratic model the “periphery” countries of Southern and Eastern Europe (Gill and Raiser, 2012). Nevertheless, as suggested in Algan et al. (2017) many Europeans appear dissatisfied with local and EU politicians and institutions. They study the implications of the Great Recession for voting for populist parties, as well as for general trust and political attitudes, using regional data across European and EU countries. Their findings suggest a strong interplay between increases in unemployment and voting for populism as well as between increases in unemployment and a decline in trust in national and European political institutions. Likewise, Dustmann et al. (2017) report similar results showing that after the crisis mistrust of European institutions, largely explained by the poorer economic conditions of the Euro-area countries, is correlated with voting for populist parties. In a similar spirit, Acemoglu et al. (2013), Rodrik (2018) and Di Tella and Rotemberg (2018), as well as Guiso et al. (2020) provide a general discussion of the recent rise of populist parties and try to interpret that increase in the light of economic theory. Guiso et al. (2020) study the demand and supply of populism both empirically and theoretically. They document a link between individual-level economic insecurity and distrust in political parties, voting for populist parties, low electoral participation and attitudes towards immigrants. Economic insecurity is measured by individual unemployment, income difficulties that individuals face and the exposure to a more globalized environment in their workplace. Likewise, Guiso et al. (2019) find a greater success of populist parties in response to the financial crises and globalization shocks in Eurozone (EZ) countries. This is consistent with voters’ frustration for the greater inability of the EZ governments to react to difficult-to-manage globalization shocks and financial crises. It is also argued that a slow, staged process of political unification can expose the European Union to a risk of political backlash if hard to manage shocks hit the economies during the integration process.

In a recent exhaustive overview, Guriev and Papaioannou (2022) analyzed the political economy of populism. In accordance with Stankov (2018), populism is not independent from economic shocks. High levels of inflation typically coincide with recessions which turn voters to support populists in Europe. However, time invariant country characteristics are an important factor behind the rise and fall of populist parties. Some countries are more prone to populism than others, which could be related to different institutions. The study shows that macroeconomic shocks have a lasting influence on voting preferences for populism. Cozzaglio and Efthymiou (2022) support that EU is currently under pressure from what is widely perceived as a populist challenge. Populists charge the EU as being undemocratic, unrepresentative, technocratic, and tied to the interests of the elite; as serving neither the will nor the interests of the people; and as simultaneously paying too little attention to the concerns of its member states. Guriev and Papaioannou (2022) document that both new and old populist parties express a “rhetoric” on Euroscepticism and they also argue that apart from the economic consequences of the crises, the austerity often part of economic adjustment programs imposed by supranational institutions e.g., European Union, led the populist parties to run on anti-globalization and anti-EU platforms.

There is ample anecdotal evidence accompanying those alarming trends. Manifestations of the upsurge in populism and the “threats” of populist parties against the EU include the “Brexit” vote; the referendum for a possible “Grexit”, the Five Stars Movement and the Lega Nord in Italy, the UK Independence party led by Farage who defined “the whole European project” as “not just undemocratic” but “anti-democratic” and a “prison of nations”, the consolidation of power by the government of Viktor Orban in Hungary, a government that has attacked immigrants, Jews, homosexuals, and European bureaucrats (Gusterson, 2017), the True Finns eurosceptic party in Finland (Van Kessel, 2015), and the rise of the Marine Le Pens’ Front National Party in the presidential election of April 2022. Notably a common characteristic of those parties is their anti-EU rhetoric. Motivated by anecdotal evidence we focus on the EU sample to test our hypothesis.

We further contribute to the literature that highlights the role of collective memory and past experiences. Fouka and Voth (2016) investigate how present events trigger selective recall, changing the economic behavior. As an example, they use the latest debt crisis in Greece which created massive political conflict between the German and Greek governments. They show how local memory affected reactions to news, leading to much larger changes in some areas, more heavily inflicted, compared to others. The proposed policies from the German government about further tightening the austerity measures that should be adopted from Greece, created public discord between the German and Greek governments, and memories of past violent conflict quickly resurfaced. The case of German–Greek conflicts illustrates the extent to which memory can become important for actual purchasing behavior. Dinas et al. (2021) argue that a number of studies in political science show that historical experiences of past violence and repression can serve as basis for the formation of persistent social identities that affect behavior and attitudes. A past experience of a traumatic nature may matter for attitudes towards groups that are unrelated to the past trauma, but that are facing similar experiences today. In this study, they empirically test the hypothesis that the analogy of historical experience, as transmitted through the family and local community, may reduce prejudice towards outgroups. They explore how past traumatic experiences matter for attitudes and behavior in the present. Prompting people to react on another’s condition using not only one’s own past but also that of one’s relatives as a frame of reference increases the range of experiences that individuals can relate to and thus the potential for empathy. As far as the past exposure to shocks, Fouka (2019) examines the responses of immigrants to discrimination using the case of German Americans in the early twentieth century US World War I as it was an important exogenous shock to natives’ attitudes, and during and after the war, many Germans suffered widespread harassment. On the other hand, Makridis and McGuire (2019) argue that the Great Depression could alter beliefs about future economic fluctuations and the trustworthiness of traditional capital and labor markets. More specifically, childhood experiences during the Great Depression can have prompted individuals to teach their children to get in touch with the entrepreneurship feeling. Other results in this literature illustrate that culture and personal experiences have a long-lasting effect on individual preferences and beliefs. Changes in beliefs caused by individuals’ experience

can have a considerable impact not only on financial investment decisions (Malmendier and Nagel, 2011) but also on political preferences as well Giuliano and Spilimbergo (2023).

Our analysis contributes to both strands of the literature by advancing the role of past economic experiences as a novel determinant of populism. Moreover, we further illustrate that past and current experiences interact with each other in an unpredictable way, i.e., by mitigating each other, despite the fact that both forces have in principle the same type of effect.

### 3. Data and empirical strategy

#### 3.1. Data

The analysis employs data from eight waves of the European Social Survey, a repeated cross section survey that quantifies the attitudes, beliefs and behavioral patterns of citizens in 34 European countries. As noted above, based on the anecdotal evidence and the empirical approaches in the literature, we conduct our analysis in the sample of EU countries.<sup>3,4</sup> The ESS contains a rich set of questions that capture populist attitudes as well as personal characteristics such as country and year of birth, gender, age, education, political orientation, employment status, etc.

In the benchmark analysis we employ three proxies for populist attitudes as in Guiso et al. (2020), derived from the eight waves of the ESS, covering the years from 2002 to 2017.<sup>5</sup> These proxies are (i) voting behavior; (ii) aspects of trust; and (iii) immigrant-related attitudes. For voting behavior, the ESS provides us with information on whether people participated in the last national elections and which party they voted for, thus we construct a dummy that takes the value 1 if the individual voted for a populist party and 0 otherwise.<sup>6</sup> Concerning trust, we use variables for trust in (i) parties; (ii) country's parliament; (iii) politicians; and (iv) European Union, all measured on a scale between 0 (no trust) and 10 (full trust) and a proxy for satisfaction with national government, taking the values 0 (extreme dissatisfaction) and 10 (extreme satisfaction). Last, we capture attitudes towards (i) immigrants from non-European countries, (ii) immigrants having the same or different race/ethnicity; and (iii) whether people believe that immigrants make host country worse or not. We use the political trust and the anti-immigrant attitudes as additional proxies for populism following Guiso et al. (2020) and Guiso et al. (2021) who argue that economic insecurity decreases the level of trust in political institutions and increases the anti-immigrant attitudes. The result of this loss of confidence in political parties and politicians ultimately can lead voters to vote for populist parties in national elections.

The key explanatory variable that we construct is past exposure to macroeconomic shocks, during the impressionable years of an individual (aged 18–25). We define a macroeconomic shock relying on the theoretical background of economic shocks by Barro and Ursúa (2008). To this end we extract data from the World Bank Indicators (WDI) for annual estimates of GDP per capita growth rate since 1960. For our explanatory variable, we construct a variable that takes values equal to 1 if the individual experienced a recession where the GDP per capita growth was either equal to or lower than  $-3.4\%$  during his or her “impressionable years” and 0 otherwise. Following the rationale in Giuliano and Spilimbergo (2023) we choose this threshold as it is the lowest 10th percentile of the GDP per capita growth distribution for all countries from 1960 to 2020.<sup>7</sup> As we are restricted by the availability of the World Bank data (that starts in 1960), our analysis excludes those individuals who were older than 25 in the year 1960. Last, as we compare different age intervals concerning the exposure to shocks, we use the mean value of exposure to shocks for each period, i.e., we weight our variable by the range of years that is relevant for each range and each individual (18–25 and 18–33). Relatively, there are individuals who have been treated for less than 7 years. Those are the individuals who participated in the survey at an age less than 25. When those individuals participate in the study we no longer associate them with other shocks, as those shocks would take place in a date that would be later to the date of reporting their trust.<sup>8</sup>

To capture the current exposure on economic shocks we use the measures of Guiso et al. (2020), i.e., variables that measure individual and rather recent economic insecurity. Analytically these are: (i) whether the voter was unemployed at some time in the past five years searching for a job; (ii) whether the individual has experienced any income difficulties, e.g., whether the voter lives comfortably with the present income or finds it difficult and last; and (iii) whether the voter is exposed to globalization or he is working as a low-skill worker in the manufacturing.

Additionally, we control for the full set of individual characteristics as in Guiso et al. (2020), i.e., the number of years completed in full time education, time spent watching TV, total hours spent watching news or programs about politics, gender, political orientation measured on a scale between 0 (far left) and 10 (far right) and risk aversion using the ESS risk indicator on whether people avoid taking risks or are prone to take any risk seeking for new adventures, considering the hypothesis that voting for a populist party may hide some risk, therefore it appeals to more risky people. Table 1 documents the descriptive statistics of all the variables explained above and used in our analysis.

<sup>3</sup> Our analysis includes the following EU countries, Belgium, Austria, Netherlands, Greece, Bulgaria, Lithuania, Poland, Latvia, France, Italy, Spain, Portugal, United Kingdom, Germany, Cyprus, Luxembourg, Sweden, Finland, Ireland, Estonia, Czech Republic, Denmark, Hungary, Portugal, Slovenia and Slovakia (see Online Appendix, Table A.1).

<sup>4</sup> In the earlier WP version of the paper, we conducted the same analysis for European countries as a whole. Our results were qualitatively and quantitatively similar, though weaker for the case of voting and immigrant related attitudes.

<sup>5</sup> For each round, e.g., Round 1 (i.e., the 2002 round) the data have been collected during the years 2001 and 2002 and are being released usually at the end of the respective year or beginning of the next (the exact year differs from country to country).

<sup>6</sup> In particular, the voting outcomes refer to actual voting data selected by the ESS.

<sup>7</sup> Our results are qualitatively similar when we construct a variable equal to 1 if the individual experienced a recession in which the GDP per capita growth was either equal or lower than  $-3.2\%$  or  $-2.6\%$ , that results in including the shocks experienced France, Belgium and Bulgaria (see Tables 15 and 16).

<sup>8</sup> In the robustness section, we replicate our results in a sample where we exclude those individuals who were not treated for all their impressionable years. The results remain robust despite the decrease in the sample size.

**Table 1**  
Descriptive statistics.

	mean	sd	min	max
<i>Voting participation</i>				
Vote in last national elections	0.81	0.38	0	1
Vote for a populist party	0.07	0.25	0	1
<i>Political trust</i>				
Trust in politicians	3.72	2.26	0	10
Trust in parliament	4.58	2.37	0	10
Trust in EU	4.50	2.28	0	10
Trust in political parties	3.71	2.24	0	10
Satisfaction with national government	4.11	2.29	0	10
<i>Attitudes towards immigrants</i>				
Immigrants make host country worse	5.02	2.20	0	10
Allow few immigrants outside EU	2.46	0.86	1	4
Allow few immigrants from different race or ethnicity	2.38	0.84	1	4
Allow many immigrants from same race or ethnicity	2.84	0.81	1	4
<i>Economic Sentiment</i>				
Growth Shock $-3.4\%$	0.02	0.08	0	1
Growth Shock $-6.3\%$	0.01	0.04	0	1
Growth Shock $-3.2\%$	0.02	0.07	0	1
Growth Shock $-2.6\%$	0.02	0.08	0	1
Corruption Shock	0.01	0.02	0	1
Unemployment	1.31	0.46	0	1
Income difficulties	1.85	0.80	1	4
Globalization exposure	0.008	0.09	0	1
Principal Component (PCA)	-0.11	1.07	-1.27	5.13
<i>Demographics</i>				
Men	0.48	0.49	0	1
Age	38.29	13.52	18	75
Years of education	13.68	3.55	0	50
Risk aversion	3.66	1.38	1	6
Political orientation	4.91	2.00	0	10
Hours watching TV	4.19	1.86	0	7
TV hours watching politics	1.80	1.18	0	7
Hours reading Newspapers	1.21	1.15	0	7
Newspapers hours reading politics	1.14	0.78	0	7
Hours listening to Radio	3.26	2.59	0	7
Radio hours listening to politics	1.48	1.43	0	7
Loyal to Friends	5.13	0.83	1	6
How often meet friends	5.19	1.41	1	7

Notes — Sources: European Social Survey ESS (2002–2017). The table reports the descriptive statistics of participation in voting, vote for populist parties, trust in political institutions; (i) parties, (ii) politicians, (iii) parliament and (iv) European Union, satisfaction from national government, attitudes towards immigrants; (i) few immigrants from no EU, (ii) few immigrants from different ethnicity, (iii) many immigrants from same ethnicity, individual demographic characteristics such as gender, years of education, risk aversion, political orientation, hours watching TV, TV hours watching politics, hours reading politics on newspapers, hours reading newspapers, hours listening to radio, hours listening to politics on radio, being loyal to friends, hours spent with friends and country economic sentiment like growth shocks, unemployment, income difficulties, globalization exposure and their first Principal Component (P.C.A).

There is a significant increase in the percentage of individuals who vote for populist parties in response to a macroeconomic shock that have been experienced in the past and the current economic insecurity across Europe and EU countries. Figs. 1 and 2 illustrate the evolution of shares of populist and parties votes in European countries over time. There is a significant variation across countries and individuals over time and this is the variation that we exploit.

Figure A.1 presents the GDP per capita growth rate for each EU country. Based on this series we construct our shock variables as described above. For example in Figure A.1 it is evident that individuals coming from Belgium, Bulgaria and Poland have not experienced a macroeconomic shock (as defined by the  $-3.4\%$  threshold discussed above) during their impressionable years. The reason is that Belgium and Bulgaria have only experienced a  $-2.6\%$  GDP per capita growth rate in 2009, i.e., less than the benchmark threshold.<sup>9</sup> Figure A.2 illustrates the vote shares of populist parties for each EU country. Evidently, in the ESS there are countries e.g., Luxembourg, Cyprus, and Portugal where there are not reported individuals who have voted for a populist party. Figure A.3 illustrates the degree of trust in political institutions (e.g., trust in political parties, parliament and politicians) for each EU country whereas Figure A.4 reports attitudes towards immigrants.<sup>10</sup>

<sup>9</sup> This is the reason why we use other thresholds as well in the robustness section.

<sup>10</sup> See Online Appendix, Figures A.1, A.2, A.3 and A.4.

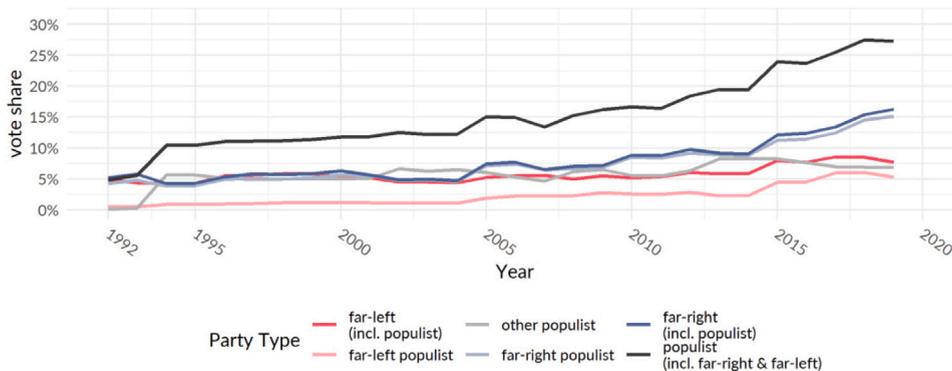


Fig. 1. Shares of populist and parties votes in Europe.  
Source: Rooduijn et al. (2019).

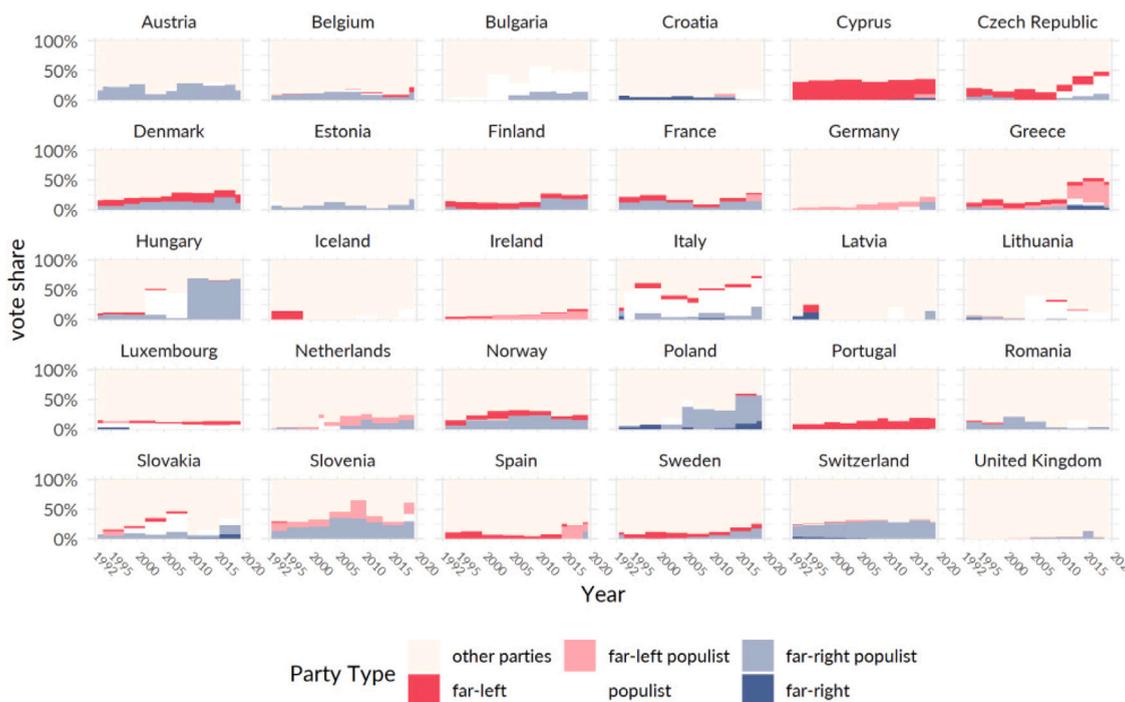


Fig. 2. Vote shares of populist, far-right and far-left parties by country.  
Source: Rooduijn et al. (2019).

To identify the populist parties of each country we rely on Rooduijn et al. (2019), a list that contains the populist parties in Europe with higher than 2% of the vote in at least one national parliamentary election since 1998. This list identifies 82 populist parties in 28 of the 31 countries examined. To define a party as a populist we rely on Mudde (2004) definition “parties that endorse the set of ideas that society is ultimately separated into two homogeneous and antagonistic groups, the pure people versus the corrupt elite, and which argues that politics should be an expression of the general will of the people. Populism is about the pure people’s moral superiority over the elites and, therefore, people’s moral right to govern”. According to Bonikowski (2017) populism is not an ideology, but a theory of society.

3.2. Empirical strategy

We apply an OLS (for ease of interpretation) regression model to examine the effect of exposure to macroeconomic shocks during the “impressionable years” on political participation and voting for a populist party and as well as on interpersonal political trust

**Table 2**  
Macroeconomic shocks, participation in voting and vote populist party.

	Vote in last elections	Populist parties	Vote in last elections	Populist parties	Vote in last elections	Populist parties	Vote in last elections	Populist parties	Vote in last elections	Populist parties
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Shock −3.4% (18–25)	.0762** [.0261]	.0345*** [.0034]					.0763** [.0260]	.0345*** [.0034]	.1660** [.0610]	.1373*** [.0213]
Income difficulties	−.0400*** [.0017]	.0137** [.0040]	−.0400*** [.0017]	.0137** [.0040]	−.0407*** [.0015]	.0141** [.0041]	−.0400*** [.0017]	.0137** [.0040]	−.0391*** [.0021]	.0149*** [.0035]
x Shock									−.0428** [.0174]	−.0485*** [.0093]
Shock −6.3% (18–25)			.1067 [.0782]	.0363** [.0123]						
Shock −3.4% (18–33)					.0590*** [.0148]	.0435*** [.0100]				
Risk aversion	.0099*** [.0017]	.0010** [.0004]	.0099*** [.0017]	.0010** [.0004]	.0099*** [.0017]	.0011** [.0004]	.0099*** [.0017]	.0010** [.0004]	.0099*** [.0018]	.0011** [.0004]
ln(education)	.1289*** [.0158]	−.0213*** [.0041]	.1288*** [.0158]	−.0213*** [.0041]	.1284*** [.0157]	−.0179** [.0056]	.1289*** [.0158]	−.0213*** [.0041]	.1290*** [.0159]	−.0210*** [.0041]
TV total	−.0146*** [.0006]	.0029** [.0011]	−.0146*** [.0006]	.0029** [.0011]	−.0146*** [.0006]	.0029** [.0011]	−.0146*** [.0006]	.0029** [.0011]	−.0146*** [.0006]	.0029** [.0011]
TV politics	.0231*** [.0037]	.0038** [.0012]	.0231*** [.0037]	.0038** [.0012]	.0232*** [.0035]	.0040** [.0012]	.0231*** [.0037]	.0038** [.0012]	.0231*** [.0036]	.0038** [.0012]
Unemployment	−.0397*** [.0072]	.0158*** [.0012]	−.0397*** [.0072]	.0158*** [.0012]	−.0391*** [.0071]	.0160*** [.0012]	−.0397*** [.0072]	.0158*** [.0012]	−.0397*** [.0072]	.0157*** [.0012]
Globalization exposure	−.0437* [.0216]	−.0125 [.0067]	−.0437* [.0216]	−.0124 [.0068]	−.0458* [.0212]	−.0113 [.0062]	−.0437* [.0216]	−.0125 [.0068]	−.0438* [.0217]	−.0128* [.0067]
Corruption Shock (18–25)							.7940*** [.0095]	.1203*** [.0023]		
R-squared	.16	.07	.16	.07	.15	.07	.16	.07	.16	.08
Sample	64839	68844	64839	68844	66425	70435	64839	68844	64839	68844
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	With P	With P	With P	With P	With P	With P	With P	With P

Notes: This table establishes the exposure to macroeconomic shocks and its effect on participation in voting and vote for a populist party. The analysis controls for individual characteristics such as gender, political orientation, (logged) years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics, unemployment, income difficulties and globalization exposure. The sample is restricted to the populist ESS countries. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

and attitudes towards immigrants.<sup>11</sup> Thus, we estimate the following model:

$$y_{ict} = a_0 + \alpha_1 Macro Shock_i + \alpha_2 X_i + \beta_a + \gamma_c + \delta t + \theta_j + \gamma_c \times age + \epsilon_{ict}, \quad (1)$$

where  $y_{ict}$  denotes the political beliefs, attitudes and vote for a populist party of individual  $i$ , in country  $c$ , participating at ESS round  $t$ ,  $Macro Shock_i$  is individual's  $i$  exposure to a recession during the impressionable years and during the years in which the country entered the EU.  $X_i$  is the vector of controls described above,  $\beta_a$ ,  $\gamma_c$ ,  $\delta_t$  and  $\theta_j$  are the age, country, round and cohort (individuals are grouped into ten 7-year age cohorts) fixed effects respectively, while  $\gamma_c \times age$  denotes country-age fixed effects. The standard errors are robust and clustered at cohorts level following Guiso et al. (2020).<sup>12</sup>

The inclusion of country, cohort, age and round fixed effects implies that we are always comparing a particular age group to individuals from the same age group in other countries with other experiences of recessions, to other age groups from the same country, as the experience of economic disasters changes over time. Additionally, including the most demanding specification i.e.,  $\gamma_c \times age$  fixed effects, we remove the source of variation coming from comparison to other age groups from the same country and the same age group from other countries, focusing on a given age group's changes in voting for populism, trusting the political institutions and being exposed to several macroeconomic shocks.

<sup>11</sup> We focus on the native sample, i.e., we drop first generation immigrants. There are two reasons. First, we need to ensure whether individuals are eligible to vote or not in national elections and second to mitigate concerns related to inertia in attitudes that can persist till the first generation immigrants. In the robustness section we adopt an even stricter specification excluding both first and second generation immigrants.

<sup>12</sup> Clustering variables at the country level according to Guiso et al. (2020) yields similar results.

**Table 3**  
Macroeconomic shocks during the impressionable years (18–25).

	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Shock –3.4% (18–25)	–.6087***	.1726**	–.6974***	–.7604***	–.6038***	–1.1594***	.1415***	–.0918**	.3691***
	[.0569]	[.0148]	[.0926]	[.1060]	[.0818]	[.1167]	[.0228]	[.0351]	[.0895]
Risk aversion	.0001	.0089**	.0114	.0289**	–.0223*	.0205	.0103**	.0003	.0362***
	[.0100]	[.0029]	[.0097]	[.0102]	[.0116]	[.0120]	[.0042]	[.0027]	[.0063]
ln(education)	.4938***	–.4194***	.5849***	.9794***	.7874***	.2815***	–.4754***	.4329***	–1.1949***
	[.0389]	[.0156]	[.0520]	[.0847]	[.0702]	[.0469]	[.0128]	[.0147]	[.0619]
TV total	–.0536***	.0494***	–.0638***	–.0855***	–.0689***	–.0333***	.0485***	–.0406***	.1060***
	[.0033]	[.0032]	[.0039]	[.0054]	[.0042]	[.0058]	[.0028]	[.0023]	[.0076]
TV politics	.1514***	–.0487***	.1526***	.1544***	.1102***	.0604***	–.0567***	.0466***	–.1423***
	[.0093]	[.0043]	[.0126]	[.0117]	[.0114]	[.0070]	[.0044]	[.0038]	[.0087]
Economic insecurity (PC)	–.2378***	.0522***	–.2696***	–.3074***	–.2387***	–.3279***	.0624***	–.0590***	.2053***
	[.0089]	[.0032]	[.0108]	[.0126]	[.0134]	[.0145]	[.0023]	[.0043]	[.0075]
R-squared	.24	.15	.22	.18	.12	.17	.16	.14	.16
Sample	64197	71260	71961	71609	68942	70785	71321	71277	71383
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	All	All	All	All	All	All	All	All	All

Notes: This table establishes the exposure to macroeconomic shocks (–3.4%) during the impressionable years and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. Robust standard errors clustered at the cohort level are shown in parenthesis

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

#### 4. Empirical findings

To assess the magnitude of our results we calculate the beta coefficients which are reported in Online Appendix Supplementary Tables. Table 2 documents the results for the case of an individual participating in the last national elections and voting for a populist party. In Columns 1 and 2 we include the full set of the individual controls and fixed effects and we employ the sample of countries that have at least one populist party. Our findings suggest that individuals who experienced more macroeconomic shocks during their impressionable years and during the years in which countries entered the EU, prefer to participate in voting and they are more likely to vote for a populist party. An 1 standard deviation increase in our shock is associated with an increase of 0.014 standard deviation of having voted in the last national elections and with a 0.011 standard deviation rise in voting for a populist party. Our results are significant at the 5% and 1% level, respectively.

Beyond our main explanatory variables, the individual economic shocks (unemployment, income difficulties and exposure to globalization) are in line with Guiso et al. (2020).

Table 3 reports the results for trust in (i) parties, (ii) politicians, (iii) parliament, (iv) European Union and (v) government satisfaction, and as well as attitudes towards immigrants (having the same or different ethnicity; how the immigrants affect the host country). In all columns (1–9) we include the full set of individual controls and fixed effects. Following Guiso et al. (2020) we use the whole sample of countries. As a control of economic insecurity we create a composite economic insecurity index using a principal component analysis of the three distinct variables (unemployment, income difficulties and exposure to globalization). The results of the table suggest that individuals who experienced more shocks during their impressionable years tend to mistrust even more parties, politicians, parliament, EU institutions and feel dissatisfied from the national government.

More specifically, an 1 standard deviation increase in the shock variable is associated with a 0.024 standard deviations decline in trust in political parties, 0.026 standard deviations decline in trust in politicians, 0.027 standard deviations decline in trust in the national parliament and 0.043 standard deviations decrease in government’s satisfaction. The results are significant at the 1% level. Similarly, exposure to a shock (1 standard deviation increase) is associated with a decline of 0.022 standard deviations of trust in EU parliament.

Concerning immigrants, more exposure to macroeconomic shocks in early age triggers more negative attitudes towards immigrants coming from countries outside EU, having different or same ethnicity and it establishes rise to the belief that immigrants make the host countries worse. A 1 standard deviation increase in shock is related to 0.017 standard deviations rise in allowing few

**Table 4**  
Robustness: the macroeconomics shocks during the impressionable years (native sample).

	Vote in last elections	Populist parties	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Shock -3.4% (18-25)	.0793**	.0361***	-.6551***	.1873***	-.7353***	-.8584***	-.6407***	-1.2523***	.1632***	-.0991**	.4468***
	[.0268]	[.0039]	[.0573]	[.0176]	[.0874]	[.1065]	[.0846]	[.1262]	[.0257]	[.0403]	[.0877]
Risk aversion	.0104***	.0009*	-.0024	.0090**	.0082	.0266**	-.0239*	.0200	.0103**	.0005	.0367***
	[.0015]	[.0004]	[.0104]	[.0027]	[.0095]	[.0098]	[.0116]	[.0117]	[.0042]	[.0026]	[.0067]
ln(education)	.1284***	-.0216***	.5174***	-.4238***	.5920***	.9823***	.7939***	.2884***	-.4794***	.4363***	-1.1920***
	[.0157]	[.0046]	[.0402]	[.0171]	[.0530]	[.0884]	[.0686]	[.0476]	[.0152]	[.0160]	[.0619]
TV total	-.0143***	.0030**	-.0545***	.0495***	-.0644***	-.0863***	-.0681***	-.0343***	.0489***	-.0410***	.1059***
	[.0007]	[.0011]	[.0031]	[.0029]	[.0040]	[.0055]	[.0049]	[.0058]	[.0027]	[.0020]	[.0068]
TV politics	.0232***	.0042**	.1546***	-.0486***	.1558***	.1604***	.1119***	.0616***	-.0569***	.0473***	-.1405***
	[.0032]	[.0013]	[.0106]	[.0042]	[.0140]	[.0142]	[.0132]	[.0101]	[.0041]	[.0034]	[.0093]
Unemployment	-.0388***	.0164***									
	[.0072]	[.0016]									
Income difficulties	-.0388***	.0141***									
	[.0019]	[.0038]									
Globalization exposure	-.0401*	-.0120									
	[.0175]	[.0069]									
Economic insecurity (PC)			-.2376***	.0546***	-.2706***	-.3080***	-.2400***	-.3312***	.0648***	-.0608***	.2107***
			[.0089]	[.0027]	[.0100]	[.0118]	[.0123]	[.0126]	[.0019]	[.0045]	[.0066]
R-squared	.16	.08	.24	.15	.23	.19	.12	.18	.16	.14	.16
Sample	61301	64907	60419	67168	67845	67522	64999	66715	67235	67192	67305
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	All	All	All	All	All	All	All	All	All

Notes: This table establishes the exposure to macroeconomic shocks (-3.4%) during the impressionable years and its effect on participation on voting and vote for populist parties, trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse, keeping only the native individuals in the sample. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

immigrants outside the EU, 0.014 standard deviations rise in beliefs that immigrants are bad for the host country, 0.014 standard deviations increase in allowing few immigrants from different race or ethnicity and 0.010 standard deviations decrease in allowing many immigrants from same race or ethnicity to come and live in the country. The results are significant at the 1% and 5% confidence level, respectively.

Overall, our findings hint to the fact that not only current exposure to an economic shock, but also adverse experiences during the impressionable years matter to the formation of current populist attitudes. This is an important finding as it suggests an additional determinant that should be accounted for by parties when shaping their policies and addressing to the people, based on the history of the country as well as the generation that dominates the median voter age (and the associated experiences of this generation).

## 5. Robustness

The robustness section establishes the robustness of the baseline analysis to a number of alternative specifications such as keeping in our analysis the native individuals, the use of an alternative measure (the 5th percentile) of shocks, the expansion of the impressionable years hypothesis (18-33), the restriction of the sample to populist countries (i.e., we keep only countries that have at least one populist party), the replication of our benchmark analysis controlling for past exposure to political corruption and the restriction of the sample by excluding those individuals whose exposure is not expanded to the whole 18-25 years of age period. To anticipate the findings, exposure to stronger shocks and longer exposure to a shock yield similar negative effect of past exposure on modern day attitudes towards populism, and this effect is even stronger in terms of magnitude.

**Table 5**  
Robustness: alternative measure of shocks during the impressionable years (18–25).

	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Shock –6.3% (18–25)	–1.2625*** [.0368]	.2353*** [.0552]	–1.3613*** [.1041]	–1.6612*** [.0729]	–1.0184*** [.0752]	–2.0447*** [.2529]	.2122** [.0843]	–.0196 [.0909]	.6924*** [.0406]
Risk aversion	–.0000 [.0100]	.0089** [.0029]	.0113 [.0096]	.0288** [.0101]	–.0224* [.0115]	.0203 [.0119]	.0103** [.0042]	.0003 [.0027]	.0363*** [.0063]
ln(education)	.4937*** [.0390]	–.4195*** [.0156]	.5853*** [.0520]	.9797*** [.0848]	.7877*** [.0701]	.2822*** [.0468]	–.4755*** [.0128]	.4331*** [.0147]	–1.1951*** [.0620]
TV total	–.0537*** [.0032]	.0494*** [.0032]	–.0638*** [.0039]	–.0856*** [.0053]	–.0689*** [.0042]	–.0333*** [.0057]	.0485*** [.0028]	–.0405*** [.0023]	.1060*** [.0076]
TV politics	.1516*** [.0094]	–.0487*** [.0043]	.1528*** [.0127]	.1546*** [.0118]	.1103*** [.0115]	.0606*** [.0071]	–.0567*** [.0044]	.0466*** [.0038]	–.1424*** [.0087]
Economic insecurity (PC)	–.2379*** [.0088]	.0523*** [.0032]	–.2697*** [.0107]	–.3074*** [.0127]	–.2389*** [.0135]	–.3282*** [.0143]	.0625*** [.0023]	–.0591*** [.0043]	.2054*** [.0076]
R-squared	.24	.15	.22	.19	.12	.17	.16	.14	.16
Sample	64197	71260	71961	71609	68942	70785	71321	71277	71383
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	All	All	All	All	All	All	All	All	All

Notes: This table establishes the exposure to macroeconomic shocks (–6.3%) during the impressionable years and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

### 5.1. Native individuals

In this section we only use the sample of natives, defined by dropping both the first generation and the second generation immigrants from our analysis. In our benchmark analysis we drop only first generation immigrants to make sure that those people are eligible to vote or not in national elections. In this section we drop the second generation immigrants as well, to further mitigate identification concerns associated with inertia in attitudes that can persist across generations.

Table 4 reports the results relating to individuals' voting behavior when we keep the native individuals in our sample. Our findings are in line with the benchmark findings suggesting that higher exposure to shocks is associated with more participation in the last national elections and higher probability to vote for a populist party. A 1 standard deviation increase in our shock is associated with a 0.015 standard deviation increase in having voted in the last national elections and with a 0.012 standard deviation rise in voting for a populist party. Our results are significant at the 5% and 1% level, respectively. Concerning political trust and immigrant related attitudes, our results remain significant at 1% and 5% for allowing many immigrants from same race or ethnicity. Overall, the results remain similar and our coefficients of interest have a somewhat stronger magnitude.

### 5.2. Alternative measure of shocks

This section establishes the robustness of the baseline analysis to the use of an alternative measure of macroeconomic shocks. Following Giuliano and Spilimbergo (2023) we use an alternative explanatory variable. Analytically, we construct a dummy variable equal to 1 when the individual experienced a macroeconomic shock in which the GDP per capita growth was either equal or lower than –6.3% during his or her “impressionable years” and 0 otherwise. This threshold represents the lowest 5th percentile of the GDP per capita growth distribution for all countries during the years 1960 and 2020.

Table 2 reports the results relating to individuals' voting behavior when they experience a stronger recession. Columns 3 and 4 replicate the baseline analysis of Columns 1 and 2, using a different measure of a shock experience during the years 18 to 25. The results remain quite similar showing that individuals who experience a stronger growth shock during their impressionable years are more likely to vote for a populist party. A 1 standard deviation increase in shock is associated with a 0.010 standard deviation increase in voting in the last national elections and with a 0.007 standard deviation rise in voting for a populist party. Our findings are significant at the 1% level for voting for a populist party.

Table 5 documents the results for political trust, government satisfaction and the attitudes towards immigrants. The results remain rather robust.

Table 6

Robustness: macroeconomic shocks during the years 18-33.

	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Shock -3.4% (18-33)	-.8002** [.1933]	.2196*** [.0539]	-.9541*** [.2249]	-1.1332** [.3682]	-.8869** [.3138]	-1.4800** [.4230]	.1885** [.0688]	-.1097* [.0464]	.4602*** [.0879]
Risk aversion	-.0001 [.0101]	.0096** [.0030]	.0114 [.0095]	.0294** [.0099]	-.0217* [.0113]	.0207 [.0118]	.0105** [.0041]	.0006 [.0025]	.0383*** [.0069]
ln(education)	.4862*** [.0374]	-.4197*** [.0155]	.5805*** [.0501]	.9770*** [.0821]	.7782*** [.0682]	.2800*** [.0453]	-.4776*** [.0124]	.4361*** [.0154]	-1.1965*** [.0596]
TV total	-.0526*** [.0028]	.0499*** [.0033]	-.0635*** [.0034]	-.0846*** [.0048]	-.0677*** [.0038]	-.0325*** [.0053]	.0489*** [.0028]	-.0412*** [.0025]	.1080*** [.0076]
TV politics	.1481*** [.0097]	-.0499*** [.0041]	.1511*** [.0122]	.1519*** [.0113]	.1090*** [.0120]	.0599*** [.0071]	-.0573*** [.0043]	.0479*** [.0040]	-.1447*** [.0083]
Economic insecurity (PC)	-.2394*** [.0091]	.0525*** [.0034]	-.2712*** [.0108]	-.3090*** [.0128]	-.2400*** [.0134]	-.3272*** [.0142]	.0630*** [.0025]	-.0602*** [.0044]	.2081*** [.0086]
R-squared	.23	.15	.22	.18	.12	.17	.16	.14	.16
Sample	65542	72826	73549	73191	70433	72359	72886	72847	72942
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	All	All	All	All	All	All	All	All	All

Notes: This table establishes the exposure to macroeconomic shocks (-3.4%) during the years 18-33 and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

### 5.3. Extended impressionable years hypothesis

In the benchmark analysis we focus on the “impressionable years” hypothesis which is defined between 18 and 25 years of age, playing an important role on the formation of beliefs and attitudes. However, as individuals grow older, economic shocks may directly affect their working and economic life. In this section, we test whether the individuals who experienced a macroeconomic shock during different range of years, also manifest populist attitudes. The first range we test is between 26 and 33 years of age which is often cited as the increasing persistence hypothesis. We thus combine the two hypotheses and expand the age range from 18 to 33 years. According to [Sears \(1983\)](#) the combination of persistence and impressionable years viewpoint can shape the basic political attitudes over the lifespan.

[Table 2](#) documents the results relating to voting. Columns 5 and 6 replicate the analysis of Columns 1 and 2, using the measure of a shock experience during their 18 and 33 years. The results are qualitatively similar, yet the magnitude is higher for voting for populist party, reflecting the fact that within a larger span, an individual is likely to experience more shocks.

[Table 6](#) also replicates the analysis in [Table 2](#) using the full set of controls and the exposure to shocks during the ages 18 to 33. As for the case of trust, the results are qualitatively and quantitatively similar.

### 5.4. Sample restricted to populist countries

[Table 7](#) replicates the benchmark analysis, i.e., the impact of a macroeconomic disaster that the individuals have experienced during their impressionable years (18-25) on the shaping of trust in political system and the attitudes about immigrants, when restricting our sample to countries which have at least one populist party. In most cases the results are quite similar and significant at 1% level, though the results related to immigrant attitudes are somewhat weaker for allowing many immigrants from the same or different ethnicity and for the beliefs that immigrants make host countries worse.

### 5.5. Corruption shocks during the impressionable years

In this section we replicate our benchmark analysis adding as an additional control variable the political corruption shocks that individuals experienced during the impressionable years. In accordance with [Aassve et al. \(2018\)](#) experiencing a corruption shock in early adulthood can also lead to a decline in trust in political institutions and an increase in voting for populist parties establishing

**Table 7**  
Robustness: populist countries restricted sample.

	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Shock -3.4% (18–25)	-.4966*** [.0508]	.1626*** [.0161]	-.6012*** [.0818]	-.6611*** [.0967]	-.5240*** [.0860]	-1.0670*** [.1275]	.1434*** [.0208]	-.0612 [.0384]	.3050** [.0883]
Risk aversion	.0014 [.0100]	.0082** [.0029]	.0121 [.0097]	.0312** [.0095]	.0219 [.0115]	.0219 [.0129]	.0094* [.0041]	.0013 [.0026]	.0345*** [.0059]
ln(education)	.5037*** [.0480]	-.4363*** [.0183]	.5917*** [.0640]	1.0093*** [.0883]	.7963*** [.0791]	.2964*** [.0481]	-.4985*** [.0161]	.4505*** [.0173]	-1.2532*** [.0708]
TV total	-.0573*** [.0036]	.0491*** [.0031]	-.0674*** [.0033]	-.0893*** [.0056]	-.0722*** [.0029]	-.0336*** [.0064]	.0487*** [.0026]	-.0407*** [.0019]	.1048*** [.0074]
TV politics	.1530*** [.0093]	-.0474*** [.0044]	.1542*** [.0126]	.1566*** [.0119]	.1097*** [.0086]	.0590*** [.0072]	-.0561*** [.0046]	.0468*** [.0034]	-.1422*** [.0090]
Economic insecurity (PC)	-.2408*** [.0103]	.0520*** [.0033]	-.2713*** [.0121]	-.3084*** [.0137]	-.2387*** [.0142]	-.3270*** [.0162]	.0624*** [.0022]	-.0589*** [.0043]	.2047*** [.0070]
R-squared	.23	.15	.21	.18	.12	.16	.16	.13	.16
Sample	61048	67903	68561	68245	65680	67418	67951	67909	68032
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	With P	With P					

Notes: This table establishes the exposure to macroeconomic shocks (-3.4%) during the impressionable years and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. The sample is restricted to the populist ESS countries. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

that corruption has a long lasting effect. Individuals more exposed to corrupt behavior exert lower trust and the loss in trust induced by corruption also affects current voting behavior. This ultimately contributes to the rise in populism as it is established studying the case of Italy.

To this end, we introduce in our baseline specification as a control the exposure to political corruption during the early adulthood (18–25 years of age). In order to construct the corruption exposure, we exploit data from the V-DEM dataset, which contains country level data on corruption, democracy and institutional quality since 1789. The corruption index is a quite rich variable as it captures the following dimensions of corruption. According to [Coppedge et al. \(2020\)](#) it includes measures of six distinct types of corruption that cover both different areas and levels of the polity realm, distinguishing between executive, legislative and judicial corruption. Within the executive realm, the measures also distinguish between corruption mostly pertaining to bribery and corruption due to embezzlement. The political corruption index is measured on a scale (0–1) where 0 means low political corruption and 1 indicates a high level of political corruption. To this end, in order to define the impressionable exposure to a corruption shock, we construct a variable equal to 1 if the individual experienced a corruption shock, defined as the case where the political corruption index was either equal or higher than 0.40 (this threshold is the mean value of the political corruption index distribution) during his or her “impressionable years” and 0 otherwise.

[Table 2](#) presents the results on voting outcomes whereas [Table 8](#) presents the results concerning political trust, government satisfaction and the attitudes towards immigrants. [Table 8](#) replicates also the benchmark analysis, using the full set of controls and the impressionable exposure to a corruption macroeconomic shock as an additional control variable. Finally, our benchmark findings still persist in this specification suggesting that the role of exposure to a shock remains intact.

### 5.6. Excluding individuals not treated during the whole 18–25 years of age period

In this section we replicate our benchmark analysis excluding individuals who did not get threat for the whole age range of 18–25. The reason for this could be that when they answered in the survey, they were less than 25 years old. This implies that it would not be proper to associate their past answers about voting and trust with future shocks (future from their own viewpoint). To this end, in [Table 9](#) we eliminated them from our sample. The results remain qualitatively and quantitatively similar.<sup>13</sup>

<sup>13</sup> Our results remain robust even when we restrict our sample including the native individuals e.g., the voting participation is significant there.

**Table 8**  
Robustness: macroeconomic and corruption shocks during the impressionable years (18–25).

	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Shock -3.4% (18–25)	-.6097*** [.0568]	.1730*** [.0149]	-.6986*** [.0924]	-.7612*** [.1059]	-.6058*** [.0818]	-1.1603*** [.1169]	.1423*** [.0229]	-.0926** [.0353]	.3694*** [.0895]
Risk aversion	.0001 [.0100]	.0089** [.0029]	.0114 [.0097]	.0289** [.0102]	-.0223* [.0116]	.0205 [.0120]	.0103** [.0042]	.0003 [.0027]	.0362*** [.0063]
ln(education)	.4936*** [.0390]	-.4193*** [.0157]	.5848*** [.0520]	.9793*** [.0847]	.7871*** [.0701]	.2814*** [.0468]	-.4753*** [.0129]	.4328*** [.0147]	-1.1949*** [.0620]
TV total	-.0535*** [.0033]	.0494*** [.0033]	-.0637*** [.0039]	-.0855*** [.0054]	-.0689*** [.0042]	-.0333*** [.0058]	.0485*** [.0028]	-.0405*** [.0023]	.1060*** [.0076]
TV politics	.1514*** [.0093]	-.0487*** [.0043]	.1526*** [.0126]	.1544*** [.0116]	.1102*** [.0114]	.0604*** [.0070]	-.0567*** [.0044]	.0466*** [.0038]	-.1423*** [.0087]
Economic insecurity (PC)	-.2378*** [.0089]	.0522*** [.0032]	-.2696*** [.0108]	-.3074*** [.0126]	-.2387*** [.0135]	-.3279*** [.0145]	.0624*** [.0023]	-.0590*** [.0043]	.2053*** [.0075]
Corruption Shock	-.6418*** [.0554]	.3533*** [.0219]	-.8748*** [.0507]	-.5850*** [.0623]	-1.4788*** [.0447]	-.6420*** [.0962]	.5916*** [.0178]	-.6325*** [.0269]	.1805*** [.0280]
R-squared	.24	.15	.22	.18	.12	.17	.16	.14	.16
Sample	64197	71260	71961	71609	68942	70785	71321	71277	71383
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	All	All	All	All	All	All	All	All	All

Notes: This table establishes the exposure to macroeconomic shocks (-3.4%) during the impressionable years and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics, the first principal component of unemployment, income difficulties and globalization exposure and it is also used the exposure to a political corruption shock during the impressionable years. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

## 6. The interplay in the exposure to past and current economic shocks

Our paper builds on the existing literature that highlights the role of economic shocks on populist attitudes by shedding light to the role of past exposure to shocks as well as its persistent effect. It is thus interesting to explore how these two experiences (past and present), that are both argued to be important determinants of populist attitudes, interact with each other. Do people that had adverse experiences during their impressionable years respond similarly to those who never had a bad experience? Evidence from the recent fiscal crisis in Europe and the world suggested that different countries responded differently even when the shock they faced was similar in magnitude and nature. We argue that this differential rise of populism has its roots partly to past exposure to different economic shocks.

To formally test this, we interact our measure of past exposure to economic shocks with the measure of current exposure. Table 2, in columns 9 and 10 reports the results for the benchmark specification for voting while Table 10 presents the results when the outcome variable is trust that an individual shows in national and European institutions i.e, trust in parties, parliament, etc. and the main explanatory variable is the interaction term between shock and the first principal component of unemployment, income difficulties and exposure to globalization.

Generally, the magnitude and the sign of the coefficients related to past and current exposure to shocks are in line with the benchmark analysis, i.e., an increase in the growth shock is associated with a rise in populist voting, lower trust in political institutions and stronger anti-immigrant attitudes. Interestingly, the interaction term is positive and statistically significant for the cases of trust in political parties thus suggesting that the negative effect of a current crisis is mitigated the higher the exposure to past shocks.

This implies that past experiences carve the personalities of people and make them less vulnerable and less prone to populist attitudes. The more frequent the past exposure to economic shocks, the less strong the current anti-immigrant attitudes become, mitigated by the reaction to similar experiences in the past.

We hypothesize that this intriguing interplay between current and past exposure can be explained by the experience-based learning literature (Malmendier and Nagel, 2011; Malmendier, 2021). The literature relies on the notion of *experience effects* and the brain processes involved when an individual is exposed to a particular experience, e.g., an economic shock. Past experiences

**Table 9**  
Robustness: excluding individuals not treated during the whole 18–25 years period.

	Vote in last elections	Populist parties	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Shock –3.4% (18–25)	.0790	.0634**	–.7786***	.3099***	–.9190**	–.9796***	–.9285***	–1.5459***	.3213***	–.1868*	.7702
	[.0546]	[.0182]	[.1502]	[.0287]	[.2516]	[.2292]	[.1367]	[.1709]	[.0165]	[.0828]	[.4064]
Risk aversion	.0100***	.0010*	.0016	.0087**	.0144	.0315**	–.0210*	.0245*	.0105*	.0003	.0349***
	[.0018]	[.0004]	[.0099]	[.0030]	[.0091]	[.0087]	[.0105]	[.0121]	[.0047]	[.0028]	[.0048]
ln(education)	.1327***	–.0261***	.5082***	–.4280***	.5894***	.9929***	.8001***	.2812***	–.4817***	.4368***	–1.2090***
	[.0155]	[.0031]	[.0436]	[.0156]	[.0544]	[.0905]	[.0774]	[.0502]	[.0126]	[.0151]	[.0617]
TV total	–.0149***	.0027*	–.0550***	.0485***	–.0651***	–.0836***	–.0694***	–.0340***	.0481***	–.0406***	.1052***
	[.0004]	[.0011]	[.0041]	[.0031]	[.0046]	[.0052]	[.0039]	[.0059]	[.0027]	[.0020]	[.0079]
TV politics	.0230***	.0036**	.1521***	–.0482***	.1510***	.1506***	.1110***	.0596***	–.0566***	.0459***	–.1400***
	[.0038]	[.0012]	[.0090]	[.0046]	[.0120]	[.0112]	[.0112]	[.0068]	[.0047]	[.0040]	[.0088]
Unemployment	–.0386***	.0156***									
	[.0077]	[.0009]									
Income difficulties	–.0398***	.0125**									
	[.0019]	[.0038]									
Globalization exposure	–.0458*	–.0116									
	[.0224]	[.0066]									
Economic insecurity (PC)			–.2349***	.0495***	–.2674***	–.3031***	–.2363***	–.3277***	.0601***	–.0564***	.2019***
			[.0100]	[.0022]	[.0116]	[.0142]	[.0135]	[.0149]	[.0022]	[.0040]	[.0071]
R-squared	.16	.08	.24	.15	.22	.19	.12	.17	.16	.13	.16
Sample	61574	65132	60863	67538	68195	67860	65324	67050	67599	67543	67661
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	All	All	All	All	All	All	All	All	All

Notes: This table establishes the exposure to macroeconomic shocks (–3.4%) during the whole 18–25 years of age and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics, the first principal component of unemployment, income difficulties and globalization exposure. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.  
\*\*Significance at the 5% level.  
\*\*\*Denotes statistical significance at 1% level.

have been proved to shape the belief-formation and the decision making of individuals in a series of economic applications. While many processes are at play, we lay emphasis on the fact that evidence suggests that past exposure may mitigate current reaction of an individual compared to someone who is exposed to a stimulus for the first time (see e.g., [Malmendier and Nagel, 2016](#) in the context of inflation).

Applications of the theory can also be found in [Fouka and Voth \(2016\)](#) and [Dinas et al. \(2021\)](#) who establish the long-lasting implications of collective memory on current economic outcomes. Another paper that is particularly relevant is [Goetzmann et al., 2022](#) who elaborate on the role of crash narratives propagated via news articles. As they argue “Narratives are a social medium through which an idea can spread rapidly through conversation and potentially affect aggregate beliefs about asset prices” ([Goetzmann et al., 2022](#), p. 1). Following the financial press, they point out to the fact that the “..the biggest spike in references to the crash of ’29 occurred in October, 1987”. Overall, they argue that this type of collective memory, reinforced by the media, has a persistent effect on investor’s decisions.

Motivated by their analysis we resort to the following heterogeneity analysis section (analytically discussed and described in Section 7.1). In this table we interact overall exposure to newspapers and political news in newspapers with our shock variable. Our finding suggest that the effect of exposure to a past shock is further reinforced by interaction with the media. Though we do not claim to formally test the experience-based learning process, we view these results (Panel B) as supporting evidence to this direction. It should be noted though that media is not the sole mechanism related to the transmission of collective memory. More research is required on this front to nail down all the associated mechanisms.

Acknowledging that collective memory matters in such a context is important for policy implications. Not only do we confirm that current shocks matter, but we also hint to the fact that history matters. Therefore, policy makers should always keep in mind the history of the group they address to. This is something that populist parties do already, when they try to polarize their audience

**Table 10**  
The interplay between past and current economic shocks.

	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Shock -3.4% (18–25)	-.5994*** [.0546]	.1726*** [.0151]	-.6904*** [.0881]	-.7552*** [.1045]	-.6197*** [.0834]	-1.1568*** [.1184]	.1438*** [.0232]	-.0948** [.0349]	.3769*** [.0896]
Economic insecurity (PC)	-.2409*** [.0091]	.0522*** [.0036]	-.2724*** [.0101]	-.3095*** [.0134]	-.2328*** [.0125]	-.3289*** [.0146]	.0614*** [.0030]	-.0578*** [.0043]	.2025*** [.0090]
x Shock	.1236** [.0512]	.0014 [.0283]	.1237 [.0764]	.0973* [.0483]	-.2590*** [.0699]	.0434 [.0618]	.0465 [.0318]	-.0554** [.0225]	.1276** [.0451]
Risk aversion	-.0000 [.0100]	.0089** [.0029]	.0113 [.0097]	.0288** [.0102]	-.0222* [.0116]	.0205 [.0120]	.0102** [.0042]	.0003 [.0027]	.0361*** [.0063]
ln(education)	.4937*** [.0390]	-.4194*** [.0156]	.5848*** [.0521]	.9793*** [.0848]	.7876*** [.0701]	.2815*** [.0469]	-.4755*** [.0128]	.4330*** [.0147]	-1.1951*** [.0618]
TV total	-.0535*** [.0033]	.0494*** [.0032]	-.0637*** [.0039]	-.0855*** [.0054]	-.0689*** [.0042]	-.0333*** [.0058]	.0485*** [.0028]	-.0406*** [.0023]	.1060*** [.0076]
TV politics	.1514*** [.0093]	-.0487*** [.0043]	.1526*** [.0126]	.1544*** [.0117]	.1102*** [.0114]	.0604*** [.0070]	-.0567*** [.0044]	.0466*** [.0038]	-.1423*** [.0087]
R-squared	.24	.15	.22	.18	.12	.17	.16	.14	.16
Sample	64197	71260	71961	71609	68942	70785	71321	71277	71383
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	All	All	All	All	All	All	All	All	All

Notes: This table establishes the interaction between current and past exposure to macroeconomic shocks during the impressionable years and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

based on collective remembrance. Likewise, this type of information should be embedded in economic decisions with the aim to increase the efficiency of a measure and to mitigate the risk that a particular policy can trigger populist attitudes.

## 7. Discussion

### 7.1. Heterogeneity: media and friends

In this section we discuss an important source of heterogeneity. i.e., the differential exposure to media and to family and friends. As suggested by [Aassve et al. \(2018\)](#) in the context of exposure to a corruption shock, differential exposure to media can be considered as a critical driver of populist attitudes and voting decisions. [Gerber et al. \(2011\)](#) argue that spending hours watching TV and being more exposed to advertisements can have strong (though short-lived) effects on voting preferences. [Štětka et al. \(2021\)](#) argue that being exposed to news about migration increases the probability of voting in favor of a populist party, while exposure to public service media leads to less negative attitudes towards immigration. Last, [Hameleers and Goldberg \(2022\)](#) find that exposure to negative news about the EU does not trigger populist attitudes. In a more detailed case study in the Netherlands, they find that social media exposure is more likely to be associated with populist attitudes than traditional news exposure.

An additional source of heterogeneity could be the degree of interaction with family or friends, which could also affect populist vote. For instance ([Sachweh, 2020](#)) based on a German case study, argue that indicators of weak social integration, feeling socially excluded, being anxious about one's status, and mistrusting others increased the likelihood of voting for the AfD populist party.

To proxy media exposure, the ESS provides six questions about: (i) how much time individuals spend watching TV overall and how much time they watch news or politics in TV (2 separate questions); (ii) how much time they spend reading newspapers overall and how much time they spend reading political affairs on the newspapers (2 separate questions); and (iii) how much time they spend listening to the radio overall and how much time they spend listening political affairs on the radio (2 separate questions). All questions are measured on a scale (0–7) where 0 means “No time at all” and 7 means “More than 3 hours”. To capture the individuals' exposure to the various types of media we compute the first principal component of each of the media variables (i.e., one variable for TV, one for newspapers and one for radio), and we interact it with the exposure to macroeconomic shocks.

**Table 11**  
Heterogeneity analysis: exposure to media and friends/family.

	Vote in last elections	Populist parties	Trust Parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>Panel A.</b>											
Shock -3.4% (18-25)	.1010**	.0336***	-.5888***	.1719***	-.6277***	-.7262***	-.6491***	-1.1677***	.1354***	-.1194**	.3866***
	[.0289]	[.0046]	[.0596]	[.0265]	[.1057]	[.1086]	[.0920]	[.1113]	[.0335]	[.0436]	[.0845]
TV (PC)	-.0010	.0076***	.0564***	.0276***	.0409***	.0131	.0010	.0059	.0194***	-.0157***	.0251**
	[.0014]	[.0021]	[.0068]	[.0035]	[.0083]	[.0084]	[.0055]	[.0068]	[.0040]	[.0028]	[.0098]
x Shock	.0399***	-.0017	.0071	.0164	.1020**	.0252	-.1246**	-.0308	.0078	-.0715**	.0752**
	[.0088]	[.0064]	[.0316]	[.0358]	[.0428]	[.0402]	[.0395]	[.0309]	[.0238]	[.0205]	[.0268]
Sample	64839	68844	64197	71260	71961	71609	68942	70785	71321	71277	71383
<b>Panel B.</b>											
Shock -3.4% (18-25)	.0968***	.0459***	-.4595***	.1986***	-.6343***	-.8122***	-.5041***	-.9811***	.1319***	-.0906***	.3067***
	[.0199]	[.0055]	[.0842]	[.0232]	[.1209]	[.1408]	[.1222]	[.1240]	[.0226]	[.0204]	[.0608]
Newspapers (PC)	.0134***	.0010	.1136***	-.0263***	.0955***	.1009***	.0700***	.0294**	-.0287***	.0219***	-.0827***
	[.0021]	[.0009]	[.0099]	[.0059]	[.0104]	[.0173]	[.0178]	[.0092]	[.0048]	[.0041]	[.0128]
x Shock	-.0119	.0100***	-.0130	-.0082	-.0572*	-.0784*	-.0517	-.1071***	-.0512**	.0062	.1071
	[.0175]	[.0021]	[.0152]	[.0173]	[.0248]	[.0376]	[.0396]	[.0170]	[.0203]	[.0214]	[.0623]
Sample	29995	31893	27824	33158	33495	33390	32104	32724	33188	33184	33226
<b>Panel C.</b>											
Shock -3.4% (18-25)	.0746**	.0558**	-.5263***	.2051***	-.6391***	-.6533***	-.8134***	-1.0670***	.1278***	-.0626*	.3457***
	[.0224]	[.0038]	[.0538]	[.0213]	[.0734]	[.1205]	[.1025]	[.1045]	[.0202]	[.0263]	[.0613]
Radio (PC)	.0026**	.0039**	-.0146*	.0051	-.0234***	-.0362**	-.0399***	-.0441***	.0102	-.0096	.0105
	[.0008]	[.0014]	[.0065]	[.0073]	[.0062]	[.0105]	[.0075]	[.0063]	[.0073]	[.0071]	[.0195]
x Shock	.0003	.0105**	.0573	.0644**	.0415	.0375	-.2953***	-.0580*	.0481**	-.0375*	.1300*
	[.0087]	[.0032]	[.0393]	[.0186]	[.0265]	[.0195]	[.0301]	[.0255]	[.0179]	[.0172]	[.0587]
Sample	36094	38274	33524	39813	40222	40041	38495	39304	39854	39833	39895
<b>Panel D.</b>											
Shock -3.4% (18-25)	.0749***	.0385***	-.6031***	.1979***	-.6569***	-.7654***	-.6531***	-1.1079***	.1701***	-.1332**	.4580***
	[.0193]	[.0050]	[.0674]	[.0214]	[.0966]	[.1012]	[.0730]	[.1155]	[.0373]	[.0430]	[.0785]
Friends/Family (PC)	.0108***	.0010	-.0014	-.0358***	-.0075	.0420***	.0504***	-.0165	-.0326***	.0385***	-.0759***
	[.0020]	[.0006]	[.0101]	[.0034]	[.0107]	[.0092]	[.0088]	[.0105]	[.0044]	[.0035]	[.0121]
x Shock	-.0074	-.0060	.0020	-.0462	-.0627	.0338	.1037**	-.0775**	-.0608	.0785***	-.1767***
	[.0146]	[.0046]	[.0501]	[.0302]	[.0440]	[.0318]	[.0312]	[.0317]	[.0355]	[.0213]	[.0477]
Sample	64717	68710	64088	71133	71828	71474	68819	70663	71193	71149	71261
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	All	All	All	All	All	All	All	All	All

Notes: This table establishes the coefficients of the interaction between exposure to media and family/friends and past exposure to macroeconomic shocks during the impressionable years and its effect on participation on voting and vote for populist parties, trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics, unemployment, income difficulties, global exposure and their first principal component. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

A similar approach we implement using as source of heterogeneity the time spent with family and friends. The ESS provides two variables related to friends and family, i.e., whether it is important for people to be loyal to their friends and devoted to them and how often individuals meet with friends and relatives-family. As before we resort to a principal component analysis and take the first component of the two variables. We then interact this variable with the impressionable exposure to a shock variable.

**Table 12**  
Heterogeneity analysis: initial and current trust (to be continued).

	Vote in last elections	Populist parties	Trust Parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>Panel A.</b>											
Shock -3.4% (18-25)	.0743**	.0355***	-.5678***	.1699***	-.6763***	-.7378***	-.5847***	-1.1437***	.1360***	-.0861*	.3642***
	[.0263]	[.0035]	[.0530]	[.0152]	[.0836]	[.0961]	[.0784]	[.1191]	[.0237]	[.0368]	[.0838]
Current Trust on People	.0115***	-.0041***	.2468***	-.0615***	.2633***	.2762***	.2359***	.1932***	-.0672***	.0570***	-.2293***
	[.0010]	[.0007]	[.0053]	[.0047]	[.0031]	[.0056]	[.0056]	[.0032]	[.0039]	[.0037]	[.0115]
Sample	64787	68787	64152	71208	71908	71562	68894	70736	71270	71229	71335
<b>Panel B.</b>											
Shock -3.4% (18-25)	.1039**	.0577***	-.2599**	.2032***	-.3125**	-.1907	-.0954	-.8418**	.2252***	-.1667***	.2024
	[.0398]	[.0045]	[.0920]	[.0278]	[.0929]	[.1464]	[.1263]	[.2795]	[.0205]	[.0235]	[.1314]
Initial Trust on People	.0247*	-.0141	.1749***	-.0294	.0828**	.0486	.2572***	-.0899***	-.0252***	.0324**	-.1023
	[.0125]	[.0140]	[.0413]	[.0158]	[.0307]	[.0372]	[.0593]	[.0215]	[.0009]	[.0122]	[.0693]
Sample	53083	54798	50281	56551	57094	56841	54504	56055	56592	56558	56654
<b>Panel C.</b>											
Shock -3.4%(18-25)	.1039**	.0604***	-.2768**	.2003***	-.3323***	-.2149	-.1120	-.8612**	.2242***	-.1670***	.2022
	[.0364]	[.0044]	[.0959]	[.0230]	[.0884]	[.1309]	[.1535]	[.2496]	[.0210]	[.0254]	[.1327]
Initial Political Trust	-.0044	-.0055***	.0561	.0239***	.0710	.1019	.0049	.0975	.0132***	-.0088	.0337
	[.0057]	[.0012]	[.0378]	[.0042]	[.0499]	[.0800]	[.0233]	[.0607]	[.0037]	[.0054]	[.0722]
Sample	53083	54798	50281	56551	57094	56841	54504	56055	56592	56558	56654
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	All	All	All	All	All	All	All	All	All

Notes: This table establishes the coefficients of the exposure to macroeconomic shocks (-3.4%) during the whole 18-25 years of age and its effect on participation on voting and vote for populist parties, trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. The analysis also controls for current interpersonal trust and initial trust on people and political institutions (we now associate each individual with the mean level of political trust of his/her country, as this was prevalent when the individual was 18 years old). Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

In Table 11 we replicate our benchmark specification incorporating all three additional terms, i.e., the interaction term and the parts of the interaction; in Panel A, we interact the TV PC with the exposure to macroeconomic shock, in Panel B, we interact the newspapers PC with the exposure to macroeconomic shock, in Panel C, we interact the radio PC with the exposure to macroeconomic shock, and last in Panel D we interact the friends/family PCA with the exposure to macroeconomic shock.

To discuss our findings and relative effects we resort to the beta coefficients reported in the Appendix (see Table A.10). Our results can be summarized as following: First, as in the benchmark analysis, the effect of the exposure to macroeconomic shocks variable persists across all specifications despite the reduction in the sample size in some of the Panels due to limited data availability. Second, the impact of media is in most cases statistically significant. However, the direction of the effect is not always the same.

The stronger results come from higher exposure to newspapers (Panel B) that reinforces voting participation, raises political trust and improves attitudes towards immigrants. Interestingly, the interaction term is significant (though weak in some cases) and negative, suggesting that exposure to media, further reinforces the negative impact of the shock. On the contrary, higher TV exposure raises the probability to vote for a populist party, weakly increases political trust and worsens attitudes towards immigrants. The interaction terms are weaker and less systematic. Last, higher exposure to radio and radio news is associated with higher probability to vote and to vote for a populist party and overall lower political trust (also no effect on immigrant attitudes). The interaction terms, wherever statistically significant, seem to reinforce the adverse effect of a shock to populist attitudes.

**Table 13**  
Heterogeneity analysis: initial and current trust.

	Vote in last elections	Populist parties	Trust Parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>Panel A.</b>											
Shock -3.4% (18-25)	1.1201***	.2518***	-1.6619*	.6001	-1.3982**	-1.7580*	-.3446***	-2.7303**	.3445**	-.4555**	-.7064
	[.0185]	[.0269]	[.8728]	[.6435]	[.4304]	[.8836]	[.0732]	[1.1432]	[.1214]	[.1909]	[2.4368]
Sample	20494	21001	21765	21527	21799	21729	20947	21658	21554	21536	21641
<b>Panel B.</b>											
Shock -3.4% (18-25)	1.1202***	.2516***	-1.6587*	.5929	-1.3959**	-1.7694*	-.3593***	-2.7421**	.3383**	-.4484**	-.7222
	[.0184]	[.0270]	[.8742]	[.6404]	[.4340]	[.8792]	[.0752]	[1.1483]	[.1182]	[.1879]	[2.4297]
Regional Initial Trust People	-.0031	-.0046	.0128	-.0310***	.0094	-.0464	-.0625**	-.0490*	-.0314***	.0296***	-.0677***
	[.0036]	[.0026]	[.0242]	[.0049]	[.0333]	[.0273]	[.0211]	[.0247]	[.0087]	[.0061]	[.0188]
Sample	20494	21001	21765	21527	21799	21729	20947	21658	21554	21536	21641
<b>Panel C.</b>											
Shock -3.4% (18-25)	1.1201***	.2518***	-1.6622*	.6001	-1.3985**	-1.7585*	-.3451***	-2.7302**	.3443**	-.4554**	-.7061
	[.0185]	[.0269]	[.8734]	[.6435]	[.4308]	[.8830]	[.0730]	[1.1430]	[.1211]	[.1906]	[2.4373]
Sample	20494	21000	21764	21526	21798	21728	20946	21657	21553	21535	21640
<b>Panel D.</b>											
Shock -3.4%(18-25)	1.1203***	.2517***	-1.7136*	.5962	-1.4520**	-1.7815*	-.3899***	-2.7484**	.3458**	-.4561**	-.6860
	[.0184]	[.0269]	[.8927]	[.6428]	[.4462]	[.8735]	[.0706]	[1.1516]	[.1235]	[.1897]	[2.4508]
Regional Initial Political Trust	-.0030	.0013	.0746***	.0058	.0777***	.0332**	.0634***	.0265	-.0020	.0010	-.0290
	[.0038]	[.0017]	[.0154]	[.0071]	[.0154]	[.0107]	[.0147]	[.0175]	[.0041]	[.0049]	[.0164]
Sample	20494	21000	21764	21526	21798	21728	20946	21657	21553	21535	21640
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	All	All	All	All	All	All	All	All	All

Notes: This table establishes the coefficients of the exposure to macroeconomic shocks (-3.4%) during the whole 18-25 years of age and its effect on participation on voting and vote for populist parties, trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. The analysis also controls for current interpersonal trust and initial trust on people and political institutions (we now associate each individual with the mean level of political trust of his/her Nuts 1 region, as this was prevalent when the individual was 18 years old). Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

Summing up we would like to elaborate on the differential role of each type of media and of social interaction. A potential rational behind the differential results may be related to the degree of involvement each type of media requires. Meaning that reading newspapers indicates “greater effort” in choosing the type of information one is exposed to, especially nowadays with online press. Whereas TV exposure is a less involved action and though one can choose what type of show or channel to follow, the options with respect to the content are more limited.

7.2. The implications of a shock on the past levels of trust

Another issue that needs to be discussed is the persistence of trust measures across time and the feedback effects of trust on future economic outcomes. Given that past shocks can affect earlier levels of trust, this can sequentially affect future economic outcomes and ultimately affect current levels of trust. According to an extensive literature on social trust, it is found that interpersonal and political trust are both influenced by two major factors which are on the one hand, the individual characteristics and values acquired during

**Table 14**  
Heterogeneity analysis: initial and current trust (reduced sample).

	Vote in last elections	Populist parties	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
<b>Panel A.</b>											
Shock -3.4% (18-25)	.0707	.0609**	-.2826*	.2911**	-.4681*	-.3967*	-.2435	-.9598**	.2819**	-.1571**	.3768**
	[.0224]	[.0018]	[.0411]	[.0142]	[.0450]	[.0512]	[.0983]	[.0700]	[.0139]	[.0095]	[.0267]
Sample	8369	9699	10172	10176	10222	10139	9748	10109	10186	10178	10143
<b>Panel B.</b>											
Shock -3.4% (18-25)	.0746	.0600**	-.1668	.2657**	-.3545*	-.2712	-.1533	-.8690**	.2533**	-.1321*	.2937**
	[.0229]	[.0014]	[.0480]	[.0193]	[.0508]	[.0618]	[.1112]	[.0671]	[.0103]	[.0128]	[.0167]
Current Trust on People	.0138***	-.0038	.2322**	-.0597*	.2487**	.2689**	.2163**	.1945**	-.0632*	.0533*	-.2198**
	[.0000]	[.0011]	[.0046]	[.0081]	[.0045]	[.0110]	[.0107]	[.0124]	[.0064]	[.0059]	[.0072]
Sample	8363	9692	10165	10170	10215	10133	9742	10103	10181	10173	10138
<b>Panel C.</b>											
Shock -3.4%(18-25)	.0746	.0649**	-.2922*	.2935**	-.4681*	-.4077*	-.2495	-.9726**	.2843**	-.1582**	.3822**
	[.0238]	[.0019]	[.0417]	[.0137]	[.0450]	[.0559]	[.1003]	[.0621]	[.0132]	[.0101]	[.0116]
Initial Trust on People	-.0256*	-.0357	.1526	-.0354*	.1155	.1583	.0805	.2104	-.0360	.0171	-.0754
	[.0029]	[.0080]	[.0709]	[.0049]	[.0533]	[.1216]	[.0518]	[.0465]	[.0229]	[.0154]	[.2365]
Sample	8369	9699	10172	10176	10222	10139	9748	10109	10186	10178	10143
<b>Panel D.</b>											
Shock -3.4%(18-25)	.0679	.0676**	-.3370	.2761**	-.5215*	-.4687	-.2861	-1.0297*	.2715**	-.1501*	.3850**
	[.0193]	[.0029]	[.0609]	[.0165]	[.0664]	[.0909]	[.1140]	[.0944]	[.0099]	[.0155]	[.0099]
Initial Political Trust	.0029	-.0082*	.0969	.0268	.1085	.1257	.0730	.1247	.0188	-.0125	-.0144
	[.0032]	[.0012]	[.0239]	[.0072]	[.0264]	[.0544]	[.0191]	[.0298]	[.0095]	[.0120]	[.0627]
Sample	8369	9699	10172	10176	10222	10139	9748	10109	10186	10178	10143
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	All	All	All	All	All	All	All	All	All

Notes: This table establishes the coefficients of the exposure to macroeconomic shocks (-3.4%) during the whole 18-25 years of age and its effect on participation on voting and vote for populist parties, trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. The analysis also controls for current interpersonal trust and initial trust on people and political institutions (we now associate each individual with the mean level of political trust of his/her country, as this was prevalent when the individual was 18 years old) for the reduced sample. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

childhood and adolescence, and, on the other hand, what we experienced in our lives and the daily political information (Halmburger et al., 2019; Schoon and Cheng, 2011).

To address this concern, we attempt to proxy for initial conditions in trust variables. Specifically, we adopt the following approaches. First, we attempt to account for the “initial” level of interpersonal trust of people. Given the data constraints, we cannot really know the actual initial-specific level of trust of people as the data is longitudinal. Therefore, in order to proxy for an initial level of trust that is proxying for the individual-specific level of trust, we associate each individual with the mean level of trust in the country he lives, as this was shaped when the individual was 18 years old. For instance, for a Greek that was 18 in the year 2002, we assign to her/him the mean level of trust of Greece, as emerging from the 2002 data for Greece.

There are two constraints to this approach. First, we know that individuals deviate from the mean, thus this measure is just a rough proxy of individual initial trust. Second, our sample is drastically reduced since we do not have data for the mean levels of

**Table 15**  
Alternative macroeconomic shocks (−3.2%) during the impressionable years (18–25).

	Vote in last elections	Populist parties	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Shock −3.2% (18–25)	.0637*	.0350***	−.5611***	.1666***	−.6742***	−.7380***	−.5838***	−1.0985***	.1364***	−.0890***	.3445***
	[.0269]	[.0022]	[.0552]	[.0142]	[.0767]	[.0969]	[.0838]	[.1283]	[.0181]	[.0249]	[.0863]
Risk aversion	.0099***	.0010**	.0001	.0089**	.0114	.0290**	−.0222*	.0206	.0103**	.0003	.0362***
	[.0017]	[.0004]	[.0100]	[.0029]	[.0097]	[.0102]	[.0116]	[.0120]	[.0042]	[.0027]	[.0063]
ln(education)	.1289***	−.0213***	.4937***	−.4194***	.5850***	.9794***	.7874***	.2815***	−.4754***	.4329***	−1.1949***
	[.0158]	[.0041]	[.0389]	[.0156]	[.0519]	[.0847]	[.0702]	[.0469]	[.0128]	[.0147]	[.0619]
TV total	−.0146***	.0029**	−.0535***	.0494***	−.0637***	−.0855***	−.0689***	−.0332***	.0485***	−.0405***	.1059***
	[.0006]	[.0011]	[.0033]	[.0032]	[.0039]	[.0054]	[.0042]	[.0059]	[.0028]	[.0023]	[.0077]
TV politics	.0231***	.0038**	.1514***	−.0487***	.1526***	.1544***	.1102***	.0604***	−.0567***	.0466***	−.1423***
	[.0037]	[.0012]	[.0093]	[.0043]	[.0126]	[.0117]	[.0114]	[.0070]	[.0044]	[.0038]	[.0087]
Unemployment	−.0397***	.0158***									
	[.0072]	[.0012]									
Income difficulties	−.0400***	.0137**									
	[.0017]	[.0040]									
Globalization exposure	−.0436*	−.0125									
	[.0216]	[.0067]									
Economic insecurity (PC)			−.2379***	.0522***	−.2697***	−.3074***	−.2387***	−.3280***	.0624***	−.0590***	.2054***
			[.0089]	[.0032]	[.0107]	[.0127]	[.0135]	[.0144]	[.0023]	[.0043]	[.0075]
R-squared	.16	.07	.24	.15	.22	.18	.12	.17	.16	.14	.16
Sample	64839	68844	64197	71260	71961	71609	68942	70785	71321	71277	71383
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	All	All	All	All	All	All	All	All	All

Notes: This table establishes the exposure to macroeconomic shocks (−3.2%) during the impressionable years and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

trust prior to the year 2002. However, despite the constraints, this approach is a first attempt to proxy for the past level of trust before this specific individual was affected by individual exposure to shocks (it is true that the mean level of trust in a country is also affected by past shocks, however it is also true that even in this case, the trust of an 18 years old individual is naturally a function of the mean level of trust given the factors that shaped this mean). In Table 12, Panel A, we replicate the baseline specification using as an additional control variable the current level of trust whereas in Panel B, we replicate the baseline specification but now as a control variable, we have used the initial level of trust.

In the second specification, Panel C, we now associate each individual with the mean level of political trust of his/her country, as this was prevalent when the individual was 18 years old. As such we attempt to proxy for the initial value of political trust. We allocate to the individuals who were 18 y.o in year 2002, the mean level of political trust in their countries as emerging from the 2002 round. As far as the initial political trust, we use the first principal component of the three political trust proxies e.g., trust in parliament, politicians and EU parliament.

Additionally, in Table 13 we replicate the benchmark specification as in Table 12 and more specifically, in Panel A and Panel C we keep the sample constant, taking into account the initial level of trust on people and the initial political trust in Nuts 1 regions, respectively. In Panel B, we have associated each individual with the mean level of trust of people in his/her Nuts 1 region, as this was prevalent when the individual was 18 years old. As such we attempt to proxy for the initial value of interpersonal trust in Nuts 1 regions. We allocate to the individuals who were 18 y.o in the year 2002, the mean level of trust on people in their Nuts 1 regions as emerging from the 2002 round, using as an additional control variable the initial trust of people. As far as the level of initial political trust (Panel D), we use the first principal component of the three political trust proxies e.g., trust in parliament, politicians and EU parliament, allocating to the individuals who were 18 y.o in the year 2002, the mean level of political trust in his/her Nuts 1 region and we replicate the baseline specification, controlling for the initial level of political trust.

**Table 16**  
Alternative macroeconomic shocks (−2.6%) during the impressionable years (18–25).

	Vote in last elections	Populist parties	Trust parties	Few immigrants no EU	Trust politicians	Trust parliament	Trust EU	Government satisfaction	Few immigrants different ethnicity	Many immigrants same ethnicity	Immigrants make country worse
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Shock −2.6% (18–25)	.0477	.0238***	−.6643***	.1303***	−.7835***	−.8706***	−.5686***	−1.3552***	.1127***	−.0623*	.2852***
	[.0270]	[.0049]	[.0528]	[.0169]	[.0676]	[.0942]	[.0839]	[.1298]	[.0220]	[.0290]	[.0663]
Risk aversion	.0099***	.0010**	.0000	.0089**	.0114	.0289**	−.0223*	.0205	.0103**	.0003	.0362***
	[.0017]	[.0004]	[.0100]	[.0029]	[.0097]	[.0102]	[.0116]	[.0120]	[.0042]	[.0027]	[.0063]
ln(education)	.1288***	−.0213***	.4936***	−.4194***	.5847***	.9790***	.7874***	.2809***	−.4755***	.4330***	−1.1950***
	[.0158]	[.0041]	[.0389]	[.0156]	[.0520]	[.0847]	[.0702]	[.0469]	[.0128]	[.0147]	[.0619]
TV total	−.0146***	.0029**	−.0536***	.0494***	−.0638***	−.0856***	−.0689***	−.0334***	.0485***	−.0405***	.1059***
	[.0006]	[.0011]	[.0032]	[.0033]	[.0039]	[.0053]	[.0042]	[.0058]	[.0028]	[.0023]	[.0077]
TV politics	.0231***	.0038**	.1514***	−.0487***	.1526***	.1545***	.1102***	.0604***	−.0567***	.0466***	−.1423***
	[.0037]	[.0012]	[.0093]	[.0043]	[.0126]	[.0117]	[.0114]	[.0070]	[.0044]	[.0038]	[.0086]
Unemployment	−.0397***	.0158***									
	[.0072]	[.0012]									
Income difficulties	−.0400***	.0137**									
	[.0017]	[.0040]									
Globalization exposure	−.0436*	−.0125									
	[.0216]	[.0068]									
Economic insecurity (PC)			−.2377***	.0522***	−.2695***	−.3072***	−.2387***	−.3276***	.0624***	−.0590***	.2054***
			[.0089]	[.0032]	[.0108]	[.0127]	[.0134]	[.0147]	[.0023]	[.0043]	[.0075]
R-squared	.16	.07	.24	.15	.22	.19	.17	.17	.16	.14	.16
Sample	64839	68844	64197	71260	71961	71609	68942	70785	71321	71277	71383
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cohort FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Essround FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Age*Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cluster SE	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort	Cohort
Countries	With P	With P	All	All	All	All	All	All	All	All	All

Notes: This table establishes the exposure to macroeconomic shocks (−2.6%) during the impressionable years and its effect on trust in (i) parties, (ii) politicians (iii) parliament, (iv) EU (v) government satisfaction and attitudes towards immigrants (i) immigrants from no EU (ii) immigrants with different ethnicity (iii) immigrants with same ethnicity and (iv) immigrants make country worse. The analysis controls for individual characteristics such as gender, political orientation, years of education, risk aversion, hours per week watching TV and how many of these hours are spent watching programs about politics and the first principal component of unemployment, income difficulties and globalization exposure. Robust standard errors clustered at the cohort level are shown in parenthesis.

\*Significance at the 10% confidence level.

\*\*Significance at the 5% level.

\*\*\*Denotes statistical significance at 1% level.

For comparison reasons we always report the baseline specification, we always report the baseline specification for the reduced sample in Table 14 (Panel A). Overall, we interpret our results with caution though due to the drastic reduction in the sample and the high correlation between the current measure of interpersonal/political trust and its initial value. Interestingly though, we observe that even in this reduced sample our shock variable remains rather constant in most cases (not all cases though and as discussed above we expect this to be mostly driven by the reduction in the sample as indicated by Panel A). The initial level of interpersonal trust appears as a significant determinant for some variables of current trust, voting and immigrant attitudes, though in several cases it has the opposite coefficient, suggesting that past higher levels of trust are potentially associated with lower levels of current trust. On the contrary, initial levels of political trust do not appear to be statistically significant in most of the cases.

## 8. Conclusion

We establish the interplay between macroeconomic shocks experienced during the impressionable years and greater demand for populism in Europe. Individuals who grew up in EU countries hit by recessions between their 18 and 25 years of age, tend to participate less in national elections and when they do, they tend to support populist parties. They also trust less the political institutions and manifest stronger anti-immigrant attitudes. Our analysis accounts for a wide range of individual characteristics and a demanding list of fixed effects accounting for unobservables. Our results are robust to a large number of additional tests, alternative samples and specifications.

Interestingly, accounting for the interaction between the macroeconomic shock and an overall measure of individual economic insecurity in the current time period, we find that the interplay between the two has a moderating effect, suggesting that people who were more exposed to economic shocks in the past, are less vulnerable to populist voice in the face of current economic shocks.

Accounting for several sources of heterogeneity such as differential exposure to media and friends/family highlights the role of those sources, yet this effect does not operate via past exposure.

We interpret this finding as an application of the experience-based learning literature (Malmendier, 2021) that highlights the role of past experiences in shaping current decision-making.

Overall, we attempt to shed light on the role of past economic events on shaping the personality of individuals and through it on contemporary politics and policy-making.

## Appendix A. Supplementary data

Supplementary material related to this article can be found online at <https://doi.org/10.1016/j.jce.2023.04.002>.

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