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# Culture & European attitudes on public debt

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**ABSTRACT**

Popular media and politicians have often blamed the high public debt of some EU countries on cultural differences. These claims are most apparent in the discourse contrasting ostensibly prudent Northern Europeans with spendthrift Southern Europeans. Despite the prominence of these and similar narratives and evidence that culture plays a nontrivial role in other economic outcomes, there is no systematic evidence that culture influences attitudes towards sovereign debt in the EU. We provide the first empirical test of this claim using over 233,000 responses to a Eurobarometer question about the salience of national debt. Our analysis reveals that national and sub-national differences explain very little of the variance in debt preferences. Further, the differences that do emerge do not fit existing cultural narratives. Additional analysis reveals that established measures of national culture or religious observance, at the national and regional levels, do not correlate with debt attitudes as cultural arguments would predict.

**KEYWORDS**

Public debt; culture; debt preferences; political economy

**JEL CLASSIFICATION**

H63 debt; debt management; sovereign debt; Z1 cultural economics; economic sociology; economic anthropology

Culture plays a prominent role in European Union (EU) fiscal policy discourse. Notably, cultural arguments frame differences between regions of the EU – particularly in the North and South – as the cause of different debt burdens and ultimately debt crises. In particular, some pundits and policymakers have consistently cast Southern Europeans in an unflattering light, not simply as indebted, but also as suffering from self-imposed debt crises because of fundamentally inferior values.

For example, on May 30th, 2020 the front cover of Elsevier Weekblad, a popular Dutch weekly news magazine, portrayed Italians and Spaniards on holiday, drinking wine and coffee or relaxing by the pool, while Dutch people were working to pay for their holidays (Wiersma, 2020). The title expressed outrage at Southern Europeans benefiting from the hard work of Northern Europeans: 'Not a penny more to the South of Europe.' That article was a reaction to an EU fiscal rescue package that included debt mutualisation and a €500 billion recovery fund to help regions and sectors hardest hit by the COVID-19 crisis. Four countries – Austria, Denmark, the Netherlands, and Sweden – already dubbed 'the frugal four,' were reluctant to support the deal. The group has become known for its opposition to burden-sharing of public debt with Southern European countries that have experienced varying degrees of fiscal crises in recent years. In this same vein, Dutch finance minister Wopke Hoekstra opposed the EU's so-called 'coronabond' joint-debt plan because it could induce moral hazard in Southern European economies (O'Leary, 2020). His allegations played heavily on the cultural narrative of the prudent North and irresponsible South and sparked a fierce backlash from political leaders in Italy and Portugal, who in turn blamed Dutch policy on the country's stubborn Calvinist roots (Khan, 2020).

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This tendency to blame cultural attitudes for macroeconomic outcomes implies that national culture drives voters' fiscal preferences, which in turn pushes policymakers towards disparate public debt policy. This is not a new argument: in the aftermath of the European debt crisis, policymakers and some media outlets were quick to use cultural stereotypes to impose moral frames on the causes of the crisis and the bargaining over rescue packages. Portugal, Italy, Ireland, Greece, and Spain were referred to with the derogatory acronym 'PIIGS,' which implied a moral judgment about their public debt levels (Fourcade, 2013). Politicians then reinforced the stereotype: for example, former Dutch finance minister and then-head of the European Stability Mechanism, Jeroen Dijsselbloem, stated this latent message explicitly, saying 'I attribute exceptional importance to [European] solidarity. [But] you also have obligations. You cannot spend all the money on drinks and women and then ask for help' (Khan and McClean, 2017). Other Northern European leaders made similar comments throughout the crisis, with Swedish Minister of Finance Anders Borg remarking that 'Obviously, Swedes and other taxpayers should not have to pay for Greeks that choose to retire in their forties. That is unacceptable' (Coleman, 2015). Similarly, Angela Merkel invoked the 'Swabian housewife' – a cultural icon of frugality – to contrast German virtues with Southern irresponsibility (Kollewe, 2012). This cultural signalling was more than just discourse; it played an important role in EU policy negotiations to resolve the debt crisis (Matthijs and McNamara, 2015), as policymakers actively claimed that cultural differences exacerbated the severity of the crisis (Bohn and de Jong, 2011).

Furthermore, these insinuations often reflect public opinion. Indeed, surveys and media outlets continue to show that Northern Europeans have negative perceptions of Southern Europeans, describing them as 'lazy,' 'debt-ridden,' and 'tax-evaders' (Coleman, 2015). Similarly, Del Ponte (2021) shows that cultural rhetoric powerfully influences preferences for austerity in the EU. Support for these cultural arguments is important as public opinion directly impacts fiscal policymaking. For example, Diamantopoulou and Pierrakakis (2019) argue that perceptions of the importance that each country attaches to hard work dramatically influenced the design and implementation of the EU's Greek bailout programmes and Rathbun et al. (2019) demonstrate that morality played a pivotal role in Germany's hard-line approach.

Cultural arguments persist despite evidence that individuals in Southern European countries are neither lazy nor fiscally irresponsible. For instance, countries of the 'frugal four' record the lowest average hours worked per week in the EU, while Greece records the highest (Eurostat, 2019).[1] The image of the fiscally careless 'PIIGS' countries is at odds with their experiences in the European Debt Crisis during which Italy underwent the largest fiscal consolidation in the EU, followed closely by Ireland, Portugal, and Spain (Hübscher et al., 2020). Research also shows that the role of culture has frequently been overstated as a source of conservative fiscal policies in the North. For example, Howarth and Rommerskirchen (2013) argue that German 'stability culture' does not produce fiscal preferences, but is rather invoked ex-post by German central bankers and Christian Democrat politicians to legitimise conservative fiscal policies. Howarth and Rommerskirchen (2017) go a step further and demonstrate that the 'stability culture' divide between Northern and Southern Europe is a 'myth' in an analysis of inflation fears. However, such evidence has not helped to overcome persistent stereotypes.

While some may view cultural narratives around fiscal preferences as a crude and likely inaccurate portrait, cultural values are not entirely divorced from economic outcomes. A rigorous multidisciplinary research agenda finds that religious and cultural differences play an important role in economic attitudes and outcomes (Greif, 1994; Guiso et al., 2006; Acemoglu and Robinson, 2021). For example, Friedman (2021) argues that people's conceptions of economics are firmly rooted in religious traditions. In particular, attitudes towards debt have been traced to different religious doctrines (Graeber, 2011; Dyson, 2014). Evidence also suggests that the effect of culture looms large among economic policymakers (Van Esch and De Jong, 2019). Further, regional culture has been shown to have an impact on citizens' trust in key European economic institutions (Angino et al., 2021). In

short, existing research necessitates that scholars take seriously the possibility that culture shapes economic preferences concerning fiscal policy and debt.

Despite efforts in political disagreements and academic research to link culture to economic institutions and outcomes, there is little evidence to refute or confirm that culture matters for fiscal policy concerns broadly or within Europe. We contribute to this discussion by investigating the validity of the cultural argument. We test whether any correlation exists between cultural explanations and debt preferences within the EU.[2] We approach this task with the prior that popular stereotypes are misguided, i.e. that national culture does not induce different fiscal policy preferences. In light of this, we do not theorise about specific mechanisms through which culture would operate. Instead, we simply test whether national and regional culture has any relationship with individual debt preferences even under very generous specifications.

Our research design tests the effect of culture in multiple ways and in models that are charitable to the cultural argument. We use 20 waves of the Eurobarometer survey (N = 233,953) that ask respondents about their concern for national debt. Overall, we find that national cultural differences play a trivial role in explaining variances in individual attitudes towards government debt. Most importantly, we find that cross-national differences explain less than 4% of the variation in concern for government debt burdens and that country-level differences in attitudes towards debt are not consistent with existing North–South narratives. We then proceed to identify cultural indicators that are plausibly related to differences in attitudes towards fiscal policy. Across a range of tests, we fail to find evidence that these national and regional cultural measures correlate with debt policy preferences.

Our findings have clear implications for EU debates regarding debt mutualisation and future fiscal bailouts. First, our analysis directly counters narratives that suggest cultural differences explain debt preferences in the EU at the citizen level. If culture plays a role in debt negotiations, it is unlikely that it begins with the public. Second, our results speak to debates over European integration and fiscal cooperation (Matthijs and McNamara, 2015; Dalton, 2021) as national cultural norms are often argued to be an obstacle to agreement on efficient policies, especially during hard times (Guiso et al., 2016). According to Matthijs (2016) and Fourcade (2013), German responsibility culture and aversion to moral hazard impeded a timely and effective response to the Eurozone fiscal crisis. The contrast between the German and other cultural attitudes towards fiscal policy across Europe, such as the French emphasis on social solidarity, also hindered problem-solving in the Eurozone more generally (Brunnermeier et al., 2016). While leaders and policymakers continue to cite cultural divides as barriers, our findings suggest that fiscal cooperation should not be threatened by heterogeneous cultural attitudes.

We also contribute to scholarship examining the microfoundations of attitudes toward austerity and government debt reduction. This literature points to the role of political cues, ideology, and egotropic preferences as a source of attitudes toward fiscal policy and debt consolidation (Hübscher et al., 2020, 2021; Bansak et al., 2021; Barnes and Hicks, 2021; Ferragina and Zola, 2022). As Bremer and Bürgisser (2022) explain, this once quiet area of public policy has become heavily politicised. As such, the public's constraint (or lack thereof) on such policies is important for understanding macroeconomic policy decisions.

## Cultural explanations for economic outcomes

Culture is notoriously difficult to define as it captures a broad set of values, norms, and behaviours. One commonly understood definition that we adopt is 'those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation' (Guiso et al., 2006). This suggests that culture is a permanent, or at least slow-moving, feature of a society that is shared amongst members of a group or nation.

This conceptualisation considers culture to be a set of shared experiences. For example, Putnam (1992) argued that centuries-old differences in Italian regions led to different cultural

attitudes toward cooperative behaviour which influenced preferences for the provision of public goods and eventually economic growth. More recently, Galor and Özak (2016) argue that a society's long-term orientation was an adaptation to particular climates and associated forms of agriculture.

Various approaches to measuring culture have led to broad empirical research linking culture with a variety of economic outcomes. In all, such work suggests that it is plausible that culture is relevant for Europe's economic policy debates. For example, extensive literature demonstrates that culture impacts economic outcomes in conjunction with and separately from institutions (see Alesina and Giuliano (2015) for a review). Further, culture holds relevance in behavioural approaches to economics. Culture is seen as a causal factor in the development of economic preferences and behavioural traits, like temporal discounting, and thus plays a key role in economic decisions (Wang et al., 2016; Falk et al., 2018). Other work leverages immigration as an identification strategy to demonstrate that economic cultures and behaviours, like savings rates, accompany individuals across borders and last multiple generations (Al-Awad and Elhiraika, 2003; Costa-Font et al., 2020). There is also some evidence that culture correlates with macroeconomic policy outcomes. For example, Calzada et al. (2013) demonstrate that citizens' cultural values are weakly linked to different types of welfare states in Europe, and Pham et al. (2018) find a correlation between thrift culture and government size at the country level.

Religion has also been used to broadly define cultural boundaries, as it is a shared experience that shapes cultural values across generations (Lewer and Van den Berg, 2007). Similarly, research links religious values with economic outcomes, particularly in Europe, where the evolution of Christianity has contributed to distinct cultural regions. Weber provided one of the most influential theories attributing the success of Northern Europe and the Anglophone settler colonies to the hard work, self-discipline, and future-orientedness that are central to Protestant culture and Calvinism and Puritanism in particular (Weber, 2001). Others, building on Weber's thesis, have used religious differences to explain long-term economic growth trajectories (Gorodnichenko and Roland, 2010) or the development of different traditions of economic thought (Friedman, 2021).

## *Culture, religion, and public debt*

Substantial evidence links culture to economic outcomes, attitudes, and behaviours, but is culture related to the politics of public debt? And if so, which mechanisms would link national and regional culture and attitudes toward public debt? While the cultural narrative leads to few testable hypotheses, existing research lends several plausible mechanisms.

The first possible connection is via the impact of culture on individual characteristics. Citizens' and politicians' attitudes towards debt are potentially a product of national and regional cultural factors that generate variance in time discounting, risk tolerance, and willingness to contribute to public goods. While academic work has not tested these mechanisms at a cultural level (again, this argument is the provenance of politicians and popular media), some researchers have argued that these mechanisms are influenced by cultural values, not individual characteristics.

Notably, culture influences present versus future orientation, which has clear implications for debt given that it is, at its core, an intertemporal trade-off between the present and future (Wang et al., 2016; Falk et al., 2018). Indeed, time horizons are not unique to individuals but are rather products of one's cultural environment (Reno, 2007). Similarly, risk tolerance has traditionally been an individual-level characteristic implicated in the formation of fiscal policy (Ball and Mankiw, 2007), but some have argued that this is a product of culture. Wang et al. (2016) find large differences in 'uncertainty avoidance' across countries and link this cultural effect to strong hyperbolic discounting that prefers smaller, immediate, and certain rewards over later, larger, and riskier ones. In terms of debt preferences, uncertainty-avoidant societies would likely prefer balanced budgets; as events between disbursement and repayment are uncertain, high debt is inherently risky.

Altruism, as concern for the common rather than the individual good, can likewise be linked to preferences for public spending as a greater willingness to contribute to public goods (Anderson et al., 2011). However, existing studies do not have unidirectional expectations about how altruism affects preferences toward public debt reduction. Higher altruism could be coupled with a greater willingness to shoulder the burden of debt reduction for the benefit of future generations or due to concerns about creditors' rights. Moreover, moral judgments can clash with altruistic motives, influencing people's views on public debt repayment (Del Ponte and DeScioli, 2021).

Scholars have argued that debt is potentially influenced by culture through religion (Graeber, 2011; Dyson, 2014). 'Confession culture' and a reputation for both opulence among clergy and collective identity have been proposed as reasons that Catholics might be relatively less debt averse, while Protestantism is associated with restraint and balanced budgets (Nelsen and Guth, 2015; Arruñada and Krapf, 2019). In other words, since Catholicism professes that sins will always be forgiven after confession, Catholics should be expected to express less concern about debt. Conversely, Protestantism is associated with adherence to rules and, concerning fiscal policy preferences, avoiding moral hazard (Chadi and Krapf, 2017). Historically, Southern Europe has been predominantly Catholic while Northern Europe has been Protestant, a divide that loosely maps onto recent experiences of debt crises. In summary, multiple causal pathways plausibly link culture to attitudes towards private and public debt, although often with contradictory expectations about the nature of that relationship. In the next section, we present our strategy to search for any evidence that cultural arguments can explain contemporary concern for public debt in the EU.

## Research design

Our goal is to test whether national culture influences individuals' public debt attitudes in the EU. For several reasons, we approach this task with the prior that culture is not very important in the expression of public debt preferences. While cultural explanations are prominent in popular and political discussions, the political economy literature indicates that egotropic and sociotropic factors are leading drivers of economic policy preferences (Mansfield and Mutz, 2009; Curtis et al., 2014). In addition, in the EU context, there is considerable evidence that countries labelled profligate and spendthrift behave more fiscally conservatively than cultural narratives would suggest (Howarth and Rommerskirchen, 2013; Hübscher et al., 2020).

Given the absence of strong priors, our empirical strategy is designed to give evidence for cultural explanations the best possible conditions to emerge. If our charitable research design finds evidence of a cultural effect, we will narrow our focus and test the robustness of the results to confounding and other biases.

Clearly, we cannot conclusively dismiss a relationship between two variables with econometric methods. However, if the effect of culture is not present under favourable conditions, it will provide a stronger argument for the absence of evidence compared to a strategy that attempts to precisely estimate the magnitude of the cultural effect by removing all possible bias.

Our analysis consists of two approaches. First, and most importantly, we estimate the country-level differences in individual attitudes towards public debt by assessing if differences correspond with the implications of existing narratives. Culture is a group variable that is applied to members of a common nation or region. As such, if culture is relevant, an individual's geographical location should be predictive of their fiscal policy attitudes. Consequently, we test if individuals in 'Southern' countries are less concerned about national debt than those in 'Northern' countries. We then use effect decomposition to probe how much cross-national (and cross-regional) differences matter. Following this central analysis, we directly estimate the correlation between established national cultural variables, from three sources, that are plausibly related to debt attitudes and individual attitudes toward debt.

### *Operationalising debt preferences*

Cultural arguments about debt and deficits imply that individuals from one culture will hold different preferences for public debt management compared to individuals from another, distinct, culture. As such, a test of cultural explanations must rely on comparing individual assessments, whether they are politicians or voters. Cultural effects might eventually lead to aggregate macroeconomic differences in debt levels or creditworthiness. However, such differences are insufficient to demonstrate the effect of culture as they can be driven by other national factors, such as political or economic institutions, or global economic factors, like the behaviour of other members of a country's currency union. Consequently, evidence of a cultural influence has few other places to emerge than in citizens' preferences.

Cultural variables are, by definition, assigned to groups of individuals whether at a regional or national level.[3] To compare citizens' opinions over the national debt, we require a cross-national survey that is nationally representative and asks citizens from multiple countries about their preferences for public debt management. Towards this end, we rely on a question asked by the Eurobarometer repeatedly from 2011 to 2020 and used in previous research on public debt attitudes (Barnes and Hicks, 2021). The question was administered to respondents in one of two branches of the survey in each biannual wave. The question is worded as follows: 'Measures to reduce the public deficit and debt in (OUR COUNTRY) are not a priority for now.'

Respondents then indicated if they 'totally agree,' 'tend to agree,' 'tend to disagree,' 'totally disagree,' or 'don't know.' We are primarily interested in the distinction between support for and opposition to debt reduction, rather than differences between degrees of support or opposition. To ease estimation, we collapse the answers into a binary variable indicating if the respondent agrees (totally or tends to).[4] In the Appendix we show the geographic distribution of the variable and analysis employing the full ordinal variable.

The question is consistently answered across multiple countries thus permitting a broad cross-national comparison. The question is also asked across multiple waves thus reducing concerns that our results are time-specific. While the question's breadth and depth are helpful, its formulation requires an adaptation to our empirical model. The question solicits two potential assessments of debt. First, by asking whether debt is a priority, it probes respondents' assessments of the objective reality of whether debt is a problem for the country. However, it also picks up a subjective assessment regarding the urgency of addressing public debt. We are only interested in the subjective component. Our solution to this problem is to control for a country's objective debt troubles on the right-hand side of the equation in our statistical models.

## Primary analysis: cross-country differences

We begin our analysis by first estimating cross-country differences in individual attitudes toward public debt reduction. If cultural preferences matter, we should observe patterns in the preferences of individuals across countries consistent with cultural narratives (e.g. North–South divisions). As such, we estimate a multilevel model with country-level random intercepts and a single control variable: the country's Standard & Poor's credit rating.[5] The multilevel model allows us to estimate the intercept of each country while also allowing a decomposition of the variance attributed to those country differences and other factors (the residual). In our first analysis, we estimate the following linear probability model (LPM) where $Y_{itc}$ is the response of respondent $i$, answering in year $t$, residing in country $c$. $\mu_c$ indicates the country intercepts and $S\&P\beta_{tc}$ is the S&P rating and its coefficient.

$$Y_{itc} = \beta_0 + S\&P\beta_{tc} + \mu_c + \epsilon_{itc}$$

The dependent variable captures an assessment of national debt priority. As national debt poses varied risks across the EU, country-level differences in these responses may reflect objective debt concerns in respective countries. By including a country's S&P rating, we estimate differences due

to objective risk separately from the country intercepts. S&P's credit rating considers various political and economic factors that determine if a country can repay its debts, and is used by creditors across the globe to price sovereign default risk. As such, it serves as an objective indicator of how concerned the average citizen should be about government debt. A drop in the rating is a newsworthy signal that public debt is cause for concern (Cawley, 2016), and is likely to cause contemporary preferences for debt to change regardless of culture. Even if individuals are unaware of a country's credit rating, the rating objectively captures underlying debt sustainability that citizens are likely to come in contact with through other sources of information. We argue that while individuals may not directly observe these macroeconomic indicators, they have a qualitative sense of a country's debt problems that is driven by these underlying indicators. Figure 1 presents the sample means for each country for both the dependent variable and the S&P ratings.

After including the rating, any remaining variation in the country intercepts should then capture the influence of time-invariant country-level characteristics, such as culture, on individuals' assessment of national debt. We show in the Appendix that the results are substantively similar when we substitute other indicators that capture objective concerns about debt burdens, including bond spreads, interest rates. and the debt/GDP ratio.

Figure 2 plots the country intercepts from our statistical model, where higher intercepts indicate agreement that debt is NOT a priority. The left-hand panel shows intercepts ordered by magnitude, with the preferences of citizens of the so-called 'PIIGS' and the 'Frugal Four' countries isolated at the bottom. The right-hand panel shows intercepts ordered by the country's average debt-to-GDP burden throughout the period. At first glance, there are significant differences among EU countries in their assessment of national debt; on a scale from 0-1, the distance between the extremes is 0.4.

However, this figure demonstrates that the country intercepts do not align with the most general cultural debt argument. There is no apparent North–South divide in attitudes towards debt, nor is

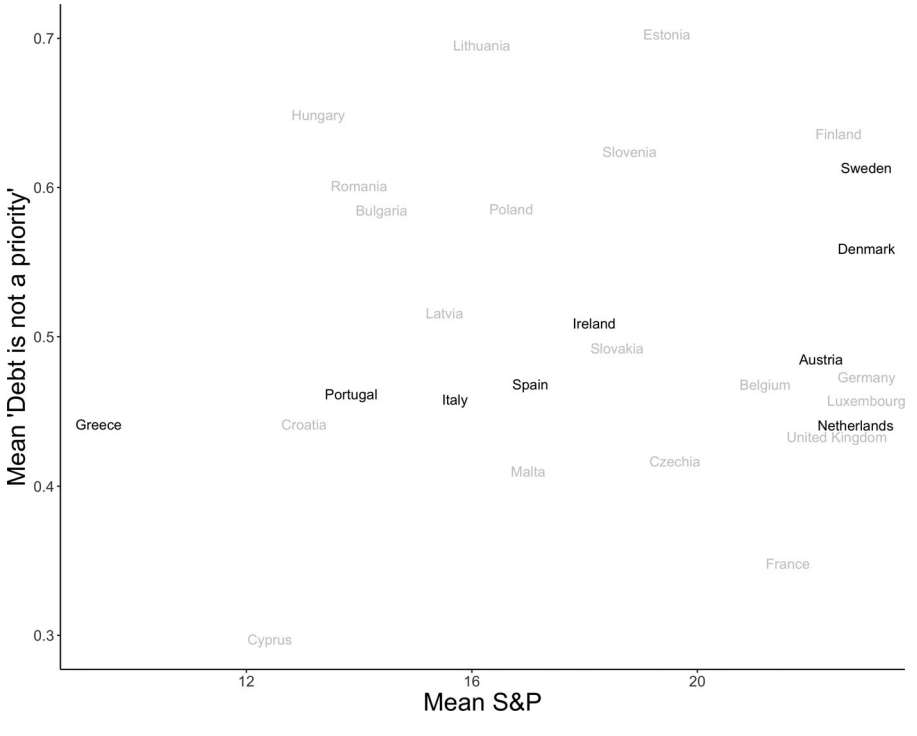


**Figure 1.** Average of Dependent Variable and S&P Rating for each country in the sample.

Note: 'Frugal four' and 'PIIGS' countries are shown in bold.

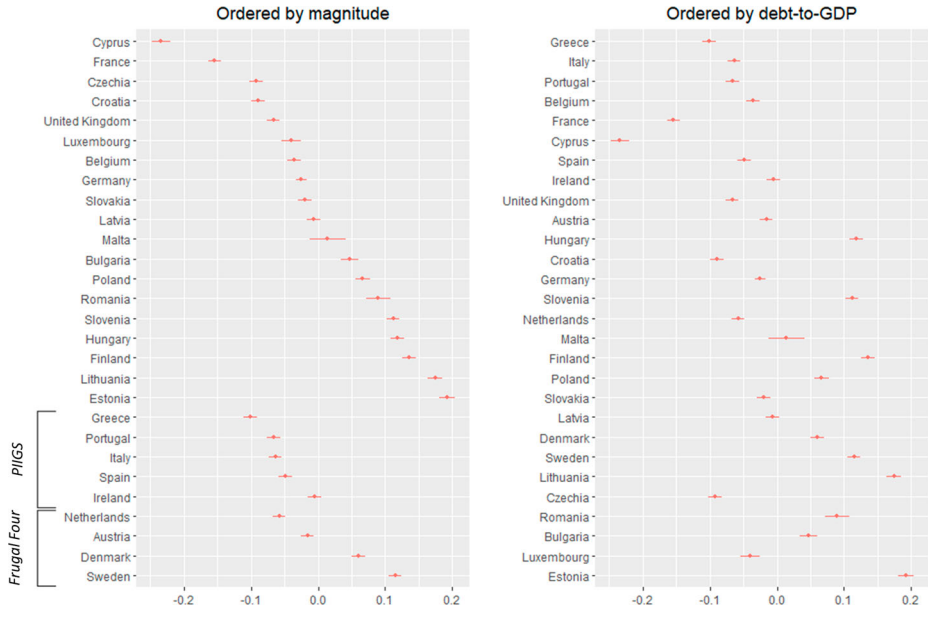


**Figure 2.** Differences in Debt Attitudes Across Countries, Random Intercepts.

Notes: The figure displays the estimated country-random intercepts from a multilevel model in which the only other predictor is the country's Standard & Poor's Credit Rating. The left-hand panel shows the random intercepts ordered by intercept magnitude within each country grouping ('PIIGS,' 'Frugal Four,' and others). The right-hand panel shows the random intercepts ordered by the country's average debt-to-GDP burden throughout the study period (from Greece at 175% to Estonia at 9%). Dots indicate the estimated intercept and bars indicate 95% confidence intervals. Larger intercepts indicate that respondents in that country are more likely to agree that 'debt is not a priority', i.e. they do not consider public debt reduction a priority. N = 233,953.

any other geographical or cultural pattern readily discernible. The 'PIIGS' have greater concern than most other states. Citizens in the 'Frugal Four' countries of Denmark and Sweden are actually less likely to consider public debt reduction a priority, after estimating out objective credit risk.

Cross-country differences in preferences may be driven by concern over contemporaneous debt levels. Cyprus had very high debt throughout the survey period and is most likely to regard public debt reduction as a priority, and Estonian citizens are both least likely to consider it a priority and have the lowest debt burden in the EU. Despite this, when country intercepts are ordered by average debt burden in the right-hand panel of Figure 2, there is no strong pattern to suggest that national fiscal context drives cross-country differences in preferences. Furthermore, the coefficient of the S&P rating variable is minuscule; a standard deviation increase in rating is associated with a 1% decrease in the probability of agreeing debt is not a priority. As such, we are not very concerned that individuals' assessments of sovereign risk influence debt attitudes.

While country differences are apparent, it is not yet clear how much they matter relative to other factors. To answer this question, we use effect decomposition to establish how much of the variance is driven by between-country, in contrast to within-country, differences. Table 1 presents this analysis. We find that cross-country differences only account for about 3.9% of the variance in attitudes towards debt preferences. This suggests that there are far greater differences within a country or across time that explain attitudes towards debt than between countries. Simply, country-level differences are not very important in explaining individuals' assessments of sovereign debt problems.

**Table 1.** Explained Variance of Country and Region.

| | Proportion of Variance | |
|---|---|---|
| | Country | Region (NUTS II) |
| Geographic Unit | 3.89% | 7.15% |
| Residual | 96.11% | 92.84% |

One possible critique of our approach is that culture in Europe expresses itself regionally, rather than nationally. As such, we consider that modern states imperfectly capture culture and that many cultural differences exist at the sub-national level. To investigate this, we replicate our analysis by instead estimating country-region level random intercepts based on NUTS II regions. We again find that geographic boundaries have little explanatory value. Regional differences account for just 7.2% of the variation in public debt attitudes.

## Correlation with cultural measures

While the evidence above casts serious doubt on the idea that cultural differences have a meaningful effect on public debt preferences, it remains possible that comparing aggregated responses at the country (or regional) level fails to capture the mechanisms that link cultural values and debt preferences. To address this concern, we now test the relationship between individual-level debt preferences and several measures of national culture.

### *Cultural data*

Cultural narratives around fiscal preferences are diverse and there is no standard expectation about the precise mechanisms by which culture might influence public debt. Consistent with our effort to give cultural arguments the best chance to present themselves, we use a variety of measures to test our argument.

Some of the most well-known measures of national culture were established by Geert Hofstede. His model conceives of national cultural differences along six dimensions and assigns countries a time-invariant value for each dimension. Two of these dimensions, indulgence and long-term orientation, are relevant to debates on spending and debt. A high indulgence score captures a culture that values the free expression of impulses, while a low score captures the cultural value of restraint and of duty and personal control (Hofstede et al., 2005). The long-term orientation score is higher in cultures that value thrift and saving for the future, and lower in cultures that place a high value on immediate gratification. Both indices are based on survey responses to questions in the World Values Survey.

Next, we draw on the Human Values set of cultural variables developed by Shalom Schwartz and outlined in Bilsky et al. (2011). They were constructed using questions from the European Social Survey (ESS) conducted between 2010 and 2018. The dataset includes several cultural dimensions. We find that only one - hedonism - has any relevance towards public debt. The hedonism score is constructed using the weighted average of respondents' answers to two questions about personal indulgence, scaled between 0 and 1 so that 1 represents a higher hedonism value.[6] As the ESS is nationally representative, the aggregated responses provide cultural scores for each country.

Lastly, we draw on a data set of economic preferences collected by Falk et al. (2018, 2022) from their original Global Preferences Survey (GPS). We examine the effects of the following cultural values: patience, risk-taking, and altruism. These variables are scaled from −1 to 1, with higher values indicating a more positive rating. They are all constructed using weighted combinations of qualitative survey questions to capture stated preferences and quantitative questions to capture revealed preferences.[7] We take the country mean for each variable and use these to examine the effect of national preferences on public debt attitudes.

In addition to broad cultural values, both policymakers and researchers have explained differences in debt preferences through the different cultural 'treatments' of Catholicism and Protestantism. As the Eurobarometer survey does not ask respondents about religion, we create national and regional measures of Catholicism and Protestantism from the European Social Survey data. This does not allow us to identify the Eurobarometer respondent's relationship with Catholicism or Protestantism but rather captures the cultural treatment of their local context. ESS respondents identify their religion (if any), and so we aggregate survey responses

to the national level to measure the proportion of the population that identifies as Catholic and Protestant in each country.

These country-level measures might obscure regional differences within countries. Many EU countries have sub-national cultural regions, such as the majority-Catholic southern regions and majority-Protestant northern regions of the Netherlands and Germany. As the ESS survey is nationally but not regionally representative, ESS responses cannot be aggregated to the regional level to obtain accurate measures of regional religion. Instead, we rely on the machine learning algorithm and post-stratification strategy used in Lipps and Schraff (2021) to predict the Catholic and Protestant populations in each NUTS II region.[8] While this strategy only yields religion and culture measures for 104 regions across eight countries,[9] this more fine-grained measure allows us to test whether sub-national culture affects individual preferences when national culture may not. Importantly, measuring subnational differences allows us to capture potential cultural regions that do not align with contemporary national borders, and allows us to control for national-level economic variables. Ideally, we would replicate our analyses of all cultural variables at the sub-national level. However, the estimation of regional variables is only possible for the variables reliant on ESS survey data.

### *Correlation with cultural variables*

For each of the cultural variables we estimate three separate LPMs. We begin with a simple pooled model including a single cultural variable and the S&P credit rating. This specification should offer the best opportunity to measure any cultural effect, for a simple reason: culture can potentially impact preferences through many channels. For example, culture can affect education through economic growth or the value placed on education (Swank, 1996). As such, if we control for variables like education, we would induce post-treatment bias and may underestimate potential cultural effects. Next, since culture is assigned to every individual at birth, and the Eurobarometer samples are representative, there is little risk that selection into the sample biases the effect in a way that would require covariate adjustment.

Despite concerns about post-estimation bias, our second set of models adds some basic controls plausibly related to culture and debt to address any concerns regarding the pared-down model. Namely, we include individual-level controls for years of education, as well as whether the respondent is in an urban or rural location. We include these controls given that concern for debt may vary by level of education and urban/rural environment. We also include a set of macroeconomic factors as control variables, notably GDP per capita and economic growth. Much like the S&P credit rating, GDP per capita and economic growth capture the macroeconomic environment, which may lead respondents to be more or less concerned about debt. Including these basic controls allows us to hold constant factors that may influence attitudes towards government debt beyond culture with the recognition that they may induce post-treatment bias.

The last set of models presents the most conservative estimate. Here, we include country-level random intercepts to address confounding by non-cultural time-invariant factors. We begin with the basic models with the expectation that even this specification will find no substantive effect of culture on debt preferences. If our goal were to provide conclusive evidence of a cultural effect, we would provide a more rigorous model to identify the cultural effect more precisely. We present all three specifications to demonstrate the (in)consistency of our results.

Figure 3 presents the results of 18 models, each estimating one of the debt-relevant cultural variables from Falk, Hofstede or Schwartz. Starting with Schwartz's hedonism, we find no evidence that those living in 'hedonistic' cultures are more likely to believe debt reduction is not a priority. In fact, in one model, we find evidence for the opposite. Hofstede's measure of indulgence shows a similar pattern. The results are the opposite of what one would expect if there were a relationship between cultural priorities in present satisfaction and citizens' attitudes towards fiscal politics.

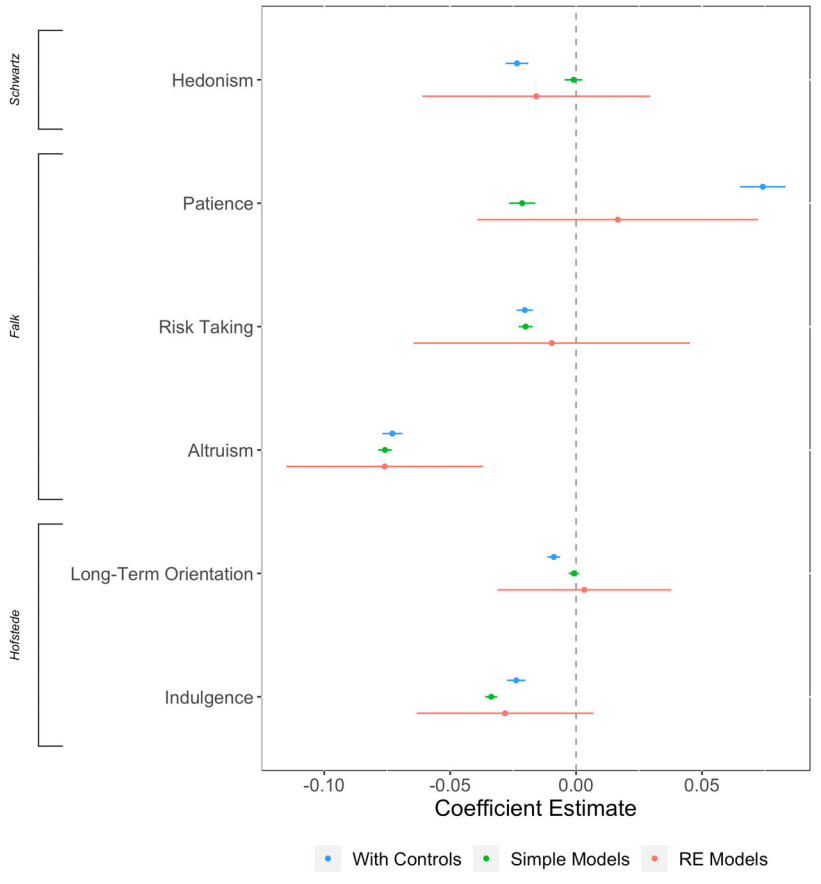


**Figure 3.** Effect of national cultural values on individual preferences of government debt.

Notes: The figure shows the results of 18 separately estimated models estimating the relationship between a single cultural variable and a respondent's assessment of the priority of debt (DV(1) = 'debt is not a priority'), controlling for the country's credit rating. All variables are standardised (mean = 0, SD = 1). We report three basic model types: a simple LPM (green), an LPM including controls for GDP per capita, economic growth, respondents' education, and if they live in a rural or urban area (blue), and a multilevel LPM including country random effects (red). The dots indicate the estimated coefficient and the lines indicate the 95% confidence intervals. Schwartz models: N = 98,856. Falk models: N = 133,368. Hofstede models: N = 229,202. Note that because of the addition of controls, these models have fewer observations.

Falk's *patience* and Hofstede's *long-term orientation* variables are highly relevant given the intertemporal dynamics of debt. Sustainable debt burdens require that individuals consider the long-term consequences of current spending. Yet, the coefficient of long-term orientation is largely insignificant and substantively small. Similarly, the sign and significance of patience are highly dependent on model specification. Further, even where the relationship of patience is consistent with expectations, the effect size is very small. Patience is expected to induce individuals to disapprove of debt as a longer time horizon would give more weight to debt repayment over current spending. In the simple specification, only controlling for credit rating, individuals from countries with higher patience values are more likely to regard public debt reduction as a priority. However, a one standard deviation increase in aggregate national patience is associated with a 2.1% decrease in agreeing that debt is not a priority. This effect then flips signs when basic macroeconomic variables and individual attributes are added to the model. Lastly, the inclusion of random effects wipes out any significance in the results. As such, we find that even the small effect is not robust. Similarly, where long-term orientation shows a significant effect, the effect size is again small as a standard deviation increase has a less than 1% decrease in the dependent variable.

Next, *risk-taking* is closely related to time preferences and patience. People in risk-taking cultures would be expected to prefer more debt, as postponing payment is a bet on future wealth (with uncertainty-avoiding people preferring present consumption). Despite this, our estimates indicate that respondents in more risk-taking cultures are, if anything, more concerned about debt levels. Again, however, the effect size is minuscule (0.02).

Lastly, we consider that altruism should capture willingness to contribute to public goods and share fiscal burdens across society (Anderson et al., 2011), but we acknowledge that the state of the literature leaves space for different expectations. Altruism could be associated with higher concerns for future generations' fiscal space, a deeper concern for the societal consequences of default, or a stronger perception that not repaying debt is a selfish choice that would hurt creditors. Here, we find that reported results suggest that altruism, across all three specifications, is associated with concern for the national debt. A standard deviation increase in the measure is associated with a 7% decrease in the DV. We find a significant correlation: people in altruistic cultures are more likely to consider public debt reduction a priority.

Overall, these results demonstrate that dimensions of national culture have little meaningful relationship with citizens' prioritisation of national debt. Where measures are associated with preferences, it is often in the opposite manner predicted by cultural arguments. With the contrarian results, we are not proposing a new theory for the culture-debt relationship, but rather that these effects indicate that cultural measures are not explanatory and that other factors explain individual preferences.

A key feature of relying on the Eurobarometer and its 233,953 responses is that we are unlikely to commit a type-II error. Our analysis is over-powered and so highly unlikely to report a null result when in fact there is a significant result. In fact, such large samples provide statistically significant results even in the presence of very small effects. All of the cultural measures have weak effects, most in directions contrary to what would be predicted by existing cultural theories, and lose significance when country-level random intercepts are included to address unobserved time-invariant country characteristics. As such, we cannot say with any confidence that even the significant coefficients are substantively interesting.

## Cultural effect of religion

In Figure 4, we present the correlation between debt attitudes and Catholic and Protestant observance. Again, our measures indicate the proportion of Catholics and Protestants living in the respondent's country or region and not the actual religion of those respondents. As our test of religious culture is limited to the divide between Catholicism and Protestantism, we exclude the predominantly Orthodox Christian Greece, Cyprus, Bulgaria, and Romania which have very small Catholic and Protestant populations. We use these measures of religion to proxy for the strength of religious culture in the respondent's environment. Literature on the salience of religious culture argues that Catholicism is associated with 'confession culture' and opulence that favours indebtedness (Nelsen and Guth, 2015; Arruñada and Krapf, 2019), while Protestantism values thrift and positions debt as a moral failure (Chadi and Krapf, 2017). Our results offer no support for these arguments and instead find insignificant or contrary evidence for the effect of religious culture on debt preferences.

We repeat the sequence of LPM models used in Figure 3; here, each measure of religion is regressed on debt preferences in separate models including first only credit rating, then additional controls, and finally with country random intercepts. The first set of models at the top of 4 shows that the number of people identifying as Catholic in a respondent's country has little bearing on their attitudes towards debt. The effect gains significance when individual and national controls are included, but indicates that Catholic culture is associated with higher concern about debt and remains substantively small: one standard deviation in Catholicism decreases the likelihood to agree that debt should not be a priority by only 0.02%. Furthermore, the national Protestantism

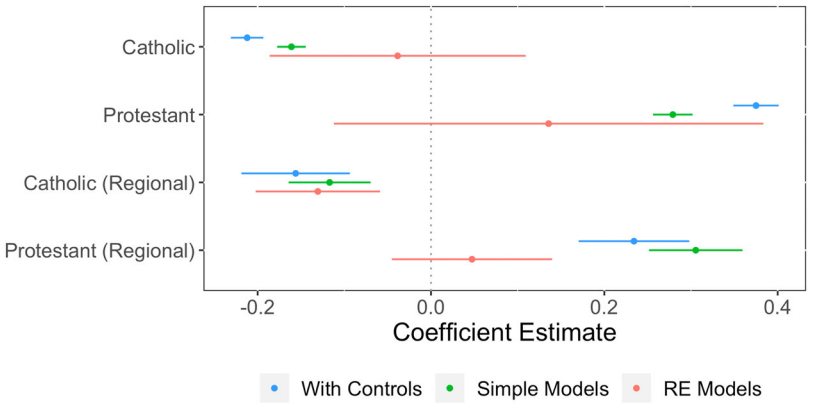


**Figure 4.** Effect of Catholic and Protestant values at both the national and regional levels.

Notes: The figure shows the results of 12 separately estimated models, estimating the relationship between a single cultural variable and respondent's assessment of the priority of debt (DV(1) = 'debt is not a priority') controlling for the country's credit rating. All variables are standardised (mean = 0, SD = 1). We report three basic model types: an LPM including controls for GDP per capita, economic growth, respondents' education, and if they live in a rural or urban area (blue), and a multilevel LPM including country random effects (red). The dot indicates the estimated coefficient and the lines indicate the 95% confidence intervals. Models estimating the effect of national religion: N = 88,521. Models estimating the effect of regional religion (using BART-predicted religion measure): N = 16,910.

measure is correlated with less concern for public debt across all three models, running contrary to expectations. Again, however, the substantive effect is minuscule.

Next, we replace the national religious culture measures with the regional measures predicted by the machine-learning method from Lipps and Schraff (2021).[10] Catholic culture at the regional level has a more significant effect on debt preferences, but again indicates that respondents in regions with a larger Catholic community believe that reducing the public deficit and debt is a priority. Regional Protestant culture is associated with less concern about public debt.

These results suggest that concerns about national or regional Catholic guilt culture or Protestant frugality are not relevant for individual public debt preferences. Again, we stress that we do not make conclusions about individual religion and attitudes but instead about the prevailing religious culture in an individual's country or region.

## Discussion

In sum, our findings indicate that national- and even regional-level cultural differences do not substantively determine individuals' preferences for public debt reduction. Across a wide range of specifications designed to expose any effect of culture on public opinion, we find no convincing evidence that culture is correlated with debt policy preferences. One potential concern in this analysis is that we are committing an ecological inference problem by using group membership to predict individual characteristics. However, there are several reasons why this issue does not apply to our analysis.

First, we are not using one group's characteristics to predict another group's characteristics; instead, we are estimating the effect of living within cultural boundaries on policy attitudes. Moreover, we argue, consistent with the literature, that culture is not an individual-level characteristic but is instead shared by members of a group (Brewer and Venaik, 2014). Second, if our analyses commit an ecological fallacy, it is because the arguments we are addressing are built on the same fallacy. Testing them involves applying the same assumptions upon which the arguments are built. The fact that cultural arguments are based on this fallacy is one of the reasons, we argue, that we find no evidence of this relationship.

Next, we are careful to point out that our analysis does not rule out that ideologies impact economic policymaking. Our study specifically examines national attitudes. It remains possible that

culture operates via policymakers who are exposed to specific schools of thought, influenced by particular economic events (Oudenampsen and Mellink, 2022), or bring their national culture to European policymaking (Van Esch and De Jong, 2019).

## Conclusion

Arguments that economic and political differences across societies can be explained by cultural divides have a long tradition dating back centuries. Recent crises have seen such narratives deployed to justify fiscal policy in the EU and lay the blame for unsustainable debt at the feet of certain cultures. Despite the prominence of these arguments in EU fiscal policy discourse, there is little empirical evidence to establish their validity. We set out in search of any evidence above. None of our empirical tests, even the most generous, find a meaningful correlation between culture and individual concern for debt. At the most basic level, debt preferences are not substantially different in Northern and Southern Europe or even between 'frugal four' and 'PIIGS' countries. Debt policy preferences do not correlate with national or regional cultural variables in any manner consistent with cultural explanations.

Again, we cannot completely disprove cultural arguments, but the absence of evidence for them, under favourable conditions, casts serious doubt on the salience of culture for public debt preferences. Our findings suggest that differences between countries and cultural groups are small and that differences within cultures or countries (for example, political ideology) provide more leverage in explaining individuals' preferences for public debt and deficits. This work has clear implications for EU policy discourse where cultural arguments have been used to resist debt mutualisation and fiscal rescue packages during both the Eurozone crisis and the COVID-19 pandemic. We suggest that policymakers are misguided in relying on cultural differences to resist fiscal cooperation and that culture is not a barrier to successful debt policy.

## Notes

1. For example, Greece records 41.7 and the Netherlands records 30.4 h on average worked per week.
2. The United Kingdom is included in the definition of 'EU countries' in this study as it was part of the EU in the time period that we analyse.
3. Conceptually, culture could be measured at the individual level, but this is impossible to separate from environmental effects like upbringing or other life experiences.
4. We drop 'don't know' answers. The Eurobarometer also asked another question about debt preferences to half of the respondents in another branch of the survey. We omitted this question because it violates survey design best practices, which we discuss in the Appendix. We also replicate our main analyses using the alternate survey question. Our results are unchanged.
5. Credit rating data from Ballard-Rosa et al. (2019).
6. For additional information on the questions used to construct the index, see Bilsky et al. (2011).
7. 'Patience' is constructed by combining the intertemporal choice sequence using the 'staircase' method (quantitative item) with a respondent's self-assessment of their willingness to wait, across increasing monetary trade-offs between now and later. Similarly, 'risk-taking' combines a lottery choice sequence using the staircase method (quantitative item) with a self-assessment of the willingness to take risks (qualitative item). 'Altruism' combines a quantitative question about a donation decision and a qualitative self-assessment of the willingness to donate to good causes. For additional information on the methodology used to construct the measures and the exact wording of the questions see the Appendix or consult Falk et al. (2022, 2018).
8. This implementation of a Bayesian additive regression tree (BART) is a recent advancement to the challenge of noisy regional data in nationally representative surveys. Interactive effects between individual and national characteristics are predicted across partitions in the data and used to adjust national data at the regional level. We discuss the method further in the Appendix.
9. Denmark, France, Germany, Netherlands, Poland, Portugal, Spain, United Kingdom.
10. Note that these models make use of a more limited sample size and estimate the effect of regional religious culture in 8 countries. See the Appendix for more details on the estimation.

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