BUILDING RESILIENT SOCIETIES: THE ROLE OF INHERITED CULTURAL VALUES ACROSS WELFARE REGIMES

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ABSTRACT

As governments worldwide seek to strengthen societal resilience against mounting global challenges—from pandemics to climate change and forced displacement—a critical question emerges: why do some countries prove more resilient than others, even among those with similar economic development? While material resources and institutional capacity matter, this research argues that inherited cultural values represent an underexplored factor in shaping both government effectiveness and citizens' resilience capacity.

Drawing on cross-national data measuring government effectiveness (World Bank) and individual-level resilience (European Social Survey), we examine how three dimensions of inherited cultural values—generalized trust, institutional trust, and religiosity—influence resilience outcomes across welfare regime contexts. Using an epidemiological approach to isolate the intergenerational component of these values, we test whether cultural predispositions transmitted across generations predict contemporary resilience.

Our findings reveal that inherited trust values are positively associated with both government effectiveness and individual resilience, but these effects are substantially reduced once institutional characteristics are accounted for. Conversely, religiosity shows no direct effect on resilience outcomes, yet demonstrates significance within specific welfare regime types. These results suggest that while cultural values show initial associations with resilience, much of their apparent influence operates through or is explained by institutional arrangements. Institutional factors—particularly social expenditure and welfare regime design—emerge as key mechanisms through which societies build resilience.

These findings carry important implications for policymakers: while inherited cultural orientations may create initial conditions for resilience, institutional investments remain the primary levers for strengthening societal capacity to withstand crises in an era of cascading global challenges.

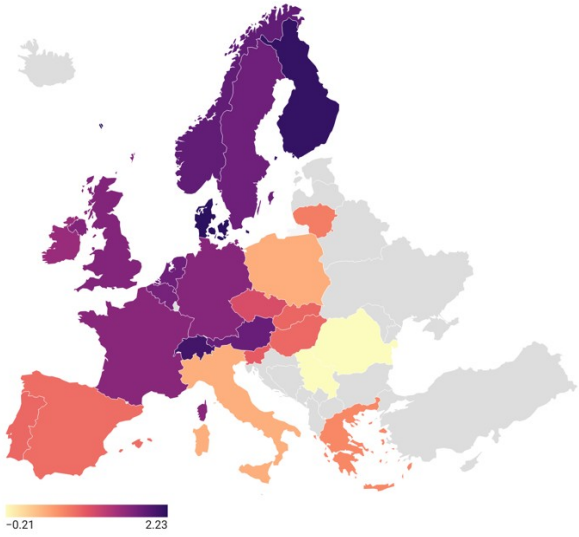
Keywords: Societal resilience, Welfare regimes, Government effectiveness, Intergenerational transmission, Cultural values, Institutional capacity

1. INTRODUCTION

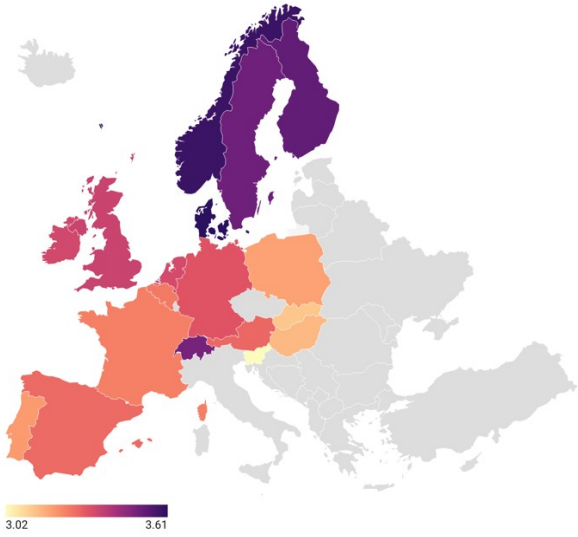
In an era marked by unforeseen global challenges, the concept of resilience has risen to the forefront of both public discourse and academic inquiry. What defines a resilient society? How do we cultivate resilient communities and systems? Why is resiliency an imperative quality in the face of a rapidly changing world? These questions have never been more pertinent, given the profound impact of the recent COVID-19 pandemic, the irreversible consequences of climate change, and the ongoing global refugee crises. Resilience, both on a macro and micro scale, is a multifaceted concept that demands exploration across various dimensions. While the concept of resilience has a long history in various fields, its ascent in social science has been most prominent in the past decade. It is clear that societies across the globe display varying levels of resilience when faced with adversity both at macro- (Figure1A) and micro-level (Figure 1B).

Figure 1 Resilience across Europe in 2006.

A. Government Effectiveness



B. Average Individual Resilience



Source: World Bank Governance Indicators (accessed 15/05/2022) and authors' calculations from European Social Survey (accessed 13/03/2022).

Building resilience in a society necessitates understanding the factors that enable it to withstand crises and adapt to changing circumstances. Equally crucial is the capacity to restore economies and social structures following a severe systemwide disruption. These pursuits have become

central objectives for governments and institutions worldwide, prompting an in-depth examination of the strategies, policies, and interventions that can mitigate crises or guide societies through them. Previous studies have largely focused on the cushioning impact of material resources and specifically on welfare state's ability to buffer negative consequences of system-wide hardships (Stuckler *et al.*, 2009; Kenworthy, Epstein and Duerr, 2011; Nelson, 2012; Visser, Gesthuizen and Scheepers, 2014). While welfare state efforts may develop resiliency, it can be argued that non-material resources that are evaluative in nature, namely long-standing culture, is equally important.

In this research, we investigate an often overlooked yet critical dimension of resilience: the role of long-standing cultural values. Specifically, we ask to what extent cross-national differences in resilience can be attributed to inherited cultural traits. We focus on three distinct categories of inherited values: generalized trust, institutional trust, and religiosity. These values are integral components of long-standing culture and have the potential to shape a society's resilience in the face of challenges. By examining whether societies pre-exposed to these specific values due to intergenerational transmission are more or less likely to be resilient, we aim to provide essential insights into the components of societal resilience and the disparities observed across nations following global disturbances. Moreover, we consider how the influence of these inherited values is conditioned by contemporary welfare state arrangements, which may either amplify or mute their resilience-enhancing effects. In doing so, we aim to advance a more integrated account of resilience that considers how deep cultural legacies interact with institutional structures to shape societal responses to adversity.

2. BACKGROUND

2.1. Understanding Resilience at Macro and Micro Levels

Referring to the literal meaning of the word, public opinion often defines resilience as "bouncing back", "rebounding" or "returning to normal". Such a definition also resonates with the traditional usage of the word in mathematics and engineering, namely, the the speed of return to

to the previous stable equilibrium state (Bodin and Wiman, 2004). However, the term's application has expanded to encompass ecological and societal contexts, allowing for a more systems-oriented perspective. This broader application highlights the capacity of an individual or system to adapt to disruptions by altering its functioning to maintain or return to a desired state, emphasizing change as a means of resilience (Gunderson, 2000; Hoffman and Hancock, 2017; Walker, 2020).

Initially, social sciences undervalued the significance of resilience, particularly during the early 2000s (Olsson *et al.*, 2015). Skeptics questioned its potential contributions to the field. However, the onset of the COVID-19 pandemic, the pervasive impacts of climate change, and an array of global crises have propelled the term resilience into the spotlight. This increased prominence has underscored the need for a more nuanced conceptualization of resilience. Despite numerous attempts across different disciplines to define the concept, its multifaceted nature has established it as both a "boundary object" and a "bridging concept," thus facilitating its interdisciplinary and transdisciplinary advancement (Brand and Jax, 2007). Nonetheless, the inherent complexity and multidimensionality of the concept have posed significant challenges to its operationalization.

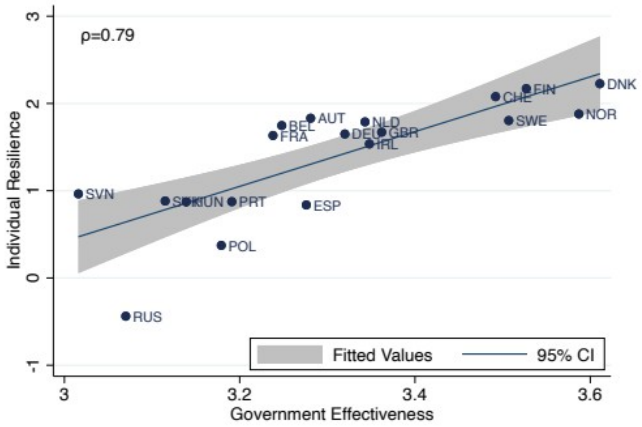
From a social science perspective, we propose that a society's resilience operates on two levels: the macro level, referring to entire systems, and the micro level, focusing on individual actors within those systems. Relying on the social-ecological systems resilience approach, system level resilience integrates insights from natural sciences and ecology. It models nature and society as interconnected socio-ecological systems with multiple potential equilibria or stability domains (Holling and Gunderson, 2002). At this macro level, resilience denotes a system's capacity to endure disturbances without experiencing unfavorable regime changes (Holling, 1973). Further, it encompasses the ability to transition between stability states and establish new equilibria when change is unavoidable, underscoring the importance of adaptive capacity (Gunderson, 2000). Following this systemic approach to resilience, at macro level, we focus on the resilience of public institutions, inferring their effectiveness in responding and adapting to large-scale challenges. Differently resilience at the individual level is often conceptualized in psychology as the ability of individuals to negotiate, adapt to, or manage stress and adversity (Luthar and Cicchetti, 2000; Fletcher and Sarkar, 2013). Despite the ongoing debate about whether resilience

is an innate trait or a skill developed over time (Leys *et al.*, 2020), the majority of studies conceptualize it as a process influenced by situational and lifelong protective factors.

The theoretical linkage between various levels of resilience lies in the tight interconnectedness and interdependence between individuals and the context they are embedded in, as well as the macro-level actors within that context. Resilience systems, entailing effective governance, robust institutions and policies, provides an environment where individual have access to material and social resources that are likely to bolster their capacity to cope with adversities. Reciprocally, resilient individuals are likely to contribute to the establish more resilient systems, by engaging in community initiatives, supporting policy implementation, and contributing to the robustness and adaptability of institutions. This feedback loop may lead to virtuous or vicious cycles in the long run. Therefore, understanding and addressing these feedback mechanisms is crucial for developing strategies that foster long-term resilience at both the macro and micro levels.

To acknowledge this dynamic interaction, we propose a comprehensive approach that considers both macro-level and micro-level resilience when analyzing the cultural dynamics behind a society's resilience. Correspondingly, our macro-level resilience indicator derived from World Bank's government effectiveness index correlate with our aggregate measure of individual resilience from the European Social Survey data (Figure 2). This correlation suggests that effective governance and institutional quality at the macro level are associated with higher levels of individual resilience. It implies that policies and interventions aimed at enhancing systemic resilience can foster individual resilience. Conversely, cultivating individual resilience can contribute to the stability and adaptability of systems. Thus, fostering resilience at both levels is essential for building robust societies that can endure and prosper amid challenges.

Figure 2 Correlation between government effectiveness and individual resilience aggregated at the country level.



Source: World Bank Governance Indicators (accessed 15/05/2022) and authors' calculations from European Social Survey (accessed 13/03/2022).

2.2. Can long-standing cultures explain variations in resilience?

Though culture is a highly complex construct to conceptualize, the sociological study of culture often agrees that the concept yields a variety of constitutive elements, including models and values (Patterson, 2014). The models resemble the procedural aspects of culture, composed of prevalent knowledge structures and practices which provide predictability and continuity to the actions and social interactions taking place in society. Differently, values represent the evaluative dimension. They operate at the micro level and get transmitted across generations (Glass, Bengtson and Dunham, 1986; Rohan and Zanna, 1996). They refer to individuals' evaluations, prioritizations, and preferences, thus reflecting how desirable the means and ends of action are (Hitlin and Piliavin, 2004).

When faced with adversity, societies demonstrate great variation regarding their perception of what constitutes a risk, severity assessment, and coping mechanisms. Almost all governments respond to crises through policies and interventions. Yet the political system's capacity to recover after disruptions, adapt to change, and ability to continue its practices differ considerably. Values may provide a critical explanation for these differences in resilience (Rogers, Bohland and Lawrence, 2020).

Finally, an important question is: what values should matter for resilience, and in which direction? In a time of stress, we presume that individuals tend to turn to and rely on their communities, existing and functioning institutions, or religious faith. Therefore, we argue that three values may impact resilience: generalized trust, institutional trust, and religiosity.

2.2.1. Generalized trust

Generalized trust refers to the level of trust that an individual in a society gives to a fellow individual who is neither a family member nor an acquaintance from the past (Aassve, Billari and Pessin, 2016). In contrast to particularized trust, denoting the faith placed on known others, generalized trust is not relational (Yamagishi and Yamagishi, 1994). Rather it is the belief on "the benevolence of human nature in general" (Yamagishi and Yamagishi, 1994, p. 139) and "the perception that most people are part of your moral community" (Uslaner, 2002, p. 26). The optimism underlying generalized trust is based on individuals' collective experiences and morals; therefore, it is not constant in the short term. Nevertheless, when observed over the long run, the level of generalized trust in society remains fairly stable (Uslaner, 2002). Also, from a comparative perspective, the disparities between societies are likely to persist in the long term (Bjørnskov, 2007).

Social scientists have studied the role of trust in society for a long time (Simmel, 1978; Durkheim, 1984). It often demonstrated a positive pattern with high trusting countries or regions being more likely to have better functioning governments and democracies, robust institutions, higher performing economies, more economic growth and less corruption (Putnam, 1994; Fukuyama, 1995; Verba, Schlozman and Brady, 1995; Zak and Knack, 2001; Uslaner, 2002; Beugelsdijk, De Groot and Van Schaik, 2004; Inglehart, 2020). Further, high levels of social trust enables efficient mobilization and coordination of resources – essential for systems to adapt and maintain functionality in the face of disruptions – by fostering social cohesion, facilitating collective action and promoting effective governance (Putnam, 2000).

At micro-level, individuals with higher generalized are more likely to engage in social activities, have larger supportive social networks and contribute more to their communities (Helliwell and

Putnam, 2004; Paxton, 2007). Such social engagement fosters mental wellbeing and coping mechanism in face of adversity by enabling individual to seek help when needed, get easier access to resources via their networks and acquire a sense of belonging.

Thereby, we argue that high levels of generalized trust may enhance resilience both at macro and micro levels and suggest the following hypothesis:

Hypothesis 1: Countries where individuals report stronger trust toward others are more likely to have higher levels of resilience both at macro and micro levels.

2.2.2. Institutional Trust

Institutional trust refers to an individual's or group's confidence in the competence, reliability and benevolence of institutions. It also denotes the perceived likelihood that the institutions will effectively fulfill their responsibilities and achieve public goal (McKnight and Chervany, 2000; Hudson, 2006). At macro level, higher institutional trust is likely to enhance resilience by ensuring public cooperation, mobilization of resources and enforcement of regulations. Institutions and systems perceived as transparent, fair and effective are more likely to get public support and participation, which facilitates the implementation of emergency measures and large-scale recovery strategies (Fukuyama, 1995). At micro level, previous studies have shown that trust in institutions is linked with reduced stress and mental health problems (Thoresen *et al.*, 2018; Nilsen *et al.*, 2019), increased perceived efficacy (Olagoke, Olagoke and Hughes, 2020) and individual wellbeing (Hudson, 2006). Further, it has proven to be a crucial element of crisis management and improved resilience during system wide disruptions (Tang and Wong, 2005; Blair, Morse and Tsai, 2017; Oh and Lee, 2022; Tong *et al.*, 2022). In line with this, we suggest the following hypothesis:

Hypothesis 2: Countries where individuals report higher institutional trust are more likely to have higher levels of resilience.

2.2.3. Religiosity

Attachment to religious beliefs may help individuals or communities to cope with adversities through numerous channels. One line of argument stems from its social and participatory dimension, namely religion's capacity to offer personal networks and support among like-minded people (Durkheim, 1951; Simmel, Helle and Nieder, 1997). Scholars argue that distinct from other social networks, religious networks may arise greater sense of comfort as its composed of individuals who share similar beliefs about the practice and meaning of helping (Ellison and George, 1994). Further, such companionship may promote a sense of belonging thus enhance mental and physical health (Krause and Wulff, 2005). Another argument derives from the religious meaning, particularly faith and spiritual experience. Previous studies suggest that religion offers a comprehensive framework for interpreting the world thus provide an a sense of meaning and purpose in life, existential security against adversities and a degree of certainty even when world events are highly unpredictable (Emmons, Cheung and Tehrani, 1998; Inglehart, 2010; Immerzeel and Van Tubergen, 2013). Against this backdrop, we expect high levels of religiosity to be associated with higher resilience at macro and micro level. Thus, we put forth the following hypothesis:

Hypothesis 3: Countries where individuals report higher religiosity are more likely to have higher levels of resilience.

2.3. The Impact of Welfare State

It is important to note that the presence of a strong and comprehensive welfare state can significantly influence resilience. The welfare state represents a policy framework that stems from deeply ingrained cultural values and can either bolster or hinder a nation's ability to respond to and recover from various challenges. By providing both material and immaterial support, which may be fundamental for resilience, it might be in competition with various immaterial providers, including family, friends, and even religious institutions like the church (Popenoe, 1988). It can be a critical component of a nation's macro-level resilience through its capacity to manage and recover from systemic challenges, such as economic downturns or public health crises. For instance, a strong welfare state can help stabilize the economy during downturns and

ensure that individuals and families have access to essential services, thus reducing the overall societal impact of such crises. Further, it can serve as a key component of a country's social safety net, through a range of social services, including unemployment benefits, healthcare and education, which can have a substantial impact on the micro-level resilience of individuals. On this backdrop, we propose the following hypothesis:

Hypothesis 4: Countries where welfare state is more comprehensive/generous are likely to demonstrate higher levels of resilience at macro- and micro-level.

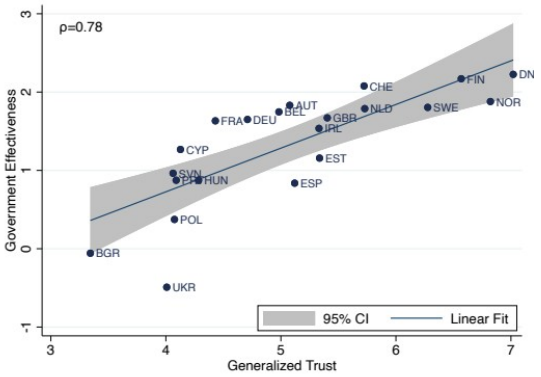
3. ANALYTICAL STRATEGY

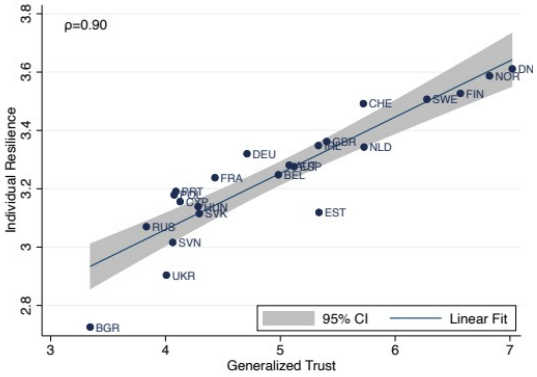
The hypotheses stated above can be tested using data on a society's resilience levels and values measured through cross-country surveys. We perform this at both system (macro) and individual (micro) levels for the year 2006. We retrieve data on system level resilience using the government effectiveness index elaborated by the World Bank evaluates the efficiency of public services, the quality and independence of civil service, the quality of policy formulation and implementation, and the government's commitment to these policies (Kaufmann, Kraay and Mastruzzi, 2011; Kaufmann and Kraay, 2023). Countries are rated on a scale from -2.5 to 2.5, where higher values signify more effective governance. To ensure a thorough assessment of government performance, the data used to compile the index are derived from multiple sources, including international organizations, private sector, and public institutions.

Further we get the data on individuals' self-reported resilience aggregated at the country level and on country-averaged measures for three values of our interest from the European Social Survey (ESS) (2018). Figure 3 demonstrates the bivariate correlation between values and macro- and micro-level resilience. Specifically, higher generalized trust (Figure 3a) and institutional trust (Figure 3b) is associated with higher resilience at the macro and micro levels. Differently, we observe only a weak positive correlation for the case of religiosity (Figure 3c).

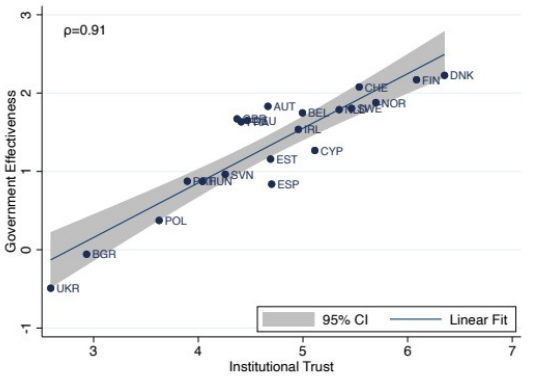
Figure 3 Correlation between values and resilience measured in 2006.

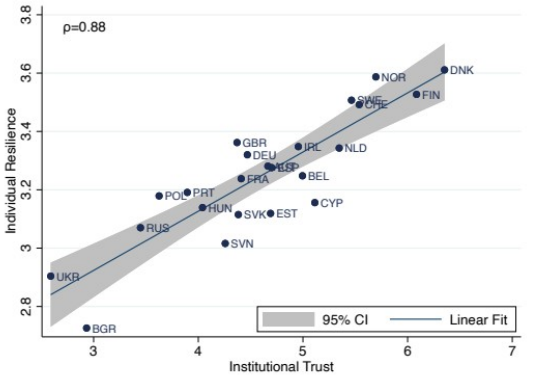
A. Generalized Trust



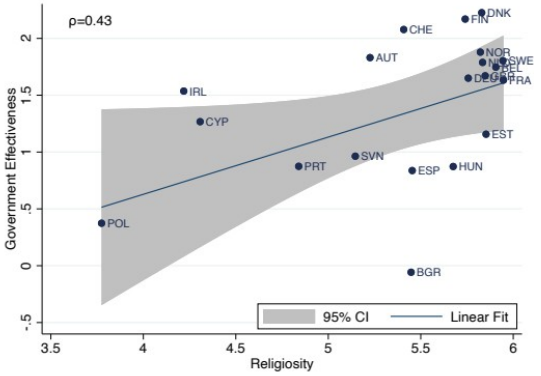


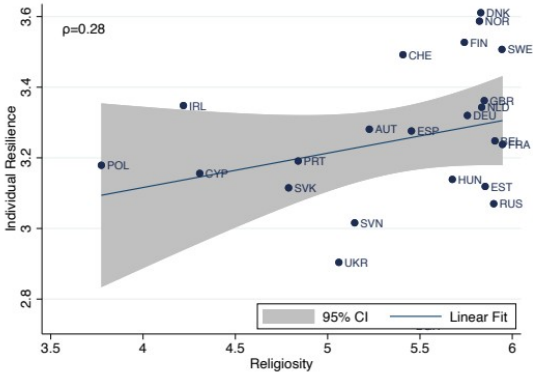
B. Institutional Trust





C. Religiosity





Source: World Bank Governance Indicators (accessed 15/05/2022) and authors' calculations from European Social Survey (accessed 13/03/2022).

Nevertheless, due to two empirical problems, these results are only suggestive, and their support for our hypotheses is critically limited. Firstly, the country-averaged measures for the values are not isolated from their environment. Therefore, rather than capturing the cultural core, we might be measuring a value highly contaminated with the contemporary socio-economic context. Secondly, through this method, we risk reverse causality. The direction of the observed association between the two variables might be the opposite of what we anticipated, meaning that resilience might be a determinant of values. To overcome the empirical challenges, it is crucial to exploit the values of previous generations. As these generations did not live in the current socio-economic context, it is very unlikely that their values are impacted by contemporary resilience. And the time difference between the measurement of the two variables will eliminate the risk of any confounding variables.

The major drawback of this approach is the lack of data on the values of previous generations that are both standardized and have sufficient geographic coverage. For instance, important databases for value measurement, such as the World Values Survey, dates back only to the early 1980s. Since we cannot directly observe the values of previous generations, we proxy the inherited values of current generations based on the process of value formation. Accordingly, the values of a current generation are in part determined by the values they inherited through intergenerational transmission. To differentiate the inherited components from the contemporary environmental influence, we adopt the epidemiological approach, which exploits migrants' descendants in a single destination country (Algan and Cahuc, 2010).

Accordingly, our analytical strategy is composed of two stages. In the first stage, we estimate the inherited values of people living in a certain country by exploiting the values of individuals whose ancestors have migrated from country c to the US. Specifically, we build a regression equation that predicts the contemporary values, in which we also include dummy variables for country-of-origin. Then we take the coefficient of the country-of-origin variable, namely country-of-origin fixed effects, as our estimate for inherited values. Finally, in the second stage, we separately analyze the impact of proxied inherited values on macro- and micro-level resilience.

The epidemiological approach that we employ offers unique strengths. One of the primary strengths is its capacity to reconstruct historical value patterns and provide a proxy for inherited values in settings where historical data is unavailable. By analyzing the descendants of migrants within the same contemporary country it accounts for confounding factors acquired through the immediate circumstances, thereby providing a controlled environment. Furthermore, as it also controls for numerous individual-level factors, we can isolate the inherited components of values from the contemporary measurements. This aspect of the approach is invaluable as it offers clearer insights into intergenerational value transmission and how past cultural values have been retained or transformed over time.

However, the epidemiological approach is not without its limitations. Focusing on migrants' descendants may not accurately represent the broader population, thereby introducing the risk of selection bias. Migrant groups often have unique characteristics or undergo historical experiences that differentiate them from non-migrant groups. For example, the drivers of migration as well the challenges of migration and adaptation to the new environments might have altered their value systems. Additionally, migrants may come from varied socio-economic and cultural backgrounds, for example economic migrants from rural areas or political migrants might not be reflective of the overall population.

Despite these potential biases, the epidemiological approach attempts to mitigate them by controlling for a wide range of socio-economic and demographic variables, thereby ensuring that the inherited values observed are not unduly influenced by the unique characteristics or experiences of migrants. This comprehensive control helps to reduce the impact of selection bias and allows for more accurate proxy of values inherited through intergeneration transmission.

3.1. First Stage: Micro/Individual Level Data and Estimation of Inherited Values

The epidemiological approach that we adopt at the first stage is based on the argument that value formation is dependent on two major forces: the contemporary environment and inheritance from earlier generations (Benabou & Tirole, 2006; Bisin et al., 2004; Bisin & Verdier, 2001; Tabellini,

2008, as cited in Algan & Cahuc, 2007). Therefore, in cases where we don't have access to previous cohorts' reported values, we can proxy the inherited culture by differentiating it from the contemporaneous environment. To do so, we exploit the intergenerational cultural transmission path across immigration cohorts. This identification assumes that inherited values are not immediately overdetermined by the contemporary characteristics of the country where individuals reside (Algan and Cahuc, 2010).

We retrieve the values of individuals from the US General Social Survey (GSS), a database that includes rich information regarding specific values, birthplace, and ancestorial country of origin. In GSS, respondents are asked to specify up to 3 countries of origin and select the one they feel closest to; this allows for determining the ancestorial country of origin. Also, the questions regarding the birthplace of respondents, as well as their parents and grandparents, enable us to identify four immigration waves: fourth-generation Americans (more than two grandparents born in the US and both parents born in the US), third-generation Americans (at least two grandparents foreign-born, and both parents were born in the United States), second-generation Americans (at least one parent born abroad) and first-generation Americans. We exclude first-generation Americans since they are personally exposed to their country of origin. This direct exposure to the origin country may cause endogeneity issues. To further ensure that the measure of values is not driven by direct exposure to the origin country, we adopt a lag of 25 years. This implies that values are measured at least 25 years before the measurement of country-specific resilience level.

Assuming that all people alive contribute to "average values" for a given period and that there is a 25-year difference between two generations, thus the values for a year T are measured as:

i. second-generation Americans born before $T - 25$
ii. third-generation Americans born before $T - 25 + 25$
iii. fourth-generation Americans born before $T - 25 + 50$

We based our measurement of each value on individuals' answers to related questions in the GSS. Generalized trust is measured through a question taken from Rosenberg's ''faith in people'' scale (1956): "Generally speaking, would you say that most people are trusted or that you can't be too careful in dealing with people?" (Sturgis & Smith, 2010). This is frequently

employed as a measurement of generalized trust in social sciences. The answers "most people can be trusted" corresponds to a high level of generalized trust, "can't be too careful" implies low, and "depends" is a medium level of trust.

Religiosity is measured through "How often do you attend religious services?". This question is frequently used in questionnaires to estimate a population's religious practice level. The answers are reported with a 10-point scale spanning from "Never" to "Several times a week." We recoded the answers such that the religiosity level increases as one moves from "never" to "several times a week."

Previous works proposed numerous ways of assessing institutional trust from the GSS (Brehm and Rahn, 1997; Cook and Gronke, 2005). For obtaining a variable that reveals individuals' level of approval of institutions in general, without reference to any specific one, we generated a generalized institutional trust variable using all institutions available in the questionnaire. Institutional trust is volatile due to its dependence on current political and economic circumstances. However, by using a more generalized measurement of institutional trust, we expect it to be more stable. In GSS, presented with 13 institutions[1], individuals are asked to report their level of confidence in each using a 3-point scale: *"As far as the people running these institutions are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them?"* Using answers to all 13 institutions for principal component analysis, we construct a standardized index where higher values imply greater trust.

Equation 1 describes the first stage estimation to measure inherited values:

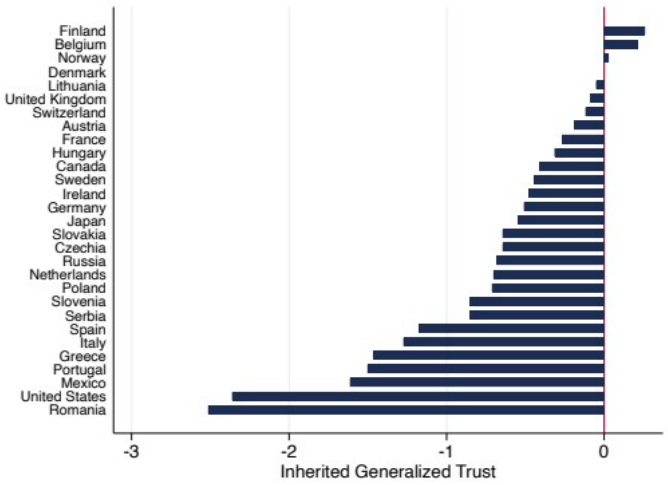
$$V_{ict} = \alpha_0 + \alpha_1 F_c + \alpha_2 \mathbf{X}_{ict} + \varepsilon_{ict} \quad (1)$$

[1] The presented institutions include banks and financial institutions, major companies, organized religion, education, executive branch of the federal government, organized labor, press, medicine, TV, US supreme court, scientific community, congress and military.

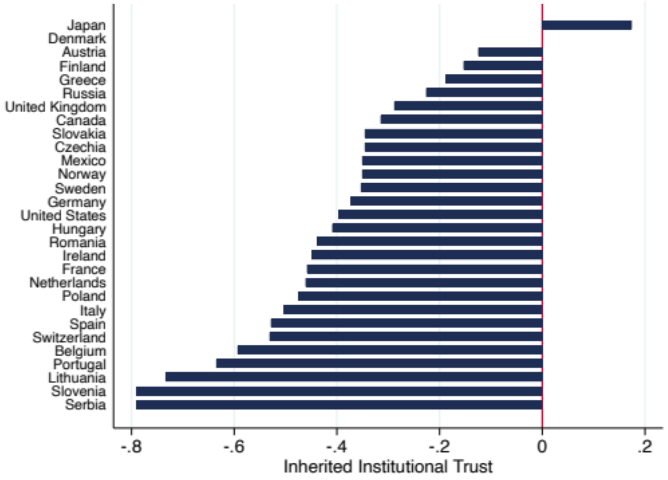
where the value measure V of individual i in year t (whose country-of-origin is c) is regressed on a set of dummy variables indicative of the respondent's country of origin ($F_{c)}$, and socio-economic characteristics such as age group, sex, educational attainment, social class, employment status, religion, region of interview and generation of immigration (X_{ict}). The coefficients for the country-of-origin dummy variables (α_1) capture the inherited component of culture and are used at the second stage (country level) analysis as the predictors of resilience. The model is identified by omitting one country dummy, Denmark. As this renders Denmark the reference country, the coefficients indicate the difference in the average level of inherited values relative to Denmark (Figure 4). Due to limited data availability in resilience, we estimate the model only for 2006. For each inherited value, the distribution of the sample by country of origin, age, sex, and educational attainment is demonstrated in Appendix (Table A1).

Figure 4 Country averages for inherited values relative to Denmark.

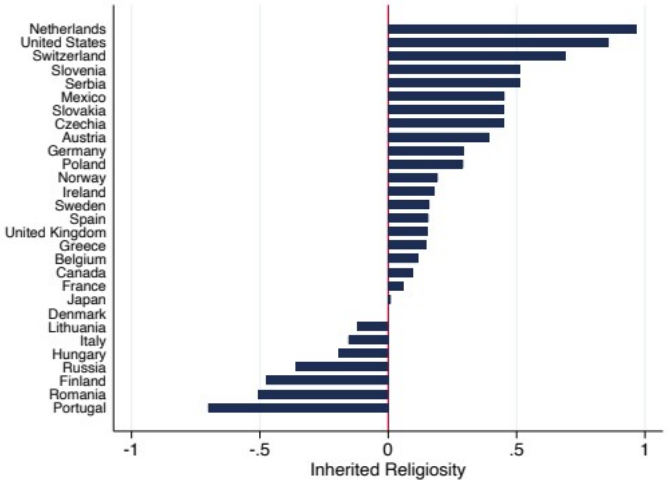
A. Inherited Generalized Trust



B. Inherited Institutional Trust



C. Inherited Religiosity



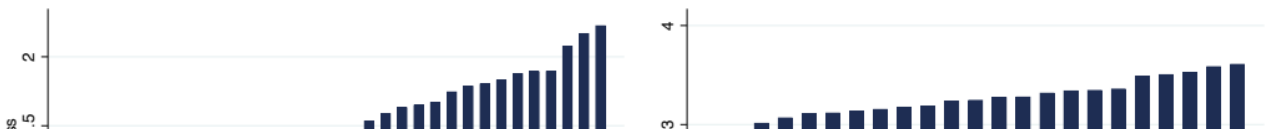
Source: Author's calculation from US General Social Survey (1972–2016).

3.2. Second Stage: Macro/Country Level Data and Analyses

We use two types of resilience measures in our analysis: and macro (government level) indicator of resilience and micro (individual level) resilience aggregated at the country level. The macro-level resilience measurement comes from the World Bank's governance indicators, specifically the governance effectiveness index (Kaufmann and Kraay, 2023). This is an aggregate measure composed of the quality of public services, civil service, policy formulation, policy implementation, and credibility of a government's commitment to such policies. The score of the countries ranges from -2.5 to 2.5. The micro-level comes from the European Social Survey (2018), which records the self-reported resilience of individuals through the question, *"Using this card, please tell me to what extent you agree or disagree with each of the following statements: When things go wrong in my life, it generally takes me a long time to get back to normal."* The answers span in a range of 1-5, 1 corresponding to "*Strongly Agree*" and 5 corresponding to *"Disagree Strongly"*. We recoded them reversely so that higher values correspond to stronger resilience then we aggregated the individual level values at the country level. Figure 5 demonstrates the estimated country averages of micro- and macro-level resilience measures.

We use two types of independent variables to account for the impact of welfare state in different models. First, we generated a categorical variable based on Esping-Anderson's renowned theory outlining the types of welfare regimes according the way they structure and provide social welfare and income security (1990). Secondly, to consider welfare state generosity, we drew data on social expenditure per head of the population (in 1000s euro) for 2006, from Eurostat (2023). Including both Esping-Anderson's categorical variable and social expenditure per head in different models allows for a comprehensive analysis of how welfare state structures and generosity impact resilience. The categorical variable offers insights into the structural aspects of welfare regimes and controls for confounding factors, while social expenditure provides a more accurate and quantitative assessment of actual resources allocated towards social welfare. By using both indicators, thereby including nuanced ways in which welfare state can influence resilience dynamics we enhance the robustness of our findings.

Figure 5 Government effectiveness and individual resilience aggregated at country level in 2006



The impact of long-standing inherited values on a country's resilience levels can be represented with the following linear equation:

$$\text{Resilience}_{ct} = \beta_0 + \beta_1 \widehat{1}_{ct} + \beta_2 W_{ct} + e_{ct} \quad (2)$$

Where Resilience_{ct} is the resilience level of country c in year t, $\widehat{1}_{ct}$ is the average level of a given value estimated at the individual level during 1st stage, the W_{ct} is the welfare state regime category or logarithmic transformation of total social expenditure per inhabitant, and e_{ct} is the error term. Descriptive statistics for all variables are reported in Appendix (Table A2).

4. RESULTS

Tables 1–3 report coefficients from 18 regression models estimating the impact of inherited generalized trust, institutional trust, and religiosity on macro-level resilience (government effectiveness) and micro-level resilience (aggregated individual resilience). Models 1–3 consider macro-level resilience, first presenting bivariate associations, then progressively controlling for welfare regime types (social-democratic [reference], conservative, liberal, and post-communist) and total social expenditure per inhabitant (log-transformed euros). Models 4–6 repeat this sequence for micro-level resilience. Note that the number of observations is consistently higher for macro-level than micro-level resilience due to data availability constraints.

Inherited generalized trust showed a strong, positively significant association with government effectiveness in the bivariate model ($b=0.64$, $p<0.01$). This effect remained significant, though slightly reduced, when welfare regimes were controlled ($b=0.49$, $p<0.01$). Government effectiveness was negatively significant in conservative and post-communist regimes compared to social-democratic regimes. When adding social expenditure controls, generalized trust remained robust ($b=0.49$, $p<0.01$), and higher social expenditure positively predicted government effectiveness ($b=0.43$, $p<0.01$).

At the individual resilience level, inherited generalized trust was initially positively significant but smaller ($b=0.21$, $p<0.05$). Its significance disappeared after controlling for welfare regimes ($b=0.04$, n.s.), with significantly lower resilience in all other welfare regimes compared to social-democratic regimes. When social expenditure was also controlled, generalized trust remained insignificant ($b=0.08$, n.s.), while social expenditure retained significance ($b=0.15$, $p<0.01$).

Inherited institutional trust showed a significant positive effect on government effectiveness in the bivariate model ($b=1.22$, $p<0.05$), but lost significance after controlling for welfare regimes ($b=0.24$, n.s.). Conservative and post-communist welfare regimes again demonstrated significantly lower government effectiveness. When further controlling for social expenditure, institutional trust remained insignificant ($b=0.51$, n.s.), while social expenditure positively influenced government effectiveness ($b=0.58$, $p<0.01$).

For aggregated individual resilience, institutional trust initially had a positive and significant effect ($b=0.45$, $p<0.05$), which dissipated when controlling for welfare regimes ($b=0.10$, n.s.). All welfare regimes showed negatively significant resilience relative to the social-democratic reference. However, institutional trust regained significance after adding social expenditure ($b=0.36$, $p<0.05$), indicating it has a nuanced and contextually moderated role at the individual level. Social expenditure again positively correlated with individual resilience ($b=0.36$, $p<0.05$).

Inherited religiosity did not initially predict government effectiveness significantly, but became significant once welfare regimes were included ($b=0.43$, $p<0.01$). All non-social-democratic welfare regimes showed negatively significant effects. When adding social expenditure, religiosity again lost significance, while social expenditure had a strongly positive effect ($b=0.60$, $p<0.01$).

At the individual level, religiosity initially showed no significant association, but became weakly positively significant when welfare regimes were controlled ($b=0.07$, $p<0.05$). All non-social-democratic welfare regimes again had negatively significant resilience. Adding social expenditure controls resulted in religiosity again losing significance, while social expenditure positively influenced individual resilience ($b=0.18$, $p<0.01$). Notably, micro-level results were

robust when religiosity was operationalized by belief dimensions (importance of religion, belief in God) as reported in Appendix Table A3.

Table 1 Impact of Inherited Generalized Trust on Resilience

	Government Effectiveness			Aggregated Individual Resilience		
	1	2	3	4	5	6
Inherited Generalized Trust	0.64***	0.49***	0.49***	0.21**	0.04	0.08
	(0.21)	(0.13)	(0.13)	(0.08)	(0.03)	(0.06)
Welfare Regime Type (Reference: Social Democratic)						
Conservative		-0.45***			-0.27***	
		(0.16)			(0.04)	
Liberal		0.05			-0.15***	
		(0.17)			(0.05)	
Post-communist		-1.19***			-0.43***	
		(0.22)			(0.04)	
Social Expenditure			0.43***			0.15***
			(0.08)			(0.03)
Observations	29	29	23	19	19	18
R2	0.33	0.73	0.87	0.32	0.91	0.62

Note: OLS regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure 6 Resilience by Inherited Generalized Trust

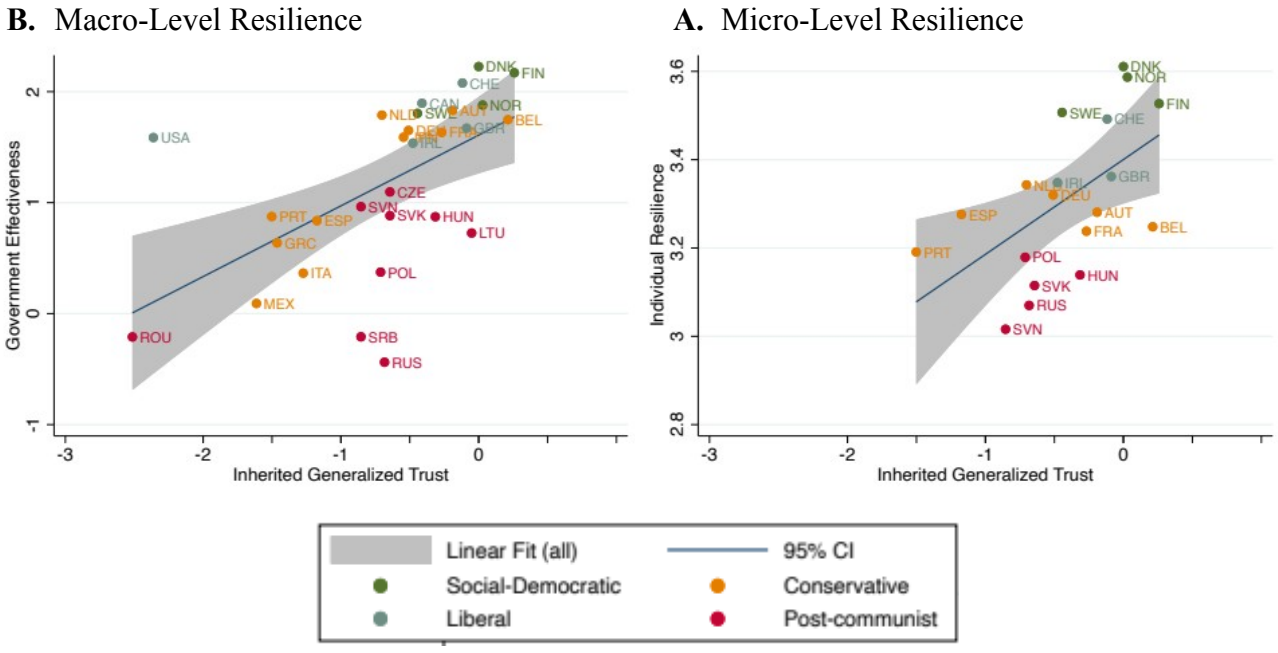


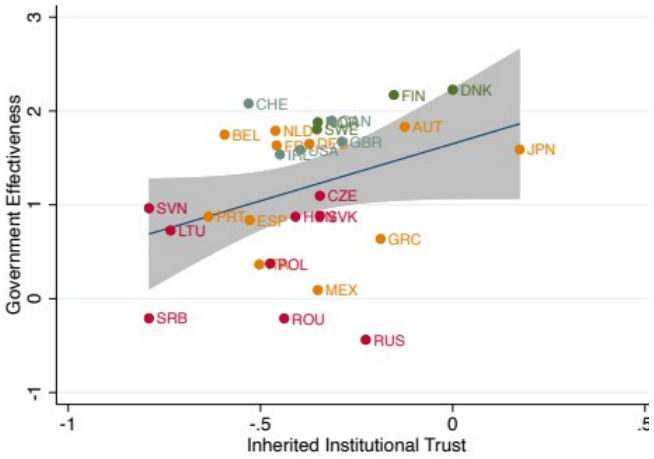
Table 2 Impact of Inherited Institutional Trust on Resilience

	Government Effectiveness			Aggregated Individual Resilience		
	1	2	3	4	5	6
Inherited Institutional Trust	1.22**	0.24	0.51	0.45**	0.10	0.36**
	(0.53)	(0.52)	(0.44)	(0.17)	(0.08)	(0.14)
Welfare Regime Type (Reference: Social Democratic)						
Conservative		-0.80***			-0.26***	
		(0.23)			(0.03)	
Liberal		-0.22			-0.14**	
		(0.16)			(0.05)	
Post-communist		-1.50***			-0.43***	
		(0.29)			(0.04)	
Social Expenditure			0.58***			0.15***
			(0.08)			(0.03)
Observations	29	29	23	19	19	18
R2	0.12	0.57	0.72	0.24	0.91	0.73

Note: OLS regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

Figure 7 Resilience by Inherited Institutional Trust

A. Macro-Level Resilience



B. Micro-Level Resilience

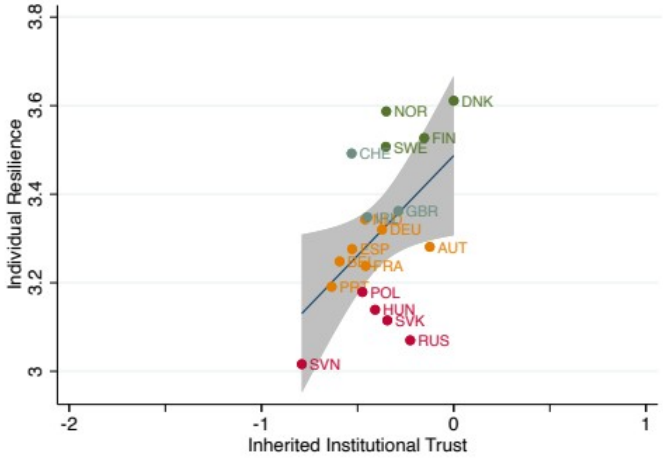


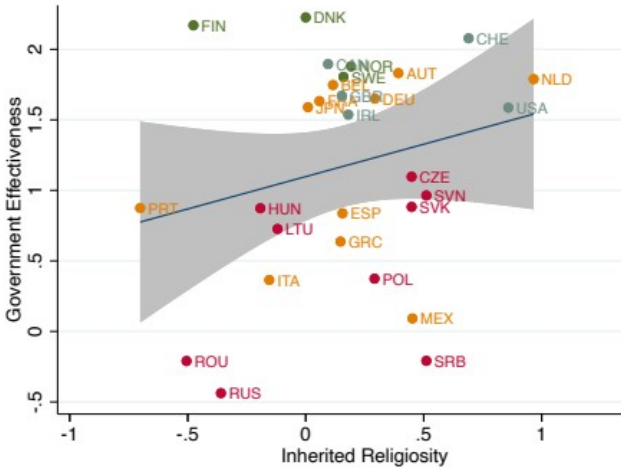
Table 3 Impact of Religiosity on Resilience

	Government Effectiveness			Aggregated Individual Resilience		
	1	2	3	4	5	6
Inherited Religiosity	0.46	0.43*	0.17	0.02	0.07**	-0.06
	(0.38)	(0.24)	(0.23)	(0.10)	(0.03)	(0.07)
Welfare Regime Type (Reference: Social Democratic)						
Conservative		-0.91***			-0.30***	
		(0.24)			(0.03)	
Liberal		-0.45**			-0.18***	
		(0.20)			(0.04)	
Post-communist		-1.63***			-0.47***	
		(0.24)			(0.04)	
Social Expenditure			0.60***			0.18***
			(0.09)			(0.04)
Observations	29	29	23	19	19	18
R2	0.05	0.60	0.71	0.00	0.93	0.60

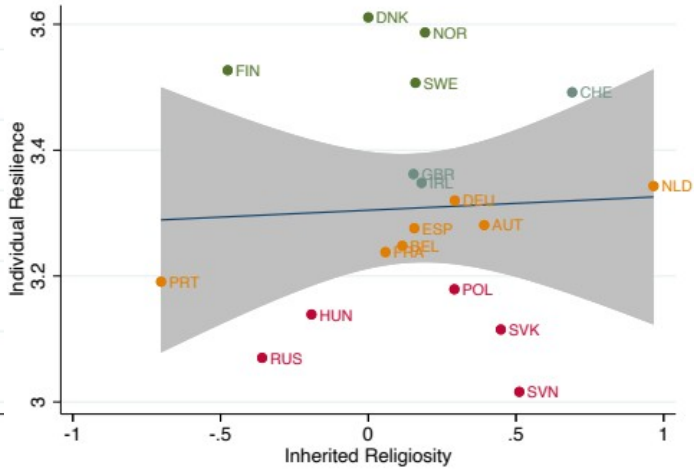
Note: OLS regressions. Robust standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

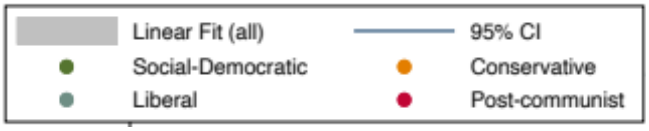
Figure 8 Resilience by Inherited Religiosity

A. Macro-Level Resilience



B. Micro-Level Resilience





5. CONCLUSION

This research explores the critical relationship between inherited cultural values—generalized trust, institutional trust, and religiosity—and resilience at macro (systemic) and micro (individual) levels. By explicitly isolating historically transmitted cultural traits from contemporary values, our analysis highlights how deeply rooted cultural predispositions contribute to societal resilience, contingent upon institutional contexts.

Generalized trust emerges as a robust inherited cultural foundation, significantly enhancing macro-level resilience by supporting effective governance and resource mobilization during systemic crises. However, at the individual level, this inherited trust requires contemporary supportive institutional environments to realize its resilience-enhancing potential fully. Thus, generalized trust represents a latent, historically embedded strength whose activation is context-dependent.

Inherited institutional trust similarly demonstrates conditional resilience-enhancing effects. While historically transmitted trust in institutions initially appears beneficial, its impact substantially diminishes without effective contemporary institutional frameworks. This finding highlights the necessary interplay between longstanding cultural predispositions and current institutional quality. At the individual level, however, institutional trust retains a conditional influence, suggesting historical legacies of trust may offer psychological resilience benefits even when tangible institutional support varies.

Inherited religiosity, capturing historical reliance on religious networks and spiritual meaning-making, displays the most context-dependent resilience-enhancing capacity. Its influence is predominantly complementary, becoming meaningful primarily when supported by strong contemporary welfare regimes and institutional contexts. This indicates that inherited religiosity provides supplementary resilience benefits rather than standalone solutions.

Moreover, across both macro and micro levels, our findings confirm that the presence of a comprehensive and generous welfare state is a critical factor enhancing resilience. A generous welfare state likely strengthens systemic resilience by fostering human capital and social

cohesion, while simultaneously improving individuals perceived and actual capacity to recover from hardship through accessible, universal support structures.

Like all research, ours has limitations. First, due to the recent emergence of resilience in social science, available macro- and micro-level data are limited, leading to small sample sizes in our second-stage analysis. Second, we focus on local inherited culture and do not account for supra-national cultural influences that may also shape resilience. Nevertheless, we believe that our consideration isolating local culture for understanding resilience is important and innovative in the sense that it will open new areas for research and discussion.

Nonetheless, this research offers several key strengths. We isolate and empirically test inherited values that plausibly shape resilience responses, minimizing bias from contemporary influences. By adopting an epidemiological approach, we provide a unique cultural perspective on resilience, supported by a novel dataset bridging long-standing values with macro- and micro-level outcomes. These insights contribute to understanding why countries with similar socio-economic conditions display varying resilience and underscore the need to integrate cultural and institutional perspectives. Building resilient societies requires holistic strategies that recognize the enduring influence of culture while strengthening institutional frameworks capable of sustaining adaptability and cohesion in the face of global challenges.

6. DATA AVAILABILITY

The data underlying this article are available from publicly accessible sources:

- World Bank Worldwide Governance Indicators. Available at: https://www.worldbank.org/en/publication/worldwide-governance-indicators
- European Social Survey (ESS). Available at: https://ess.sikt.no/en/
- US General Social Survey (GSS). Available at: https://gssdataexplorer.norc.org/

The country-level inherited values dataset generated for this study using the GSS is available from the corresponding author on reasonable request.

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