

# Zero-Sum Thinking and the Roots of U.S. Political Divides\*

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## ABSTRACT:

We examine the causes and consequences of an important cultural and psychological trait: the extent to which one views the world in zero-sum terms – i.e., that benefits to one person or group tend to come at the cost of others. We implement a survey among approximately 15,000 individuals living in the United States that measures zero-sum thinking, political and policy views, and a rich set of characteristics about their ancestry. We find that a more zero-sum view is strongly correlated with several policy views about the importance of government, the value of redistributive policies, the impact of immigration, and one’s political orientation. We find that zero-sum thinking can be explained by experiences of an individual’s ancestors (parents and grandparents), including the amount of intergenerational upward mobility they experienced, the degree of economic hardship they suffered, whether they immigrated to the United States or were exposed to more immigrants, and whether they had experiences with enslavement. These findings underscore the importance of psychological traits, and how they are transmitted inter-generationally, in explaining current political divides in the United States.

Keywords: zero-sum, redistribution, political values, cultural transmission.

JEL Classification: N10; Q54.

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## 1. Introduction

We examine the implications of a hypothesis that was first proposed by Foster (1965, 1967) to better understand the contemporary social, political, and racial landscape of the United States. Foster hypothesized that many societies have a “zero-sum” view of the world; what he called an “image of limited good.” This model of the world suggests that if one person does better, it must be at the expense of somebody else. The implicit view here is that the amount of output in society is limited and productive effort, instead of truly creating value, merely redistributes it.

Although Foster himself proposed this hypothesis in the context of a rural Mexican society (e.g., Foster, 1962, 1967, 1972), he gave many other examples from around the world. In fact, the view of the world as zero-sum emerges time and time again in the historical record, from European Mercantilism in the Early Modern period to trade and immigration policies today (Thurow, 1980, Rubin, 2003).

It is easy to see how this view arises in a world where all important resources and assets are in limited supply so that, quite literally, the world is zero-sum. In smaller-scale pre-industrial societies, land is limited, so more land for one individual means less land for another. The same is true for livestock, authority, and social status. If markets are not developed and there is no technological progress, then the most common way for an individual to get ahead is at the expense of others. Similarly, living through periods of economic downturn or economic growth can bring into sharp focus the relative scarcity of goods in the economy, rendering individuals more or less zero-sum in their views. Therefore, we expect that this cognitive framework would prevail in many parts of the world, at different moments in time. Moreover, because of the persistence and stickiness of cultural and psychological traits, this view may continue to dominate even in settings that are not actually (or no longer) zero-sum, leading to cultural mismatch (Nunn, 2021).

This paper considers the extent to which this framework of understanding human psychology and morality can illuminate the contemporary social, political, and cultural landscape of the United States. Along these lines, our analysis makes three contributions.

The first is to measure the prevalence of zero-sum thinking in the United States. We measure zero-sum thinking in four specific domains between: (1) ethnic groups in terms of wealth; (2) U.S. citizens and non-citizens in terms of economic well-being; (3) countries in terms of economic gains from trade; (4) income classes in terms of wealth. We use these to create a single measure

that captures the extent to which respondents view the world in zero-sum terms. We find that all component variables are positively correlated and that each projects positively onto a single factor in a principal component analysis. We use this first principal component to create an index that ranges from zero to one and is increasing in zero-sum thinking.

We then study the potential implications of a zero-sum mindset for attitudes and views in the United States. We find that individuals who view the world in more zero-sum terms tend to support policies that redistribute income from the rich to the poor or redistribute access to resources towards disadvantaged groups. This includes redistributive policies like taxation, universal healthcare, and affirmative action for women and African-Americans. Consistent with these specific views, we also find that zero-sum thinking is associated with preferences for liberal economic policies in general and with stronger political alignment with the Democratic Party (and weaker alignment with the Republican Party).

To illustrate the reach of zero-sum thinking, we show that it is linked empirically to important political phenomena recently experienced in the United States. Specifically, we find that individuals that view the world in zero-sum terms are more likely to believe that the conspiracy theory QAnon holds some truth for U.S. politics. This is explained by the fact that QAnon's narratives are zero-sum in nature and center around a small group of wealthy individuals enriching themselves at the expense of less wealthy individuals across the world. We also find that zero-sum thinking is linked with empathy and understanding for those involved in the January 6, 2021 attack on the U.S. Capitol Building, an act that is more justifiable and seen as less harmful if one presumes the world is zero-sum (rather than negative sum). Both correlations are robust to including fine-grained political affiliation (and its strength) fixed effects and are found *within* both parties.

Additional analyses show that the link between these outcomes and a zero-sum mindset is not because zero-sum thinking is correlated with other commonly identified cultural, political, and psychological traits, such as beliefs in the link between hard work and success, moral universalism, perceptions of mobility, or beliefs in the importance of tradition.

The final part of our analysis turns to the question of the origins of variation in zero-sum thinking within the United States. Consistent with the notion that a zero-sum psychology is subject to systematic evolutionary forces, we find that the experience of an individual's ancestors affects their zero-sum thinking today. Examining factors that are particularly salient given the history of the United States, we consider ancestral economic mobility, immigration, and enslave-

ment. We find that experienced upward mobility is associated with less zero-sum thinking. The effect is strongest for upward mobility experienced by respondents and their parents, although upward mobility of their grandparents also matters, even if the effect is weaker. Thus, exposure to episodes of economic success and lack of economic scarcity reduces zero-sum thinking.

We also find that a family history of immigration to the United States is associated with a less zero-sum mentality. The effect is strongest for individuals who migrated themselves, then for children of immigrants, then for grandchildren of immigrants. In many cases, immigration leaves the newcomer and their descendants economically better-off, and this is not perceived to come at the expense of others. In fact, the widespread notion that the economic success of the United States is due to its history of immigration suggests that immigration, rather than being zero-sum, has instead been a win-win situation for immigrants and U.S.-born individuals.

The third factor, ancestral enslavement, is different from the first two since it is a historical episode that is very zero-sum in nature. We find that a history of being exposed to such an environment has the opposite effect of mobility and immigration; if an individual's ancestors were enslaved, then they have a more zero-sum view today. This is true not only for individuals who are Black (and for individuals who experienced chattel slavery) but also for people who experienced other forms of enslavement, such as indentured servitude, internment, forced reservation, or the Holocaust.

Our findings add to a small literature in cross-cultural psychology that seeks to quantify and better understand the psychology of zero-sum thinking. Różycka-Tran et al. (2015) introduce what they view as a novel 'social axiom' called 'Belief in a Zero-Sum Game (BZSG).' The authors develop a zero-sum belief scale that they implement on 6,138 university students from 37 countries. They find that at the country level, zero-sum thinking is negatively associated with individualism and positively associated with collectivism, and is negatively associated with measures of economic development (see also Różycka-Tran et al., 2019). Meegan (2010) studies zero-sum "bias" which occurs when an individual perceives a zero-sum situation even if resources are unlimited. Johnson et al. (2022) show that "win-win denial," the refusal to see situations as mutually beneficial, underpins zero-sum thinking.

Zero-sum thinking has also been studied in the context of in-groups and out-groups. Analyzing which factors increase the likelihood of hosting refugees, Piotrowski et al. (2019) find that zero-sum thinking is positively correlated with patriotism (a view in which out-groups are

perceived as cooperators) and a willingness to host refugees, and negatively correlated with nationalism (a view in which out-groups are perceived as competitors). On racial attitudes, Norton and Sommers (2011) document that white respondents seem to consider racism a zero-sum game in which decreases in perceived bias against Black people over time translate into higher “reverse racism” against white people. Wilkins et al. (2015) show that high-status groups (white people and men) are more likely to espouse zero-sum beliefs than low-status groups (Black people and women), especially when they feel that their own group is being discriminated against. Stefaniak et al. (2020) also show that zero-sum beliefs are more common among white respondents (the advantaged group) than among Black respondents (the disadvantaged group) and are positively correlated with supporting the status quo, i.e., negatively correlated with their willingness to become “allies” of disadvantaged groups. Our evidence on how historical exposure to enslavement in the U.S. shapes zero-sum thinking among white individuals today is in line with these findings.

In the context of gender attitudes, Sicard and Martinot (2018) show that when sending status-threatening messages to children in school (i.e., emphasizing either boys’ or girls’ academic achievements), boys (but not girls) endorse greater zero-sum thinking in school as a competition between boys and girls. Kuchynka et al. (2018) confirm these findings for the workplace and in college.

Related to our results on conspiracy theories and QAnon, contemporaneous work by Papaioannou et al. (2022) aims to explain the link between conspiracy beliefs and populist attitudes and show that experimentally simulating the election of a populist government reduces participants’ beliefs in conspiracies and decreases their cynicism and zero-sum thinking. Enders et al. (2022) study who supports QAnon and show that, contrary to widespread belief, these conspiracies find support among the left and the right. We show that support for QAnon is strongly related to zero-sum thinking across the partisan divide. Andrews Fearon et al. (2021) investigate how zero-sum thinking can increase hostility and distrust and weaken belief in democratic institutions in U.S. and U.K. samples.

Davidai and Ongis (2019) study how politics interacts with zero-sum thinking, which they measure with a survey question. They find that there is not an unconditional relationship between political affiliation and zero-sum thinking. Depending on the context of the question being asked – e.g., economic, racial, immigration-related, etc. – sometimes more politically liberal individuals

exhibit more zero-sum thinking and sometimes more politically conservative individuals do. In a lab experiment, Schaube and Strang (2022) show that when inequality is associated with a zero-sum game, spectators support more redistribution. Using survey data, they find a correlation between zero-sum views, Democratic leaning, and support for redistribution.

Within economics, research on zero-sum thinking has been more limited, although some progress has been made. Motivated by Foster's hypotheses, Gershman (2014) models the relationship between a zero-sum world, the potential emergence of envy, and longer-run economic development. Carvalho et al. (2022) develop an evolutionary model that shows how a more zero-sum environment can result in 'demotivating beliefs' that reduce effort. On the empirical side, Gershman (forthcoming) documents a positive cross-country relationship between zero-sum perceptions and beliefs in witchcraft. Carvalho et al. (2022) examine individual-level survey data from the Democratic Republic of the Congo, and find the same positive relationship between zero-sum thinking and beliefs in witchcraft, as well as with feelings of jealousy. Using cross-national data, they also show that zero-sum thinking is associated with weaker beliefs about the value and importance of hard work and economic success.

Our paper also contributes to the literature studying the effects of ancestry on attitudes and views. Related to our results on enslavement, Nunn and Wantchekon (2011) show that individuals whose ancestors were more severely affected by the trade of enslaved people have lower levels of trust toward their neighbors, relatives, and local governments today. Chen and Yang (2015) find persistent effects across generations of the Great Chinese Famine, which reduced trust in local governments among those whose ancestors were affected or who were themselves affected. Fernández et al. (2004) document that men whose mothers worked are more likely to have wives who work, suggesting intergenerational propagation of gender norms.

Finally, our work adds to the literature on the effects of one's own experience on beliefs and policy views. Luttmer and Singhal (2011) show that the cultural background of immigrants is strongly related to their preferences for redistribution and this effect persists into the second generation. Alesina and Fuchs-Schündeln (2007) establish that preferences for redistribution are affected by economic regimes by exploiting changes in the economic system during German separation and reunification: East Germans, especially older ones, favor redistribution more. Giuliano and Spilimbergo (2014) find that individuals who experience a recession when young are more likely to believe in the importance of luck over effort for success. Malmendier and Nagel

(2011) find that those who experienced periods of low stock market returns are more risk averse, pessimistic, and less likely to participate in the stock market. Similarly, Malmendier and Nagel (2016) document that individuals have higher inflation expectations if they have experienced more inflation during their lifetimes. Roth and Wohlfart (2018) show that individuals who experience higher inequality over their lifetimes support less redistribution.

The remainder of the paper is structured as follows. Section 2 describes the survey design and data collection. Section 3 presents the political and policy correlates of zero-sum thinking, section 4 discusses the historical determinants of zero-sum thinking and section 5 concludes.

## **2. Survey Design, Data Collection and Measures of Zero-Sum Thinking**

### ***A. Data Collection and Sample***

#### *a. Recruiting respondents*

Our sample comprises approximately 14,500 respondents collected during five waves of surveying between October 2020 and May 2022. The survey was completed online with participants recruited through an online survey company, *Respondi/Bilendi*. We designed the survey in-house and the survey company served as an intermediary that invited participants over email or through a dashboard to participate. Respondents were incentivized using a variety of rewards, ranging from cash to extra miles on frequent flyer accounts or points on frequent shopper cards. For more information on how survey companies recruit respondents and how their pools of respondents compare to the population, see Stantcheva (2022).

The survey is approximately 20 to 30 minutes long, depending on the individual respondent and the wave. Appendix Figure A1 shows the distribution of survey durations by wave.

#### *b. Sample*

Appendix Table A1 shows that around 23% of respondents who start the survey do not complete it. About one-third of respondents who drop out do so during the background information questions (36%). There are some significant predictors of attrition but their effects are generally very small. Older respondents, women, African American respondents, and lower-income respondents are less likely to complete the survey but the differences are not economically meaningful. Importantly, the differences in the completion rates by political leaning are small.

To arrive at our analysis sample, we drop individuals who did not complete the full survey and, of those, the 1.7% who spent less than 10 minutes on the survey. Table 1 shows descriptive statistics for the analysis sample and shows that it is similar to the broader U.S. population on key socioeconomic characteristics.

## **B. Survey Structure**

Our survey includes the following modules:

**Background of the respondent:** we first ask about the respondent's own demographic information (such as age and gender) and political leanings.

**Ancestry:** for each of six of the respondent's ancestors – mother, father, paternal grandfather, paternal grandmother, maternal grandfather, and maternal grandmother – we ask a range of questions aimed at collecting information about their year of birth, residential history, and other relevant characteristics such as education, occupation, and relative economic standing. We collect information about the respondent's place of residence at different points in their life (e.g., while growing up, in their 20s, in their 30s, etc.), and we ask where the respondent's ancestors grew up as well. Although we only collect information about a respondent's grandparents, some of the information collected tells us about the respondent's great-grandparents. For example, if we know where a grandparent grew up, this also gives us some information about where the respondent's great-grandparents were likely living in their 20s, 30s, and 40s. Similarly, we ask our respondents about the economic conditions in their grandparents' household when they were young. This provides some information about the economic conditions of the respondent's great-grandparents early in their adult life. Thus, effectively, we are able to collect socioeconomic information over four generations.

**Policy Views:** we ask respondents about their views on redistribution, race, affirmative action, and universal health care, among other pressing policy issues.

**Zero-Sum Thinking:** we ask respondents questions to measure the extent to which they have a zero-sum mindset (explained in Section C below).

We randomize the order in which respondents view the different modules: half of the respondents are first asked to answer several blocks of questions about their ancestry, exposure to enslavement, and their perceived relative family income today, when they were growing up, and when each of their parents and grandparents were growing up. The other half are asked first



Table 1: Sample Characteristics

	U.S. Population	Survey Sample
Male	0.49	0.48
18–29 years old	0.20	0.20
30–39 years old	0.18	0.18
40–49 years old	0.16	0.18
50–59 years old	0.16	0.19
60+ years old	0.30	0.24
\$0–\$14,999	0.09	0.09
\$15,000–\$24,999	0.07	0.08
\$25,000–\$39,999	0.11	0.13
\$40,000–\$54,999	0.11	0.11
\$55,000–\$74,999	0.12	0.13
\$75,000–\$99,999	0.12	0.12
\$100,000–\$149,999	0.16	0.21
\$150,000+	0.22	0.12
Four-year college degree or more	0.35	0.49
High-school graduate or less	0.39	0.20
Employed	0.61	0.56
Unemployed	0.02	0.09
Self-employed	0.07	0.07
Married	0.52	0.51
White	0.62	0.70
Black/African American	0.12	0.11
Hispanic/Latino	0.17	0.09
Asian/Asian American	0.06	0.07
Democrat	0.31	0.41
Republican	0.29	0.31
Independent	0.39	0.28
Voted for Clinton in the 2016 presidential election	0.48	0.40
Voted for Trump in the 2016 presidential election	0.46	0.36
Voted for Biden in the 2020 presidential election	0.51	0.54
Voted for Trump in the 2020 presidential election	0.47	0.31
Sample size		14,493

*Notes:* This table displays statistics for the overall U.S. population and compares it to the characteristics of the survey respondents. National statistics on gender, age, income brackets, race, education, marital status, and employment status are from the IPUMS-CPS-ASEC data set for May 2022 (Flood et al., 2022). National statistics on party affiliation for May 2022 are from Gallup (2022). Presidential election results from 2016 and 2020 are from Leip (2022). Survey quotas were designed to achieve a nationally representative sample in gender, age, household income, and race and ethnicity.

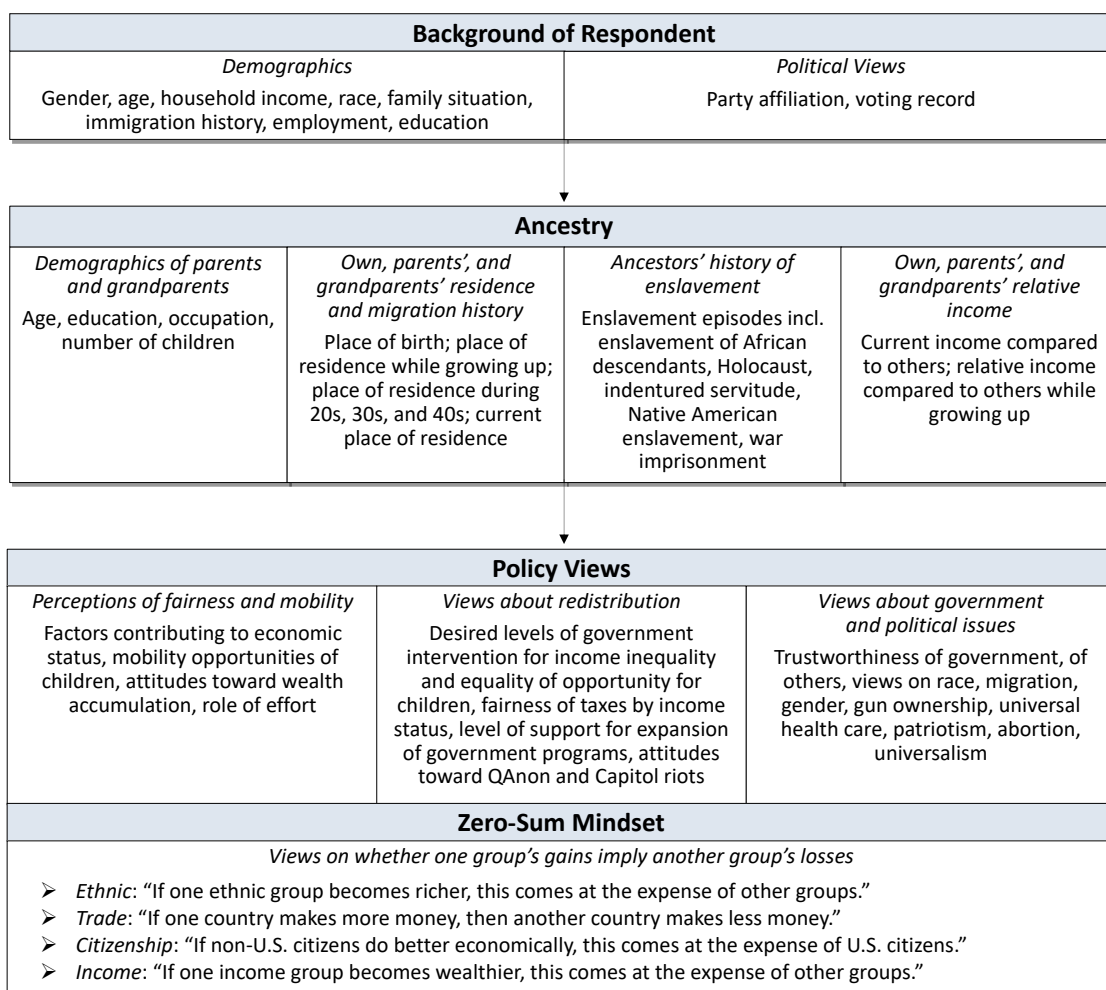


Figure 1: Block Diagram of Survey Flow

about their policy views. Both groups answer both modules, differing only on which they view first.

Figure 1 shows a block diagram of the survey flow, and Appendix C provides the entire survey questionnaire.

### C. Measure of Zero-Sum Thinking

Our baseline measure of zero-sum thinking is based on four questions. Each asks respondents to consider a statement and report the extent to which they agree with it.

- **Ethnic**: "In the United States, there are many different ethnic groups (Blacks, Whites, Asians, Hispanics, etc). If one ethnic group becomes richer, this generally comes at the expense of other groups in the country."

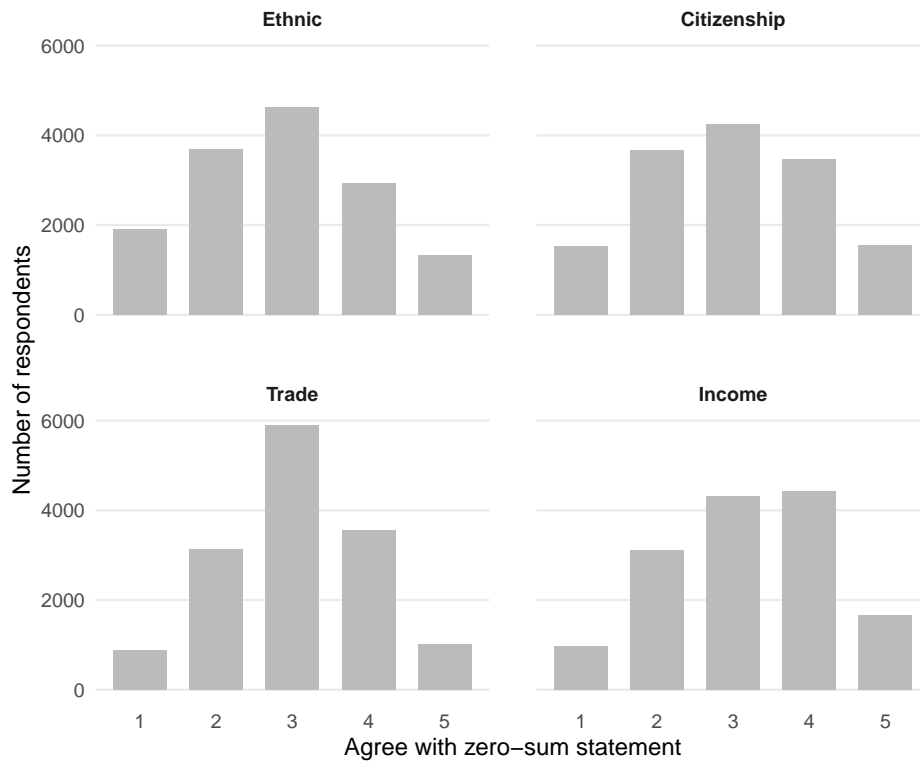


Figure 2: Distributions of Responses to Zero-Sum Questions

- **Citizenship:** “In the United States, there are those with American citizenship and those without. If those without American citizenship do better economically, this will generally come at the expense of American citizens.”
- **Trade:** “In international trade, if one country makes more money, then it is generally the case that the other country makes less money.”
- **Income:** “In the United States, there are many different income classes. If one group becomes wealthier, it is usually the case that this comes at the expense of other groups.”

After each statement, respondents choose one of the following five options: (1) Strongly disagree, (2) Disagree, (3) Neither agree nor disagree, (4) Agree, (5) Strongly agree. We assign each answer the integer value indicated, creating measures that are increasing in how zero-sum a respondent’s view is.

The distribution of the answers is shown in Figure 2: we see significant variation in our sample with distributions that appear fairly bell-shaped.

The degree to which a person’s view is zero-sum is highly correlated across domains, with correlation coefficients ranging from 0.25 to 0.56. Examining the factors underlying the variation

of the four measures using principal component analysis, we find that each of the four measures loads positively on the first component, with weights ranging from 0.52 and 0.55, except for the citizenship measure where the weight is slightly lower at 0.40.<sup>1</sup>

The estimates that we report in the paper use the first principal component from this factor analysis to create an aggregate measure that we normalize to range from zero to one. The estimates are virtually identical if we use an equally-weighted average rather than the first principal component and/or if we exclude the citizenship measure, which one may worry is particularly influenced by the political views of the respondents.

#### *D. Description of Basic Characteristics of Zero-Sum Thinking*

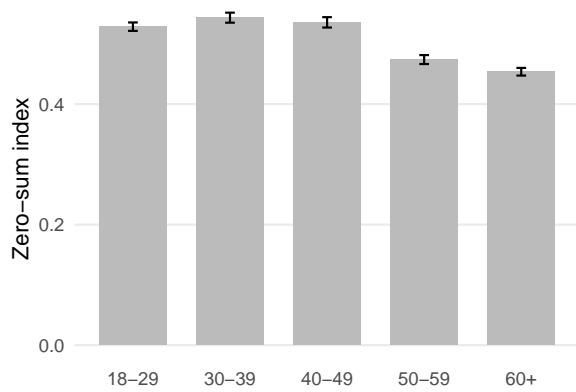
Figure 3 shows how the average zero-sum measure varies across demographic groups. First, older respondents tend to be less zero-sum, though we are unable to disentangle age from cohort effects in this sample. Second, men tend to be more zero-sum than women, which is in line with prior work that suggests that the “dominant group” (here, men relative to women) are more likely to espouse zero-sum beliefs (e.g., Wilkins et al., 2015).

Third, Black and Hispanic/Latino respondents tend to be more zero-sum than white respondents. We explore the relationships among race, immigration status, the experience of enslavement, and zero-sum thinking in Section 4. Fourth, the lowest-income respondents – those with a household income under \$25,000 – tend to be slightly more zero-sum than higher-income respondents. Fifth, more educated respondents are generally less zero-sum, with the exception of respondents with a postgraduate degree (which includes those with a master’s degree, an M.B.A., Ph.D., J.D., or M.D.). Finally, zero-sum thinking is correlated with partisan affiliation: Republican individuals exhibit less zero-sum thinking on average. In Appendix Table A4, we show that these patterns also hold in a multivariate regression where we include all individual covariates simultaneously.

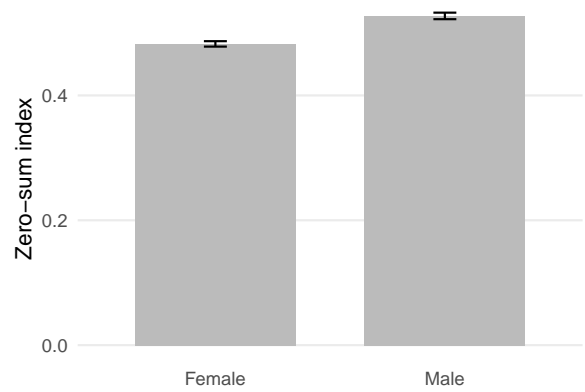
Figure 4 shows the average zero-sum index by the respondent’s current state of residence, indicating that there are no clear regional patterns. Respondents living in Utah exhibit the least zero-sum thinking, on average, and respondents living in Montana, Oklahoma and Mississippi

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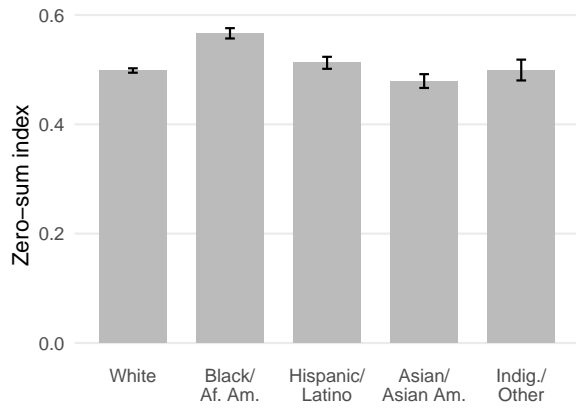
<sup>1</sup>Appendix Table A3 shows the factor loadings for these four questions and for all the component measures of the indices we create in this paper.



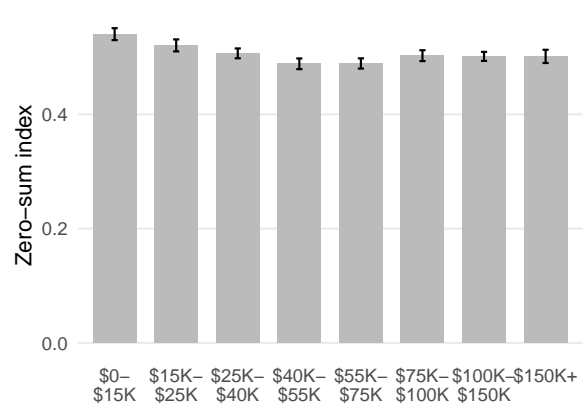
(a) Age



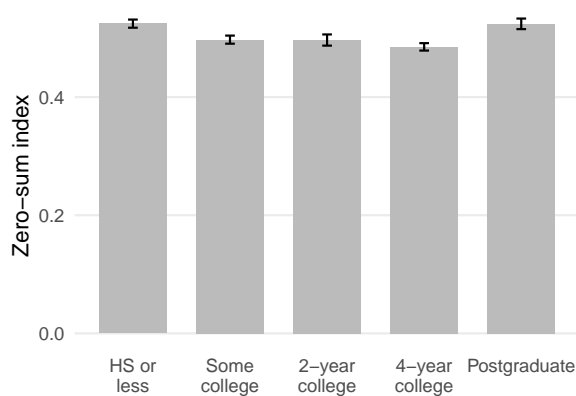
(b) Gender



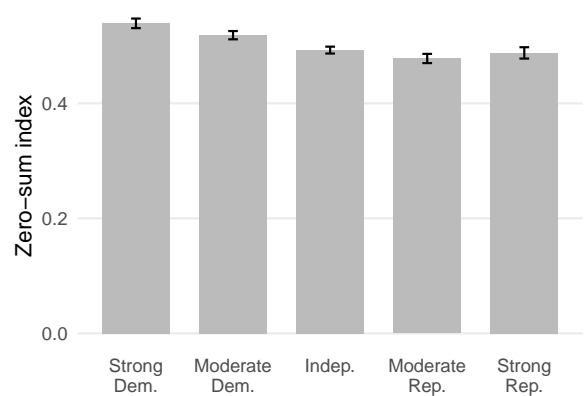
(c) Race



(d) Household income



(e) Education



(f) Party

Figure 3: Average Zero-Sum Index by Demographic Group

Notes: For the question about gender identity, respondents were able to choose “Other gender identity.” Relatively few (73) respondents selected this option, thus this group is not shown in the figure. However, on average, respondents who chose this option were slightly more zero-sum than those who chose “Male” or “Female.”

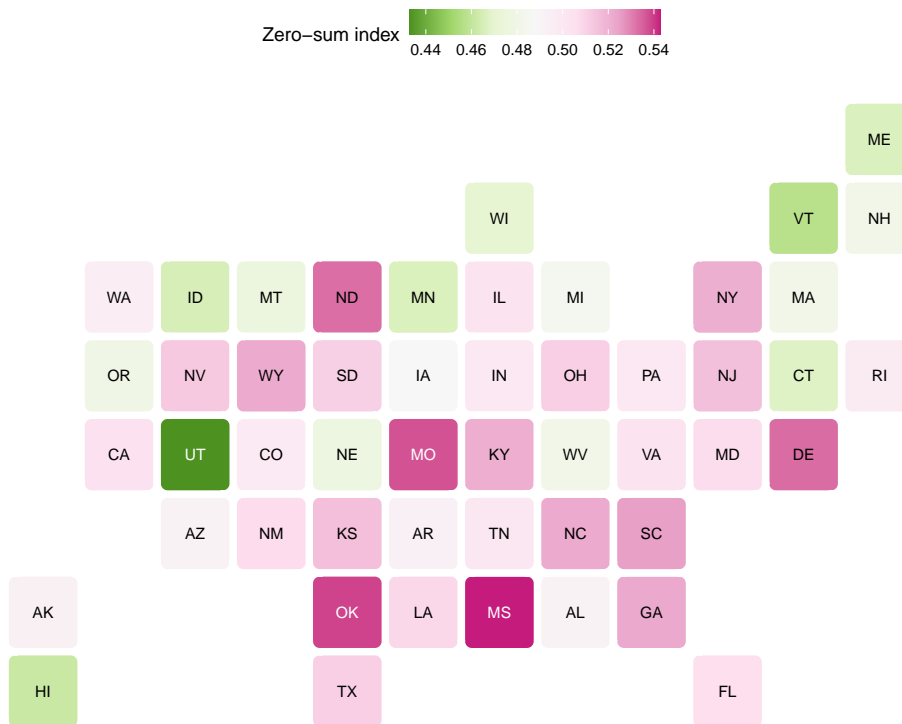


Figure 4: Average Zero-Sum Index by Respondent's State of Residence

exhibit the most. Importantly, there is no significant geographic clustering and the geographic distribution of zero-sum beliefs is not obviously correlated with that of political leanings.

### 3. The Political Correlates of Zero-Sum Thinking

We now turn to an exploration of the potential political consequences of zero-sum thinking. We examine the association between our measure of zero-sum thinking and views about politics and policy. Our estimating equations take the following form:

$$Y_i = \alpha_{s(i)} + \beta \text{Zero Sum}_i + \mathbf{X}_i \boldsymbol{\Gamma} + \varepsilon_i \quad (1)$$

where  $i$  indexes individuals,  $s$  state of residence.  $\text{Zero Sum}_i$  is our measure of zero-sum thinking for individual  $i$ .  $\alpha_{s(i)}$  denotes state-of-residence fixed effects and  $\mathbf{X}_i$  is a vector of covariates that depends on the specification.  $Y_i$  denotes an outcome of interest.

#### A. Political Preferences

We begin by considering respondents' views about economic policy and political affiliation, in particular, the left-right dimension. We ask individuals about the extent to which their economic

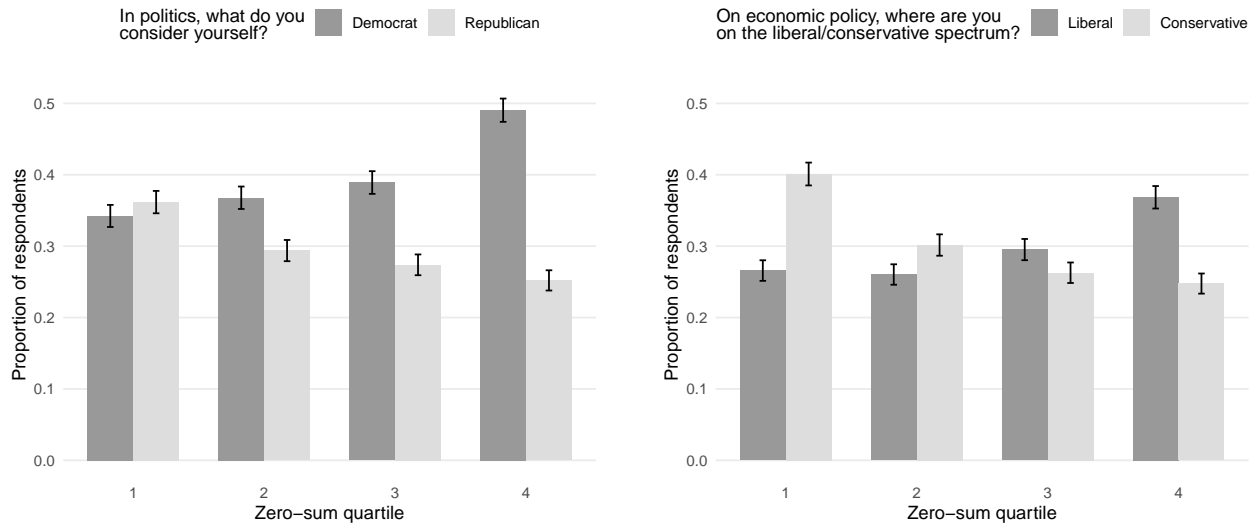


Figure 5: Zero-Sum Thinking and Political Affiliation

Notes: In the left panel, bars show the proportion of respondents within the quartile of the zero-sum index who considered themselves “Strong Republican” or “Moderate Republican”, or “Strong Democrat” or “Moderate Democrat.” Those who considered themselves “Independent” are not shown. In the right panel, bars show the proportion of respondents within the quartile of the zero-sum index who described their economic policy views as “Very conservative” or “Conservative”, or as “Very liberal” or “Liberal.” Those who described their views as “Moderate” are not shown.

policy views are liberal or conservative and about their political leaning on a Strong Democrat to Strong Republican scale.<sup>2</sup>

As we report in Figure 5, in the raw data, we observe a highly significant, positive relationship between the zero-sum index and the likelihood of being a Democrat or having liberal views about economic policy. This also means that we observe a negative relationship between zero-sum thinking and Republican political affiliation and having conservative views about economic policy.

However, zero-sum thinking is not fully explained by partisan attachment. In Figure 6, we show that although the average level of the zero-sum index is different between Democrats and Republicans, the distributions are approximately equal in spread; that is, there are Republicans who are comparatively quite zero-sum and Democrats who are not very zero-sum. Moreover, a large fraction of both Democrats and Republicans exhibit moderate levels of zero-sum thinking.

<sup>2</sup>We measure individual’s political affiliation and their policy views with the following two questions: i. “In politics, as of today, do you consider yourself a Republican, a Democrat or an independent?”; ii. “On economic policy matters, where do you see yourself on the liberal/conservative spectrum?”

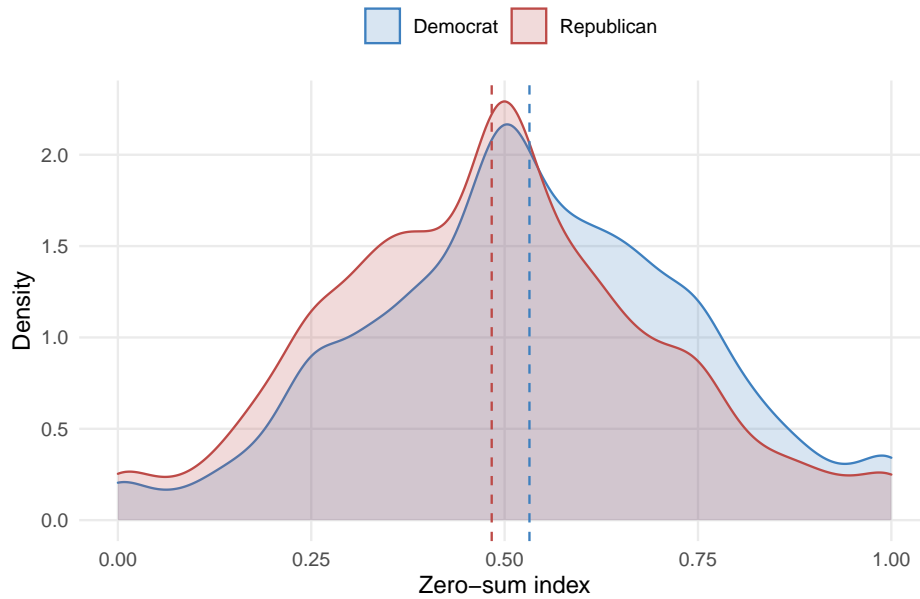


Figure 6: Density of Zero-Sum Index by Party

*Notes:* Vertical lines show the mean zero-sum index for each party. “Republican” includes respondents who considered themselves “Strong Republican” or “Moderate Republican”, and “Democrat” includes respondents who considered themselves “Strong Democrat” or “Moderate Democrat.” Those who considered themselves “Independent” are not shown.

## B. Policy Views

### *Correlation of zero-sum thinking with policy views*

Figure 7 shows correlations of zero-sum thinking with important policy views. We compute indices that measure the respondent’s pro-redistribution preferences as well as their race, anti-immigrant, and gender attitudes using the first principal component of the relevant questions from our survey. The questions that constitute each of the indices (which may differ across survey waves) are listed in Appendix Table A3, along with their factor loadings in the principal component analysis.

We find that more zero-sum thinking is associated with support for redistribution, a higher awareness of racial and gender discrimination, as well as more pronounced anti-immigrant sentiment. We also include several policy views on pressing questions for the U.S. today and find that more zero-sum thinking is associated with support for stricter gun laws, and marginally lower trust in people but higher trust in government. Respondents with a zero-sum mindset are also more likely to believe that being Christian is important for being American.

Our baseline results use the index derived from the four main zero-sum questions in our survey; results are similar, albeit of smaller magnitude, when we remove the zero-sum question



that is likely to be mechanically related to each policy outcome and compute a zero-sum index based on three questions alone. Specifically, for the redistribution outcomes, we remove the income zero-sum question; for attitudes towards immigration and towards race we remove the questions about citizenship and ethnicity, respectively. The second column of Figure 7 shows that using the first principal component without the mechanically associated question yields qualitatively similar results.

These correlations are in line with what we might expect. On redistribution policy, if an individual has a zero-sum view of the world, then the wealth and income of some has come at the cost of others without the same level of wealth or income. In this setting, assuming a decreasing marginal utility of income, there is a role for the government to redistribute income and raise aggregate welfare. This could occur, for example, through an income tax that is used to provide basic public goods like roads, schools, and parks, and even public healthcare, public pensions, and social programs. If one's view is not zero-sum, then the income and wealth of the rich did not come at the expense of others. In this case, taxing and redistributing wealth is unfair and might discourage effort, which would be detrimental to economic growth. Thus, one's preferred policy is very different depending on whether they implicitly view the world as zero-sum.

Related to group competition, those with more zero-sum views are more likely to perceive in- and out-group competition and be aware of racial or gender discrimination. Similarly, they may perceive that immigrants are in competition for resources with non-immigrants. Consistent with competition among religious groups, we also see that those who are more zero-sum believe that being Christian is important for being American.

For other outcomes, the conceptual link with zero-sum thinking is less clear. However, we may expect that more zero-sum individuals want to protect themselves and their property from others and hence support stricter gun laws. There is only a weak negative link with support for banning abortion, which disappears once we control for political affiliation. It is indeed difficult to think of a clear channel through which zero-sum thinking may systematically correlate with views on abortion, conditional on political leaning. Finally, trust in government is strongly positively correlated with zero-sum thinking but not trust in other people, which could be explained by the fact that those who perceive the world as zero-sum believe the government needs to step in.

Appendix Figure A2 shows the full set of correlations with the component zero-sum questions

and each of the policy questions in our survey.

### *Zero-sum thinking versus other core beliefs*

One concern is that our zero-sum measure might be picking up the impact of other core beliefs that have been shown to correlate with policy views such as beliefs that luck is more important than effort for success (Alesina and Glaeser, 2004), a universalist moral view (Enke, 2019), views on the importance of tradition (Giuliano and Nunn, 2021), and perceived mobility (Alesina et al., 2018). All of these could potentially shape policy views in the same direction as zero-sum thinking. Reassuringly, Figure 8 shows that the correlation between zero-sum thinking and policy views holds even when controlling for other fundamental attitudes and beliefs.

### **C. Generality of the the Findings: Global Patterns**

Our findings from the United States raise the question of generalizability. In particular, if zero-sum thinking is a fundamental psychological trait that affects individuals' views of the origins of wealth and the acceptability of inequality, which in turn affects views on policy, which in turn affect views on politics, then we should expect similar relationships to hold even beyond the United States.

We examine this using data from the World Values Survey (WVS), which includes one question, asked to approximately 200,000 respondents across 72 countries around the world, about the extent to which they view wealth as zero-sum. Respondents are given two opposing statements, one that is zero-sum and another that is positive-sum. The zero-sum statement is "People can only get rich at the expense of others." The positive-sum statement is "Wealth can grow so there's enough for everyone." The respondents are asked to report their views on a ten-point scale, which lies between the two extremes. We measure the variable so that it is increasing in how zero-sum the view is. For ease of interpretation, we also normalize it to lie between zero and one.

We then examine the relationship between a person's zero-sum view of the world and their political beliefs. The question asks, "In political matters, people talk of *the left* and *the right*. How would you place your views on this scale, generally speaking?" The respondent then chooses an integer value from 1 (Left) to 10 (Right).<sup>3</sup> Figure 9 shows the results on the pooled sample of all countries. There is a clear negative relationship between zero-sum thinking and right-

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<sup>3</sup>This is variable E033 in WVS.

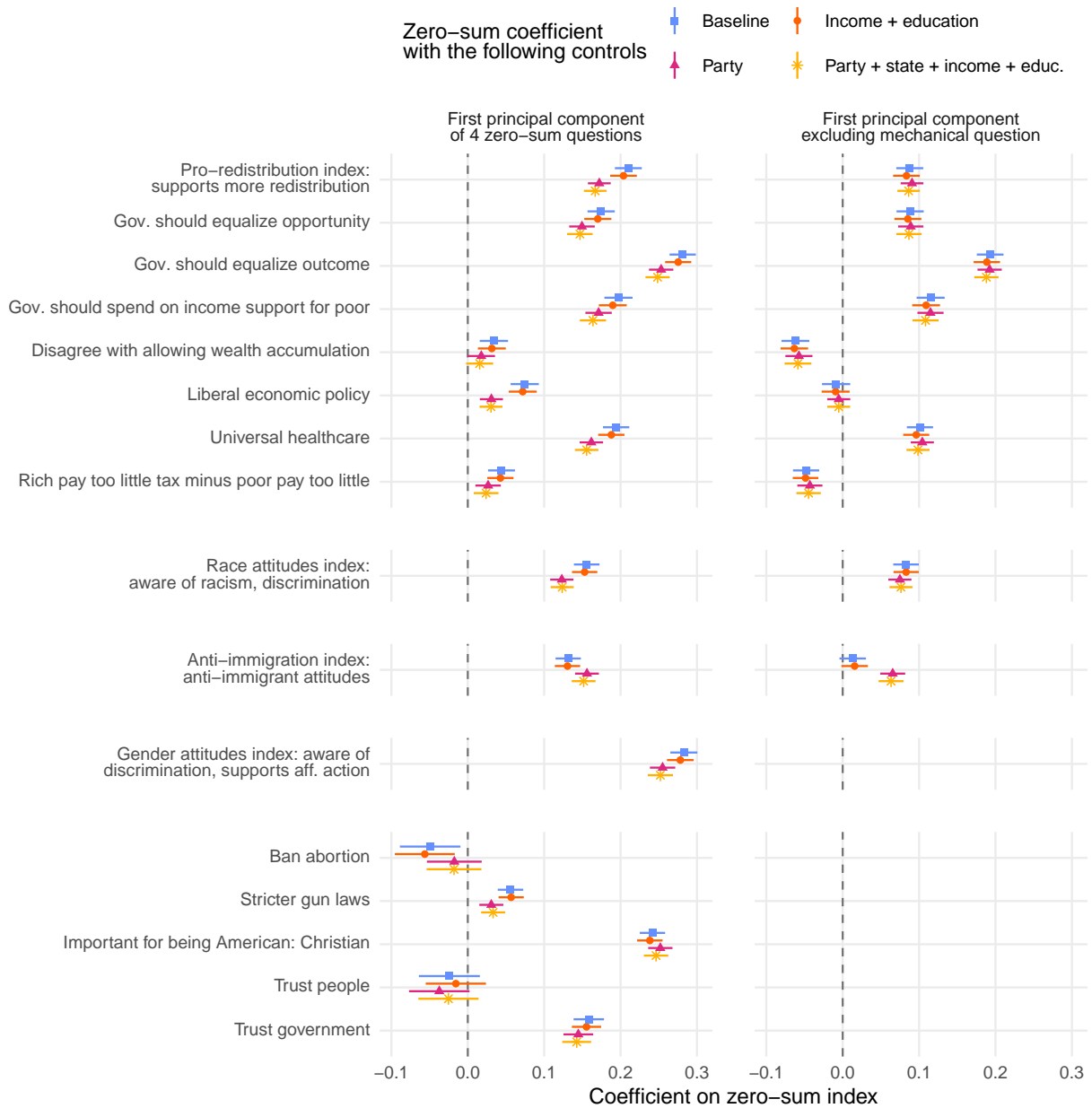


Figure 7: Zero-Sum Thinking and Policy Views

*Notes:* Each coefficient is from a separate regression with controls for age and age squared, gender, and their interaction, as well as whether the respondent was born in the United States, wave fixed effects, and race fixed effects. The four estimates for each outcome in each column correspond to the baseline specification, as well as specifications that add (1) income and education, (2) party, and (3) income, education, party, and current state fixed effects. Outcomes and regressors are standardized to have mean zero and standard deviation one. In the first column, the coefficient estimate corresponds to the baseline zero-sum index, that is, the first principal component of the four baseline zero-sum questions about income, citizenship, ethnic groups, and trade. In the second column, the coefficient corresponds to the first principal component of three of the baseline questions, removing the one that may be mechanically correlated with the policy outcomes in that group – income for the redistribution outcomes, ethnic groups for the race outcomes, and citizenship for the immigration outcomes. Index measures, labeled in bold, are the first principal component of the relevant questions. See Section 3 for details.

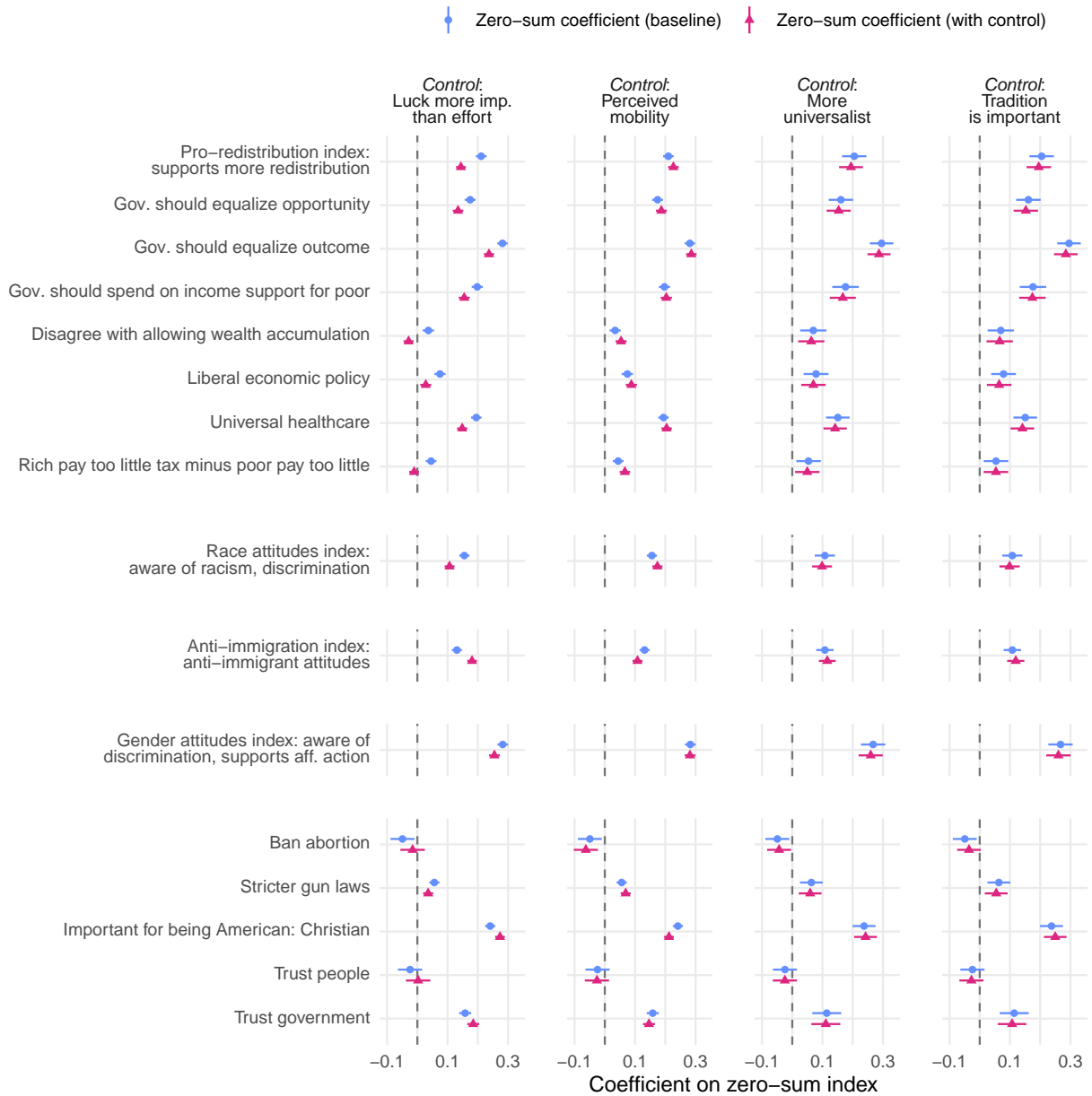


Figure 8: Zero-Sum Thinking and Policy Views, Controlling For Other Core Beliefs

*Notes:* Each coefficient is from a separate regression with controls for age, gender, and their interaction, as well as whether the respondent was born in the United States, wave fixed effects, and race fixed effects. The two estimates for each outcome correspond to the baseline specification, as well as specifications that add to the regression a measure of another core belief or attitude: whether the respondent thinks luck is more important than effort, their perceptions of economic mobility, the degree to which they are a moral universalist, and whether they think tradition is important. The latter two outcomes are only available for the fifth wave of the survey, so these regressions are estimated on a smaller sample. Outcomes, regressors, and measures of other attitudes are standardized to have mean zero and standard deviation one. Index measures, labeled in bold, are the first principal component of the relevant questions.

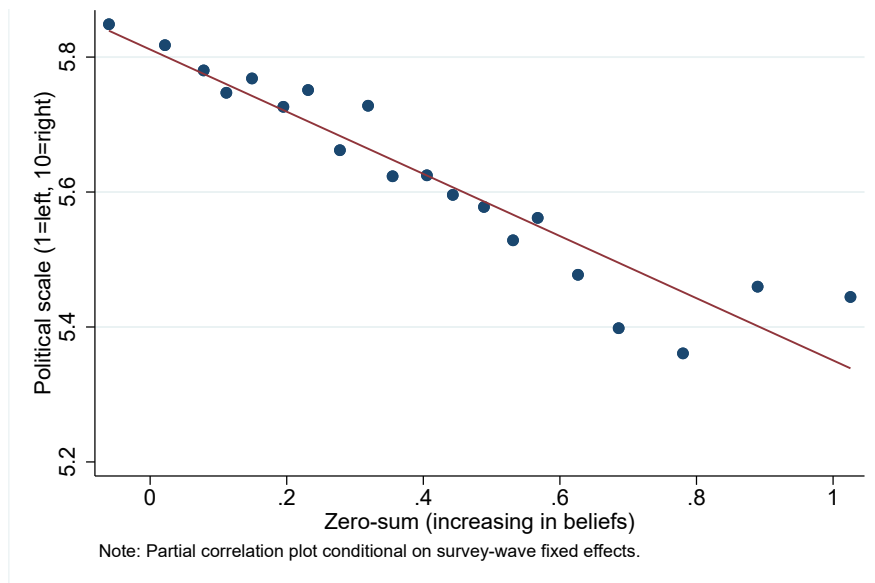


Figure 9: Zero-Sum Thinking and Political Affiliation Across the World

leaning political views across the world. Appendix Table A5 summarizes the relationship for each country. It reports the estimated coefficients from a regression of zero-sum beliefs on political leaning. Country-specific binscatters of the relationship between zero-sum beliefs and political leanings are reported in Appendix Figures A3 and A4.

#### D. Zero-Sum Thinking and U.S.-Specific Political Events

The recent history of politics in the United States has witnessed a number of unprecedented events. We now turn to an examination of two key episodes and the role that zero-sum thinking might have played: the January 6, 2021 attack on the Capitol Building and the recent rise in the belief in QAnon, which is a bundle of conspiracy theories, many of which are related to U.S. politics.

##### *January 6th Attack on the Capitol*

On January 6, 2021 a large group of supporters of Donald Trump, who had lost the 2020 presidential election, stormed the Capitol Building in Washington, D.C. Their aim was to prevent a joint session of Congress from counting the electoral college votes, which would formalize the victory of president-elect Joe Biden.

There are multiple ways of viewing the events of January 6. Through a non-zero-sum lens, it was an attack on the democracy of the United States, making all in the country worse off through weakened democratic institutions. It was not simply one party attempting to gain while the other party lost. By contrast, in a purely zero-sum view, everyone is not made worse off (or better off). Instead, one party gains at the expense of another party. Thus, January 6 was an attempt by the Republican Party to use whatever means they could to transfer power away from the Democrats.

Given this, we expect individuals who hold a more zero-sum view to be more sympathetic to the January 6 Capitol rioters. It is important to keep in mind that individuals who are more zero-sum tend to be Democrats, not Republicans. Thus, if we do find such a pattern, it is not due to party affiliation.

To examine these relationships empirically, we asked approximately three thousand respondents from the third wave of our survey, which was conducted in February 2021, just over a month after the attack, “How sympathetic do you feel towards those who were charged for entering the U.S. Capitol building on January 6, 2021?” Our intention was to measure the extent to which the respondent could understand the point of view of the Capitol attackers. Individuals could choose an answer that ranged from 1 to 10, where 1 was the least sympathetic and 10 the most.

The relationship between our measure of an individual’s zero-sum thinking and their perception of the Capitol attack is shown in Figure 10. The figure shows that individuals with a more zero-sum worldview show more sympathy towards the Capitol attackers, and this relationship is present when we examine the relationship for Republican and Democratic respondents separately. Thus, the aggregate pattern does not simply reflect the relationship between zero-sum thinking and political affiliation.

Interestingly, we also see that for individuals who have a low or moderate zero-sum view (below the 4th quartile), Republicans show more sympathy than Democrats. However, for those who are the most zero-sum (4th quartile) the sympathy of Democrats is just as high as Republicans. In short, this shows clearly that beyond party affiliation, zero-sum thinking cuts across partisanship and is an important determinant of how respondents viewed these events.

### *QAnon*

An important recent event in U.S. politics is the rise of QAnon, which is a belief in the conspiracy theory that the United States (and the world) is run by a shadowy cabal of elites comprising

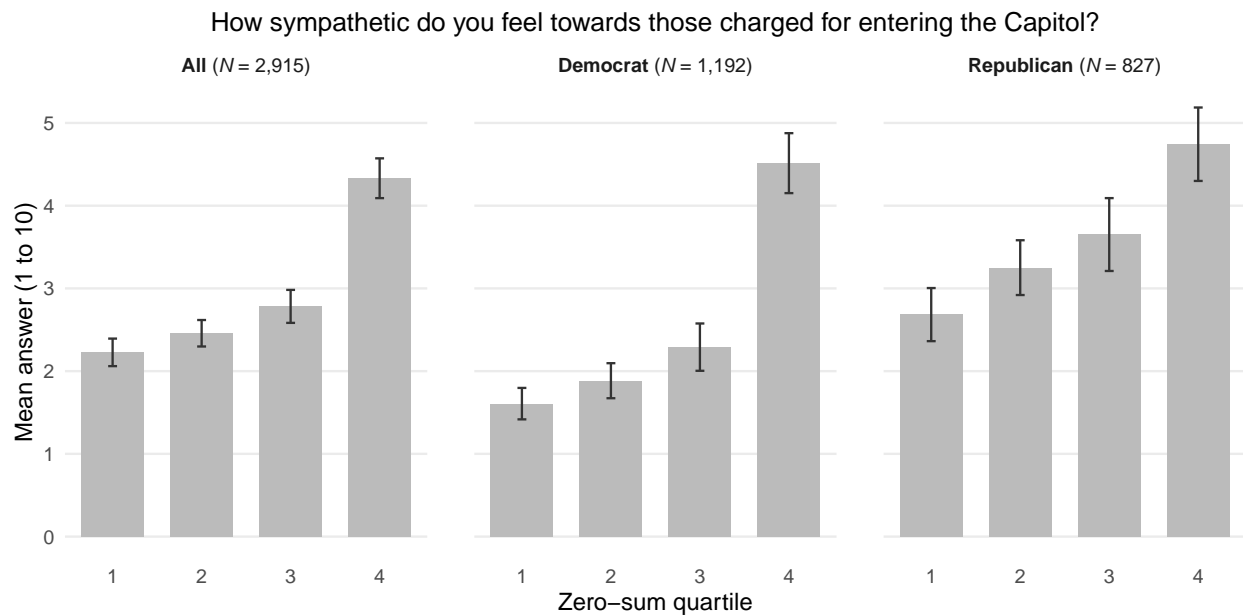


Figure 10: Zero-Sum Thinking and U.S. Political Crisis (February 2021)

Democratic politicians, Hollywood actors, high-ranking government officials, business tycoons, media figures, and medical experts, who are enriching themselves at the expense of ordinary people. Believers think that this cabal orchestrated a global child sex trafficking ring that engaged in the abuse and satanic sacrifice of children, and that the Trump administration was trying to stop these activities and to bring those responsible to justice. The movement also espouses other conspiracies regarding the Kennedy assassinations, UFOs, 9/11, attempts at a *coup d'etat* directed at the Trump administration, and the imminent collapse of the cabal in an event known as “The Storm,” where thousands of members and affiliates would be arrested for their crimes (Enders et al., 2022).

QAnon’s core tenets are zero-sum in nature, where one individual or group gains at the expense of others. All of the following beliefs are zero-sum: (1) The world is ruled by a global elite whose members conspire behind the scenes to enrich themselves and keep the masses poor; (2) They run a satanic child sex trafficking ring (those running the ring benefit at the expense of those being trafficked); (3) They were plotting a coup to overthrow the U.S. President Donald Trump. This raises the possibility that zero-sum thinking is closely associated with QAnon’s beliefs; we suggest that a zero-sum psychology (which we show later is rooted in historical factors) is important in explaining whether one finds QAnon intuitive or plausible and believes in its theories.

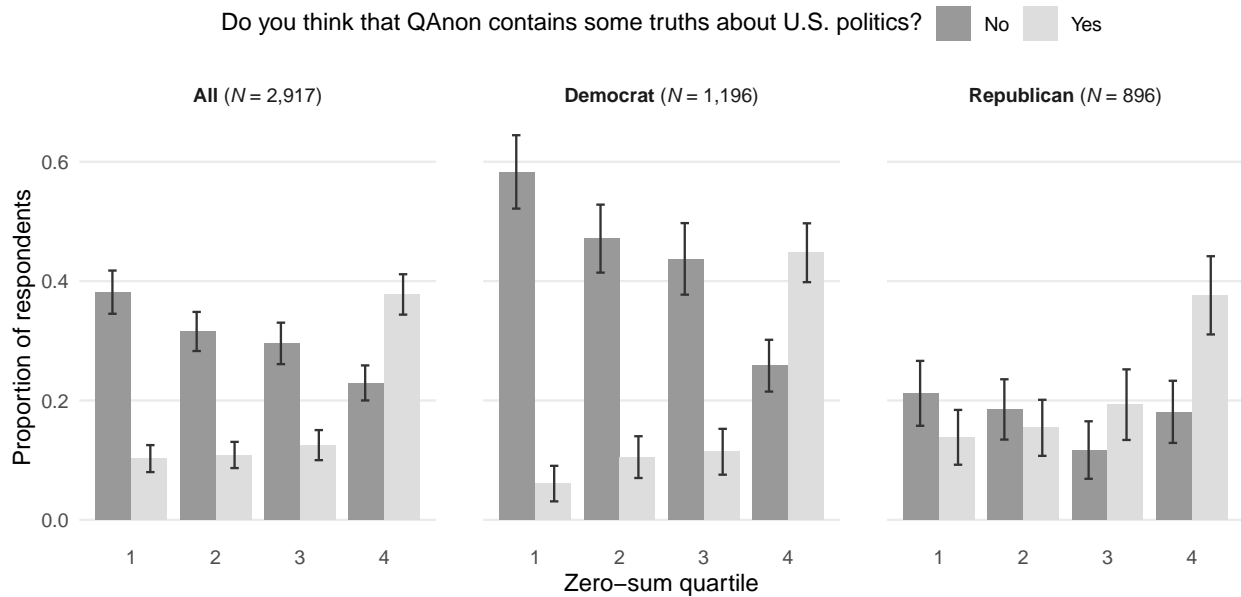


Figure 11: Zero-sum Thinking and QAnon Beliefs (February 2021)

Indeed, we find that the two are highly related. Individuals who have a more zero-sum view are more likely to believe that there is some truth in QAnon. This is shown in Figure 11, which reports the raw relationship between our zero-sum measure and the extent to which respondents think that “QAnon contains some truths about U.S. politics.” The sample of approximately 3,000 individuals was collected in February 2021, during the third wave of our survey and in the aftermath of the January 6 Capitol riots, which was a watershed moment for the QAnon movement. Figure 11 also reports results for Democrats and Republicans separately. This reveals again that for those who are the most zero-sum (4th quartile), the proportion of Democrats who think that QAnon contains some truths about U.S. politics is higher than the corresponding proportion of Republicans.

#### 4. The Historical Determinants of Zero-Sum Thinking

We now turn to the question of the determinants of zero-sum thinking.



## ***A. Key Historical Determinants of Zero-Sum Thinking: Conceptual Link and Estimation***

### *Economic mobility, immigration, and exposure to enslavement*

Focusing on factors that logically may shape zero-sum thinking, as well as those that are particularly relevant for the U.S context, we analyze economic mobility, immigration, and exposure to enslavement. One of the defining characteristics of the United States is that it was the “land of opportunity,” where rates of upward mobility were higher than in similar industrialized nations (Long and Ferrie, 2013). We expect that individuals who either experienced themselves or whose ancestors experienced upward economic mobility would have less zero-sum views today. In such historical environments with sustained economic growth, the world would have actually been less zero-sum in nature, which may have influenced perceptions for those individuals and their descendants.

Immigration is another defining feature of the United States, not only because of the economic success experienced by those who immigrated and their descendants, but also because immigrants have shaped the locations where they chose to settle (Abramitzky et al., 2014). We expect the experience of immigration to be associated with less zero-sum thinking, since immigrants typically made a better life for themselves in the United States and experienced better living conditions. In addition, since immigrants actually improved the economic standing of those around them, their success does not appear to have come at the expense of others (Sequeira et al., 2020). This perception of the sources of their economic success could have also made them view the world as less zero-sum: the United States was the land of opportunity and *anyone* could make it if they worked hard enough.

Finally, more than in other developed nations, a history of enslavement and subsequent racial tension permeates the social and political fabric of American society. Chattel slavery is an economic and social system that is nearly fully zero-sum. An enslaved individual has their resources taken by the enslaver. The enslavers and enslaved do not engage in double-sided matching or mutual agreements of exchange that create value for both parties. Given this, we expect that individuals who have ancestors that experienced enslavement or its aftermath to have views that are more zero-sum.

While enslavement is an extreme form of coercion, we might expect similar effects on zero-sum thinking for other forms of coercion. There are many examples of this throughout U.S.

history, including the internment of Japanese people during World War II, the forced displacement of Indigenous people and the placement of children in residential boarding schools, and the indentured servitude of immigrant labor. While it did not occur on U.S. soil, imprisonment during the Holocaust is another important event that is potentially relevant for the ancestors of many U.S. citizens today. We expect exposure to any of these events to also result in a more zero-sum view of the world.

*Channels of Influence: Vertical, horizontal and oblique transmission of zero-sum thinking*

An important question when examining whether historical factors affect contemporary cultural views is the mode of transmission. It is possible that one's views are shaped mostly by the cultural experiences and beliefs of one's direct ancestors, so that culture follows a vertical channel of transmission. It is also possible that individuals learn mostly from their own cohorts and the environment that they are exposed to during their formative years. This horizontal type of cultural transmission implies that the socioeconomic characteristics of one's environment will shape one's zero-sum thinking. Lastly, cultural transmission can occur through oblique channels, as individuals learn from older generations more generally, not only from their direct ancestors.

*Estimating equation*

We begin by first considering the determinants of zero-sum thinking that emerge from individuals' own experience or through vertical transmission from their ancestors.

The equations we estimate take the following form:

$$\begin{aligned} \text{Zero Sum}_i = & \beta_i \text{Respondent Experience}_i + \beta_p \text{Parents Experience}_i \\ & + \beta_{gp} \text{Grandparents Experience}_i + \mathbf{X}_i \boldsymbol{\Gamma} + \alpha_{r(i)} + \alpha_{s(i)} + \varepsilon_i \end{aligned} \quad (2)$$

where  $i$  indexes survey respondents and  $s$  indexes their state of residence. The variable  $\text{Respondent Experience}_i$  is a measure of the past experience of respondent  $i$ .  $\text{Parents Experience}_i$  and  $\text{Grandparents Experience}_i$  denote the measured experience of respondent  $i$ 's parents and grandparents respectively. Given that an individual typically has two parents and four grandparents, these measures either average across parents and grandparents or include a measure for each individual. They are intended to test for vertical transmission, namely, that experiences of ancestors have effects that are transmitted to children and can persist for multiple generations.

The vector  $\mathbf{X}_{i,c,t}$  includes the following controls: individual  $i$ 's age, age squared, an indicator for their gender, and its interaction with age and age squared, as well as an indicator for whether the respondent was born in the U.S. We also include race fixed effects  $\alpha_{r(i)}$  and state of residence fixed effects  $\alpha_{s(i)}$ .

## **B. Economic mobility**

The first factor that we consider is the extent to which a person or their ancestors experienced upward economic mobility during their lifetimes. We expect these episodes, which we can summarize as experiences living the “American Dream,” to result in a person having a less zero-sum view of the world. Particularly during the golden age of economic growth prior to the 1970s, the common perception was that economic success was possible for anyone who worked hard enough. Thus, experiencing this success could have influenced one’s view about how zero-sum the world is. These views and narratives could then be transmitted to one’s children and grandchildren.

### *Vertical effects*

We test for this by constructing measures of self-reported upward mobility experienced across generations. For each generation, we ask the following (sets of) questions:

1. **Currently:** Right now, compared with other families in America, would you say your own household income is:
2. **Parents’ household / respondent growing up:** When you were growing up (i.e. age 7-17), compared with other families in your country back then, would you say your household income was:
3. **Grandparents’ household / father growing up:** When your father was growing up (i.e. age 7-17), compared with other families in his country back then, would you say his household income was:
4. **Great-grandparents’ household / grandfather growing up:** When your paternal grandfather (father of your father) was growing up (i.e. age 7-17), compared with other families in his country back then, would you say his household income was:

Table 2: Zero-Sum Thinking and Own Ancestral Economic Mobility

	Dependent variable: Zero-sum index (0 to 1)					
	(1)	(2)	(3)	(4)	(5)	(6)
Respondent's lifetime mobility	-0.0213*** (0.0020)	-0.0216*** (0.0020)	-0.0214*** (0.0020)			
Father's lifetime mobility	-0.0275*** (0.0023)	-0.0274*** (0.0023)	-0.0273*** (0.0023)			
Grandfather's lifetime mobility	-0.0206*** (0.0028)	-0.0204*** (0.0028)	-0.0210*** (0.0027)			
Grandfather to respondent mobility				-0.0225*** (0.0017)	-0.0227*** (0.0017)	-0.0227*** (0.0017)
Demographic controls	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓
Race fixed effects			✓			✓
Observations	9,138	9,138	9,138	9,282	9,282	9,282
R <sup>2</sup>	0.088	0.096	0.106	0.086	0.094	0.103
Dependent variable mean	0.521	0.521	0.521	0.521	0.521	0.521
Dependent variable std. dev.	0.218	0.218	0.218	0.217	0.217	0.217

*Notes:* The table reports OLS estimates where the unit of observation is an individual. Mobility variables measure the change in economic standing experienced by a generation from the household in which they grew up to their household as an adult. See text for more details. Demographic controls include age and age squared and their interactions with gender indicators. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Robust standard errors are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

Respondents chose between the following options: (1) Far below average; (2) A little below average; (3) Average; (4) A little above average; (5) Far above average. Respondents could also choose "I don't know." We assign an answer to the integer values listed, constructing measures that are increasing in relative economic well-being. When responses are "I don't know," we code them as missing.

From these measures we calculate the economic mobility experienced by each generation. The respondent's experienced mobility is the difference between their current economic status and their status growing up:  $1 - 2$ . This is variable *Respondent Experience<sub>i</sub>* in equation (2). The respondent's parent's experienced mobility is the difference between their household income as an adult and when they were growing up:  $2 - 3$ . This is *Parents Experience<sub>i</sub>*. The respondent's grandparent's experienced mobility is the difference between their household income as an adult and when they were growing up:  $3 - 4$ . This is *Grandparents Experience<sub>i</sub>*.

Estimates are reported in Table 2. According to the estimates, the effect of the respondent's own mobility is of a similar magnitude to or even smaller than the effect of the mobility experienced by their parents, while the effect of the grandparent's mobility is weaker than the parent's experience.

The fact that we don't find a fully monotonic decreasing effect (like we do for immigration in the next section) is potentially explained by the fact that the effect of own experience is not exactly comparable to the parent's or grandparent's effects. This is because the respondent, depending on their age, may not yet have fully realized the upward mobility that they will experience. For this reason, we would expect the effect for our measure of own mobility to be lower than if we could control for fully realized lifetime mobility.

The final measure of mobility that we consider is a longer-run measure that looks at the difference between the respondent's economic well-being now and their paternal grandfather's household when they were growing up: 1 – 4. The estimates are reported in columns 4–6 of Table 2. For the longer-run measure, we obtain estimates consistent with those of the measures for each generation. The estimated magnitude is also very similar, which is reassuring.

Our specification includes the mobility measures from the previous generations together in the same specification. The rationale for this is that there is a mechanical relationship between the mobility measures. If mobility were high in the distant past and previous generations had high income, then mobility cannot be as high in subsequent generations. Thus, the measures will tend to be negatively correlated with one another. If the mobility measures are negatively associated with zero-sum thinking, as we find, then examining one measure while omitting others will lead to downward bias in the magnitude of the estimated effects.

To illustrate this fact, we report estimates in Table 3 where the measures are included in separate regressions. We find that the estimated effects in Table 3 are all substantially smaller in magnitude than in Table 2, consistent with a downward bias when the experiences of the full ancestry are not taken into account.

We highlight this fact for two reasons. First, the estimates we report here might still be downward biased. We only measure mobility back to the respondent's grandparents' lifetime. However, if the mobility experienced by the respondent's great-grandparents or great-great-grandparents also matters for their zero-sum thinking, then the fact that these measures are not included may bias the estimated coefficients for the mobility measures that we do include in the equation. Second, many studies have examined the experiences of a respondent and shown that they affect various cultural traits. Because of data constraints, it is not possible to examine the analogous experiences of previous generations. The findings here show that these are likely important. This highlights the contribution of our data collection effort, which includes detailed

Table 3: Zero-Sum Thinking and Own Ancestral Economic Mobility, Part II

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's lifetime mobility	-0.0117*** (0.0014)	-0.0118*** (0.0014)	-0.0114*** (0.0014)						
Father's lifetime mobility				-0.0121*** (0.0017)	-0.0120*** (0.0017)	-0.0118*** (0.0017)			
Grandfather's lifetime mobility							-0.0090*** (0.0026)	-0.0088*** (0.0026)	-0.0095*** (0.0026)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓		✓	✓
Race fixed effects			✓			✓			✓
Observations	13,888	13,888	13,888	12,162	12,162	12,162	9,200	9,200	9,200
R <sup>2</sup>	0.052	0.059	0.070	0.057	0.065	0.076	0.066	0.074	0.086
Dependent variable mean	0.505	0.505	0.505	0.508	0.508	0.508	0.521	0.521	0.521
Dependent variable std. dev.	0.207	0.207	0.207	0.212	0.212	0.212	0.217	0.217	0.217

Notes: The table reports OLS estimates where the unit of observation is an individual. Mobility variables measure the change in economic standing experienced by a generation from the household in which they grew up to their household as an adult. See text for more details. Demographic controls include age and age squared and their interactions with gender indicators. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Robust standard errors are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

ancestral measures.

#### *Horizontal and oblique effects*

To this point, our analysis has centered on vertical transmission, where the direct experience of one's ancestors affects their views. However, it is possible that the experience of someone from the previous generation could affect the respondent even if they have no family ties. For example, the mobility experienced by the respondent's parents' cohort could impact the respondent. They could have affected the views of the respondent during their childhood (oblique transmission) or they could have affected the views of the respondent's parents (horizontal transmission), and the parents could have then transmitted these to the respondent (vertical transmission).

We estimate these effects with equation (2), but using experience measures (respondent, parents, and grandparents) that reflect the broader environment in which they live rather than their individually-specific experiences. Rather than measuring upward mobility of the respondent, their parents, and their grandparents, we use the economic conditions in the counties where the respondent, their parents, and their grandparents grew up.

To measure the economic conditions experienced by a person or their ancestor in their formative years, we calculate the average level of the unemployment rate in the county where they grew up over that period. Specifically, for respondents, we use the average unemployment rate in the

county where they spent ages 10 to 19 over those years, and for their parents and grandparents, we use the average unemployment rate in the county where they “primarily grew up” (ages 7 to 17) over those years. Unemployment data is from the decennial Census for 1940, 1950, and 1970 and from the Bureau of Labor Statistics annually from 1976 to 2021, and is linearly interpolated between years within each county.<sup>4</sup>

To calculate the average unemployment levels, we need to know each individual’s year of birth. Since we only asked about ancestors’ years of birth in waves 4 and 5 of our survey (and because respondents do not always complete these questions ), for much of our sample we predict the ancestors’ years of birth. We do this for about 62% of parents and about 70% of grandparents.<sup>5</sup> The imputation is done using a linear regression of, for example, the respondent’s father’s year of birth on a series of fixed effects for: the respondent’s year of birth (in 5-year bins), whether they were born in the United States, their gender, race, education, household income, marital status, whether their parents are or were divorced, whether their father was born in the United States, and their father’s education. We estimate this regression for the sample in which the respondent directly reported their father’s year of birth. Then, we use the regression to predict a father’s year of birth for respondents for which the year of birth is unknown. We follow this same procedure for all ancestors. In all subsequent regressions that use year of birth information, we include controls for whether the ancestor or ancestors’ years of birth are predicted.

We then estimate a version of equation (2) using the ancestral county-level unemployment measures. Estimates are reported in Table 4. For the respondent’s county, we find that unemployment is associated with beliefs that are more zero-sum. The estimated coefficients are positive and significant at conventional levels. We do not see the same relationships when we examine county unemployment rates of the parents or grandparents. However, our sample size is smaller, particularly for grandparents. Thus, it is difficult to know if the unemployment experience in the counties of one’s parents or grandparents is unimportant, or whether these regressions are underpowered. In addition, because we impute year of birth and rely on decadal data prior to 1976, our unemployment measures for parents and grandparents might be imprecise.

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<sup>4</sup>We thus drop observations for individuals whose ancestors grew up before 1940.

<sup>5</sup>We recode as missing a parent’s year of birth as reported by the respondent if it is less than 12 years before or more than 80 years after the respondent’s year of birth. Likewise, we recode as missing a grandparent’s year of birth as reported by the respondent if it is less than 24 years before or more than 160 years after the respondent’s year of birth.

Table 4: Zero-Sum Thinking and Early Life County Unemployment

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county unemp.	0.2620*** (0.0843)	0.2831*** (0.0901)	0.2389*** (0.0901)						
Parents' counties unemp.				-0.0387 (0.0800)	-0.0277 (0.0828)	-0.0377 (0.0825)			
Grandparents' counties unemp.							0.0407 (0.0994)	0.0419 (0.1058)	0.0488 (0.1046)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓		✓	✓
Race fixed effects			✓			✓			✓
Observations	12,997	12,997	12,997	8,680	8,680	8,680	2,616	2,616	2,616
R <sup>2</sup>	0.040	0.047	0.058	0.035	0.046	0.056	0.023	0.051	0.064
Num. clusters	9,324	9,324	9,324	8,368	8,368	8,368	2,616	2,616	2,616
Dependent variable mean	0.501	0.501	0.501	0.521	0.521	0.521	0.531	0.531	0.531
Dependent variable std. dev.	0.202	0.202	0.202	0.206	0.206	0.206	0.203	0.203	0.203

*Notes:* The table reports OLS estimates where the unit of observation is an individual. County unemployment rates are averages for the county where the respondent lived from ages 10 to 19 (over those years), and for the counties where their parents or grandparents lived from ages 7 to 17 (over those years). Regressions using ancestors' counties include fixed effects for whether the ancestor's year of birth was reported directly by the respondent or predicted. County unemployment rates are from the decennial Census for 1940, 1950, and 1970 (and are linearly interpolated between these years and between 1970 and 1976) and from the Bureau of Labor Statistics annually from 1976 to 2021. All regressions include fixed effects for the source of the unemployment data. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the interaction of the relevant county or counties and the respondent or their ancestors' years of birth, and are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.



### *C. Immigration*

The next factor that we consider is also particularly salient for the United States: immigration. We measure an individual's immigration history over multiple generations, inferring immigration by looking at location of birth. For example, if a person resides in the U.S. (which is a requirement of our survey) but was born outside of the U.S., we infer that they are an immigrant. Similarly, if a person was born in the U.S., but at least one of their parents was born outside of the U.S., then we infer their parent(s) immigrated. If an individual was born in the U.S., and their parent was born in the U.S. but at least one grandparent was born outside of the U.S., then we infer that the grandparent(s) immigrated. In this way, we are able to observe immigration into the United States over three generations.

#### *Vertical effects*

Estimates of equation (2) with immigration as the independent variable of interest are reported in Table 5. In all specifications, we include the measure of whether the respondent themselves is an immigrant, defined as whether they were born outside of the U.S. In columns 1–3, we also include an indicator that equals one if at least one of the parents was an immigrants, and in columns 4–5, we additionally include an indicator that equals one if at least one grandparent was an immigrant.

We find that an individual's own experience matters. If a respondent was born outside the U.S., then they tend to have a less zero-sum view of the world. This is consistent with the idea that immigration to a high-income country is a life-changing event that makes the individual better off with no obvious detriment to others. We expect that this would make a person's views less zero-sum.

We find that the estimate of  $\beta_i$  ranges from  $-0.041$  to  $-0.047$ , which is equal to about 20% of the standard deviation and 9% of the mean. We expect the effect of parents' immigration to be smaller than one's own experience since it is unlikely that any effects are then perfectly transmitted to children. This is exactly what we find. In all specifications, the estimated effect of the parents,  $\beta_p$ , is negative and significant and about 70 to 85% the size of the individual's own effect. We see further decay of effects when we examine the grandparents' immigration experience. The estimated effect,  $\beta_{gp}$ , is negative and range from  $-0.003$  to  $-0.007$ , which is

Table 5: Zero-Sum Thinking and Immigration

	Dependent variable: Zero-sum index (0 to 1)					
	(1)	(2)	(3)	(4)	(5)	(6)
Respondent immigrated	-0.0461*** (0.0066)	-0.0468*** (0.0067)	-0.0411*** (0.0076)	-0.0460*** (0.0068)	-0.0472*** (0.0070)	-0.0414*** (0.0079)
Parent immigrated	-0.0337*** (0.0054)	-0.0344*** (0.0055)	-0.0315*** (0.0060)	-0.0371*** (0.0057)	-0.0385*** (0.0058)	-0.0351*** (0.0064)
Grandparent immigrated				-0.0074 (0.0051)	-0.0069 (0.0052)	-0.0030 (0.0052)
Demographic controls	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓
Race fixed effects			✓			✓
Observations	14,349	14,349	14,349	13,251	13,251	13,251
R <sup>2</sup>	0.051	0.057	0.067	0.052	0.059	0.069
Dependent variable mean	0.506	0.506	0.506	0.504	0.504	0.504
Dependent variable std. dev.	0.207	0.207	0.207	0.208	0.208	0.208

*Notes:* The table reports OLS estimates where the unit of observation is an individual. Since all respondents are in the U.S. when surveyed, we define “Respondent immigrated” as an indicator equal to one if the respondent was born outside the United States. “Parent immigrated” is an indicator equal to one if the respondent was born in the U.S. and at least one of their parents was born outside the U.S. This variable is missing, and hence the respondent is not included in the regression, if they indicated that they do not know whether either of their parents was born in the U.S. “Grandparent immigrated” is an indicator equal to one if the respondent was born in the U.S. and either (1) their father was born in the U.S. and at least one paternal grandparent was born outside the U.S., or (2) their mother was born in the U.S. and at least one maternal grandparent was born outside the U.S. This variable is missing, and hence the respondent is not included in the regression, if they indicated that they do not know where any of their four grandparents were born. Demographic controls include age and age squared and their interactions with gender indicators. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent’s current state of residence. Robust standard errors are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

Table 6: Zero-Sum Thinking and Immigration, Variables Included Individually

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent immigrated	-0.0429*** (0.0066)	-0.0425*** (0.0067)	-0.0321*** (0.0073)						
Parent immigrated				-0.0298*** (0.0054)	-0.0294*** (0.0055)	-0.0222*** (0.0058)			
Grandparent immigrated							0.0015 (0.0050)	0.0031 (0.0050)	0.0052 (0.0050)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓		✓	✓
Race fixed effects			✓			✓			✓
Observations	14,432	14,432	14,432	14,349	14,349	14,349	13,260	13,260	13,260
R <sup>2</sup>	0.047	0.053	0.063	0.048	0.054	0.065	0.046	0.053	0.065
Dependent variable mean	0.506	0.506	0.506	0.506	0.506	0.506	0.504	0.504	0.504
Dependent variable std. dev.	0.207	0.207	0.207	0.207	0.207	0.207	0.208	0.208	0.208

Notes: The table reports OLS estimates where the unit of observation is an individual. Since all respondents are in the U.S. when surveyed, we define “Respondent immigrated” as an indicator equal to one if the respondent was born outside the United States. “Parent immigrated” is an indicator equal to one if the respondent was born in the U.S. and at least one of their parents was born outside the U.S. This variable is missing, and hence the respondent is not included in the regression, if they indicated that they do not know whether either of their parents was born in the U.S. “Grandparent immigrated” is an indicator equal to one if the respondent was born in the U.S. and either (1) their father was born in the U.S. and at least one paternal grandparent was born outside the U.S., or (2) their mother was born in the U.S. and at least one maternal grandparent was born outside the U.S. This variable is missing, and hence the respondent is not included in the regression, if they indicated that they do not know where any of their four grandparents were born. Demographic controls include age and age squared and their interactions with gender indicators. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent’s current state of residence. Robust standard errors are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

about 15% of the magnitude of the parents’ effect and 10% of the own effect. In all, we find strong evidence that ancestral migration is associated with less zero-sum thinking and that the effects decay over time so that a more recent history of immigration has a larger effect.

As with ancestral mobility, the measures of ancestral immigration for different generations are mechanically related. If any generation immigrates to the U.S., subsequent generations, who are U.S. born, cannot be immigrants. If immigration leads to less zero-sum thinking, this negative relationship between the measures will lead to estimates that are biased towards zero. To be as thorough as possible, we also report specifications with the measures included one at a time in Table 6. We obtain similar estimates, although, as expected and as was the case for mobility, the point estimates are smaller in magnitude.

#### *Horizontal and oblique effects*

Following the strategy in the previous section, we next use experience measures that reflect the respondent and their ancestors’ environments. Rather than measuring whether the respondent,

Table 7: Zero-Sum Thinking and County Foreign Share 1860-1920

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county foreign share	-0.0206 (0.0241)	0.0060 (0.0220)	0.0039 (0.0219)						
Parents' counties foreign share				-0.0637*** (0.0221)	-0.0640*** (0.0207)	-0.0460** (0.0204)			
Grandparents' counties foreign share							-0.0751*** (0.0211)	-0.0834*** (0.0219)	-0.0551** (0.0221)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓		✓	✓
Race fixed effects			✓			✓			✓
Observations	12,566	12,566	12,566	11,243	11,243	11,243	8,766	8,766	8,766
R <sup>2</sup>	0.039	0.046	0.057	0.045	0.052	0.064	0.047	0.057	0.068
Num. clusters	1,735	1,735	1,735	5,824	5,824	5,824	6,731	6,731	6,731
Dependent variable mean	0.501	0.501	0.501	0.503	0.503	0.503	0.506	0.506	0.506
Dependent variable std. dev.	0.202	0.202	0.202	0.204	0.204	0.204	0.207	0.207	0.207

Notes: The table reports OLS estimates where the unit of observation is an individual. "Foreign share" refers to the proportion of individuals in a county who were born outside of the U.S., averaged over the 1860 to 1920 period. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for parents and grandparents. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the relevant county or counties and are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

their parents, and their grandparents were first-generation immigrants, we consider the extent to which the counties where the respondent and their ancestors grew up had populations of first-generation immigrants, measured as the share of people who were foreign-born in each county.

We begin by focusing on the most important episode of immigration in the recent history of the United States: the "Age of Mass Migration." Following Sequeira et al. (2020), we measure the intensity of immigrant settlement during the Age of Mass Migration with the share of the population of a county that is foreign-born, averaged over each decadal census from 1860 to 1920.

Estimates of equation (2) are reported in Table 7. Columns 1–3 report estimates where the independent variable of interest is the intensity of immigrant settlement during the Age of Mass Migration in the county where the respondent grew up. Columns 4–6 report estimates for the same measure, averaged over the counties where the respondent's father and mother grew up, and columns 7–8 report estimates for the average of the respondent's grandparents' counties.

We find a connection between zero-sum thinking and the share of immigrants during the Age of Mass Migration for the respondent's parents' and grandparents' locations, but not for their own location. The estimated coefficients for the respondent's ancestors are negative and significant,

Table 8: Zero-Sum Thinking and County Foreign Share 1860-1920, With Immigrant Generation Controls

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county foreign share	0.0039 (0.0219)	0.0096 (0.0224)	0.0149 (0.0227)						
Parents' counties foreign share				-0.0460** (0.0204)	-0.0416** (0.0207)	-0.0442** (0.0225)			
Grandparents' counties foreign share							-0.0551** (0.0221)	-0.0545** (0.0221)	-0.0532** (0.0225)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Race fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
2nd generation immigrant		✓	✓	✓	✓	✓	✓	✓	✓
3rd generation immigrant			✓			✓			✓
Observations	12,566	12,508	11,553	11,243	11,241	10,518	8,766	8,764	8,764
R <sup>2</sup>	0.057	0.059	0.060	0.064	0.065	0.066	0.068	0.068	0.068
Num. clusters	1,735	1,735	1,696	5,824	5,824	5,579	6,731	6,730	6,730
Dependent variable mean	0.501	0.501	0.499	0.503	0.503	0.501	0.506	0.505	0.505
Dependent variable std. dev.	0.202	0.202	0.203	0.204	0.204	0.205	0.207	0.207	0.207

Notes: The table reports OLS estimates where the unit of observation is an individual. "Foreign share" refers to the proportion of individuals in a county who were born outside of the U.S., averaged over the 1860 to 1920 period. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for parents and grandparents. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the relevant county or counties and are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

suggesting that a larger presence of immigrants is associated with less zero-sum thinking. This finding dovetails nicely with the finding that having immigrant ancestors is associated with less zero-sum thinking. The findings are consistent with immigrant presence in a county being associated with less zero-sum thinking among others in the county.

We check the sensitivity of these findings by examining the historical immigrant settlement measure for the respondent's father and paternal grandfather, rather than both parents and all grandparents. The estimates, which are reported in Appendix Table A7, are very similar. We also check the robustness of the estimates to using 1920, the last decade of the Age of Mass Migration, rather than an average over all decades. Immigrant settlement during this period is arguably a good measure of the immigrant flow during the Age of Mass Migration. Appendix Table A9 shows that we obtain very similar estimates in this case.

We next turn to a better understanding of the mechanisms. Since immigrants often choose to live where there are other immigrants, it is possible that our findings reflect vertical transmission of the effects of ancestral immigration to the respondent. To examine this possibility and better

disentangle the different transmission mechanisms, we estimate the specifications including the measures of whether the respondent's own ancestors were immigrants. The estimates are reported in Table 8.<sup>6</sup> We find that our estimated effects of ancestors' locations are very similar when we control for whether the respondent's ancestors were immigrants themselves. The estimates are almost the same magnitude and remain statistically significant. This suggests that the relationship is not just because the immigrant share in a county is correlated with the respondent's ancestors being immigrants themselves. This is consistent with horizontal transmission of non-zero-sum beliefs from immigrants to those around them, and the subsequent vertical transmission of those values down to the respondent.

#### **D. *Enslavement***

##### *Vertical effects*

The final factor that we consider, which is also important given the U.S. historical context, is enslavement. Because of its close ties with race, we begin by examining the relationship between race and zero-sum thinking. We thus estimate a variant of equation (2) where the independent variables of interest are indicator variables for the race of the respondent. The estimated coefficients are reported in Table 9, where the omitted racial category is "European American/White." The estimates show clearly that Black individuals are more zero-sum than individuals of any other race. Hispanic/Latino respondents are slightly more zero-sum than white respondents and Asian/Asian American respondents are even less zero-sum than white respondents. Indigenous people and anyone listing another race are about equally as zero-sum as white respondents.

Race is highly correlated with other factors that might affect one's zero-sum view of the world, including educational attainment, income, and where one lives. For this reason, we sequentially add these covariates to the regressions to assess the stability of the racial differences. In general, the coefficients remain robust, particularly the coefficient for Black individuals. The estimate for the fully saturated specification (column 5) is nearly identical to that of the most parsimonious specification (column 1).

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<sup>6</sup>Estimates for the specification where we consider the father and paternal grandfathers specifically are reported in Appendix Table A8.

Table 9: Zero-Sum Thinking and Race

	Dependent variable: Zero-sum index (0 to 1)				
	(1)	(2)	(3)	(4)	(5)
African American/Black	0.0695*** (0.0056)	0.0669*** (0.0058)	0.0666*** (0.0058)	0.0629*** (0.0058)	0.0613*** (0.0074)
American Indian or Alaska Native	0.0074 (0.0231)	0.0049 (0.0232)	0.0047 (0.0230)	0.0017 (0.0229)	0.0290 (0.0276)
Asian/Asian American	-0.0219*** (0.0074)	-0.0215*** (0.0078)	-0.0191** (0.0078)	-0.0188** (0.0078)	-0.0222** (0.0112)
Hispanic/Latino	0.0058 (0.0062)	0.0045 (0.0065)	0.0047 (0.0065)	0.0027 (0.0065)	-0.0048 (0.0085)
Native Hawaiian or Other Pacific Islander	-0.0586* (0.0343)	-0.0535 (0.0359)	-0.0516 (0.0362)	-0.0558 (0.0363)	-0.0396 (0.0408)
Other race	-0.0078 (0.0114)	-0.0079 (0.0114)	-0.0096 (0.0113)	-0.0112 (0.0114)	-0.0146 (0.0134)
Demographic controls	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓
State fixed effects		✓	✓	✓	✓
Education fixed effects			✓	✓	✓
Household income fixed effects				✓	✓
Birth town fixed effects					✓
Observations	14,432	14,432	14,432	14,430	13,382
R <sup>2</sup>	0.059	0.063	0.068	0.070	0.283
Dependent variable mean	0.506	0.506	0.506	0.506	0.509
Dependent variable std. dev.	0.207	0.207	0.207	0.207	0.206

Notes: The table reports OLS estimates where the unit of observation is an individual. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. State fixed effects refer to the respondent's current state of residence. Robust standard errors are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

The data show that Black Americans have a much more zero-sum view of the world. A natural explanation for this is that the ancestors of Black Americans were often enslaved individuals. Slavery was a relationship between enslavers and enslaved people that was fully zero-sum. Therefore, we expect a history of coercive relationships of this nature to be associated with more zero-sum views today.<sup>7</sup>

To further understand this issue, in the survey, we asked respondents if any of their ancestors had been enslaved and, if they had, to describe who. The forms of enslavement that respondents considered are broader than chattel slavery and include imprisonment and internment during war, concentration camps during the Holocaust, and forced reservation of Indigenous peoples.

We estimate a version of equation (2) where the independent variable of interest is an indicator that equals one if the respondent indicates that at least one of their ancestors was enslaved in some manner.

The estimates are reported in Table 10. To account for the racial differences described previously, we include race fixed effects, and in the even-numbered columns, we include state fixed effects. Columns 1 and 2 report estimates for the full sample. We see a strong positive relationship that is highly significant. In columns 3–8, we report estimates for three groups: (1) Black people only, (2) white only, and (3) Hispanic/Latino, Indigenous, Asian/Asian American, and individuals of another race. We estimate positive and significant coefficients for all three groups.

Our findings show an interesting pattern. Black Americans appear to have the highest levels of zero-sum thinking and a possible explanation for this is the history of enslavement experienced by this group. However, when we examine this specifically, the marginal effect of enslavement is highest for groups other than Black Americans. Although there are multiple explanations for this, one is that slavery led to pervasive racism and institutional biases such that all Black Americans have been affected by the United States's history of enslavement – not just those whose ancestors were directly enslaved.

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<sup>7</sup>We also see that Asians and Asian Americans tend to be much less zero sum. This is consistent with the fact that historically these societies tended to engage in wet rice cultivation, an activity that required extensive coordination and cooperation within a local area (Nisbett, 2003). Thus, for these societies, the historical environment may have been much less zero-sum, with extensive gains from cooperation.



Table 10: Zero-Sum Thinking and Ancestral Enslavement

<i>Mean enslaved indicator</i>	Dependent variable: Zero-sum index (0 to 1)							
	Full sample		Black only		Latino, Indig., Asian, other		White only	
	0.091		0.374		0.072		0.051	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Enslaved ancestor indicator	0.0860*** (0.0071)	0.0867*** (0.0071)	0.0098 (0.0101)	0.0119 (0.0102)	0.0633*** (0.0167)	0.0639*** (0.0170)	0.1554*** (0.0112)	0.1563*** (0.0112)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓
Race fixed effects	✓	✓	N/A	N/A	N/A	N/A	N/A	N/A
State fixed effects		✓		✓		✓		✓
Observations	14,432	14,432	1,640	1,640	2,746	2,746	10,046	10,046
R <sup>2</sup>	0.071	0.076	0.016	0.046	0.033	0.049	0.092	0.099
Dependent variable mean	0.506	0.506	0.566	0.566	0.498	0.498	0.498	0.498
Dependent variable std. dev.	0.207	0.207	0.195	0.195	0.204	0.204	0.208	0.208

*Notes:* The table reports OLS estimates where the unit of observation is an individual. The “enslaved ancestor” indicator is one if the respondent reports having an ancestor who was enslaved at any point during the ancestor’s lifetime. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. State fixed effects refer to the respondent’s current state of residence. Robust standard errors are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

Next, we examine effects of slavery beyond the direct effect of descending from ancestors who were enslaved.

#### *Horizontal and oblique effects*

We now turn to the question of whether the environment in which a respondent’s ancestors grew up also matters. Rather than measuring whether the respondent’s ancestors were enslaved, we measure the extent to which the counties where the respondent, their parents, and their grandparents grew up relied on enslaved labor during the antebellum period, as measured by the share of the total population that was enslaved in 1860. In doing this, we focus specifically on enslavement of African Americans, the largest episode of enslavement in U.S. history.

Table 11 reports estimates of the association between the 1860 share enslaved in the county where the respondent grew up and their degree of zero-sum thinking today. Column 1 reports estimates with only the demographic controls and survey wave fixed effects. In column 2, we add race fixed effects, and in column 3 we add state of residence fixed effects. We find that growing up in a county that had a larger share of enslaved people tends to be associated with more zero-sum views today. All estimates are positive and significant at conventional levels.

We also report similar estimates measuring the historical prevalence of enslavement in the

Table 11: Zero-Sum Thinking and Growing Up in Counties With Historical Enslavement

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county enslaved share	0.0514*** (0.0129)	0.0582*** (0.0157)	0.0372** (0.0156)						
Parents' counties enslaved share				0.0784*** (0.0127)	0.0901*** (0.0148)	0.0484*** (0.0153)			
Grandparents' counties enslaved share							0.0781*** (0.0140)	0.0931*** (0.0158)	0.0411** (0.0169)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓		✓	✓
Race fixed effects			✓			✓			✓
Observations	13,118	13,118	13,118	11,579	11,579	11,579	9,003	9,003	9,003
R <sup>2</sup>	0.040	0.046	0.057	0.048	0.056	0.065	0.050	0.059	0.069
Num. clusters	1,836	1,836	1,836	5,972	5,972	5,972	6,899	6,899	6,899
Dependent variable mean	0.501	0.501	0.501	0.504	0.504	0.504	0.507	0.507	0.507
Dependent variable std. dev.	0.202	0.202	0.202	0.204	0.204	0.204	0.208	0.208	0.208

*Notes:* The table reports OLS estimates where the unit of observation is an individual. "Enslaved share" refers to the proportion of individuals in a county who were enslaved according to the 1860 Census. Counties in non-slave states or in states that did not exist in 1860 are coded as having zero enslaved share. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for parents and grandparents. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the relevant county or counties and are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

counties where the respondent's parents grew up (column 4–6) and their grandparents grew up (columns 7–9). We observe the same pattern for the respondent's ancestors. The share of enslaved people in 1860 in the counties where the respondent's parents and grandparents grew up tends to be positively correlated with zero-sum thinking today.

In the preceding analysis, we use averages of the county-level share of enslaved people for the respondent's two parents or four grandparents. To check the sensitivity of our findings, we also examine the shares of enslaved people in the counties of the respondent's father and paternal grandfather. As we report in Table 12, we obtain very similar estimates.

We now examine these estimates by the respondent's race. For those descended from African Americans the ancestral treatment is very different from those descended, for example, from ancestors who were white. We examine this in Table 13 by re-estimating the specification with all covariates, including state fixed effects. We report estimates for white individuals, Black individuals, and for all others, which includes Hispanic/Latino, Asian/Asian American, Indigenous, and other groups. We find that the estimates are largest for respondents who are white and we do not find effects for other groups. An important caveat is that this racial group is by far the largest in our sample. With this in mind, the estimates reported in columns 1–3 suggest that among

Table 12: Zero-Sum Thinking and Growing Up in Counties With Historical Enslavement, Part II

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county enslaved share	0.0514*** (0.0129)	0.0582*** (0.0157)	0.0372** (0.0156)						
Father's county enslaved share				0.0655*** (0.0140)	0.0684*** (0.0162)	0.0309* (0.0168)			
Grandfather's county enslaved share							0.0556*** (0.0166)	0.0727*** (0.0190)	0.0352* (0.0197)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓		✓	✓
Race fixed effects			✓			✓			✓
Observations	13,118	13,118	13,118	10,354	10,354	10,354	6,418	6,418	6,418
R <sup>2</sup>	0.040	0.046	0.057	0.049	0.057	0.067	0.057	0.071	0.081
Num. clusters	1,836	1,836	1,836	1,984	1,984	1,984	1,762	1,762	1,762
Dependent variable mean	0.501	0.501	0.501	0.504	0.504	0.504	0.514	0.514	0.514
Dependent variable std. dev.	0.202	0.202	0.202	0.206	0.206	0.206	0.213	0.213	0.213

*Notes:* The table reports OLS estimates where the unit of observation is an individual. “Enslaved share” refers to the proportion of individuals in a county who were enslaved according to the 1860 Census. Counties in non-slave states or in states that did not exist in 1860 are coded as having zero share enslaved. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for fathers and paternal grandfathers. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent’s current state of residence. Standard errors are clustered by the relevant county and are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

individuals who are Black, their degree of zero-sum thinking is not associated with the share of enslaved people in the places where their ancestors grew up. This finding echoes that of Tables 9 and 10, which show that although Black people exhibit more zero-sum thinking on average than all other racial groups, for them, a history of enslavement is not strongly predictive of zero-sum thinking. A plausible interpretation is that Black Americans faced such a wide range of forms of coercion and discrimination beyond enslavement that enslavement per se has little effect on zero-sum thinking. In short, forces that generated zero-sum thinking among Black people have been ubiquitous in U.S. history. The findings here can be rationalized by the same explanation.

Columns 7–9 show that white individuals who have ancestors who grew up in counties with high levels of enslavement are more zero-sum today. White people were not enslaved in the same manner as Black people in the U.S. South. However, they were sometimes owners of enslaved people. They participated in the zero-sum institution of slavery but on the other side of the relationship; therefore, we expect to find effects for white respondents. These findings also echo the previously-documented importance of historical enslavement for explaining racist attitudes among white Americans from the U.S. South (Acharya et al., 2016, 2018).

We dig further into the correlations for white descendants in Table 14, where we divide the

Table 13: Zero-Sum Thinking and Growing Up in Counties With Historical Enslavement: Estimated Effects by Race of Respondent

	Dependent variable: Zero-sum index (0 to 1)								
	Black			Latino, Indigen., Asian, other			White		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county enslaved share	-0.0102 (0.0267)			-0.0297 (0.0461)			0.0634*** (0.0212)		
Father's county enslaved share		-0.0215 (0.0254)			-0.0046 (0.0566)			0.0542** (0.0227)	
Grandfather's county enslaved share			0.0105 (0.0313)			0.0608 (0.0759)			0.0511* (0.0266)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Observations	1,501	1,137	689	2,231	1,106	538	9,386	8,111	5,191
R <sup>2</sup>	0.045	0.067	0.113	0.048	0.064	0.108	0.063	0.071	0.088
Num. clusters	460	481	360	554	409	291	1,672	1,762	1,548
Dependent variable mean	0.562	0.567	0.570	0.499	0.511	0.526	0.492	0.494	0.505
Dependent variable std. dev.	0.195	0.197	0.207	0.197	0.198	0.206	0.203	0.207	0.213

Notes: The table reports OLS estimates where the unit of observation is an individual. "Enslaved share" refers to the proportion of individuals in a county who were enslaved according to the 1860 Census. Counties in non-slave states or in states that did not exist in 1860 are coded as having zero share enslaved. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for fathers and paternal grandfathers. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the relevant county and are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

sample into individuals who are currently living (or not) in the 15 states where in the antebellum period enslavement of Black people was legal and commonly practiced.<sup>8</sup> The estimates show clearly that the effects we estimate are only found for individuals who are currently living in states that historically allowed the enslavement of others. Consistent with our prior estimates, although Black Americans have high levels of zero-sum thinking, the biggest marginal effect of a history of more enslavement is not for this group. Instead it is for white Americans. This is consistent with our explanation of the history of U.S. slavery having affected all Black Americans no matter the details of their ancestry, including their history of enslavement or whether they lived in a county with high levels of enslavement during the antebellum period.

<sup>8</sup>These include Delaware, Georgia, Maryland, South Carolina, Virginia, North Carolina, Kentucky, Tennessee, Louisiana, Mississippi, Alabama, Missouri, Arkansas, Florida, and Texas.

Table 14: Zero-Sum Thinking and Growing Up in Counties With Historical Enslavement: Estimated Effects for White Respondents by Whether Respondent's State Had Legal Enslavement

	Dependent variable: Zero-sum index (0 to 1)					
	States without enslavement			States with enslavement		
	(1)	(2)	(3)	(4)	(5)	(6)
Respondent's county enslaved share	0.0186 (0.0538)			0.0691*** (0.0224)		
Father's county enslaved share		-0.0011 (0.0489)			0.0594** (0.0251)	
Grandfather's county enslaved share			-0.1200* (0.0655)			0.0781*** (0.0279)
Demographic controls	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓
State fixed effects	✓	✓	✓	✓	✓	✓
Observations	5,968	5,113	3,163	3,418	2,998	2,028
R <sup>2</sup>	0.061	0.068	0.088	0.070	0.082	0.100
Num. clusters	1,092	1,148	981	1,050	1,102	917
Dependent variable mean	0.490	0.491	0.505	0.494	0.498	0.504
Dependent variable std. dev.	0.202	0.205	0.210	0.206	0.210	0.217

Notes: The table reports OLS estimates where the unit of observation is an individual. The sample is restricted to white respondents only. "States with enslavement" restricts the sample to respondents who currently live in a state that formerly had legal enslavement: Delaware, Georgia, Maryland, South Carolina, Virginia, North Carolina, Kentucky, Tennessee, Louisiana, Mississippi, Alabama, Missouri, Arkansas, Florida, and Texas. "Share enslaved" refers to the proportion of individuals in a county who were enslaved according to the 1860 Census. Counties in non-slave states or in states that did not exist in 1860 are coded as having zero share enslaved. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for fathers and paternal grandfathers. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the relevant county and are reported in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

## 5. Conclusion

We have examined the causes and consequences of a zero-sum psychology, defined as the extent to which one presumes, either subconsciously or consciously, that gains for one person or group must come at the expense of others. Our analysis relies on a survey that we implemented among approximately 15,000 U.S. respondents, measuring the extent to which they view the world in zero-sum terms, their political views, policy preferences, and rich information about the characteristics of their ancestors.

The first part of the paper documents a strong and robust relationship between zero-sum thinking and views about politics and policy. Individuals who view the world in more zero-sum terms tend to believe there is an important role for policies that redistribute income from the rich to the poor. This includes direct policies like redistribution through taxation, but also less direct policies like universal income and affirmative action for women and Black Americans. Zero-sum thinking is also associated with more liberal economic policies and a political alignment with the Democratic Party rather than the Republican Party.

We demonstrate the importance of understanding zero-sum thinking by showing how it is linked empirically to important political crises recently experienced in the United States. Specifically, we find that individuals who view the world in zero-sum terms are more likely to believe that the conspiracy theory QAnon holds some truth for U.S. politics. This is explained by the fact that QAnon theories are almost exclusively narratives that are zero-sum in nature, centering around a group of wealthy elites who are enriching themselves at the expense of less wealthy individuals across the world. We also find that zero-sum thinking is linked with greater empathy and understanding for those involved in the January 6, 2021 attack on the U.S. Capitol Building, an act that is more justifiable and seen as less harmful if one presumes the world is zero-sum (rather than negative sum). Both correlations are found even conditioning on fine-grained political affiliation (and strength) fixed effects. Importantly, they are also found if one looks at individuals within the same political party.

Additional analyses show that the link between these outcomes and a zero-sum mindset is not because zero-sum thinking is correlated with other commonly identified cultural, political and psychological traits, such as beliefs in the link between hard work and success, moral universalism, perceptions of mobility, or beliefs in the importance of tradition.

Having examined the relationship between zero-sum thinking and one's views about politics, policy, and social issues, we turn to the roots of zero-sum thinking. We examine three factors which are key when thinking about the United States: economic mobility, immigration, and enslavement. We find each to be an important determinant of zero-sum thinking. In addition, we find that zero-sum thinking can be traced to the experiences of an individual's ancestors (parents, grandparents, and great-grandparents). Respondents view the world as less zero-sum if they, their parents, and their grandparents experienced more upward mobility during their lifetimes. Individuals tend to be less zero-sum if they, their parents, or their grandparents immigrated to the United States. In both cases, we find that the effects are larger for more recent generations.

The last factor that we consider is a history of enslavement. Individuals who are Black exhibit more zero-sum thinking. In addition, individuals who report having ancestors who were enslaved are also more zero-sum, including individuals who have ancestors who were from Africa and enslaved in the U.S. South, but also ancestors who were interned in the U.S. during World War II, imprisoned during the Holocaust in Europe, were forcibly removed from Indigenous lands in the U.S., or migrated to the U.S. as indentured laborers.

Overall, our findings underscore the importance of measuring psychological traits and how they are transmitted inter-generationally, in order to better understand the non-partisan roots of important policy divides.

## References

- Abramitzky, Ran, Leah Platt Boustan, and Katherine Eriksson**, "A Nation of Immigrants: Assimilation and Economic Outcomes in the Age of Mass Migration," *Journal of Political Economy*, 2014, 122 (3), 467–506.
- Acharya, Avidit, Matthew Blackwell, and Maya Sen**, "The Political Legacy of American Slavery," *Journal of Politics*, 2016, 78 (3), 621–641.
- , —, and —, *Deep Roots: How Slavery Still Shapes Southern Politics*, Princeton: Princeton University Press, 2018.
- Alesina, Alberto and Edward Glaeser**, *Fighting Poverty in the U.S. and Europe: A World of Difference*, New York: Oxford University Press, 2004.
- and **Nicola Fuchs-Schündeln**, "Good-bye Lenin (or not?): The effect of communism on people's preferences," *American Economic Review*, 2007, 97 (4), 1507–1528.
- , **Edoardo Teso, and Stefanie Stantcheva**, "Intergenerational Mobility and Preferences for Redistribution," *American Economic Review*, 2018, 108 (2), 521–554.
- Carvalho, Jean-Paul, Augustin Bergeron, Joseph Henrich, Nathan Nunn, and Jon Weigel**, "Zero-Sum Traps: The Evolution of Productivity-Stifling Beliefs," 2022. Working paper, Oxford University.
- Chen, Yuyu and David Yang**, "Historical traumas and the roots of political distrust: Political inference from the Great Chinese Famine," *Available at SSRN 2652587*, 2015.
- Davidai, Shai and Martino Ongis**, "The politics of zero-sum thinking: The relationship between political ideology and the belief that life is a zero-sum game," *Science Advances*, 2019, 5 (12), eaay3761.
- Enders, Adam M, Joseph E Uscinski, Casey A Klofstad, Stefan Wuchty, Michelle I Seelig, John R Funchion, Manohar N Murthi, Kamal Premaratne, and Justin Stoler**, "Who Supports QAnon? A Case Study in Political Extremism," *The Journal of Politics*, 2022, 84 (3), 1844–1849.
- Enke, Benjamin**, "Kinship, Cooperation, and the Evolution of Moral Systems," *Quarterly Journal of Economics*, 2019, 134 (2), 953–1019.
- Fearon, Patricia Andrews, Friedrich Gotz, Gregogry Serapio-Garcia, and David Good**, "Zero-sum mindset and its discontents," *University of Oxford Blavatnik School of Government Social Macroeconomics Working Paper*, 2021.
- Fernández, Raquel, Alessandra Fogli, and Claudia Olivetti**, "Mothers and sons: Preference formation and female labor force dynamics," *The Quarterly Journal of Economics*, 2004, 119 (4), 1249–1299.
- Flood, Sarah, Miriam King, Renae Rodgers, Steven Ruggles, and J. Robert Warren**, "Integrated Public Use Microdata Series, Current Population Survey: Version 10.0 [dataset]," 2022.
- Foster, George M**, *Traditional Cultures, and the Impact of Technological Change*, New York: Harper, 1962.
- , "Peasant Society and the Image of Limited Good," *American Anthropologist*, 1965, 67 (2), 293–315.



- , *Tzintzuntzan; Mexican Peasants in a Changing World*, New York: Little Brown & Company, 1967.
- , “A Second Look at Limited Good,” *Anthropological Quarterly*, 1972, 45 (2), 57–64.
- Gallup**, “Party Affiliation,” <https://news.gallup.com/poll/15370/party-affiliation.aspx> 2022.
- Gershman, Boris**, “The Two Sides of Envy,” *Journal of Economic Growth*, 2014, 19 (4), 407–438.
- , “Witchcraft Beliefs Around the World,” *PLoS ONE*, forthcoming.
- Giuliano, Paola and Antonio Spilimbergo**, “Growing up in a recession,” *Review of Economic Studies*, 2014, 81 (2), 787–817.
- **and Nathan Nunn**, “Understanding Cultural Persistence and Change,” *Review of Economic Studies*, 2021, 88 (4), 1541–1581.
- Johnson, Samuel GB, Jiewen Zhang, and Frank C Keil**, “Win-win denial: The psychological underpinnings of zero-sum thinking,” *Journal of Experimental Psychology: General*, 2022, 151 (2), 455.
- Kuchynka, Sophie L, Jennifer K Bosson, Joseph A Vandello, and Curtis Puryear**, “Zero-sum thinking and the masculinity contest: Perceived intergroup competition and workplace gender bias,” *Journal of Social Issues*, 2018, 74 (3), 529–550.
- Leip, Dave**, “Atlas of U.S. Presidential Elections,” <https://uselectionatlas.org/RESULTS/> 2022.
- Long, Jason and Joseph Ferrie**, “Occupational Mobility in Great Britain and the United States since 1850,” *American Economic Review*, 2013, 103 (4), 1109–1137.
- Luttmer, Erzo FP and Monica Singhal**, “Culture, context, and the taste for redistribution,” *American Economic Journal: Economic Policy*, 2011, 3 (1), 157–79.
- Malmendier, Ulrike and Stefan Nagel**, “Depression babies: do macroeconomic experiences affect risk taking?,” *The quarterly journal of economics*, 2011, 126 (1), 373–416.
- **and —**, “Learning from inflation experiences,” *The Quarterly Journal of Economics*, 2016, 131 (1), 53–87.
- Meegan, Daniel V**, “Zero-sum bias: Perceived competition despite unlimited resources,” *Frontiers in psychology*, 2010, 1, 191.
- Nisbett, Richard E**, *The Geography of Thought: How Asians and Westerners Think Differently...and Why*, New York: The Free Press, 2003.
- Norton, Michael I and Samuel R Sommers**, “Whites see racism as a zero-sum game that they are now losing,” *Perspectives on Psychological science*, 2011, 6 (3), 215–218.
- Nunn, Nathan**, “History as Evolution,” in “Handbook of Historical Economics,” New York: North Holland, 2021, pp. 41–91.
- **and Leonard Wantchekon**, “The slave trade and the origins of mistrust in Africa,” *American Economic Review*, 2011, 101 (7), 3221–52.

- Papaioannou, Kostas, Myrto Pantazi, and Jan-Willem van Prooijen**, "Unravelling the relationship between populism and belief in conspiracy theories: The role of cynicism, powerlessness and zero-sum thinking," *British Journal of Psychology*, 2022.
- Piotrowski, Jarosław, Joanna Różycka-Tran, Tomasz Baran, and Magdalena Żemojtel-Piotrowska**, "Zero-sum thinking as mediator of the relationship of national attitudes with (un) willingness to host refugees in own country," *International Journal of Psychology*, 2019, 54 (6), 722–730.
- Roth, Christopher and Johannes Wohlfart**, "Experienced inequality and preferences for redistribution," *Journal of Public Economics*, 2018, 167, 251–262.
- Różycka-Tran, Joanna, Paweł Boski, and Bogdan Wojciszke**, "Belief in a zero-sum game as a social axiom: A 37-nation study," *Journal of Cross-Cultural Psychology*, 2015, 46 (4), 525–548.
- , **Paweł Jurek, Michał Olech, Jarosław Piotrowski, and Magdalena Żemojtel-Piotrowska**, "Measurement invariance of the Belief in a Zero-Sum Game scale across 36 countries," *International Journal of Psychology*, 2019, 54 (3), 406–413.
- Rubin, Paul H.**, "Folk Economics," *Southern Economic Journal*, 2003, 70 (1), 157–171.
- Schaube, Sebastian and Louis Mick Strang**, "(Not) everyone can be a winner: The role of payoff interdependence for redistribution," Technical Report, ECONtribute Discussion Paper 2022.
- Sequeira, Sandra, Nathan Nunn, and Nancy Qian**, "Immigrants and the Making of America," *Review of Economic Studies*, 2020, 87 (1), 382–419.
- Sicard, Alyson and Delphine Martinot**, "School as a Zero-Sum Game Between Boys and Girls: Gender Differences in Perceptions," *International Review of Social Psychology*, 2018, 31 (1), Article 18.
- Stantcheva, Stefanie**, "How to Run Surveys: A Guide to Creating Your Own Identifying Variation and Revealing the Invisible," Technical Report, National Bureau of Economic Research 2022.
- Stefaniak, Anna, Robyn K Mallett, and Michael JA Wohl**, "Zero-sum beliefs shape advantaged allies' support for collective action," *European Journal of Social Psychology*, 2020, 50 (6), 1259–1275.
- Thurow, Lester C.**, *The Zero-Sum Society: Distribution and The Possibilities for Economic Change*, New York: Basic Books, 1980.
- Wilkins, Clara L, Joseph D Wellman, Laura G Babbitt, Negin R Toosi, and Katherine D Schad**, "You can win but I can't lose: Bias against high-status groups increases their zero-sum beliefs about discrimination," *Journal of Experimental Social Psychology*, 2015, 57, 1–14.

## Online Appendix (Not for Publication)

### Appendix A. Finer Details of the Survey

#### *Ancestry Survey Questions*

For each of six of the respondent's ancestors – mother, father, paternal grandfather, paternal grandmother, maternal grandfather, and maternal grandmother – we ask three sets of questions aimed at collecting information about their year of birth, residential history, and other relevant characteristics like education and occupation. Specifically, we ask the following questions:

Age questions:

- Is *<ancestor>* currently alive?
- *If alive:*
  - What is the age of *<ancestor>*?
  - What is the year of birth of *<ancestor>*?
- *If not alive:*
  - In what year did *<ancestor>* die?
  - What is the year of birth of *<ancestor>*?
  - How old was he/she when he/she died?

Location questions:

- Did *<ancestor>* primarily grow up (age 7-17) in the United States?
- *If ancestor didn't grow up in the U.S.:*
  - In what country did *<ancestor>* primarily grow up?
- *If ancestor grew up in the U.S.:*
  - In which state did *<ancestor>* primarily grow up?

- In which town did <ancestor> primarily grow up? If he/she grew up in multiple places, select the location where he/she spent most of his time.

Other questions:

- Which category best describes <ancestor's> highest level of education?
- What was/is the occupation of <ancestor> as an adult?
- Which category best describes <ancestor's> occupation?

### *Survey statistics*

Table A1: Attrition

Wave	Started survey	Completed	Did not consent	Quota full	Dropped mid-survey
1	3,960	0.75	0.06	0.03	0.17
2	5,204	0.57	0.06	0.22	0.15
3	4,187	0.71	0.08	0.03	0.18
4	5,675	0.50	0.13	0.19	0.18
5	6,081	0.50	0.14	0.16	0.21
Overall	25,107	0.59	0.10	0.14	0.18

*Notes:* The table shows the number of people who started the survey by wave, along with the proportions of those who completed the survey and who did not complete it for various reasons: those who did not consent to the survey, those who were screened out due to demographic quotas, and those who started the main survey but did not finish.

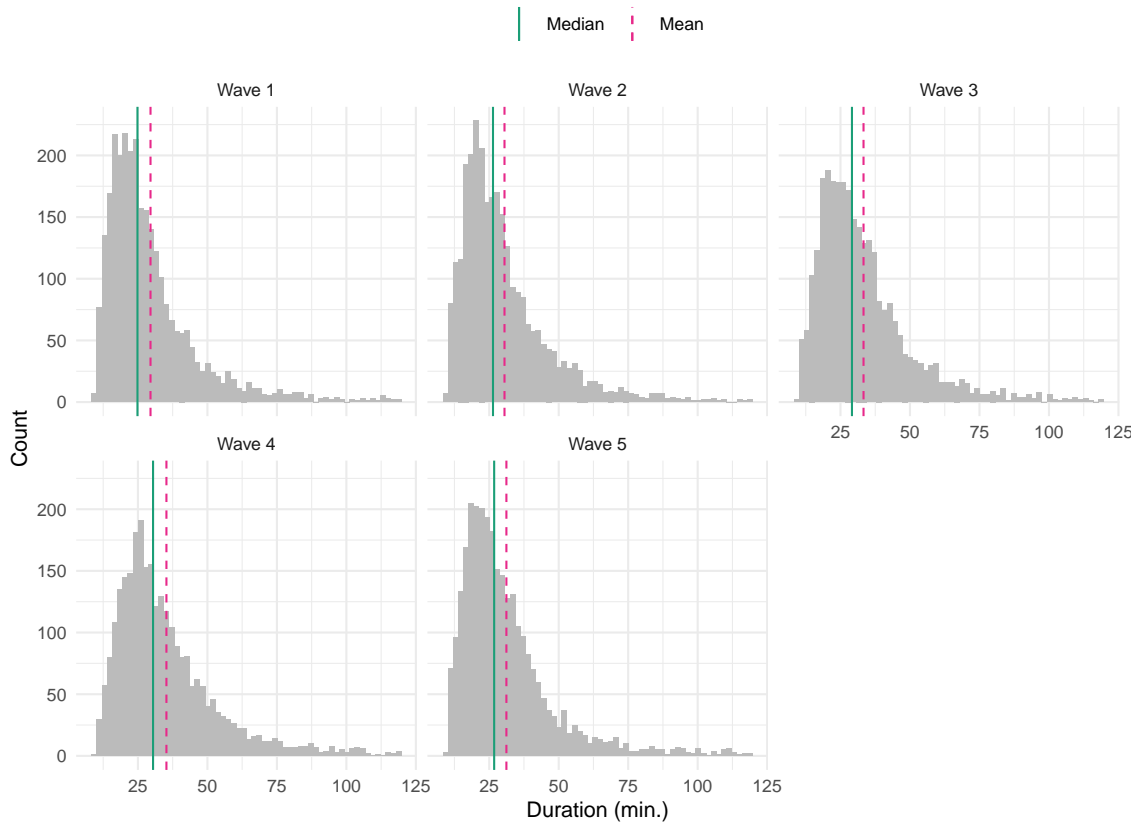


Figure A1: Survey Duration by Wave

*Notes:* The figures show the distribution of the time (in minutes) spent by respondents to complete the survey in each wave. The median is shown with a green line and the mean with a dashed pink line. Responses above two hours – which is the 97th percentile of the distribution – are excluded from the figures.

Table A2: Predictors of Attrition

	Dependent variable: Completed survey (1)
(Intercept)	0.7237*** (0.0483)
Age 30-39	-0.0293*** (0.0084)
Age 40-49	-0.0343*** (0.0088)
Age 50-59	-0.0413*** (0.0086)
Age 60+	-0.0244*** (0.0084)
Missing age	0.2207 (0.1664)
Male	0.0163*** (0.0053)
Other gender	0.0470 (0.0383)
American Indian/Alaska Native	0.0141 (0.0359)
Asian/Asian American	0.0821*** (0.0126)
White	0.0489*** (0.0097)
Hispanic/Latino	0.0464*** (0.0124)
Native Hawaiian/Pacific Islander	-0.0478 (0.0607)
Other race	0.0082 (0.0204)
Missing race	-0.0060 (0.0102)
\$15,000–\$24,999	0.0272** (0.0134)
\$25,000–\$39,999	0.0401*** (0.0122)
\$40,000–\$54,999	0.0643*** (0.0123)
\$55,000–\$74,999	0.0530*** (0.0121)
\$75,000–\$99,999	0.0599*** (0.0123)
\$100,000–\$149,999	0.0753*** (0.0116)
\$150,000+	0.0881*** (0.0126)
Missing income	-0.1602 (0.1662)
Some high school	-0.0242 (0.0508)
High school degree/GED	0.0153 (0.0470)
Some college	0.0327 (0.0470)
2-year college degree	0.0519 (0.0473)
4-year college degree	0.0724 (0.0468)
Master’s degree, M.B.A.	0.0856* (0.0471)
Ph.D., J.D., M.D.	0.0929* (0.0480)
Reached education question but did not answer	0.0338 (0.0483)
Did not reach education question	0.0444 (0.0482)
Moderate Republican	0.0261*** (0.0100)
Independent	0.0038 (0.0093)
Moderate Democrat	0.0060 (0.0100)
Strong Democrat	0.0293*** (0.0096)
Other party	-0.0490** (0.0191)
Reached party question but did not answer	-0.2322 (0.1949)
Did not reach party question	-0.7858*** (0.0142)
Wave 2	-0.0141* (0.0076)
Wave 3	-0.0192** (0.0079)
Wave 4	-0.0343*** (0.0084)
Wave 5	-0.0753*** (0.0082)
Observations	19,261
R <sup>2</sup>	0.323
Dependent variable mean	0.765

Notes: The table reports OLS estimates where the unit of observation is an individual. The dependent variable is an indicator equal to one if the respondent completed the survey. The sample includes only respondents who consented to participate and were not screened out due to demographic quotas. The omitted categories are female for gender, Black for race, \$0–\$15K for household income, no high school for education, strong Republican for party affiliation, and wave 1 for survey wave. Robust standard errors are in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

## Appendix B. Appendix Tables and Figures

Table A3: PCA Factor Loadings

Index	Variable	1st PC	2nd PC
Anti-immigration index (wave 5)	Disagree with increasing immigration	0.71	-0.71
	Important for being American: Born in U.S.	0.71	0.71
Anti-immigration index (waves 1 to 4)	Important for being American: Speak English	0.51	-0.17
	Important for being American: Citizenship	0.48	-0.25
	Important for being American: Born in U.S.	0.44	-0.43
	Today's immigrants should work their way up	0.44	0.25
	Disagree with increasing immigration	0.36	0.81
Luck more important than effort	In the US everybody can be economically successful	0.64	-0.27
	Hard work and effort have paid off	0.63	-0.35
	Disagree with success in life is outside one's control	0.44	0.90
Perceived mobility	Poor family to 1st quintile	0.55	0.45
	Poor family to 2nd quintile	0.35	-0.32
	Poor family to 3rd quintile	-0.13	-0.75
	Poor family to 4th quintile	-0.53	0.07
	Poor family to 5th quintile	-0.53	0.36
Race attitudes index (wave 5)	Slavery makes it hard for Blacks to escape poverty	0.71	-0.71
	Racism is a problem	0.71	0.71
Race attitudes index (waves 1 to 4)	Black people experience discrimination	0.60	-0.12
	Racism is a problem	0.57	-0.63
	Slavery makes it hard for Blacks to escape poverty	0.56	0.77
Pro-redistribution index	Gov. should equalize outcome	0.42	-0.33
	Universal healthcare	0.42	-0.15
	Gov. should equalize opportunity	0.41	-0.32
	Gov. should spend on income support for poor	0.39	-0.11
	Liberal economic policy	0.35	-0.06
	Disagree with allowing wealth accumulation	0.32	0.58
	Rich pay too little tax minus poor pay too little	0.32	0.65
Universalist morals	Money to member of organization	0.50	0.50
	Money to US person	0.50	-0.50
	Money to non-US person	-0.50	0.50
	Money to non-member of organization	-0.50	-0.50
Gender attitudes index	Women experience discrimination	0.71	-0.71
	Women should be given hiring preference	0.71	0.71
Zero-sum index	If an ethnic group becomes richer, this comes at the expense of other groups	0.55	-0.25
	In international trade, if one country makes more money, then the other makes less	0.52	-0.02
	If one income class becomes wealthier, it is at the expense of others	0.52	-0.39
	If non-U.S. citizens do better economically, this is at the expense of citizens	0.40	0.88

Notes: The table shows factor loadings for the first two principal components for each of the component questions for the zero-sum index, policy view indices, and indices of other fundamental attitudes.

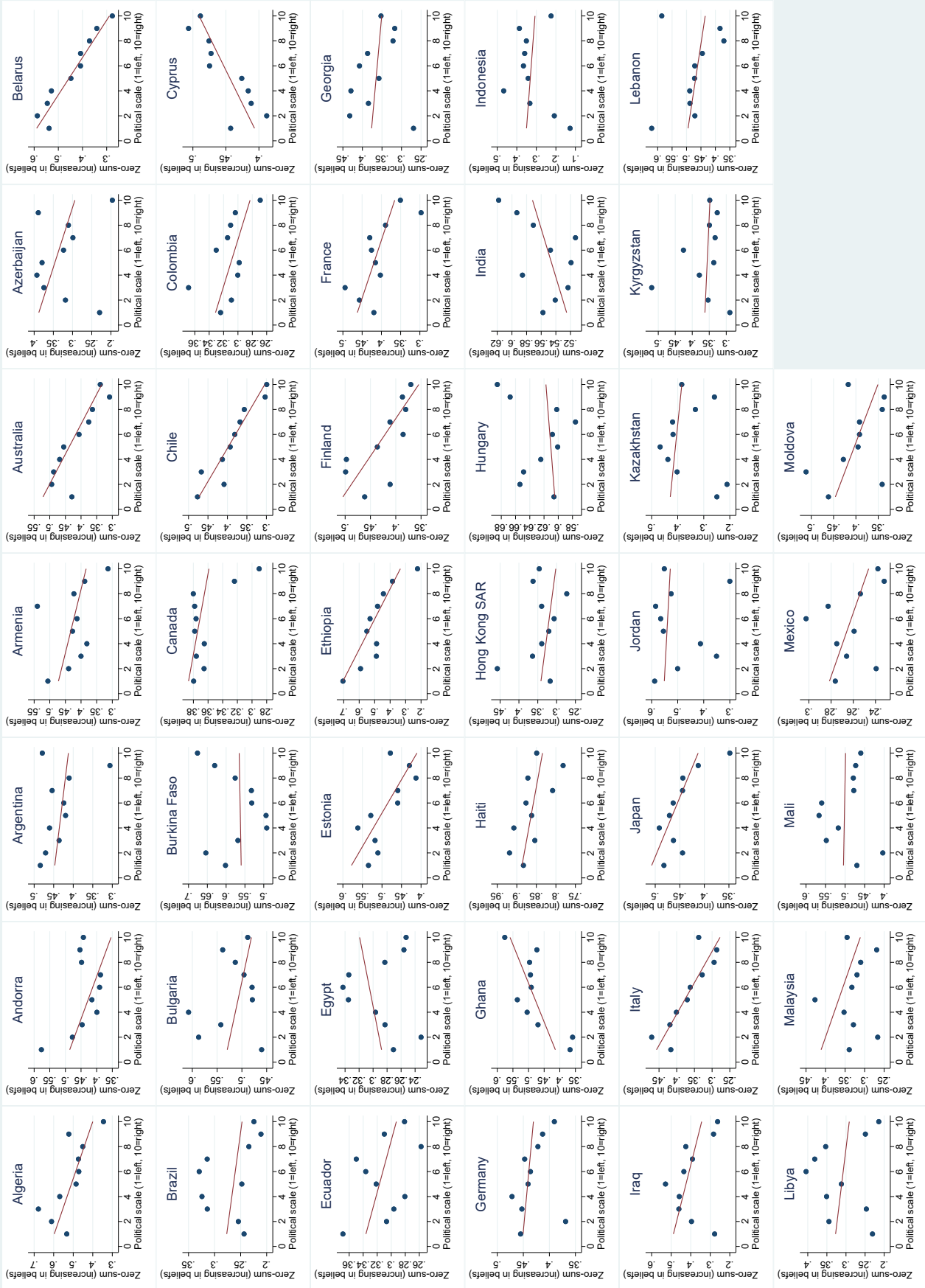


Figure A2: Zero-Sum Thinking and Policy Views, By Domain

Notes: Each coefficient is from a separate regression with controls for age and age squared, gender, and their interaction, as well as whether the respondent was born in the United States, wave fixed effects, and race fixed effects. The four estimates for each outcome in each column correspond to the baseline specification, as well as specifications that add (1) income and education, (2) party, and (3) income, education, party, and current state fixed effects. Outcomes and regressors are standardized to have mean zero and standard deviation one.



Figure A3: Zero-Sum Thinking and Political Affiliation Across the World



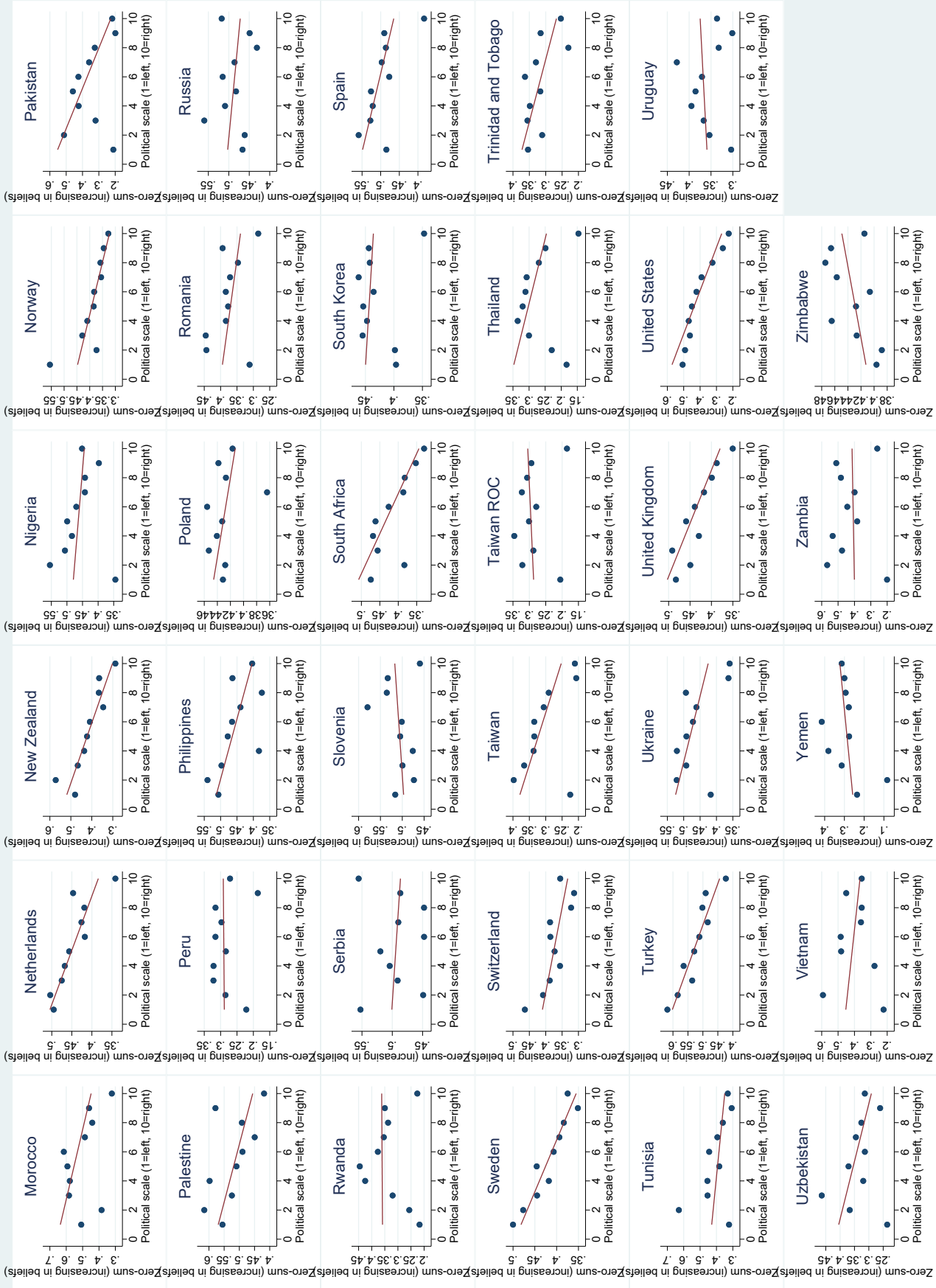


Figure A4: Zero-Sum Thinking and Political Affiliation Across the World (cont.)

Table A4: Multivariate Regression of Zero-Sum Thinking on Individual Characteristics

Dependent variable: Zero-sum index (0 to 1)	
(1)	
Age 30-39	0.0180*** (0.0056)
Age 40-49	0.0108* (0.0057)
Age 50-59	-0.0453*** (0.0054)
Age 60+	-0.0693*** (0.0052)
Male	0.0396*** (0.0034)
Other gender	0.0387* (0.0233)
American Indian/Alaska Native	-0.0461* (0.0235)
Asian/Asian American	-0.0749*** (0.0089)
White	-0.0577*** (0.0058)
Hispanic/Latino	-0.0559*** (0.0075)
Native Hawaiian/Pacific Islander	-0.1210*** (0.0365)
Other race	-0.0675*** (0.0123)
\$15,000–\$24,999	-0.0039 (0.0076)
\$25,000–\$39,999	-0.0127* (0.0070)
\$40,000–\$54,999	-0.0317*** (0.0072)
\$55,000–\$74,999	-0.0308*** (0.0072)
\$75,000–\$99,999	-0.0220*** (0.0074)
\$100,000–\$149,999	-0.0276*** (0.0071)
\$150,000+	-0.0325*** (0.0082)
Some high school	0.0413 (0.0342)
High school degree/GED	0.0435 (0.0328)
Some college	0.0217 (0.0328)
2-year college degree	0.0290 (0.0330)
4-year college degree	0.0124 (0.0328)
Master’s degree, M.B.A.	0.0373 (0.0330)
Ph.D., J.D., M.D.	0.0556 (0.0344)
Moderate Republican	-0.0099 (0.0063)
Independent	-0.0071 (0.0058)
Moderate Democrat	0.0187*** (0.0062)
Strong Democrat	0.0387*** (0.0065)
Other party	-0.0165 (0.0104)
Born in U.S.	0.0314*** (0.0072)
Wave fixed effects	✓
Observations	14,430
R <sup>2</sup>	0.071
Dependent variable mean	0.506
Dependent variable std. dev.	0.207

*Notes:* The table reports OLS estimates where the unit of observation is an individual. The omitted categories are 18-29 for age, female for gender, Black for race, \$0–\$15,000 for household income, no high school for education, and strong Republican for party affiliation. Robust standard errors are in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1, 5, and 10 percent levels.

Table A5: Zero-Sum Thinking and Political Affiliation Across the World

Country	Coefficient on left-right index	Num. of obs.	Mean of zero-sum index
<b>Full sample</b>	-0.079*** (0.009)	192,172	0.405
Albania	0.142*** (0.045)	889	0.468
Algeria	-0.219*** (0.065)	530	0.487
Andorra	-0.155*** (0.048)	907	0.431
Argentina	-0.100 (0.049)	2,932	0.391
Armenia	-0.136 (0.039)	2,150	0.376
Australia	-0.204*** (0.011)	4,492	0.430
Azerbaijan	-0.039 (0.063)	2,276	0.328
Bangladesh	-0.128*** (0.043)	1,053	0.337
Belarus	-0.130 (0.101)	3,569	0.378
Bosnia Herzegovina	0.092** (0.041)	1,096	0.505
Brazil	-0.073** (0.022)	4,938	0.281
Bulgaria	-0.157 (0.086)	1,548	0.495
Burkina Faso	0.006 (0.036)	1,073	0.562
Canada	-0.076 (0.054)	3,032	0.355
Chile	-0.111* (0.041)	3,475	0.342
Colombia	-0.058 (0.011)	3,489	0.302
Croatia	-0.128*** (0.047)	1,052	0.450
Cyprus	0.079 (0.042)	1,865	0.423
Czech Rep.	-0.237** (0.017)	1,905	0.488
Dominican Rep.	0.031 (0.059)	399	0.280
Ecuador	-0.048 (0.033)	1,137	0.314
Egypt	-0.016 (0.029)	4,235	0.303
Estonia	-0.105 (0.111)	2,016	0.420
Ethiopia	-0.412*** (0.033)	1,308	0.474
Finland	-0.070 (0.093)	1,736	0.412
France	-0.099** (0.041)	924	0.423
Georgia	-0.059 (0.036)	3,226	0.334
Germany	-0.000 (0.031)	5,449	0.427
Ghana	0.146 (0.118)	2,316	0.481
Great Britain	-0.155*** (0.049)	859	0.442
Haiti	-0.058** (0.026)	1,944	0.877
Hong Kong SAR	-0.044 (0.045)	975	0.322
Hungary	-0.009 (0.030)	1,392	0.545
India	0.014 (0.046)	6,933	0.522
Indonesia	-0.048 (0.031)	1,313	0.323
Iraq	-0.161*** (0.037)	960	0.405
Italy	-0.199*** (0.044)	721	0.376
Japan	-0.089** (0.016)	3,435	0.449
Jordan	-0.015 (0.063)	323	0.515
Kazakhstan	-0.050 (0.035)	1,500	0.403
Kyrgyzstan	-0.017 (0.037)	1,454	0.354
Latvia	-0.178*** (0.054)	927	0.291
Lebanon	-0.066 (0.047)	827	0.459
Libya	-0.063* (0.033)	1,361	0.303

Table A6: Zero-Sum Thinking and Political Affiliation Across the World (cont.)

Country	Coefficient on left-right index	Num. of obs.	Mean of zero-sum index
Libya	-0.063* (0.033)	1,361	0.303
Lithuania	-0.157*** (0.051)	704	0.422
Malaysia	-0.111*** (0.035)	1,300	0.349
Mali	-0.006 (0.034)	1,149	0.502
Mexico	-0.036* (0.012)	5,593	0.322
Moldova	-0.227 (0.110)	1,577	0.378
Montenegro	0.143 (0.110)	177	0.497
Morocco	-0.235 (0.054)	678	0.539
Netherlands	-0.138 (0.032)	2,455	0.448
New Zealand	-0.247*** (0.007)	1,970	0.413
Nigeria	-0.082* (0.025)	4,283	0.470
North Macedonia	-0.084 (0.060)	640	0.516
Norway	-0.129** (0.009)	2,078	0.400
Pakistan	-0.395*** (0.038)	1,200	0.321
Palestine	-0.126** (0.050)	724	0.507
Peru	-0.006 (0.010)	3,016	0.308
Philippines	-0.093* (0.014)	2,357	0.402
Poland	-0.066 (0.029)	2,899	0.383
Puerto Rico	-0.056 (0.039)	913	0.289
Romania	-0.087 (0.040)	2,848	0.404
Russia	-0.009 (0.047)	3,545	0.411
Rwanda	0.017 (0.009)	2,554	0.360
Serbia	-0.016*** (0.000)	1,770	0.490
Slovakia	-0.123 (0.072)	1,384	0.539
Slovenia	-0.006 (0.049)	2,018	0.508
South Africa	-0.099 (0.051)	9,720	0.382
South Korea	-0.049 (0.049)	4,818	0.418
Spain	-0.122** (0.022)	3,764	0.484
Sweden	-0.109** (0.033)	3,764	0.438
Switzerland	-0.052 (0.027)	1,989	0.388
Taiwan ROC	-0.104 (0.048)	3,071	0.285
Thailand	-0.117 (0.050)	2,710	0.290
Trinidad and Tobago	-0.104 (0.083)	1,203	0.313
Tunisia	-0.088 (0.066)	691	0.388
Turkey	-0.220*** (0.031)	5,087	0.453
Ukraine	-0.167** (0.038)	3,467	0.413
United States	-0.215* (0.087)	6,182	0.401
Uruguay	-0.038 (0.057)	2,504	0.378
Uzbekistan	-0.126* (0.069)	583	0.336
Venezuela	-0.089** (0.041)	834	0.375
Vietnam	-0.096 (0.059)	1,333	0.374
Yemen	0.072 (0.082)	244	0.292
Zambia	0.016 (0.040)	935	0.410
Zimbabwe	0.022 (0.032)	1,500	0.449

Table A7: Zero-Sum Thinking and County Foreign Share 1860-1920

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county foreign share	-0.0206 (0.0241)	0.0060 (0.0220)	0.0039 (0.0219)						
Father's county foreign share				-0.0517** (0.0213)	-0.0466** (0.0182)	-0.0319* (0.0174)			
Grandfather's county foreign share							-0.0449** (0.0224)	-0.0604*** (0.0212)	-0.0397* (0.0217)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓		✓	✓
Race fixed effects			✓			✓			✓
Observations	12,566	12,566	12,566	9,963	9,963	9,963	6,176	6,176	6,176
R <sup>2</sup>	0.039	0.046	0.057	0.046	0.055	0.066	0.056	0.070	0.082
Num. clusters	1,735	1,735	1,735	1,873	1,873	1,873	1,662	1,662	1,662
Dependent variable mean	0.501	0.501	0.501	0.503	0.503	0.503	0.513	0.513	0.513
Dependent variable std. dev.	0.202	0.202	0.202	0.206	0.206	0.206	0.213	0.213	0.213

*Notes:* The table reports OLS estimates where the unit of observation is an individual. "Foreign share" refers to the proportion of individuals in a county who were born outside of the U.S., averaged over the 1860 to 1920 period. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for fathers and paternal grandfathers. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the relevant county and are reported in parentheses.

Table A8: Zero-Sum Thinking and County Foreign Share 1860-1920 (With Immigrant Generation Controls)

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county foreign share	0.0039 (0.0219)	0.0096 (0.0224)	0.0149 (0.0227)						
Father's county foreign share				-0.0319* (0.0174)	-0.0285 (0.0174)	-0.0326 (0.0201)			
Grandfather's county foreign share							-0.0397* (0.0217)	-0.0395* (0.0218)	-0.0433** (0.0219)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
Race fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
2nd generation immigrant		✓	✓		✓	✓		✓	✓
3rd generation immigrant			✓			✓			✓
Observations	12,566	12,508	11,553	9,963	9,962	9,397	6,176	6,175	6,175
R <sup>2</sup>	0.057	0.059	0.060	0.066	0.067	0.068	0.082	0.082	0.082
Num. clusters	1,735	1,735	1,696	1,873	1,873	1,848	1,662	1,662	1,662
Dependent variable mean	0.501	0.501	0.499	0.503	0.503	0.501	0.513	0.513	0.513
Dependent variable std. dev.	0.202	0.202	0.203	0.206	0.206	0.207	0.213	0.213	0.213

*Notes:* The table reports OLS estimates where the unit of observation is an individual. "Foreign share" refers to the proportion of individuals in a county who were born outside of the U.S., averaged over the 1860 to 1920 period. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for fathers and paternal grandfathers. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the relevant county and are reported in parentheses.

Table A9: Zero-Sum Thinking and County Foreign Share 1920

	Dependent variable: Zero-sum index (0 to 1)								
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Respondent's county foreign share	-0.0142 (0.0312)	0.0060 (0.0274)	0.0043 (0.0272)						
Father's county foreign share				-0.0578** (0.0268)	-0.0616*** (0.0212)	-0.0457** (0.0196)			
Grandfather's county foreign share							-0.0442* (0.0268)	-0.0742*** (0.0234)	-0.0521** (0.0236)
Demographic controls	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wave fixed effects	✓	✓	✓	✓	✓	✓	✓	✓	✓
State fixed effects		✓	✓		✓	✓		✓	✓
Race fixed effects			✓			✓			✓
Observations	12,819	12,819	12,819	10,140	10,140	10,140	6,267	6,267	6,267
R <sup>2</sup>	0.039	0.046	0.057	0.047	0.056	0.067	0.056	0.071	0.082
Num. clusters	1,778	1,778	1,778	1,918	1,918	1,918	1,700	1,700	1,700
Dependent variable mean	0.501	0.501	0.501	0.503	0.503	0.503	0.513	0.513	0.513
Dependent variable std. dev.	0.202	0.202	0.202	0.206	0.206	0.206	0.213	0.213	0.213

*Notes:* The table reports OLS estimates where the unit of observation is an individual. "Foreign share" refers to the proportion of individuals in a county who were born outside of the U.S., as of the 1920 Census. All shares are for the counties where the respondent or their ancestor grew up, defined as ages 10 to 19 for respondents and ages 7 to 17 for fathers and paternal grandfathers. Demographic controls include age and age squared and their interactions with gender indicators, as well as whether the respondent was born in the U.S. Race fixed effects refer to the race of the respondent. State fixed effects refer to the respondent's current state of residence. Standard errors are clustered by the relevant county and are reported in parentheses.

## Appendix C. Survey questionnaire

Below is the survey questionnaire. Brackets indicate variations between survey waves, where [W1] means that a given question or answer choice was used in the first survey wave, [W1-3] means it was used in survey waves one to three, and so on. If there are no waves specified, it means that the question or answer choice appeared in all five survey waves.

### 1. Consent

1. **We are a group of non-partisan academic researchers.** Our goal is to understand how the external environment of an individual and their ancestors influences their views on policies. By completing this survey, you are contributing to our knowledge as a society. The survey also gives you an opportunity to express your own views. If you do not feel comfortable with any question, you can skip it.

Please note that it is very important for the success of our research that you **answer honestly** and **read the questions very carefully** before answering. Please be sure to spend enough time reading and understanding each question. To ensure the quality of survey data, your responses will be subject to sophisticated statistical control methods, which can detect incoherent or rushed answers. **Responding without adequate effort or skipping many questions may result in your responses being flagged for low quality and you may not receive your payment.** It is also very important for the success of our research project that you **complete the entire survey** once you have started. This survey should take (on average) about 25 minutes to complete.

Notes: Your participation in this study is purely voluntary. Your name will never be recorded by researchers. Results may include summary data, but you will never be identified. The data will be stored on Harvard servers and will be kept confidential. The collected anonymous data may be made available to other researchers for replication purposes. Please print or take a screenshot of this page for your records. If you have any question about this study, you may contact us at [socialsciencestudies@gmail.com](mailto:socialsciencestudies@gmail.com). For any question about your rights as a research participant you may contact [cuhs@harvard.edu](mailto:cuhs@harvard.edu).

*Yes, I would like to take part in this study, and confirm that I am 18 or older*

*No, I would not like to participate*

### 2. Basic Demographics

2. What is your gender?  
*Male; Female; Other gender identity*
3. What is your year of birth?  
*[text box]*
4. What was your **TOTAL household income, before taxes**, last year (2021)?
  - \$0 - \$14,999
  - \$15,000 - \$24,999
  - \$25,000 - \$39,999
  - \$40,000 - \$54,999
  - \$55,000 - \$74,999
  - \$75,000 - \$99,999



- \$100,000 - \$149,999
- \$150,000+

5. In which U.S. state do you currently live?

*[dropdown menu]*

6. Which one of these best describes your ethnicity/race?

*European American/White; African American/Black; Hispanic/Latino; Asian/Asian American; Native Hawaiian or Other Pacific Islander; American Indian or Alaska Native; Other [text box]*

7. [W5] Would you describe the area in which you live as:

*Urban; Suburban; Rural*

### **3. Own demographics: location questions**

8. Were you born in the United States?

*Yes; No*

9. (If "No" to Q8) In what country were you born? Note: to use this dropdown menu, simply type the first letters and the country will appear automatically.

*[dropdown menu]*

10. (If "Yes" to Q8) In which US state were you born? Note: to use this dropdown menu, simply type the first letters and the state will appear automatically.

**N.B.** For all questions where a respondent is asked where they or a family member "primarily" lived, the question is followed by the statement: *"If you lived in multiple locations, please choose the location where you lived for the longest period of time."*

11. Between the age of 0 and 9, did you primarily live in the United States?

*Yes; No*

12. (If "No" to Q11) In what country did you primarily live between the age of 0 and 9?

*[dropdown menu]*

13. (If "Yes" to Q11) In which state did you primarily live between the age of 0 and 9?

*[dropdown menu]*

14. (If "Yes" to Q11) In which town did you primarily live between the age of 0 and 9?

*[text box]*

15. Between the age of 10 and 19, did you primarily live in the United States?

*Yes; No*

16. (If "No" to Q15) In what country did you primarily live between the age of 10 and 19?

*[dropdown menu]*

17. (If "Yes" to Q15) In which state did you primarily live between the age of 10 and 19?

*[dropdown menu]*

18. (If "Yes" to Q15) In which town did you primarily live between the age of 10 and 19?

*[text box]*

19. (If  $\leq 1999$  to Q3) Did you primarily live in the United States in your 20s?

*Yes; No*

20. (If "No" to Q19) In what country did you primarily live in your 20s?  
*[dropdown menu]*
21. (If "Yes" to Q19) In which state did you primarily live in your 20s?  
*[dropdown menu]*
22. (If "Yes" to Q19) In which town did you primarily live in your 20s?  
*[text box]*
23. [W1-W4] (If  $\leq 1989$  to Q3) Did you primarily live in the United States in your 30s?  
*Yes; No*
24. [W1-W4] (If "No" to Q23) In what country did you primarily live in your 30s?  
*[dropdown menu]*
25. [W1-W4] (If "Yes" to Q23) In which state did you primarily live in your 30s?  
*[dropdown menu]*
26. [W1-W4] (If "Yes" to Q23) In which town did you primarily live in your 30s?  
*[text box]*
27. [W1-W4] (If  $\leq 1979$  to Q3) Did you primarily live in the United States in your 40s and after?  
*Yes; No*
28. [W1-W4] (If "No" to Q27) In what country did you primarily live in your 40s and after?  
*[dropdown menu]*
29. [W1-W4] (If "Yes" to Q27) In which state did you primarily live in your 40s and after?  
*[dropdown menu]*
30. [W1-W4] (If "Yes" to Q27) In which town did you primarily live in your 40s and after?  
*[text box]*

#### ***4. Own demographics, Continued***

31. [W5] How many children did your parents have?  
*1; 2; 3; 4; 5; 6; 7; 8; 9; 10 or more*
32. Are/were your parents divorced?  
*Yes; No*
33. (If "Yes" to Q32) How old were you when your parents divorced?  
*[text box]*
34. (If "Yes" to Q32) With whom were you primarily living after your parents divorced?  
*Mother; Father; Other*
35. Please indicate your marital status.  
*Never Married; Married; Legally Separated or Divorced; Widowed*
36. How many children do you have?  
*0; 1; 2; 3; 4; 5; 6; 7; 8; 9; 10 or more*

37. What is your ancestry or ethnic origin? For example: Italian, Jamaican, African Am., Cambodian, Cape Verdean, Norwegian, Dominican, French Canadian, Haitian, Korean, Lebanese, Polish, Nigerian, Mexican, Taiwanese, Ukrainian, and so on. You should indicate all that apply.

*[text box]*

38. Which category best describes your highest level of education?

*No high school; Some high school; High school degree/GED; Some college; 2-year college degree; 4-year college degree; Master's degree, MBA; PhD, JD, MD*

39. What is your current employment status?

*Full-time employee; Part-time employee; Self-employed or small business owner; Unemployed and looking for work; Unemployed and not looking for work (including student)*

40. (If "Unemployed and not looking for work (including student) to Q39") What is your current status?

*Student; Retired; Full-time parent; Stay-at-home wife/husband; Disabled*

41. [W5] What is your present religion, if any?

- *Protestant (for example, Baptist, Methodist, Non-denominational, Lutheran, Presbyterian, Pentecostal, Episcopalian, Reformed, Church of Christ, etc.)*
- *Roman Catholic*
- *Mormon (Church of Jesus Christ of Latter-day Saints)*
- *Orthodox (such as Greek, Russian, or some other Orthodox church)*
- *Jewish*
- *Muslim*
- *Buddhist*
- *Hindu*
- *Atheist (believes God does not exist)*
- *Agnostic (does not know whether God exists or not)*
- *Other [text box]*

42. [W5] How important is religion in your life?

*Very important; Somewhat important; Not too important; Not at all important*

## **5. Political Views**

43. In politics, as of today, do you consider yourself a Republican, a Democrat, or an independent?

*Strong Democrat; Moderate Democrat; Independent; Moderate Republican; Strong Republican; Other [text box]*

44. Who did you vote for in the 2016 election?

*Hillary Clinton; Donald Trump; Other [text box]; I did not vote*

45. (If "I did not vote" to Q44) Who would you have voted for in the 2016 election if you had voted?

*Hillary Clinton; Donald Trump; Other [text box]*

46. [W4, W5] Who did you vote for in the 2020 election?  
*Joe Biden; Donald Trump; Other [text box] I did not vote*
47. [W5] (If "I did not vote" to Q46) Who would you have voted for in the 2020 election if you had voted?  
*Joe Biden; Donald Trump; Other [text box]*
48. On economic policy matters, where do you see yourself on the liberal/conservative spectrum?  
*Very liberal, Liberal, Moderate, Conservative, Very conservative*

## 6. Parents' Demographics

**N.B.** The brackets indicate that the demographic questions in this section we asked these questions both for the respondent's father and mother.

*Now we'd like you to think of your [father/mother]. We are going to ask you questions about [him/her]. Please answer as best as you can. If you have **absolutely** no idea about the answer, you can leave it blank. Otherwise, please answer as accurately as you are able to.*

49. [W4, W5] Is your [father/mother] currently alive?  
*Yes; No; Don't know*
50. [W4, W5] (If "Yes" to Q49) What is the age of your [father/mother]?  
*[text box]*
51. [W4, W5] (If "Yes" to Q49 and no response to Q50) What is the year of birth of your [father/mother]?  
*[text box]*
52. [W4, W5] (If "No" to Q49) In what year did [he/she] die?  
*[text box]*
53. [W4, W5] (If "No" to Q49) How old was he when [he/she] died?  
*[text box]*
54. [W4, W5] (If "No" to Q49 and no response to Q52 or Q53 ) What is the year of birth of your [father/mother]?  
*[text box]*

**N.B.** For all following questions that ask about where a person spent their time, the respondent is presented the instruction to select the location where the person spent most of their time.

55. [W1-W4] Was your [father/mother] born in the United States?  
*[Yes; No; Don't know]*
56. [W1-W4] (If "No" to Q55) In what country was your [father/mother] born?  
*[dropdown]*
57. [W1-W4] (If "Yes" to Q55) In which state was your [father/mother] born?  
*[dropdown]*
58. [W1-W4] (If "Yes" to Q55) In which town was your [father/mother] born?  
*[text box]*

59. Did your **[father/mother]** primarily grow up (age 7-17) in the United States?  
*Yes; No; Don't know*
60. (If "No" to Q59) In what country did you **[father/mother]** primarily grow up?  
*[dropdown menu]*
61. (If "Yes" to Q59) In which state did your **[father/mother]** primarily grow up?  
*[dropdown menu]*
62. (If "Yes" to Q59) In which town did your **[father/mother]** primarily grow up?  
*[text box]*
63. Which category best describes your **[father's/mother's]** highest level of education?  
*No high school; Some high school; High school degree/GED; Some college; 2-year college degree; 4-year college degree; Master's degree, MBA; PhD, JD, MD; Don't know*
64. What was/is the occupation of your **[father/mother]** as an adult?  
*[text box]*
65. [W5] Which category best describes your **[father's/mother's]** occupation?
- *Farmer or agricultural laborer, rancher, fisher*
  - *Manual laborer (e.g. factory worker, miner)*
  - *Tradesperson (e.g. mechanic, welder, painter, railroad worker, plumber, tailor)*
  - *Service worker (e.g. driver, waiter, cook, retail worker, cashier, barber, janitor, housekeeper)*
  - *Clerical worker (e.g. secretary, bookkeeper, receptionist, telephone operator)*
  - *White-collar worker (e.g. manager, executive, businessperson, salesperson, accountant, banker)*
  - *Professional (e.g. doctor, lawyer, engineer, IT/computer programmer)*
  - *Medical or social worker (e.g. nurse, EMT, pharmacist)*
  - *Protective service worker (e.g. police, fire)*
  - *Educational service worker (e.g. teacher, professor)*
  - *Public servant (e.g. bureaucrat, politician, military)*
  - *Homemaker/stay-at-home parent*
  - *Self-employed/small business owner (excluding farm owners)*
  - *Other (please specify) [text box]*
  - *Don't know*
66. **Before proceeding to the next set of questions, we want to ask for your feedback about the responses you provided so far.** It is vital to our study that we only include responses from people who devoted their full attention to this study. This will not affect in any way the payment you will receive for taking this survey. In your honest opinion, should we use your responses, or should we discard your responses since you did not devote your full attention to the questions so far?
- *Yes, I have devoted full attention to the questions so far and I think you should use my responses for your study.*
  - *No, I have not devoted full attention to the questions so far and I think you should not use my responses for your study.*

## 7. Grandparents' demographics

**N.B.** For the demographic questions below, the brackets indicate that we asked these questions for the paternal grandfather, paternal grandmother, maternal grandfather, and maternal grandmother, and that each of these was defined. For example, "maternal grandmother" would be defined as "mother of your mother."

*Now we'd like you to think of your [paternal/maternal] [grandfather/grandmother]. We are going to ask you questions about [him/her]. Please answer as best as you can. If you have **absolutely** no idea about the answer, you can leave it blank. Otherwise, please answer as accurately as you are able to.*

67. [W4, W5] Is your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother]) currently alive?  
*Yes; No; Don't know*
68. [W4, W5] (If "Yes" to Q67) What is the age of your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother])?  
*[text box]*
69. [W4, W5] (If "Yes" to Q67 and no response to Q68) What is the year of birth of your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother])?  
*[text box]*
70. [W4, W5] (If "No" to Q67) In what year did [she/he] die?  
*[text box]*
71. [W4, W5] (If "No" to Q67) How old was he when [she/he] died?  
*[text box]*
72. [W4, W5] (If "No" to Q67 and no response to Q70 or Q71) What is the year of birth of your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother])?  
*[text box]*
73. Did your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother]) primarily grow up (age 7-17) in the United States?  
*Yes; No; Don't know*
74. (If "No" to Q73) In what country did your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother]) primarily grow up?  
*[dropdown menu]*
75. (If "Yes" to Q73) In which state did your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother]) primarily grow up?  
*[dropdown menu]*
76. (If "Yes" to Q73) In which town did your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother]) primarily grow up?  
*[text box]*
77. Which category best describes the highest level of education of your [paternal/maternal] [grandfather/grandmother] ([father/mother] of your [father/mother])?  
*No schooling; Some primary school; Completed primary school; Some high school; High school degree/GED; Some college or more; I don't know*

78. What was the occupation of your [paternal/maternal] [grandfather/grandmother] ([parent of your parent]) as an adult?  
[text box]

79. [W5] Which category best describes your [paternal/maternal] [grandfather/grandmother's] occupation?

- *Farmer or agricultural laborer, rancher, fisher*
- *Manual laborer (e.g. factory worker, miner)*
- *Tradesperson (e.g. mechanic, welder, painter, railroad worker, plumber, tailor)*
- *Service worker (e.g. driver, waiter, cook, retail worker, cashier, barber, janitor, housekeeper)*
- *Clerical worker (e.g. secretary, bookkeeper, receptionist, telephone operator)*
- *White-collar worker (e.g. manager, executive, businessperson, salesperson, accountant, banker)*
- *Professional (e.g. doctor, lawyer, engineer, IT/computer programmer)*
- *Medical or social worker (e.g. nurse, EMT, pharmacist)*
- *Protective service worker (e.g. police, fire)*
- *Educational service worker (e.g. teacher, professor)*
- *Public servant (e.g. bureaucrat, politician, military)*
- *Homemaker/stay-at-home parent*
- *Self-employed/small business owner (excluding farm owners)*
- *Other (please specify) [text box]*
- *Don't know*

80. How many children did your [paternal/maternal] grandparents (your [father's/mother's] parents) have?

*1; 2; 3; 4; 5; 6; 7; 8; 9; 10 or more; Don't know*

### **8. Family's Veteran Status**

81. Have you, or have any of your parents, grandparents or children ever served in the U.S. Armed Forces as either an active duty or reserve member (including the Army, Navy, Marine Corps, Air Force, Army Air Corps, National Guard, and Coast Guard)? Check all that apply. *Myself; My spouse; My father; My mother; My paternal grandfather (father of my father); My paternal grandmother (mother of my father); My maternal grandfather (father of my mother); My maternal grandmother (mother of my mother); My son/daughter; None; Don't know*

82. [W1-W4] (If "None" or "I don't know" is not selected for Q81) Do you, or does anyone in your family have veteran status? If yes, check all that apply.

*Myself; My father; My mother; My paternal grandfather (father's father); My paternal grandmother (father's mother); My maternal grandfather (mother's father); My maternal grandmother (mother's mother); My son/daughter; None; I don't know*

83. [W1-W4] (If "None" or "I don't know" is not selected for Q81) Did any of your grandparents serve on active duty in World War II? If yes, check all that apply.

*My paternal grandfather (father's father); My paternal grandmother (father's mother); My maternal grandfather (mother's father); My maternal grandmother (mother's mother); None; I don't know*

84. [W1-W4] (If "None" or "I don't know" is not selected for Q81) Did any of your grandparents serve on active duty in the Korean War? If yes, check all that apply

*My paternal grandfather (father's father); My paternal grandmother (father's mother); My maternal grandfather (mother's father); My maternal grandmother (mother's mother); None; I don't know*

85. [W1-W4] (If "None" or "I don't know" is not selected for Q81) Did any of your grandparents serve on active duty in the Vietnam War? If yes, check all that apply  
*My paternal grandfather (father's father); My paternal grandmother (father's mother); My maternal grandfather (mother's father); My maternal grandmother (mother's mother); None; I don't know*
86. [W1-W4] (If "None" or "I don't know" is not selected for Q81) Did anyone in your family serve on active duty in the Iraq and/or Afghanistan War? If yes, check all that apply  
*My father; My mother; My paternal grandfather (father's father); My paternal grandmother (father's mother); My maternal grandfather (mother's father); My maternal grandmother (mother's mother); My son/daughter; None; I don't know*

### **9. Veteran Status Information**

**N.B.** We ask the questions below about veteran status and service history for the respondent themselves and every family member except for son/daughter (i.e., the spouse, father, mother, paternal grandfather, paternal grandmother, maternal grandfather, and the maternal grandmother) for whom the respondent indicated that they served in the military. In the brackets, "person" indicates that the question was asked for the respondent and a given family member. The pronoun "they" in brackets means that the appropriate pronoun was used for the person in question (i.e., it stands in for "you," "she," or "he")

87. (If "None" or "Don't know" is not selected to Q81) What is/was [person's] affiliation? Check all that apply.  
*Army; Army Reserve; Navy; Navy Reserve; Marine Corps; Marine Corps Reserve; Air Force; Air Force Reserve; Coast Guard; Coast Guard Reserve; National Guard*
88. For how many years did [person] serve/have [they] served on active duty? If none, please enter "0", if less than 1 year, enter "1."  
*[text box]*
89. (If "National Guard" or a "Reserve" to Q87) For how many years did was/has [person] been in the Reserve or National Guard?  
*[text box]*
90. (If > 0 to Q88) In which year did [person's] active duty status begin?  
*[text box]*
91. Did [person] serve in any of the following conflicts?  
*World War I [for parents and grandparents only]; World War II; Korean War; Vietnam War; Persian Gulf War (Kuwait, Iraq, Operations Desert Storm/Desert Shield); Global War on Terrorism (Afghanistan/Iraq Wars); Other [text box]*
92. (If "World War II," "Korean War," or "Vietnam War" to Q91) Was [person] drafted or did [they] volunteer?  
*Drafted, Volunteered, Don't know [for other family members only]*

### **10. Enslavement Status**

93. Thinking about your recent ancestors (say the last 6 or 7 generations), were any of them enslaved at any point in their life?  
*Yes; No; Don't know*



94. [W1-W4] (If "Yes" to Q93) Which of your ancestors were enslaved at some point in their life?

[textbox]

95. [W5] When thinking about historical episodes of enslavement, the following examples often come to mind. Which, if any, apply to your own ancestors? Check all that apply.

*Enslavement of African descendants; Holocaust; Indentured servants; Internment of Japanese-Americans; Native American enslavement; War prisoner; Other [text box]; None; Don't know*

### 11. Relative Income

**N.B.** The brackets for Q96 indicate that we ask the about the relative income for the respondent, their mother, father, paternal grandfather, paternal grandmother, maternal grandfather, and maternal grandmother.

96. **When [person] was growing up** (age 7-17), compared with other families in [person's] country back then, would you say [person's] household income was:

*Far above average; A little above average; Average; A little below average; Far below average; I don't know*

97. **Right now**, compared with other families in America, would you say your own household income is:

*Far above average; A little above average; Average; A little below average; Far below average; I don't know*

### 12. Perceptions of fairness and mobility

98. *Please tell us whether you agree with the following statement: "Success in life is pretty much determined by forces outside our control."*

*Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree*

99. *Please tell us whether you agree with the following statement: "In the United States everybody has a chance to make it and be economically successful."*

*Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree*

100. Which has more to do with why a person is poor?

*Lack of effort on their own part; Circumstances beyond their control*

101. [W1-W4] Which has more to do with why a person is rich?

*the person worked harder than others; The person had more advantages than others*

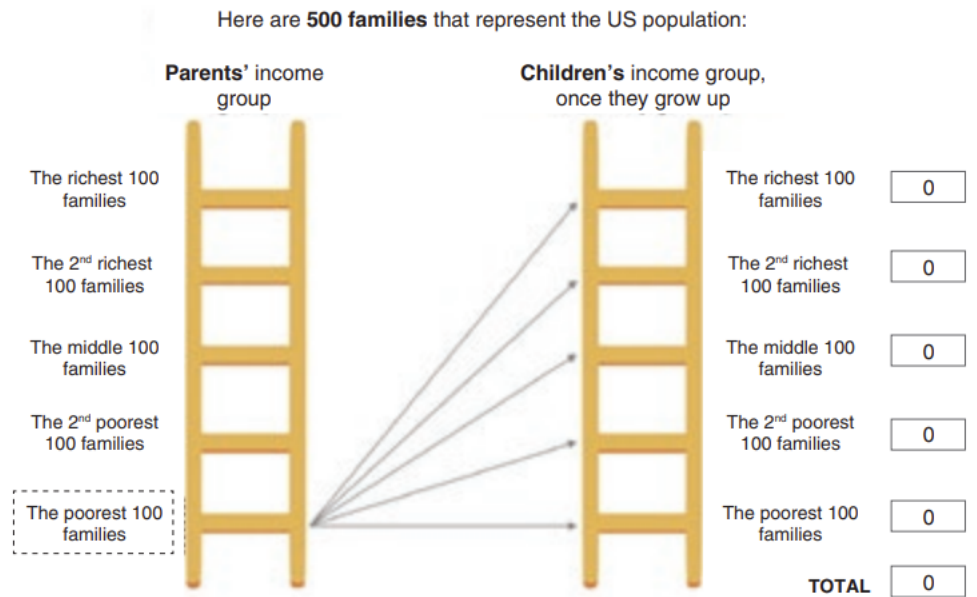
102. **We would now like to ask you what you think about the life opportunities of children from very poor families.**

For the following questions, we focus on 500 families that represent the U.S. population. We divide them into five groups on the basis of their income, with each group containing 100 families. These groups are: the poorest 100 families, the second poorest 100 families, the middle 100 families, the second richest 100 families, and the richest 100 families.

Please fill out the entries to the right of the figure below to tell us, in your opinion, how many out of 100 children coming from the **poorest** 100 families will grow up to be in each income group.

From our experience, this question takes some time to answer.

Please note that your entries need to add up to 100 or you will not be able to move on to the next page.



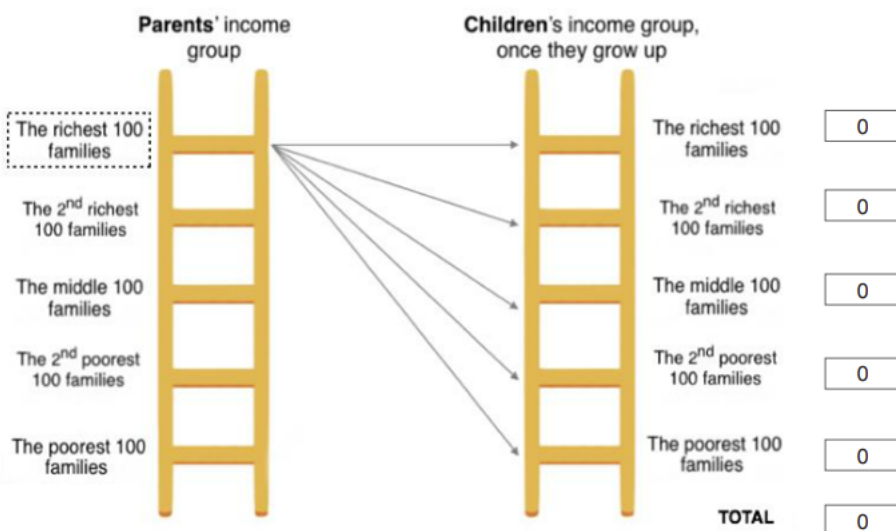
103. [W1-W4] Do you think that a child from the **poorest 100 families** will grow up to be among the **richest 100 families** are:  
*Close to zero; Low; Fairly low; Fairly high; High*
104. [W1-W4] Do you think that a child from the **poorest 100 families** will grow up to be among the **second richest 100 families** are:  
*Close to zero; Low; Fairly low; Fairly high; High*
105. [W1-W4] **We are still interested in your opinion about the life opportunities for children from different backgrounds, but now we focus on children from very rich families.**

From our experience, this question takes some time to answer.

Consider 100 children coming from the richest 100 families.

Please fill out the entries to the right of the figure below to tell us, in your opinion, how many out of these 100 children will grow up to be in each income group. Please note that your entries need to add up to 100 or you will not be able to move on to the next page.

Here are 500 families that represent the US population:



106. Please tell us whether you agree with the following statement: "People should be allowed to accumulate as much wealth as they can even if some make millions while others live in poverty."  
*Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree*
107. Thinking about your past achievements, do you believe that your hard work and effort in life have paid off or not?  
*They have paid off a lot; They have paid off somewhat; They have not paid off at all*
108. [W1-W4] Thinking about your future achievements, do you believe that your hard work in life will pay off or not?  
*[They will pay off a lot; They will pay off somewhat; They will not pay off at all]*
109. [W1-W4] (If ≥ 1975 to Q3) Thinking of yourself, how likely is it that you will ever be among the top 20% richest household in the U.S., i.e., households which earn more than \$130,000 per year?  
*Very likely; Likely; Somewhat likely; Not likely; Not likely; Not likely at all*
110. [W1-W4] (If < 1975 to Q3 and < 0 to Q36) Thinking of your children, how likely is it that they will ever be among the top 20% richest household in the U.S., i.e., households which earn more than \$130,000 per year?  
*Very likely; Likely; Somewhat likely; Not likely; Not likely; Not likely at all*

### 13. Views about redistribution

111. Let's think about the role of the government when it comes to **large income differences** between rich and poor people. Think of a scale where:
- 1 means that the government **should not concern itself** with reducing income differences between rich and poor people

- 7 means that the government **should do everything in its power** to reduce income differences between rich and poor people

What score between 1 and 7 comes closest to the way you feel?

1; 2; 3; 4; 5; 6; 7

112. Some people think that the government should not concern itself with making the **opportunities for children** from poor and rich families more equal. Others think that the government should do everything in its power to make the opportunities for children from poor and rich families more equal.

Think of a scale where:

- 1 means that the government **should not concern** itself with making the opportunities for children from poor and rich families more equal
- 7 means that the government **should do everything in its power** to reduce this inequality of opportunities

What score between 1 and 7 comes closest to the way you feel?

1; 2; 3; 4; 5; 6; 7

113. Please tell us if you think that **upper-income people** are paying their fair share in federal taxes, paying too much, or paying too little.

*Too much; Fair share; Too little*

114. Please tell us if you think that **low-income people** are paying their fair share in federal taxes, paying too much, or paying too little.

*Too much; Fair share; Too little*

115. Here are several things that the local, state, or federal government might spend more funds on. Please indicate if you favor or oppose them. Keep in mind that **in order to finance an expansion of any of these programs, other types of spending would have to be scaled down or taxes would have to be raised.**

	Strongly favor	Favor	Indifferent	Oppose	Strongly oppose
Increasing income support for the poor	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[W1-W4] Improving the conditions of the poorest neighborhoods	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[W1-W4] Helping low income households pay for their health insurance and health care	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spending more on defense and national security	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Spending more on infrastructure	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

#### 14. Views

*Now we'd like you to tell us your views on various issues. How would you place your views on this scale? 1 means you agree completely with the statement on the left; 10 means you agree completely with the statement on the right; and if your views fall somewhere in between, you can choose any number in between.*

116. [W5]

- *Left*: It is important to follow the traditions and customs that are passed down by one's community or family over time.
- *Right*: It is **not** important to follow the traditions and customs that are passed down by one's community or family over time.

1 (agree with left); 2; 3; 4; 5; 6; 7; 8; 9; 10 (agree with right)

117. [W5]

- *Left*: People can only get rich at the expense of others
- *Right*: Wealth can grow so there's enough for everyone.

1 (agree with left); 2; 3; 4; 5; 6; 7; 8; 9; 10 (agree with right)

118. [W5] In the last decade, the salaries of CEOs have grown much faster than the salaries of average workers.

- *Left*: These gains in CEO salaries **have been** at the expense of the salaries of average workers.
- *Right*: These gains in CEO salaries **have not been** at the expense of the salaries of average workers.

1 (agree with left); 2; 3; 4; 5; 6; 7; 8; 9; 10 (agree with right)

119. [W5] Since the 1960s, the average wages of women have risen relative to the wages of men.

- *Left*: Women's wage gains **have been** at the expense of men's wages.
- *Right*: Women's wage gains **have not been** at the expense of men's wages.

1 (agree with left); 2; 3; 4; 5; 6; 7; 8; 9; 10 (agree with right)

### 15. Views about government

120. How often do you think you can trust the government to do what is right?

*Never; Some of the time; Most of the time; Always*

121. [W5] Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?

*Most people can be trusted; Need to be very careful; Don't know*

122. We are interested in whether you are paying attention to the survey. To show that you are reading the full set of instructions, just go ahead and select both strongly agree and strongly disagree among the alternatives below, no matter what your opinion is.

**Please tell us whether you agree with the following statement:**

"It is easy to find accurate and reliable information in the media these days".

*Strongly agree, Agree, Disagree, Strongly disagree*

### 16. Views about Race

123. Please tell us whether you agree with the following statement: "It's really a matter of some people not trying hard enough; if Black people would only try harder, they could be just as well off as white people"

*Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree*

124. Do you believe racism in the US is:  
*Not a problem at all; A small problem; A problem; A serious problem; A very serious problem*
125. Please, tell us whether you agree or disagree with the following statement: "Generations of slavery and discrimination have created conditions that make it difficult for Black people to work their way out of the lower class."  
*Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree*
126. [W1-W4] Please, tell us whether you agree or disagree with the following statement: "The Irish, Italians, Jews, and many other minorities overcame prejudice and worked their way up. Today's immigrants should do the same without any special favors"  
*Strongly agree, Agree, Neither agree nor disagree, Disagree, Strongly disagree*
127. [W1-W4] How often do you think that Black people experience discrimination or are hassled or made to feel inferior because of their race?  
*[Very often; Often; Sometimes; Never]*
128. [W1-W4] During interactions with the police, how often do you think that Black people experience discrimination or are hassled or made to feel inferior because of their race?  
*Often; Sometimes; Never*

**17. Views about migration**

129. What do you think will happen as a result of more immigrants coming to this country? Is each of these possible results very likely, somewhat likely, not too likely, or not at all likely?

	Very likely	Somewhat likely	Not too likely	Not at all likely
Higher economic growth	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Higher unemployment	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making it harder to keep the country united	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Higher crime rates	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Making the country more open to new ideas and cultures	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People born in the US losing their jobs	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

130. Some people think that the government (at the local, state, or federal level) should only support people who were born in the U.S. Others think that the government should care equally about all the people living in the country, regardless of their country of origin and regardless of whether they are born in the U.S.

Think of a scale where:

- 1 means that the government should focus on supporting people **born in the U.S.**
- 7 means that the government should care **equally about everyone.**

What score between 1 and 7 comes closest to the way you feel?

*1; 2; 3; 4; 5; 6; 7*

131. Do you think the number of immigrants from foreign countries who are permitted to come to the United States to live should be increased a lot, increased a little, left the same as it is now, decreased a little, or decreased a lot?

*Increased a lot; Increase a little; Same as now; Decreased a little; Decreased a lot*

**18. Views about Gender**

132. Some people say that because of past discrimination, women should be given preference in hiring and promotion. Others say that such preference in hiring and promotion of women is wrong because it discriminates against men. What about your opinion – are you for or against preferential hiring and promotion of women?

*Strongly in favor; In favor; Neither in favor nor against; Against; Strongly against*

133. How often do you think that women experience discrimination or are hassled or made to feel inferior because of their gender?

*Very often; Often; Sometimes; Never*

**19. Views about Gun Ownership**

134. In general, do you feel that the laws covering the sale of firearms should be made more strict, less strict, or kept as they are?

*More strict; Less strict; Kept as they are*

**20. Views about universal health care**

135. Do you favor/oppose publicly supported universal health insurance for all Americans (with the possibility to still purchase extra private insurance)?

*Favor a great deal; Favor moderately; Favor a little; Oppose a little; Oppose moderately; Oppose a great deal*

**21. Views about Patriotism**

136. Some people say the following things are important for being truly American. Others say they are not important. How important do you consider each of the following?

	Very important	Fairly important	Not very important	Not important at all
To have been born in America	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[W1-W4] To have American citizenship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[W1-W4] To have lived in America for most of one's life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[W1-W4] To be able to speak English	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
To be a Christian	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

137. How much do you agree or disagree with the following statements?

	Strongly agree	Agree	Neither agree nor disagree	Disagree	Strongly disagree
[W1-W4] I would rather be a citizen of America than of any other country in the world	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are some things about America today that make me feel ashamed of America	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
[W1-W4] People should support their country even if the country is in the wrong	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

138. [W1-W3] How much do you agree or disagree with the following statements?

	Extremely important	Very important	Moderately important	Somewhat important	Not too important
Freedom is having a government that doesn't control me or interfere in my life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freedom is having the right to participate in politics and elections	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freedom is having the power to choose what I want in life	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Freedom is being able to express unpopular ideas without fearing for my safety	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 22. Zero sum mentality

Please tell us whether you agree with the following statements:

139. "In the United States, there are many different ethnic groups (Black, White, Asian, Hispanic, etc.). If one ethnic group becomes richer, this generally comes at the expense of other groups in the country."

*Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree*

140. "In international trade, if one country makes more money, then it is generally the case that the other country makes less money."

*Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree*

141. "In the United States, there are those with American citizenship and those without. If those without American citizenship do better economically, this will generally come at the expense of American citizens."

*Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree*

142. "In the United States, there are many different income classes. If one group becomes wealthier, it is usually the case that this comes at the expense of other groups."

*Strongly agree; Agree; Neither agree nor disagree; Disagree; Strongly disagree*

143. [W4, W5] The following question shows two statements that represent opposing points of view. Please choose the option that indicates which statement you agree with most and how strongly you agree.

- **Statement 1:** Most of the wealth of the rich was created **without taking it** from others
- **Statement 2:** Most of the wealth of the rich was obtained **by taking it** from others

*Strongly agree with 1; Agree with 1; Agree with 2; Strongly agree with 2*

## 23. Happiness

144. All things considered, how satisfied are you with your life as a whole these days?

*10 (Completely satisfied); 9; 8; 7; 6; 7; 5; 4; 3; 2; 1 (Completely dissatisfied)*



## 24. Mental Health

145. [W1-4] Over the last 2 weeks, how often have you been bothered by the following problems?

	Not at all	Several days	More than half the days	Nearly every day
Not been able to stop or control worrying	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Experienced feeling down, depressed or hopeless	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## 25. Universalism

For the following questions, imagine that you are given \$100 to split between two people. You must give away the full amount and you cannot keep any for yourself. Please note that the two values need to add up to 100 or you will not be able to move on.

146. [W5] How would you split \$100 between a member of one of your past or current organizations (local church, club, association, etc.) and a randomly-selected person who lives in the United States?

- [text box] A member of one of your organizations;
- [text box] A randomly-selected U.S. person

147. [W5] How would you split \$100 between a randomly-selected person who lives anywhere in the world and a randomly-selected person who lives in the United States?

- [text box] A randomly-selected person from anywhere in the world;
- [text box] A randomly-selected U.S. person

## 26. Open-ended Questions

148. [W1-W4] In your view, what are America's strengths?  
[text box]

149. [W1-W4] In your view, what are America's weaknesses?  
[text box]

## 27. QAnon Question

150. [W3] How many of the following things do you believe in:

- UFOs
- Vaccinations make more harm than benefit
- The principles of QAnon [A random selection of respondents was shown this option]
- Life after death
- Spirits
- Karma
- Global warming due to humans

0; 1; 2; 3; 4; 5; 6; [7]

151. [W3] Do you think that QAnon contains some truths about US politics?  
*Yes, it definitely does; Yes, probably does; Uncertain one way or the other; No, probably does not; No, definitely does not; I don't know what QAnon is*

**28. Abortion**

152. [W5] Do you think abortions should be legal under any circumstances, legal only under certain circumstances, or illegal in all circumstances?  
*Legal under any circumstances; Legal only under certain circumstances; Illegal in all circumstances*