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The impact of COVID-19 on economic insecurity of young europeans: exploring the role of local institutions

Gianluca Cerruti
University of Genova

Abstract

In this paper, I examine the role of local institutions on economic insecurity among young Europeans in the wake of the pandemic. To do so, I exploit a survey of young adults residing in Italy, Germany, France, and Spain. The analysis, using a difference-in-differences estimation strategy, shows how the quality of local institutions acted as a mediating factor in the evolution of individuals' economic insecurity after the outbreak of the COVID-19 pandemic. Estimates evidence a lower level of economic insecurity of about 10.3% in regions with high-quality institutions (75th percentile) compared to regions with low-quality institutions (25th percentile). Furthermore, nearly two years of post-COVID-19 data confirm that the effect was not only temporary. Overall, the quality of local institutions - by inhibiting the rise in perceived economic insecurity among young individuals - is likely to have mitigated consequent negative economic effects.

1. Introduction

Economic insecurity has become very widespread in recent years and can be linked to the financial and economic crisis that began in 2007 in the United States, as well as to the increasing job insecurity due to globalization, flexibilization, and the growth of automation (Berton and Richiardi, 2012). The COVID-19 pandemic further fueled the problem of economic insecurity, bringing it to the fore even in countries and among groups that until recently were thought to be immune. However, the concept of economic insecurity remains difficult to define as it encompasses many dimensions and can be interpreted in different ways.

The economic literature categorizes economic insecurity indicators into two main types: objective measures and subjective measures. Objective measures typically refer to quantifiable data, such as unemployment rates, income volatility, or access to social safety nets, which provide statistical evidence of economic instability, while subjective measures are based on the subjective perception of economic risks, as obtained through survey questionnaires, for example.[1] Nevertheless, its fundamental role is widely recognized.

Rohde et al. (2017) found that economic insecurity detrimentally affects the mental and physical health of individuals in Australia, to an even greater extent than vulnerability and deprivation. In this vein, Watson et al. (2020) studied the Canadian case, finding an increase in the body mass index (BMI) of economically insecure working-age adults during the Great Recession.

In recent decades, which have been studded with crises, institutions have played a crucial role. For instance, a recent paper has shown how they played a key role in the evolution of trust toward political parties after the outbreak of the COVID-19 pandemic (Bottasso et al., 2022).[2] Kuokštis and Kuokštyté (2023) also highlighted how institutions helped EU countries withstand the economic turmoil triggered by the COVID-19 pandemic. In a broader context, Bachmann et al. (2023) investigated the correlation between COVID-19 and related policy measures on the life satisfaction of individuals using a sample of 15 European countries, concluding that, albeit with certain limitations, these measures contributed to an increase in life satisfaction.

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[1] Subjective measures capture individuals' perceptions or feelings of economic vulnerability, such as their fear of job loss, inability to maintain their standard of living, uncertainty about the future, or dissatisfaction with their current economic condition.

[2] Several papers have explored the importance of institutional quality across various contexts, including the role of EQI in shaping regional economic growth (Rodríguez-Pose and Garcilazo, 2015; Ketterer and Rodríguez-Pose, 2018), fostering innovation (Rodríguez-Pose and Di Cataldo, 2015), and enhancing resilience during the Great Recession (Ezcurra and Rios, 2019).

In the current paper, exploiting a measure of subjective economic insecurity similar to those proposed by Bossert and D'Ambrosio (2013),[3] as well as information from a survey administered four times between May 2019 and November 2021, I analyze recent economic insecurity trends in the largest European countries: Italy, Spain, Germany, and France. More specifically, I investigate whether citizens' pre-pandemic perceptions regarding the quality of institutions had any mediating effect on the evolution of economic insecurity among young Europeans in the post-COVID-19 period. The focus on youths is rooted in the recognition that the "impressionable years"—late adolescence and early adulthood—are crucial for shaping enduring attitudes and values (Newcomb, 1943, 1967). During this period, experiences such as economic downturns or pandemics can have a more profound impact on youths than on the general population, with lasting effects on beliefs and behaviors. For instance, Giuliano and Spilimbergo (2014) demonstrate that experiencing a recession between the ages of 18 and 25 significantly influences political and economic views. Similarly, Aksoy et al. (2020) find a long-term impact of pandemics on political trust among young people, while Bottasso et al. (2022) observe immediate effects of COVID-19 on political trust as mediated by the perceived quality of local governments. The remainder of the paper is structured as follows. Section 2 outlines the data, Section 3 describes the identification strategy, and in Section 4 the main results are presented. Finally, Section 5 offers some concluding remarks.

2. Data

The main source of data is the international "Osservatorio Giovani" survey focused on young Europeans between the ages of 18 and 34 residing in the four largest European countries: Germany, France, Italy, and Spain.[4] The survey consists of four waves conducted in spring 2019, 2020, and 2021, and in winter 2021. Overall, the sample includes 18,744 individuals and is representative of the target population.

In addition to a rich set of individual-level information (age, sex, educational qualifications, employment status, whether the individual lives alone or not), the survey also provides a subjective measure of economic insecurity (i.e. perceived economic insecurity) similar to that proposed by Bossert and D'Ambrosio (2013). The economic insecurity indicator is built as an "*Eco Insec*" dummy variable taking a value of 1 for high levels of economic insecurity and 0 for low levels of economic

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[3] This measure of economic insecurity is based on an individual's confidence regarding the future, such as their ability to overcome a loss in the future. For further details, refer to Bossert and D'Ambrosio (2013).

[4] This is one of the most in-depth surveys focusing on young adults in Europe.

insecurity.[5]

The quality of institutions is measured using the 2017 European Quality of Government Index (EQI) from the University of Gothenburg (Figure 1). The EQI is a multidimensional index that defines the quality of government and other local institutions (health system, schools, police) on the basis of three dimensions: quality, impartiality, and corruption (both experienced and perceived). This is the only measure of institutional quality available at the regional level (NUTS-2) across the European Union.[6] It is important to note that the EQI is specifically designed to measure institutional quality, rather than simply capturing people's general satisfaction with or opinions about their government. The methodology used to construct the index helps mitigate potential biases by incorporating both subjective perceptions and direct experiences, grounding the data in real interactions with institutions. Additionally, the EQI combines these survey-based insights with broader qualitative analyses, including interviews with public officials and other stakeholders, to provide a comprehensive and reliable assessment of institutional quality.

In recent years, many scholars have identified the significance of the quality of local government and broader institutional factors in elucidating regional socio-economic disparities (Charron et al., 2014; Rodríguez-Pose and Garcilazo, 2015).

Most of the variables used as controls are provided by the "Eurostat Regions Database".[7]

Figure 1: The 2017 EQI in Europe (NUTS-2)
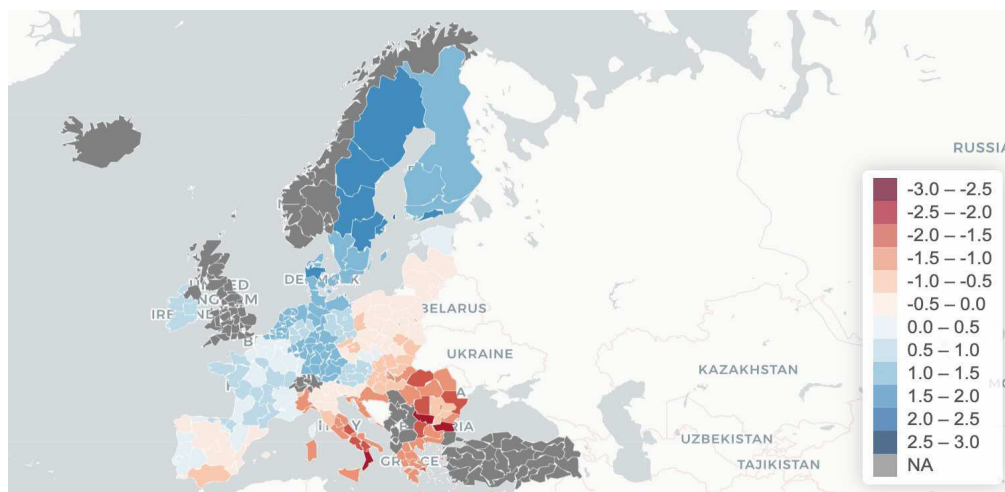
Notes: The data source is Charron et al. (2022).

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[5] Specifically, for the 2019 wave I consider the question that asks people whether, given the economic situation, they "feel confident that they can do things well or if, conversely, they perceive the future as highly uncertain". For the 2020 and 2021 waves, I rely on the responses to the question "When I think about my future, I see it as full of risks and uncertainties". In both cases, "negative" responses (indicating high economic insecurity) are coded as 1 and "positive" or "neutral" responses (indicating no economic insecurity) are coded as 0.

[6] For more information, see https://www.gu.se/en/quality-government/qog-data/ data-downloads/european-quality-of-government-index.

[7] For information about these controls, see https://ec.europa.eu/eurostat/web/regions/data/database. For further information on other controls, please refer to Section 3 and the note in Table 1.

3. Identification Strategy

The analysis is based on a difference-in-differences (DiD)[8] identification strategy of the following form:

$$Eco\_insec_{ict} = \beta(EQI_r \times Post_t) + \delta X_{ict} + \gamma(W_{c(r)} \times Post_t) + \eta Z_{c(r)t} + \mu_c + \tau_t + \epsilon_{ict} \quad (1)$$

Eco_insec_{ict} captures the economic insecurity of individual i residing in NUTS-3 region c[9] at time t. EQI_r is the measure of institutional quality at the NUTS-2 level (r). $Post_t$ is a post-pandemic dummy.[10] The coefficient of interest is β, associated with the interaction of the post-treatment indicator and the treatment variable. This coefficient measures the average differential effect on individuals' perceptions of economic insecurity due to the COVID-19 pandemic for those who live in a low EQI region compared to those who live in a high EQI one. X_{ict} is a vector of controls related to observable individual characteristics (age, sex, educational qualifications, worker status, household status).[11] $W_{c(r)}$ represents a vector of economic, geographic, socio-demographic, internet-related, and COVID-related time-invariant variables at the NUTS-3/NUTS-2 level, and these are included in the equation interacted with $Post_t$.[12] The $Z_{c(r)t}$ vector includes other time-varying regional characteristics, such as the fear of recession, retrieved from Google trends,[13] the regional mortality rate,[14] and a country-level measure of the stringency of rules applied in the containment of the COVID-19 pandemic.[15] μ_c and τ_t represent NUTS-3 region and time fixed effects, respectively. The regional fixed effects absorb any systematic differences in economic insecurity levels across NUTS-3 regions due to time-invariant characteristics (i.e., regional fixed effects account for any unobservable time-invariant heterogeneity that could be correlated with both

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[8] The "continuous treatment" difference-in-differences (DiD) approach treats all units as receiving treatment, but with varying intensities. For a methodological discussion see, among others, Angrist and Pischke (2009) and Goodman-Bacon and Marcus (2020).

[9] Within the NUTS-2 region r.

[10] This variable takes a value of 0 before the outbreak of the pandemic and 1 otherwise.

[11] The inclusion of these individual-level variables as controls in the model ensures that the estimated effect of institutional quality (EQI) on economic insecurity is not confounded by individual factors that might influence both the EQI and economic insecurity.

[12] The granularity of the NUTS level depends on the availability of the data. These regional controls are based on 2018 data, i.e., before the onset of the COVID-19 pandemic.

[13] The search was tailored based on each country's language.

[14] The data source is the "Eurostat Regions Database". For further details, see https://ec.europa.eu/eurostat/web/regions/data/database.

[15] The data source is the Oxford COVID-19 Government Tracker at the country level. For more information, see https://www.bsg.ox.ac.uk/research/research-projects/ covid-19-government-response-tracker. The inclusion of the vector $Z_{c(r)t}$ allows controlling for time-varying regional characteristics that may have influenced economic insecurity during the pandemic.

economic insecurity and the quality of local institutions). τ_t is a time dummy capturing economic shocks common to all individuals. The identification assumption that allows for a causal interpretation of β in Equation (1) is that, conditional on individual controls, regional time-varying controls $Z_{c(r)t}$, and regional fixed effects, the differential change in economic insecurity in high-EQI regions post-2020 is not driven by factors other than those accounted for by the $W_{c(r)} \times \text{Post}_t$ interaction term.[16] This interaction considers how local characteristics interact with the development of the pandemic, while holding constant the effect that these characteristics might have had on changes in economic insecurity in 2020, beyond the role played by the EQI. A similar approach was employed by Durante et al. (2021).

4. Empirical results

Table 1 shows the main results, divided into four different panels in which the analysis is replicated using different waves of the survey. The table shows regressions without controls (column (1)), regressions that include only some controls (columns (2) and (3)), and regressions that consider the full set of controls (column (4)).[17] From a broad interpretation of Table 1, it is evident that the relationship is negative, and thus that the COVID-19 pandemic has increased the economic insecurity divide between young Europeans living in regions with low-quality institutions (low EQI) and those living in regions with high-quality ones (high EQI). The relationship is always significant (1%), regardless of the wave considered and whether controls were included or not. In addition, the magnitude of the coefficient is quite stable across different panels and columns.[18]

The main specification is reported in panel D, column (4).[19] The size of the coefficient (EQI x Post) shows a roughly 10.3% lower level of economic insecurity in regions with a high EQI (75th percentile) compared to regions with a low EQI (25th percentile).[20] It is worth noting that the coefficient of the Post_t variable is 0.5508 in the main

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[16] The $W_{c(r)} \times \text{Post}_t$ interaction does not collapse into the fixed effects because the fixed effects (μ_c for regions, τ_t for time) capture only variations that are constant at the regional/time level, while the interaction term varies across each specific region-time combination. Therefore, there is no perfect collinearity between the terms in the equation.

[17] For more information on controls and specifications, see the note in Table 1.

[18] It is worth noting that while the sign of the main coefficient clearly indicates a negative relationship between Y and the main variable X, the regression coefficient β is not directly interpretable due to the continuous nature of the EQI variable. The main results, which were estimated using the linear probability model (LPM), remain valid and consistent with estimates obtained from non-linear models such as probit or logit models. The results are available upon request.

[19] This specification includes the full set of controls and all available waves of the survey (May 2019–November 2021).

[20] To calculate the differential, I multiplied the coefficient shown in Table 1, Panel D, column (4) by the difference between the value of the EQI at the 75th and 25th percentiles of its distribution. So, what I obtain is the differential in the trend of economic insecurity in the post-COVID-19 period compared to the pre-COVID-19 period (2019) between high- and low-EQI regions.

specification (panel D, column (4)), indicating an overall increase in economic insecurity following the pandemic.[21] When considering groups that are even more distinct, and specifically individuals living in regions within the first EQI decile (D1, 10th percentile) and the ninth EQI decile (D9, 90th percentile), the coefficient for the interaction term (EQI × Post) indicates a reduction in economic insecurity of approximately 23.1% in regions with a very high EQI (90th percentile) compared to regions with a very low EQI (10th percentile). Therefore, high-quality institutions seem to have mitigated the rise in economic insecurity among young Europeans. Estimates that include the fourth wave of the survey, nearly two years post-pandemic, although they are slightly lower in magnitude, indicate that the effect was not merely temporary.

A visual inspection of the parallel trends assumption in the pre-COVID-19 period, based on European Social Survey (ESS) data regarding perceived economic insecurity among young people (18–34 years old) from Germany, Spain, France, and Italy confirms the validity of the research design (Figure 2).[22]

Figure 2: Parallel trends
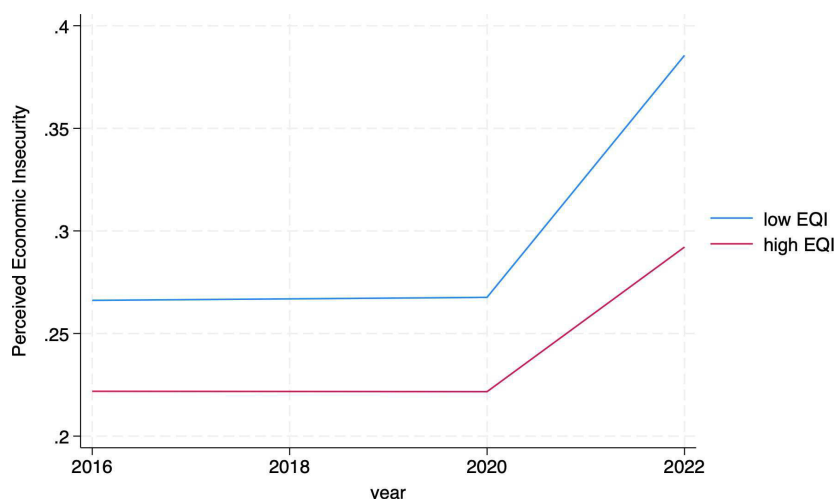
Notes: The graph is constructed using data from the ESS. Specifically, it shows the percentage of individuals experiencing high levels of economic insecurity (defined based on the median value) across different years in low- and high-EQI regions (i.e., below/above the 2017 EQI median value). The parallel trends are confirmed even when using the mean instead of the median to split the sample.

In addition, the results of robustness and falsification tests support the findings: randomly assigning the EQI indicator across NUTS-2 regions causes the effect to disappear, while the main results remain consistent both when using the 2013 EQI instead of the 2017 EQI and when using a dummy variable based on the mean or the fourth quartile of the EQI instead of the continuous EQI indicator. The primary findings also hold when excluding outlier values for both the EQI and economic

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[21] To estimate this coefficient, I estimated the specification excluding the time fixed effects.
[22] Since the international "Osservatorio Giovani" survey was not conducted prior to 2019, I used information from the ESS database to evaluate parallel trends.

insecurity, as well as when using an alternative proxy for economic insecurity.[23]

Table 1: Main results

	(1) Eco_Insec	(2) Eco_Insec	(3) Eco_Insec	(4) Eco_Insec
Panel A: Wave 1 - 2				
EQI*Post	-0.0669***	-0.0823***	-0.0769***	-0.0873***
	(0.0106)	(0.0130)	(0.0169)	(0.0320)
Observations	8,837	8,837	8,837	8,837
R-squared	0.2214	0.2249	0.2257	0.2272
Panel B: Wave 1 - 3				
EQI*Post	-0.0702***	-0.0893***	-0.1003***	-0.1160***
	(0.0099)	(0.0127)	(0.0167)	(0.0294)
Observations	8,847	8,847	8,847	8,847
R-squared	0.2320	0.2414	0.2421	0.2428
Panel C: Wave 1 - 4				
EQI*Post	-0.0438***	-0.0402***	-0.0413***	-0.0738***
	(0.0098)	(0.0102)	(0.0131)	(0.0272)
Observations	8,834	8,834	8,834	8,834
R-squared	0.2391	0.2411	0.2416	0.2431
Panel D: Wave 1 - 2 - 3 - 4				
EQI*Post	-0.0662***	-0.0657***	-0.0699***	-0.0931***
	(0.0078)	(0.0078)	(0.0080)	(0.0176)
Observations	18,744	18,744	18,744	18,744
R-squared	0.1419	0.1467	0.1471	0.1478
FE	NUTS-3, Years	NUTS-3, Years	NUTS-3, Years	NUTS-3, Years
Cluster level	NUTS-2	NUTS-2	NUTS-2	NUTS-2
Google Trends controls (TV)	No	Yes	Yes	Yes
Stringency index (TV)	No	Yes	Yes	Yes
Personal controls (TV)	No	Yes	Yes	Yes
Mortality rate (TV)	No	No	Yes	Yes
COVID-related controls x Post	No	No	Yes	Yes
Geographic controls x Post	No	No	No	Yes
Socio-economic controls x Post	No	No	No	Yes
Internet-related controls x Post	No	No	No	Yes

Notes: TV stands for time varying. Personal controls include age, sex, educational attainment, employment status, and household status. COVID-related controls include the percentage of people aged over 65 , the share of women over the entire population, the number of air passengers, and the number of physicians (per 100,000 inhabitants). Geographic controls include population density, a rural/urban dummy, ruggedness, area (km^2), distance from the coast (km), and distance from Codogno (the epicenter of the pandemic). Socio-economic controls include the share of NEET, GDP per capita, broadband diffusion, and the share of high-tech firms, while internet-related controls include the number of households with an internet connection, as well as the amount of time spent on social networks. Sample weights are applied. Standard errors are clustered at the NUTS-2 region level. *** significant at the 1% level.

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[23] The results are available upon request.

A further analysis is presented in Table 2 that replicates the specification in Table 1, panel D, column (4) using each of the four EQI components as separate interaction terms in the difference-in-differences analysis, instead of the overall index. Specifically, column (1) includes quality, column (2) impartiality, column (3) corruption experience, and column (4) perceived corruption. As shown in the results in Table 2 below, the coefficients for all single EQI components as interaction variables are significant, with the largest coefficients found for perceived corruption and impartiality, which are critical pillars of the EQI. In contexts with low perceived corruption, public policies tend to be more transparent, economic inequality is lower, and access to services is better. Overall, resources are utilized more efficiently. Similarly, impartiality in institutions is crucial for fairness, stability, and trust, reducing social conflict and fostering cooperation.

Table 2: Analysis of EQI components

	(1) Eco_Insec	(2) Eco_Insec	(3) Eco_Insec	(4) Eco_Insec
Panel D: Wave 1 - 2 - 3 - 4				
Quality Pillar*Post	-0.0389*** (0.0137)			
Impartiality Pillar*Post		-0.0535*** (0.0189)		
Exp. Corruption Pillar*Post			-0.0498*** (0.0108)	
Subj. Corruption Pillar*Post				-0.0675*** (0.0172)
Observations	18,744	18,744	18,744	18,744
R-squared	0.1480	0.1471	0.1472	0.1473
FE	NUTS-3, Years	NUTS-3, Years	NUTS-3, Years	NUTS-3, Years
Cluster level	NUTS-2	NUTS-2	NUTS-2	NUTS-2
Google Trends controls (TV)	Yes	Yes	Yes	Yes
Stringency index (TV)	Yes	Yes	Yes	Yes
Personal controls (TV)	Yes	Yes	Yes	Yes
Mortality rate (TV)	Yes	Yes	Yes	Yes
COVID-related controls x Post	Yes	Yes	Yes	Yes
Geographic controls x Post	Yes	Yes	Yes	Yes
Socioeconomic controls x Post	Yes	Yes	Yes	Yes
Internet-related controls x Post	Yes	Yes	Yes	Yes

Notes: TV stands for time varying. Personal controls include age, sex, educational attainment, employment status, and household status. COVID-related controls include the percentage of people aged over 65 , the share of women over the entire population, the number of air passengers, and the number of physicians (per 100,000 inhabitants). Geographic controls include population density, a rural/urban dummy, ruggedness, area (km^2), distance from the coast (km), and distance from Codogno (the epicenter of the pandemic). Socio-economic controls include the share of NEET, GDP per capita, broadband diffusion, and the share of high-tech firms, while internet-related controls include the number of households with an internet connection, as well as the amount of time spent on social networks. Sample weights are applied. Standard errors are clustered at the NUTS-2 region level. *** significant at the 1% level.

5. Conclusions

Conducting an analysis of the major European countries, I ascertain that local institutions acted as mediating factors in the evolution of economic insecurity among young Europeans following the outbreak of the COVID-19 pandemic. Estimates show that there was a lower level of economic insecurity of about 10.3% in regions with high-quality institutions (75th percentile) compared to regions with low-quality institutions (25th percentile). Nearly two years of post-COVID-19 data reveal that the effect was not temporary: economic insecurity remains persistent, as does the gap between regions. A heterogeneity analysis highlights that perceived corruption and impartiality are the main drivers of the mitigating effect of the EQI on economic insecurity among young Europeans. Overall, these results highlight that institutions play a pivotal role during a major shock such as the COVID-19 pandemic. Thus, the quality of local institutions seems crucial in preventing high levels of economic insecurity, which may in turn lead to negative economic effects on consumption, investment (reduced entrepreneurship), investment in children's education, and health, among other aspects. Furthermore, generalized economic insecurity could pave the way for a rise in populism (Guiso et al., 2024), leading to a reduction in political participation and an increase in votes for far-right parties (Bossert et al., 2019). In the end, institutional quality and (perceived) good governance are of paramount importance as Europe faces highly uncertain shocks, such as the Russo-Ukrainian war and high inflation rates that have affected European countries in recent years. An important line of research for future work would thus be to investigate the role of the EQI in mitigating the rise of economic insecurity in relation to other recent crises, such as the Global Financial Crisis or the Euro Crisis.

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