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IMPRESSIONABLE YEARS: ECONOMIC TREND AND MILLENNIALS' ATTITUDES TOWARDS THE EU[*]

ABSTRACT

This paper investigates the relationship between economic performance during individuals' *impressionable years* – a critical life stage when attitudes are durably shaped – and millennials' attitudes toward the European Union. Focusing on four major countries (Italy, France, Germany, and Spain), we test whether experiencing economic disadvantage during this period influences young Europeans' perceptions of the EU's efficacy in supporting national economies. Using a Probit model, we find that living in a country with low GDP *per capita* growth during *impressionable years* significantly increases the likelihood of negative attitudes toward the EU, with an estimated effect size of 5.7%. This relationship is robust across alternative model specifications and is particularly strong among individuals whose parents lack tertiary education.

RIASSUNTO

Il presente lavoro analizza la relazione tra la performance economica durante gli *impressionable years* degli individui – una fase critica della vita in cui gli atteggiamenti si formano in modo duraturo – e gli atteggiamenti dei millennial nei confronti dell'Unione europea (UE). Concentrandoci su quattro grandi Paesi (Italia, Francia, Germania e Spagna), verifichiamo se l'aver sperimentato uno svantaggio economico durante questo periodo

influenzi la percezione dei giovani europei sull'efficacia dell'UE nel sostenere le economie nazionali. Utilizzando un modello Probit, troviamo che vivere in un Paese con una crescita del PIL *pro capite* bassa durante gli *impressionable years* aumenta significativamente la probabilità di avere atteggiamenti negativi nei confronti dell'UE, con un effetto stimato del 5,7%. Questa relazione è robusta attraverso specifiche alternative del modello ed è particolarmente forte tra gli individui i cui genitori non hanno conseguito il diploma universitario.

1. INTRODUCTION

In recent decades, attitudes toward the European Union (EU) have become an increasingly prominent topic of study, reflecting the broader socioeconomic and political dynamics across member states. Millennials, often regarded as a politically pivotal generation, represent a particularly compelling demographic for examining perceptions of the EU. This is due to their unique exposure to globalization, digitalization, and the economic crises of recent years. This paper investigates the factors shaping millennials' attitudes toward the EU in four major European countries (Italy, France, Germany, and Spain) by focusing on the relationship between economic performance during individuals' critical life stages, i.e. *impressionable years* (IY), and their subsequent attitudes toward the EU. The main aim of this study is to address the question of whether the economic performance experienced during *impressionable years* influences young people's sentiment toward the EU.

This research draws on and contributes to two distinct branches of literature. First, it aligns with studies that identify economic disadvantage as an important driver of Euroscepticism, often reflected in the electoral success of Eurosceptic parties (Dijkstra *et al.*, 2020; McCann, 2020; Pinilla and Sáez, 2021; Rodríguez-Pose *et al.*, 2021), and individuals' distrust toward EU institutions (Lenzi and Perucca, 2021). As a way of example, in a recent paper, Rodríguez-Pose *et al.* (2024) highlight the strong link between being caught in a development trap – frequently observed in middle- or high-income regions – and growing support for Eurosceptic parties. The authors also demonstrate that longer periods of stagnation exacerbate this support, particularly for parties opposing European integration. Second, the study engages with the literature on the impressionable years, a critical life stage during which attitudes and values are durably shaped (Aksoy *et al.*, 2020). In the seminal papers by

Newcomb (1943, 1967), the author, by leveraging on the longitudinal survey of women attending Bennington College between 1935 and 1939, highlights the stability of beliefs and values formed during this period. Subsequent studies, including Dawson and Prewitt (1969) and Krosnick and Alwin (1989), identify the *impressionable years* as typically spanning ages 18 to 25. More recently, different authors have investigated this issue by estimating empirical models designed to establish a systematic relationship between shocks, or more generally events, that occurred during an individual's *impressionable years* and the individual's attitudes. For instance, Giuliano and Spilimbergo (2014) find that experiencing a recession during this formative period significantly influences political preferences and economic beliefs. Similarly, Etchegaray *et al.* (2019) and Farzanegan and Gholipour (2021) demonstrate that individuals exposed to political repression or war during their *impressionable years* develop distinct attitudes toward governance and national priorities. Furthermore, Aksoy *et al.* (2020) find that exposure to the COVID-19 endemic during an individual's *impressionable years* has a lasting negative effect on confidence in political institutions and leaders.

This paper focuses on millennials' negative sentiment toward the EU, testing whether a disadvantaged economic context during their *impressionable years* increases the likelihood of unfavorable attitudes. To address this question, we employ a Probit model, where the dependent variable measures personal beliefs about the efficacy of EU actions in supporting national economies, and the main independent variable captures real GDP (*per capita*) growth in the individual's country of residence during his/her *impressionable years*. The choice of the dependent variable is based on existing literature (see Lenzi and Perucca, 2021), which defines individuals' perceptions and distrust toward the EU as a proxy for political discontent and highlights how this discontent can lead to Eurosceptic voting behavior. In contrast, the principal explanatory variable is designed to capture the extent of economic disadvantage experienced by an individual during his/her *impressionable years*. The variable is constructed by comparing the GDP *per capita* growth in the individual's country of residence to that of other individuals in the sample, in order to capture economic disparities.

Building on existing literature, we incorporate a comprehensive set of control variables. First, since regional economic and industrial decline, population density, and migration have been linked to the "geography of discontent" (Rodríguez-Pose, 2018; Los *et al.*, 2017; Garretsen *et al.*, 2018; Dijkstra *et al.*, 2020; Rodríguez-Pose *et al.*, 2024), we include in our

model geographic variables that accounts for the rural or urban nature of regions where individual reside, as well as socio-economic characteristics, e.g. employment rate, share of industrial employment, net migration, old dependency ratio index and GDP *per capita*[1]. Second, prior research has extensively examined the characteristics of anti-EU voters, finding that such voters as typically older, less educated, and economically disadvantaged, often feeling "left behind" by rapid economic transformations (Goodwin and Heath, 2016). In addition, studies by Essletzbichler *et al.* (2018), Becker *et al.* (2017), Lenzi and Perucca (2021), and Hobolt (2016) highlight the importance of age, education, and income in explaining EU discontent, while Algan *et al.* (2017) and Rodrik (2017) emphasize factors such as unemployment and inequality. In this spirit, we include a comprehensive set of individual-level variables. As acknowledged by Lenzi and Perucca (2021), including individual level variables represents a key added value of the analysis, as the structure of our data allows us to capture a range of individual characteristics without the need to aggregate them at the regional level, thereby preserving the granularity and specificity of individual-level information.

The individual data for this study are drawn from the Rapporto Giovani dataset provided by the Toniolo Institute, offering a detailed portrait of young people's conditions and perspectives across Italy, France, Germany, and Spain. This stratified random sample includes individuals aged 18 to 34, representative by gender, age group, educational attainment, employment status, and geographic area of residence[2].

Our findings reveal that living in a country with lower GDP growth (compared to the sample median) during an individual's *impressionable years* increases the probability of holding a negative opinion about the efficacy of EU actions in supporting national economies by approximately 5.7%. Robustness checks further validate these results, demonstrating their stability when alternative dependent variables and explanatory variables are used, as well as an alternative modeling strategy is employed. Additionally, a heterogeneity analysis reveals that, when the sample is split based on the parents' level of education, the relationship remains significant only for the sub-sample of individuals whose parents both lack a

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[1] Both geographic and socio-economic controls are at NUTS-3 level. For a description of all these variables refer to Section 2.

[2] The dataset was collected through online surveys (CAWI methodology) conducted in October and November 2021, with a sample size of 1,000 respondents per country, i.e. Spain, France, Germany, and 2,000 in Italy.

university degree.

To the best of our knowledge, with the only notable exception of Lenzi and Perucca (2021), the existing literature has predominantly focused on tangible political outcomes, such as support for Eurosceptic parties (e.g. Rodríguez-Pose *et al.*, 2024)[3]. This issue can be particularly important if we think to the fact that, as acknowledged by Lenzi and Perucca (2021), the sentiment of distrust toward the EU, in contrast to electoral outcomes, provides an opportunity to examine and understand the factors behind political discontent before it manifests in antisystem voting. In addition, our study contributes to previous literature by addressing the geography of political discontent with a specific focus on the *impressionable years*, concentrating particularly on millennials. To the best of our knowledge, no study has yet provided a comprehensive examination of the nexus between economic circumstances during the *impressionable years* of young Europeans and their attitudes towards Europe.

The remainder of this paper is structured as follows. Section 2 describes the data and empirical model, while Section 3 presents the results. Finally, Section 4 offers concluding remarks and policy implications.

2. DATA AND EMPIRICAL MODEL

2.1 Data

This study primarily draws on the combination of two datasets: the *Rapporto Giovani* survey by IPSOS and the *Annual Regional Database of the European Commission* (ARDECO). The *Rapporto Giovani* survey, provided by IPSOS for the Giuseppe Toniolo Institute of Higher Education, is an international individual-level survey that covers a variety of themes with the primary aim of providing a comprehensive understanding of European youth and their perceptions of societal changes. This dataset offers unique individual-level information, including respondents' answers to a wide range of questions as well as standard demographic

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[3] The article by Lenzi and Perucca (2021) represents the first attempt to examine the relationship between territorial and socioeconomic disparities and discontent, focusing on discontent itself rather than its expression through antisystem voting. The authors estimate a model where individual discontent is regressed on three distinct variables of disadvantage/inequality: individual socioeconomic disadvantage (captured by individual characteristics and specific domains of life), interregional inequalities (measured by the average annual real growth of *per capita* regional GDP over 10 years), and intraregional inequalities (measured by the regional Gini index).

variables such as age, education, marital status, and gender.

In this study, we analyze data from the 2021 wave, focusing on 3,483 individuals from four different countries (Italy, France, Germany and Spain), aged between 25 and 34 years at the time of the interview. Despite the initial dataset includes 5,001 individuals aged 18 to 34, for the purpose of this analysis, we restricted our sample to individuals aged 25 or older, as they have already completed their *impressionable years*. Specifically, the individuals included in the sample were born from the year 1987 to the year 1996, so the periods in which the individuals experienced their *impressionable years* are 10 (from 2005-2012 to 2014-2021).

In addition to the IPSOS data, this study incorporates geographical and socio-economic data, sourced from the European Commission[4].
In the following paragraphs we present in detail all the variables used in this analysis.

Explanatory variables

The main explanatory variable is $LowGrowthIY_c$, a dummy variable that captures real GDP (*per capita*) growth in the respondent's country of residence during his/her *impressionable years*. Specifically, the variable is coded as 1 if the average annual GDP growth rate in the country of residence over period in which the individual was aged 18-25 is below the median value of the distribution, and 0 otherwise[5]. Figure 1 shows the average growth of real GDP *per capita* in each of the 10 periods during which individuals in our sample lived their *impressionable years*, by country. The dashed line represents the median value of the distribution in our sample. According to this threshold, 1,880 individuals are coded with 1, while the remaining 1,603 are coded with 0.

In addition, one alternative explanatory variable is considered to perform robustness check. In particular, we compute for each individual the number of years in which GDP *per capita* contracted compared to the previous year during the period when the individual was between

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[5] It is worth noting that two years represent 25% of the eight years that, as previously mentioned, make up the total impressionable years period.

18 and 25 years old. We then calculated the percentage of years in which GDP contracted relative to the total number of *impressionable years*, i.e. 8. Observing the median value of the distribution, which is 0.25, we construct the dummy variable $GDPContractionIY_c$. The variable takes the value of 1 if the individual experienced at least two years of GDP (*per capita*) contractions during his/her *impressionable years*, and 0 otherwise. In Figure 2, we show the share of GDP (*per capita*) contraction by period and by country. The dashed line represents the median value of the distribution.

FIGURE 1 - *Average Growth Rate of Real GDP per capita by Country and Period of Impressionable Years*
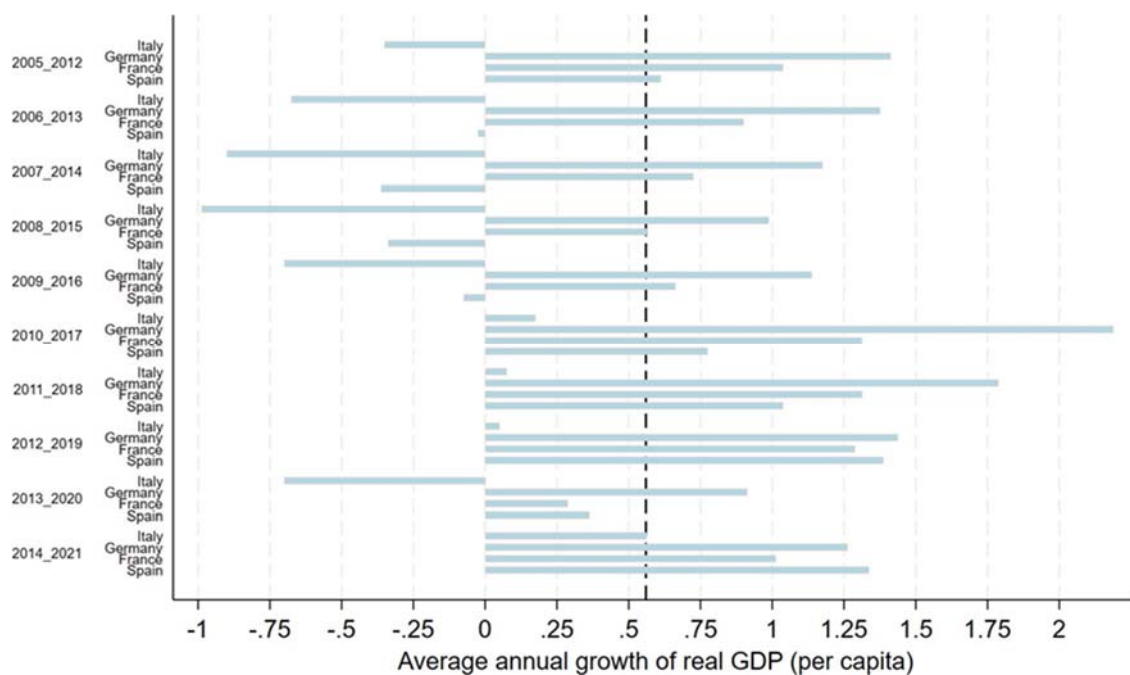
Main Dependent Variable

Following Lenzi and Perucca (2021), we construct a dummy variable by relying on individuals self-reported perception of the European Union's efficacy. The main dependent variable, denoted as $EUInefficacyBelief_i$, is derived from respondents' judgments regarding the question: *"How do you assess the European Union's action to support national economies in general?"* Respondents select an answer on a scale ranging from 1 "completely inefficient" to 10 "totally efficient". If the response is 1,2, 3 or 4, the variable is coded as 1; otherwise, it is

coded as 0. This approach allows for the isolation of individuals who have a negative perception of the European Union's efficacy.

FIGURE 2 - *Percentage of GDP per capita Contraction by Country and Period of Impressionable Years*
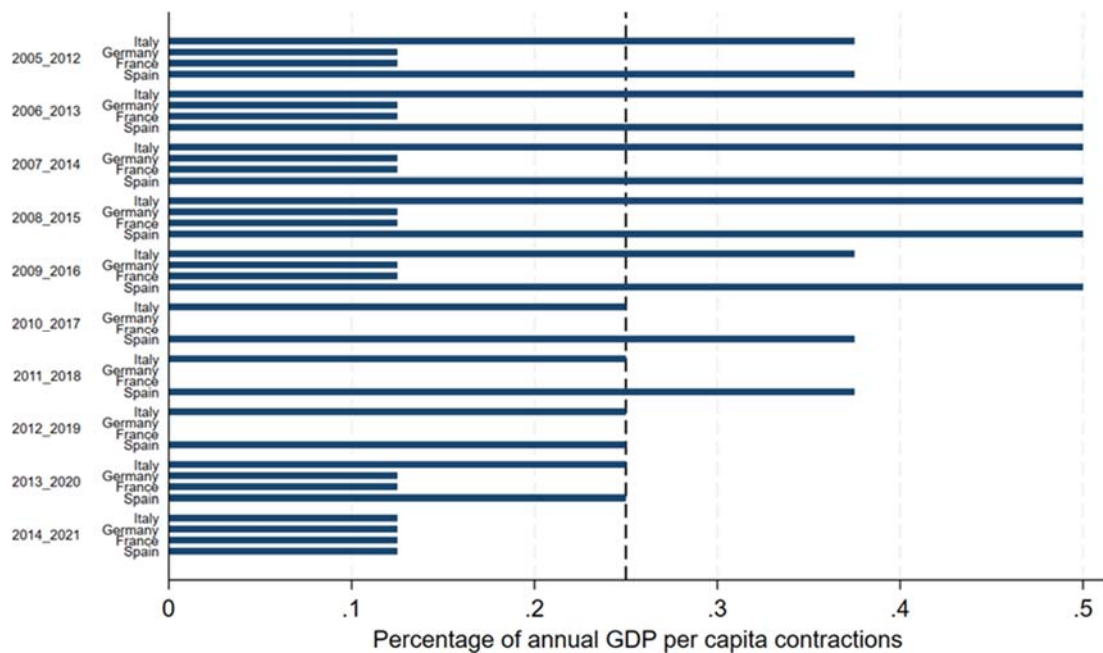
For robustness checks, two additional dependent variables are used. First, we replicate our main dependent variable by using a different metric, i.e. we code with 1 individuals who responded 1, 2 or 3 to the aforementioned question. This variable is called $EUInefficacyBelief2_i$. Then, the second variable is a dummy that reflects individuals' beliefs about the inefficacy of the European Union's actions in supporting the economy of their country of residence. Specifically, the variable $EUInefficacyBelief3_i$ is derived from the respondents' answers to the question: *"How do you assess the European Union's action to support your country's economy in particular?"* Similar to the main variable, if the response is 1, 2, 3 or 4 the value is coded as 1; otherwise, it is coded as 0.

Control variables

In this study, multiple sets of control variables are included to account for potential confounding factors. First, individual-level variables are considered, including age, educational attainment, parental educational attainment, marital status, and gender. Moreover, given the focus on a young population, particular attention is paid to whether the individual is studying or not, and if the individual can be classified as *NEET*, i.e., neither studying nor working[6].

Second, geographic controls are included. Specifically, we account for the possibility that opinions on European Union actions may differ in more remote areas. For this purpose, a dummy variable is constructed, coded as 1 if the municipality is classified as an urban center, and 0 otherwise[7]. Similarly, population density is included as an additional geographic control.

Finally, socio-economic control variables at the NUTS-3 regional level are incorporated. These include the employment rate, the share of employment in industry, GDP *per capita*, and net migration[8]. Additionally, the old dependency ratio is included to provide insights into demographic dynamics[9]. All socio-economic variables refer to the year 2019 to avoid biases related to the COVID-19 pandemic[10].

We report in Table 1 the descriptive statistics for all variables utilized in the analysis.

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[6] *NEET* refers to individuals who are Not in Education, Employment, or Training.

[7] This variable is derived from the Rural-Urban taxonomy developed by Eurostat.

[8] To compute the share of industrial employment we use information on employment in the following sectors: mining and quarrying, manufacturing, electricity gas steam, water supply, sewerage, waste management.

[9] The old dependency ratio is defined as the ratio of individuals aged 65 and over to those aged 15–64.

[10] The logarithmic transformation is applied to all socio-economic controls, with the exception of old dependency ratio and net migration.

TABLE 1 - *Descriptive Statistics*

Variables	Obs	Mean	Std. Dev.	Min	Max
Dependent, explanatory and individual-level variables					
Age	3,483	29.740	2.868	25	34
Educational Attainment	3,483	4.149	1.229	1	6
Mother Educational Level	3,466	2.114	0.928	1	4
Father Educational Level	3,420	2.113	0.963	1	4
Marital Status	3,483	1.441	0.598	1	5
Gender (Male=1 Female=2)	3,483	1.541	0.498	1	2
Enrollment status (Actually Studying: Yes=1 No=2)	3,483	1.712	0.452	1	2
NEET (Yes=1 No=0)	3,483	0.190	0.392	0	1
EUInefficacyBelief	3,483	0.350	.351	0	1
EUInefficacyBelief2	3,483	0.241	.428	0	1
EUInefficacyBelief3	3,483	0.368	.353	0	1
LowGrowthIY	3,483	0.479	0.497	0	1
GDPContractionIY	3,483	0.540	0.498	0	1
Regional Control Variables					
Population Density	508	0.523	1.253	0.009	20.965
Urban Area (1=Urban, 2=Rural, 3=Intermediate)	508	1.992	0.732	1	3
Employment Rate 2019 (ln)	508	-0.320	0.231	-0.888	0.510
Net Migration 2019	508	0.148	0.639	-3.308	9.684
GDP *per capita* (ln)	508	10.322	0.333	0	.018
Share Empl. Rate in Industry 2019 (ln)	508	-1.852	0.498	9.665	12.087
Old Dependency Ratio	503	38.423	7.022	20.6	59.8

Sample: young adults aged 25-34 in 2021.

2.2 Empirical Model

The main analysis employs multivariate standard probit regressions to examine how and to what extent a relatively low GDP growth is associated with individuals' attitudes toward European Union actions. Specifically, we investigate whether the probability of holding a more negative view of the EU's role changes in response to the presence of economic disadvantage within the country of residence. The probit model used in the analysis is expressed as follows:

$$\Pr(EUInefficacyBelief_i = 1 \mid LowGrowthIY_c, Z_p, X_i, \mu_r) = \varphi(\alpha + \beta LowGrowthIY_c + \gamma X_i + \sigma Z_p + \mu_r \tag{1}$$

where the dependent variable, $EUInefficacyBelief_i$, is a binary indicator of "Euroscepticism" for individual i residing in country c, reflecting individual dissatisfaction with the effectiveness of European institutions' actions. The variable takes the value of 1 if individuals perceive European Union actions as inefficient, and 0 otherwise. The function φ represents the standard normal cumulative distribution function. The key explanatory variable, $LowGrowthIY_c$, is coded as 1 if the average growth rate in the respondent's country of residence during his/her *impressionable years* is below the median of the distribution, and 0 otherwise. The sign of the β coefficient indicates whether the treatment, $LowGrowthIY_c = 1$, is associated with an increase or decrease in the probability of $EUInefficacyBelief_i = 1$. The vector X_i contains individual-level control variables, including age, gender, educational attainment, parental educational attainment, enrollment status, NEET status, and marital status. The vector Z_p includes NUTS-3 level geographic and socio-economic control variables. Finally, μ_r captures NUTS-2 regional fixed effects. Standard errors are clustered at the NUTS-2 level to account for within-region correlations. Finally, it is worth noting that in all regressions the sample weights are applied.

3. RESULTS

3.1 Main Results

In this Section, we present the main results obtained from estimating the probit model outlined in Equation 1. The analysis includes various model specifications, which differ based on the inclusion of different sets of control variables. Table 2 reports the average marginal effect of treatment, i.e. $LowGrowthIY_c$ =1, on the probability of a negative perception of EU efficacy[11]. The results indicate that living in country that experienced a relative low average growth of GDP (*per capita*) increases the probability of perceiving the European Union's actions as ineffective. In column (1), we present the baseline specification, which includes personal controls and NUTS-2 regional fixed effects. In subsequent columns we include

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[11] The discrepancy in the number of observations in Table 1 (where we show descriptive statistics) and those in Table 2 is due to computational considerations in the probit model estimation. The number of observations excluded varies based on collinearities detected by the estimation algorithm.

different set of controls. In column (2), geographical controls are added, while in column (3) we introduce socio-economic controls. Finally, in column (4) we include all sets of controls simultaneously, namely personal, geographical, and socio-economic variables. Across all specifications, the positive sign of the marginal effect consistently indicates that an unfavorable economic context during the *impressionable years* is associated with an increased likelihood of holding a negative opinion about the European Union. Overall, the findings suggest that the average marginal effect of treatment, i.e. $LowGrowthIY_c = 1$, raises the probability of perceiving EU actions as ineffective by approximately 5.7%[12].

TABLE 2 - *Main Results*

Dependent Variable:	$EUInefficacyBelief_i$			
	(1)	(2)	(3)	(4)
$LowGrowthIY_c$	0.057**	0.057**	0.055**	0.057**
	(0.028)	(0.028)	(0.027)	(0.028)
NUTS-2 FE	X	X	X	X
Personal	X	X	X	X
Geography		X		X
Socio-Economic			X	X
N of obs	3410	3410	3369	3369

Note: Results in all specifications refer to the probit model estimated according to Equation 1. Reported coefficients refer to the average marginal effect of $LowGrowthIY_c = 1$ on $EUInefficacyBelief_i$. The dependent variable is the dummy variable related to personal belief about the efficacy of European Union action in supporting national economies and it remains unchanged in all different specifications. The main independent variable is a dummy variable related to the real GDP (*per capita*) growth in the country of residence during the *impressionable years* of each individual. For a description of these variables and all control variables see Section 2. All specifications include NUTS-2 regional fixed effects. Standard errors in parentheses are clustered at NUTS-2 level. The statistical significance of the test that the underlying coefficients is equal to zero is denoted by: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

3.2 Heterogeneous Effects

The analysis is further extended to investigate whether experiencing a disadvantaged economic context during *impressionable years* is related to the probability of holding an

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[12] See Table A1 in the Appendix for the full set of estimated coefficients.

unfavorable opinion about the European Union's actions differently depending on individual characteristics. Specifically, we focus on the familial context of the respondents by splitting the sample based on the educational attainment of their parents. Respondents are grouped into two categories: those with at least one parent holding a bachelor's degree and those whose parents do not have university-level education. Parental education is an important factor as it is known to indirectly influence children's academic achievements (Davis-Kean, 2005). Furthermore, parental education often serves as a proxy for income (Duranton *et al.*, 2009). Results from this analysis, shown in Table 3, indicate that the relationship between disadvantaged economic conditions and negative perceptions of European institutions remains significant and stronger for individuals whose parents lack a university degree. Conversely, this correlation disappears for respondents with at least one parent holding a bachelor's degree or higher. Overall, this heterogeneous analysis suggests that the negative impact of the economic crisis during impressionable years is more pronounced among youngsters from families with less-educated, often low-income, parents, while having educated parents acts as a protective factor.

TABLE 3 - *Heterogeneous Effect: Parents Educational Attainment*

Dependent variable:	*EuInefficacyBelief$_i$*	
	(1)	(2)
	Parent Not Graduated	Parent Graduated
LowGrowthIY$_c$	0.086*	0.038
	(0.047)	(0.040)
NUTS-3 FE	X	X
Personal	X	X
Geography	X	X
Socio-Economic	X	X
N of obs	1888	1407

Note: Results in all specifications refer to the probit model estimated according to Equation 1. Reported coefficients refer to the average marginal effect of *LowGrowthIY$_c$* =1 on *EUInefficacyBelief$_i$*. The dependent variable is the dummy variable related to personal belief about the efficacy of European Union action in supporting national economies and it remains unchanged in all different specifications. The main independent variable is a dummy variable related to the real GDP (*per capita*) growth in the country of residence during the *impressionable years* of

each individual. For a description of these variables and all control variables see Section 2. The sample is divided in two different sub-groups: in column (1) it comprises individuals whose parents did not attain a university degree, while in column (2) individuals whose parents did attain at least a university degree. All specifications include NUTS-2 regional fixed effects. Standard errors in parentheses are clustered at NUTS-2 level. The statistical significance of the test that the underlying coefficients is equal to zero is denoted by: * $p < 0.1$, ** $p < 0.05$, ***$p < 0.01$.

3.3 Robustness

To ensure the validity of the results, a series of robustness checks are performed. One of the primary concerns relates to the choice of the dependent variable; therefore, the model is re-estimated using two alternative outcomes to verify that the main findings are not dependent on the specific survey question used to measure EU sentiment. Specifically, we employ the variable $EUInefficacyBelief2_i$, i.e. the main variable constructed using a different metric, and $EUInefficacyBelief3_i$, the dummy indicator that captures individuals' sentiment towards the European Union from an alternative perspective[13].

The results are shown in Table 4, where in Panel A the dependent variable is $EUInefficacyBelief2_i$ while in Panel B is $EUInefficacyBelief3_i$. The average marginal effect related to the coefficient of interest, i.e. $LowGrowthIY_c$ remains statistically significant even if in both Panels the magnitude of the coefficients slightly differs from those reported in Table 2. These findings lead us to conclude that, our results are not driven by a specific metric used to code individuals' responses, nor by the use of a particular survey question.

Furthermore, we perform other robustness checks re-estimating the model by varying the main explanatory variable, i.e., $LowGrowthIY_c$. In particular, we consider the variable $GDPContractionIY_c$ which indicates whether GDP *per capita* in the country of residence contracted compared to the previous year at least two times during the individual's *impressionable years*. Comfortingly, Table 5 shows that our main results are confirmed. Indeed, the coefficient associated with $GDPContractionIY_c$ remains significant at the 10% level with a magnitude directly comparable to those reported in Table 2.

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[13] For further details on these variables see Section 2.

TABLE 4 - *Robustness to the Use of an Alternative Dependent Variable*

Panel A. Dependent Variable:	$EUInefficacyBelief2_i$			
	(1)	(2)	(3)	(4)
LowGrowthIY$_c$	0.063**	0.063**	0.063**	0.065**
	(0.029)	(0.029)	(0.029)	(0.030)
N	3402	3402	3361	3361
Panel B. Dependent Variable:	$EUInefficacyBelief3_i$			
	(1)	(2)	(3)	(4)
LowGrowthIY$_c$	0.063**	0.063**	0.063**	0.065**
	(0.029)	(0.029)	(0.029)	(0.030)
N of obs	3412	3412	3371	3371
NUTS-2 FE	X	X	X	X
Personal	X	X	X	X
Geography		X		X
Socio-Economic			X	X

Note: Results in all specifications refer to the probit model estimated according to Equation 1. Reported coefficients refer to the average marginal effect of *LowGrowthIY$_c$* = 1 on *EUInefficacyBelief*2$_i$ (Panel A) and *EUInefficacyBelief*2$_i$ (Panel B). In both Panels the dependent variables are two dummy variables related to personal belief about the efficacy of European Union action (See Section 2 for details). The main independent variable is a dummy variable related to the real GDP growth (*per capita*) in the country of residence during the *impressionable years* of each individual. For a description of these variables and all control variables see Section 2. All specifications include NUTS-2 regional fixed effects. Standard errors in parentheses are clustered at NUTS-2 level. The statistical significance of the test that the underlying coefficients is equal to zero is denoted by: * $p < 0.1$, ** $p < 0.05$, ***$p < 0.01$.

TABLE 5 - *Robustness to the Use of Alternative Explanatory Variables*

Dependent Variable:	$EUInefficacyBelief_i$			
	(1)	(2)	(3)	(4)
$GDPContractionIY_c$	0.059*	0.059*	0.060*	0.061*
	(0.034)	(0.034)	(0.034)	(0.035)
NUTS-2 FE	X	X	X	X
Personal	X	X	X	X
Geography		X		X
Socio-Economic			X	X
N of obs	3410	3410	3369	3369

Note: Results in all specifications refer to the probit model estimated according to Equation 1. Reported coefficients refer to the average marginal effect of $GDPContractionIY_c = 1$ on $EUInefficacyBelief_i$. The dependent variable is the dummy variable related to personal belief about the efficacy of European Union action in supporting national economies and it remains unchanged in all different specifications. The main independent variable is a dummy variable indicating whether GDP *per capita* in the country of residence contracted compared to the previous year during the individual's *impressionable years* at least two times. For a description of these variables and all control variables see Section 2. All specifications include NUTS-2 regional fixed effects. Standard errors in parentheses are clustered at NUTS-2 level. The statistical significance of the test that the underlying coefficients is equal to zero is denoted by: * $p < 0.1$, ** $p < 0.05$, ***$p < 0.01$.

Finally, the model is validated by employing an alternative estimation method to assess the robustness of the results to a different modeling strategy. Specifically, we re-estimate Equation 1 using a linear probability model (LPM). The coefficients remain positive and statistically significant across all specifications, as shown in Table 6.

TABLE 6 - *Robustness to the Use of an Alternative Modeling Strategy: OLS Results*

Dependent Variable:	$EUInefficacyBelief_i$			
	(1)	(2)	(3)	(4)
$LowGrowthIY_c$	0.057**	0.057**	0.055*	0.055*
	(0.028)	(0.028)	(0.028)	(0.028)
NUTS-2 FE	X	X	X	X
Personal	X	X	X	X
Geography		X		X
Socio-Economic			X	X
N of obs	3412	3412	3371	3371

Note: All specifications refer to Equation 1 estimated by Ordinary Least Squares. The dependent variable, *EUInefficacyBelief_i*, is the dummy variable related to personal belief about the efficacy of European Union action in supporting national economies and it remains unchanged in all different specifications. The main independent variable, $LowGrowthIY_c$, is a dummy variable related to the real GDP (*per capita*) growth in the country of residence during the *impressionable years* of each individual. For a description of these variables and all control variables see Section 2. All specifications include NUTS-2 regional fixed effects. Standard errors in parentheses are clustered at NUTS-2 level. The statistical significance of the test that the underlying coefficients is equal to zero is denoted by: * $p < 0.1$, ** $p < 0.05$, ***$p < 0.01$.

4. CONCLUSION

This study examines the relationship between the economic disadvantage experienced by individuals in their country of residence between the ages of 18 and 25 and their attitudes towards the European Union. Using data from four key European countries, Italy, France, Germany, and Spain, we find robust evidence that adverse economic experiences during this formative period significantly shape young people's perceptions of the EU. Specifically, having experienced a negative economic environment, as proxied by different economic variables, during an individual's *impressionable years* increases the likelihood of holding a negative opinion about the EU's actions by approximately 5.7%.

Our findings align with previous literature emphasizing the role of economic and socio-political factors in driving Euroscepticism, which, in turn, can translate into increased support for anti-system and Eurosceptic parties. By focusing on individual-level sentiment, this paper extends the existing research, which, with the only notable exception of Lenzi and Perucca (2021), has predominantly concentrated on political outcomes, such as the

electoral success of Eurosceptic parties. Importantly, our heterogeneity analysis reveals that the role of economic context is moderated by parental education: individuals whose parents have university-level education are not likely to develop negative attitudes toward the EU in response to a disadvantaged economic context. This highlights the intersection of economic and social dimensions in shaping perceptions of European integration.

To ensure the robustness of our results, we conducted a series of checks, including the use of alternative dependent and independent variables as well as an alternative estimation method. The consistency of our findings across these tests underscores the validity of our conclusions.

This research contributes to a deeper understanding of the interplay between economic conditions, personal characteristics, and attitudes toward the EU, particularly among millennials – a politically significant generation. The findings suggest that economic context not only influences political preferences but also affects broader perceptions of supranational institutions. This has important implications for policymakers aiming to strengthen trust in the EU, particularly in regions affected by prolonged economic hardship.

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APPENDIX

We report in Table A1 estimated coefficients of all controls variable included in model estimated in Table 2 in the main text. In general, the coefficients associated with the control variables are in line with scholarly literature. Our results show that certain individual characteristics are significantly associated with political discontent. In particular, when looking at the coefficients reported from column (1) to column (4) it is interesting to note that, in line with the results obtained in Lenzi and Perucca (2021), more educated people, i.e. those who have at least a university degree, have a lower likelihood of having negative attitudes towards the EU. This is also found among young people who neither study nor work, reinforcing the hypothesis that individual disadvantages have a positive impact on feelings of non-trust in EU actions. Regarding the inclusion of regional characteristics, coefficients on population density are negatively associated with the probability of having anti-EU sentiments. This result is certainly in line with previous literature on the "geography of discontent" (e.g. Dijkstra *et al.,* 2020; Rodríguez-Pose *et al.,* 2024). Nevertheless, the coefficient is only significant in column (2) but not in column (4). Finally, it is important to note that as found by Rodríguez-Pose *et al.* (2024) regarding votes for anti-EU parties, the coefficient on GDP *per capita* and the coefficient on employment rate are always significant, showing a correlation with the probability of the individual having negative sentiment towards EU. In particular, regional GDP *per capita* is positively associated with the outcome, while the coefficient of the employment rate has a negative sign[14].

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[14] For an explanation of why GDP has a positive sign, please refer to the authors' in-depth discussion in Dijkstra *et al.* (2020); Rodríguez-Pose *et al.* (2024).

TABLE A1 - *Main Results with all Coefficients*

	EUInefficacyBelief$_i$			
	(1)	(2)	(3)	(4)
LowGrowthIY$_i$	0.0567**	0.0566**	0.0551**	0.0566**
	(0.0278)	(0.0278)	(0.0275)	(0.0278)
Age	0.00181	0.00175	0.00162	0.00167
	(0.00314)	(0.00315)	(0.00315)	(0.00313)
Educational Attainment 2	-0.00664	-0.00868	-0.00121	-0.00252
	(0.0644)	(0.0645)	(0.0648)	(0.0654)
Educational Attainment 3	-0.0354	-0.0388	-0.0351	-0.0357
	(0.0588)	(0.0579)	(0.0579)	(0.0585)
Educational Attainment 4	-0.0473	-0.0518	-0.0468	-0.0498
	(0.0587)	(0.0578)	(0.0578)	(0.0584)
Educational Attainment 5	-0.118**	-0.121**	-0.115**	-0.116**
	(0.0538)	(0.0531)	(0.0526)	(0.0534)
Educational Attainment 6	-0.106*	-0.106*	-0.104*	-0.104*
	(0.0583)	(0.0586)	(0.0579)	(0.0587)
Marital status 2	0.0107	0.0101	0.0108	0.0103
	(0.0181)	(0.0185)	(0.0188)	(0.0190)
Marital status 3	-0.0873	-0.0875	-0.0765	-0.0806
	(0.0707)	(0.0708)	(0.0729)	(0.0725)
Marital status 4	0.115	0.112	0.113	0.109
	(0.130)	(0.129)	(0.128)	(0.127)
Marital status 5	-0.0345	-0.0519	-0.0514	-0.0678
	(0.167)	(0.162)	(0.155)	(0.153)
Gender	0.0435***	0.0405**	0.0409**	0.0404**
	(0.0168)	(0.0172)	(0.0174)	(0.0175)

TABLE A 1 - *continued*

	EUInefficacyBelief$_i$			
	(1)	(2)	(3)	(4)
Enrollment Status	0.0442**	0.0422**	0.0402*	0.0392*
	(0.0209)	(0.0209)	(0.0207)	(0.0205)
NEET	0.0413*	0.0420**	0.0406*	0.0408*
	(0.0213)	(0.0212)	(0.0216)	(0.0215)
Mother Educational Attainment 2	-0.00399	-0.00491	-0.00787	-0.00870
	(0.0277)	(0.0278)	(0.0278)	(0.0280)
Mother Educational Attainment 3	-0.0433	-0.0440	-0.0464	-0.0477
	(0.0343)	(0.0345)	(0.0346)	(0.0347)
Mother Educational Attainment 4	-0.0492	-0.0537	-0.0539	-0.0584
	(0.0504)	(0.0506)	(0.0512)	(0.0511)
Father Educational Attainment 2	-0.0412*	-0.0411*	-0.0420*	-0.0403
	(0.0247)	(0.0249)	(0.0246)	(0.0249)
Father Educational Attainment 3	0.0335	0.0301	0.0333	0.0334
	(0.0359)	(0.0346)	(0.0348)	(0.0348)
Father Educational Attainment 4	0.0632	0.0616	0.0622	0.0631
	(0.0571)	(0.0575)	(0.0576)	(0.0582)
Population Density		-0.00995***		-0.00745
		(0.00188)		(0.00477)
Urban Area 2		0.0196		0.0293
		(0.0186)		(0.0234)
Urban Area 3		-0.0176		-0.00910
		(0.0266)		(0.0364)

TABLE A 1 - *continued*

			EUInefficacyBelief$_i$	
	(1)	(2)	(3)	(4)
Employment Rate 2019 (ln)			-0.553***	-0.545**
			(0.209)	(0.219)
Net Migration 2019			0.00200	-0.00213
			(0.0107)	(0.00950)
GDP *per capita* 2019 (ln)			0.285*	0.324*
			(0.155)	(0.169)
Share Empl. Rate in Industry 2019 (ln)			-0.0136	-0.0286
			(0.0305)	(0.0312)
Old Dependency Ratio			0.00180	0.00299
			(0.00312)	(0.00338)
NUTS-2 FE	X	X	X	X
N	3410	3410	3369	3369

Notes: The Table shows coefficients of all control variables included in the regressions presented in Table 2 in the main text. Categorical variables assume the following values. *Educational Attainment*: 1= baseline category (primary school), 2= lower secondary school, 3=upper secondary, 4= general secondary, 5= higher education, 6= PhD. *Marital Status*: 1= unmarried, 2= married, 3= separated, 4= divorced, 5= widowed. *Mother/Father Educational Attainment*: 1= baseline (primary education), 2= secondary, 3= higher education, 4= PhD. *Urban Area*: 1= baseline (predominantly urban), 2= intermediate, 3= predominantly rural. For a complete description of all variables reported see Section 2. All specifications include NUTS-2 regional fixed effects. Standard errors in parentheses are clustered at NUTS-2 level. The statistical significance of the test that the underlying coefficients is equal to zero is denoted by: * $p < 0.1$, ** $p < 0.05$, ***$p < 0.01$.