Values as Luxury Goods
and Political Behavior[*]

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April 10, 2023

Abstract

Motivated by novel survey evidence, this paper develops a theory of political behavior in which values are a luxury good: the relative weight voters place on values rather than material considerations increases in income. The model predicts (i) voters who are sufficiently rich to afford voting left; (ii) that more rich than poor people vote against their material interests; (iii) that Democrats are internally more fragmented than Republicans; (iv) that income and voting Republican are positively correlated across voters but negatively across states; and (v) the realignment of rich moral liberals and poor moral conservatives. We test our predictions empirically.

"Erst kommt das Fressen, dann kommt die Moral." – *"A hungry man has no conscience."*

Bertolt Brecht, The Threepenny Opera

1 Introduction

A growing body of empirical work documents that people's policy views and voting behavior depend both on the economic incentives that are traditionally emphasized by political economists, and on people's values.[1] The empirical insight that both material and non-material considerations matter for political behavior raises the question how people trade off these concerns when they are in conflict with each other. This is of particular interest in the context of widely-discussed voter groups that appear to vote "against their economic interests": morally conservative working class voters who vote Republican (Frank, 2007) and morally liberal educational elites who vote Democrat (Gethin, Martínez-Toledano and Piketty, 2021).

To shed light on how the tradeoff between material incentives and values shapes policy views and voting behavior, we propose a theory of political behavior in which *values are luxury goods*: the relative weight that people place on non-material versus material issues increases in their absolute income. This assumption does not mean that the poor have "weaker" values, or that their values are more or less extreme. Instead, the assumption of luxury goods only captures the idea that – relative to the poor – the rich are more likely to vote based on their values rather than their pocketbook. Our main objectives are (i) to present novel survey evidence for the luxury goods assumption; (ii) to show that it explains various empirical regularities about contemporary U.S. political conflict that appear puzzling from the perspective of traditional models; and (iii) to derive new predictions that follow from the luxury goods assumption, and to empirically test them.

Motivating evidence. The broad idea that values can be luxury goods is not new. It was initially proposed in Maslow's (1943) "hierarchy of needs" and subsequently gained prominence through the influential "postmaterialism" literature initiated by Inglehart (1997, 2020). Using the World Values Survey, this body of work documents that, time and again, people report placing a greater emphasis on their values relative to their material concerns as they get richer.

This idea arguably also has intuitive appeal in the political domain, where the rich can "afford" to prioritize their views on moral and cultural issues because they need to worry less about how to feed their family (Gelman, Shor, Bafumi and Park, 2007). However, direct evidence that this is indeed the case is scarce, and providing it is one of our contri-

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[1]See Luttmer (2001); Graham, Haidt and Nosek (2009); Haidt (2012); Enke (2020); Andre, Boneva, Chopra and Falk (2021); Enke, Rodríguez-Padilla and Zimmermann (2022); Cappelen, Enke and Tungodden (2022); Fehr, Mollerstrom and Perez-Truglia (2022); Landier and Thesmar (2022).

butions. We implement a tailored survey of 1,200 U.S. voters, in which respondents first indicate their opinion on five economic and five social policy issues. We then ask them to allocate 100 points among these same issues to indicate how important they each are for which political candidate the respondent would support.

We find that the relative weight voters place on the social issues significantly increases in household income. Descriptively, moving a voter from the lowest to the highest income category in our survey increases the relative weights placed on social issues by 13%. This correlation is robust to controlling for other demographics. In conjunction with additional indirect evidence discussed below in Section 2, we interpret these results as suggesting that – as far as political behavior is concerned – values constitute luxury goods.

Model setup. To cleanly isolate the implications of values as luxury goods for individual voter behavior, we assume that party positions are exogenously fixed (which, for individual voters, they are). We assume a two-dimensional policy space in which one party offers a more conservative platform on both an economic and a social dimension.

Voters' primitive types consist of their income and their values. We refer to voters with conservative / liberal values as "moral conservatives / liberals," with the implicit understanding that these values could also be cultural in nature. In the model, values determine the voter's ideal social policy. A voter's ideal economic policy such as the desired level of redistributive taxation is determined by their relative income position in society and, potentially, also by their values. We allow values to affect the voter's ideal economic policy in ways that are in line with the empirical evidence (more conservative values predict lower demand for redistribution), though almost none of our results depend on this assumption.

Our main assumption is that while all voters (including the poor) place non-zero utility weight on their values, this weight strictly increases in absolute income. As a result, voters express their values more strongly as they get richer.

Model implications and empirical tests. To see the most basic implication of the luxury goods assumption, consider the canonical comparative static effect of an increase in a voter's relative income on his vote choice. In traditional models such as Meltzer and Richard (1981), richer voters have more conservative ideal economic policies. While this effect remains operational in our model, income-dependent utility weights generate an additional indirect income effect. For moral liberals, this indirect effect counteracts the direct one as they can now "afford" to prioritize their liberal values over their material concerns. In contrast, for moral conservatives, a higher income leads them to place a higher weight on their conservative values, which further strengthens the support of the conservative party.

As a result, our model predicts that the voting behavior of moral conservatives is more responsive to income than that of moral liberals. Indeed, the model makes the stark

prediction that the effect of income on voting can even be zero or negative for voters who are sufficiently morally liberal. This produces a version of the "gauche caviar:" rich voters who support left-wing policies and candidates. It is worth contrasting this model prediction with two-dimensional voting models with fixed utility weights. In those models, every voter – no matter how morally liberal – has a threshold income level above which s/he would vote for the conservative party. In our model, this prediction – which we view as counterintuitive – does not hold.

We empirically study these predictions in two datasets, the American National Election Studies (ANES) and a representative Moral Foundations Questionnaire (MFQ) dataset. In line with our model predictions, we find that the positive effect of income on voting Republican is substantially more pronounced among moral conservatives than among moral liberals. Moreover, the effect of income on voting Republican within the set of very morally liberal voters is even weakly *negative* in both datasets.

In our model, these patterns have direct implications for who is more likely to vote against their economic interests. Consider two groups of voters that are both "off-diagonal" in income / values space, and that have both attracted considerable attention in the recent popular debate: voters who are either rich-and-morally-liberal or poor-and-morally-conservative, such that they align with each party on only one dimension. While an influential body of narratives focuses on the "puzzle" that poor moral conservatives vote Republican (Frank, 2007; Hacker and Pierson, 2020), it is equally puzzling that rich moral liberals (such as the educational elite) often vote Democrat. Indeed, our model predicts that rich moral liberals are *more* likely to vote against their material interests than poor moral conservatives. The simple intuition is that both groups need to trade off their economic incentives and their values, and rich moral liberals place a higher weight on their values than poor moral conservatives.

We again test this new prediction empirically. In both the ANES and the MFQ, voters who are rich and morally liberal are more than 20 percentage points more likely to vote Democratic than poor and morally conservative people are to vote Republican. While much prior work has separately investigated the voting behavior of poor moral conservatives and rich moral liberals, we provide the first model and empirical evidence that directly compares the two.

The asymmetry in terms of whether the rich and poor vote based on material or non-material considerations also has implications for understanding within-party supporter heterogeneity. In our model, people vote Democratic for two fundamentally different reasons: either because they are poor (in this case, more-or-less independent of their values, because the weight on these is relatively small), or because they are rich and have very liberal values. For Republican voters, on the other hand, the mirror image of this pattern is less likely to happen: the very poor will less often vote Republican even if they have conservative values because – being poor – they place a lower weight on their values. As a result, our model predicts that the set of Democratic voters is internally more

heterogeneous than the set of Republican ones. We are not aware of other formal models that have made such a prediction.

We again take this prediction to the data in the ANES and MFQ. Consistent with the model, Democratic voters exhibit a significantly greater standard deviation in both income and values than Republican ones.

In a final step of our analysis with fixed party positions, we consider the widely known "voting-income paradox" first popularized by Gelman et al. (2007): income and voting Republican are positively correlated across voters, yet state average income and state Republican vote share are negatively correlated. Our model shows how this pattern can emerge through the luxury goods logic. As highlighted above, our model predicts that the voting-income gradient is larger for more conservative voters. Thus, the voting-income slope should be larger in a morally-conservative state like Kentucky than in a morally-liberal state like Connecticut (which is true). If the morally more conservative state has a lower average income, our model naturally generates (under some restrictions) that the sign of the voting-income relationship flips going from the individual to the aggregate level. This suggests that – just like some of the other seemingly-puzzling stylized facts discussed above – the ecological fallacy regarding the voting-income relationship is ultimately driven by the logic of values as luxury goods.

Extension: secular change and realignment. While our paper is focused on a static context with fixed party positions, we also present an extension that considers changes in voting patterns over time. We focus on the effects of long-run increases in incomes, which mean that voters place a higher weight on values in the later period. As a result, holding party positions fixed, "off-diagonal" voters become more likely to vote in line with their values rather than their material concerns and realign: poor moral conservatives (such as the white rural working class) swing towards the Republican party, while rich moral liberals (the canonical "educational elite") swing towards the Democrats. Thus, our model offers a novel mechanism that may have contributed to the widely-discussed realignment patterns observed in the United States.

Contribution and related literature. To sum up, we provide the first direct empirical evidence for and theoretical investigation of the idea that values are luxury goods in political behavior. This idea is not only supported by direct data but also generates various new testable predictions that find empirical support, including (i) steeper voting-income gradients among moral conservatives than among moral liberals; (ii) that the income effect can even be zero or negative for morally sufficiently liberal voters; (iii) that more rich moral liberals than poor moral conservatives vote against their material interests; (iv) greater within-party heterogeneity on the left; and (v) that the voting-income slope can exhibit different signs at the individual and the state level. In combination, we believe that the simple assumption of luxury goods ties together various seemingly-puzzling stylized facts.

Our framework with two-dimensional types differs from much of the formal literature on electoral competition, which adopts a one-dimensional framework. Our work builds on contributions that model competition in multi-dimensional settings but feature fixed weights (e.g., Schofield, 2007; Bade, 2011; Krasa and Polborn, 2014a,b; Dragu and Fan, 2016; Nunnari and Zápal, 2017). Pástor and Veronesi (2021) highlight how diminishing marginal utility of money can make a preference for equality a luxury good. Our paper also relates to recent theoretical work on values or ethics in political economy (e.g., Tabellini, 2008), as well as to models that link political competition to psychological or cultural factors (e.g., Besley and Persson, 2019; Rodrik, Ash and Mukand, 2021; Callander and Carbajal, 2022; Bonomi, Gennaioli and Tabellini, 2021; Gennaioli and Tabellini, 2023).

The paper proceeds as follows. Section 2 presents motivating evidence for the luxury goods assumption. Section 3 exposits the model. Section 4 analyzes the static model and presents empirical evidence that tests the model's predictions. Section 5 presents an extension to secular change and Section 6 concludes. All proofs of propositions are in Appendix A.

2   Motivating Evidence

2.1   Targeted Survey

Design.   To study the relative weights voters place on economic and social policy issues, we implemented a two-part survey. Our survey builds on the design of Spenkuch and Teso (n/a), though they don't study the dependence of issue weights on income.

In Part 1, for each of five social and five economic policy topics, respondents selected one of five statements as most representative of their opinion on that topic. These five statements were clearly ordered along liberal-versus-conservative lines. Social topics included immigration, affirmative action and minorities, free speech and cancel culture, abortion, and LGBTQ rights. Economic ones included the minimum wage, taxes on rich households, taxes on businesses, health care, and taxes on / subsidies for usage of fossil fuels; the results do not depend on whether the latter issue is coded as economic or social.

In Part 2 of the survey, respondents were asked to distribute 100 points among these ten issues to indicate how important they each are for determining which political candidate they would vote for. Respondents were shown the 10 statements they had selected as most representative of their opinion, and then allocated 100 points among them. To prevent order effects, the order of the ten topics was randomized across respondents. Respondents could only proceed to the next screen when their ten topic weights summed to 100. As respondents provided their weights, the computer program simultaneously displayed the sum of allocated points, freeing respondents from the cognitive burden of keeping track of how many points they had already allocated. Aside from eliciting various demographics of interest, we measured household income in two ways: (i) respondents placed themselves

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into one of 12 household income categories and (ii) we provided a text box for free entry of a dollar value.

Appendix B contains screenshots of the key components of the survey flow, including the statements among which respondents indicated their preferred opinion and the elicitation of the issue weights.

The survey was run on the online platform *Prolific*, which has been shown to deliver substantially higher-quality data than *Amazon Mechanical Turk* (Gupta, Rigotti and Wilson, 2021). We interspersed three attention checks throughout the survey and exclude all participants who failed one of them. Given our research question, we desired a sample that is balanced on political views. Thus, we made use of *Prolific*'s sample stratification options to gather data on an equal number of roughly 500 self-identified Democrats and Republicans each, as well as 200 independents. We ended up with a total sample of 1,198 respondents. While the sample is not nationally representative, it is considerably broader and more diverse than typical convenience participant pools. 50% of participants are men, the median age is 40 (interquartile range is 31 to 54), 55% have a college degree, and median self-reported household income is $59,450 (interquartile range is $32,000 to $98,000). 24% of the sample report an annual household income of at least $100,000.

Results. Respondents clearly engaged with the task of assigning importance weights to the different topics, as can be inferred from the presence of systematic variation in weights across topics. The most important topic, on average, is health care (15.4 points) and the least important one affirmative action and minorities (average of 6.3 points). On average, respondents allocate 9.0 points to each social issue and 11.0 to economic ones.

Table 1 reports the results on the link between social issue weights and income. Because respondents were forced to allocate exactly 100 points across the 10 topics, we can simply analyze the data by looking at how the weights assigned to the social topics vary with demographics. Thus, each observation in Table 1 is a respondent-social-weight, for a total of 5,980 observations, five per respondent.[2]

Column (1) shows that the social issue weights significantly increase in respondents' income category. Columns (2)–(4) successively add controls. Perhaps unsurprisingly, respondents with more extreme social opinions (calculated as absolute distance between the respondent's opinion and the midpoint of 3) also report significantly higher issue

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[2]For transparency, Appendix Table 2 breaks these results down into the ten separate policy topics. However, our deliberate survey design with a fixed budget of 100 importance points, does not allow us to meaningfully identify fine-grained variation within social policy topics. While we find that the positive link between income and social issue weights is strongest for the topics of immigration, affirmative action, and free speech and cancel culture, this does not mean that the relative weights placed on the other topics would not in increase in income if they were only contrasted with economic issues. For instance, it is conceivable that respondents who allocated many points to immigration and affirmative action would have allocated these points to LGBTQ rights had the former two categories not been available. As a result, we can only conclude that the relative weight between social and economic issues as a whole increases in income.

Table 1: Income and issue weights for social policy topics

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Dependent variable:							
	Issue weight (social topics)							
Income category (0-11)	0.099***	0.11***	0.097***	0.095***				
	(0.03)	(0.03)	(0.04)	(0.04)				
Log HH income					0.38***	0.42***	0.33**	0.32**
					(0.14)	(0.14)	(0.14)	(0.14)
Extremity of opinion (0-2)		3.52***	3.54***	3.06***		3.54***	3.57***	3.06***
		(0.17)	(0.17)	(0.40)		(0.17)	(0.17)	(0.40)
Age			-0.0034	-0.0095			-0.0041	-0.010
			(0.01)	(0.01)			(0.01)	(0.01)
1 if female			0.067	0.057			0.063	0.061
			(0.23)	(0.22)			(0.23)	(0.22)
1 if college degree			-0.30	-0.15			-0.27	-0.12
			(0.24)	(0.24)			(0.24)	(0.24)
Religiosity (0-10)			0.30***	0.23***			0.31***	0.23***
			(0.03)	(0.03)			(0.03)	(0.03)
Survey wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Topic FE	No	Yes	Yes	Yes	No	Yes	Yes	Yes
Opinion FE	No	No	No	Yes	No	No	No	Yes
Observations	5980	5980	5980	5980	5895	5895	5895	5980
R^2	0.00	0.12	0.13	0.15	0.00	0.12	0.13	0.15

Notes. OLS estimates, standard errors (clustered at respondent level) in parentheses. The dependent variable is the weight assigned to each social policy topic, for a total of five observations per respondent. Log HH income is computed as the log of the average of (i) a text box entry asking for HH income and (ii) the midpoint of the income category a respondent indicated. The sample in columns (5)–(8) includes all respondents who indicated a HH income of more than $1 in the free text entry format.

weights. Column (3) adds further demographics, the strongest pattern being that religious people report placing a higher weight on social issues. Regardless of whether or not these covariates are included, income and social issue weights are always positively linked. Finally, column (4) shows the arguably most stringent specification, in which we control for fixed effects for the respondent's opinion on the issue under consideration. Even in this specification, income is significantly linked to issue weights, with a largely unchanged coefficient estimate.

In terms of quantitative magnitude, the regression coefficient says that moving from the lowest (below $10k) to the highest (at least $150k) income category changes each social issue weight by 1.1 points, from a baseline of 8.4 (an increase of 13%). Figure 1 reports a binscatter plot that visualizes this relationship.

Columns (5)–(8) replicate the same analyses but now use a continuous measure of log household income that is computed by averaging the two income elicitations described above (see the tablenotes for details). The results are very similar.

These empirical patterns are at odds with popular anecdotal accounts that assert that the voting behavior of the poor is to a much larger extent driven by values than that of
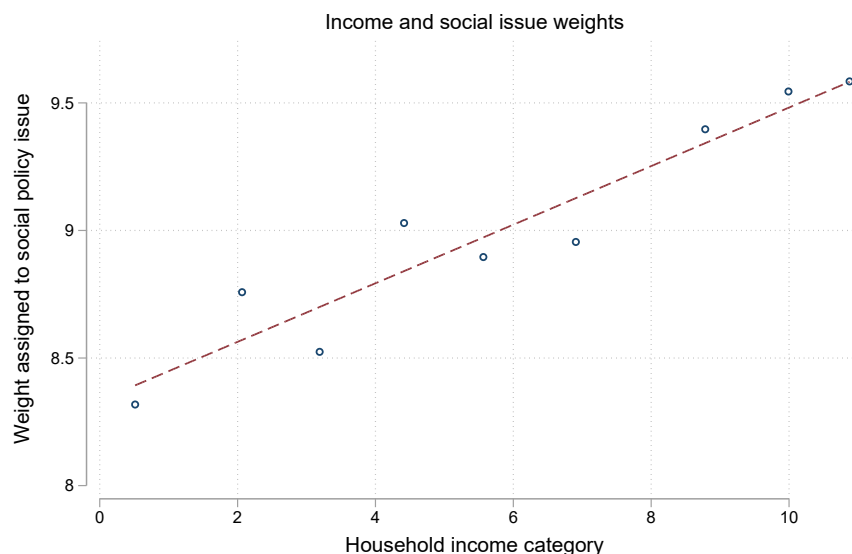
Figure 1: Binscatter plot of the link between household income and subjective importance weights assigned to each social policy topic. The figure shows a partial correlation plot that visualizes the results of the regression reported in column (2) of Table 1. Based on 5,020 issue weights reported by 1,004 survey respondents for each of five social policy topics.

the rich (e.g., Frank, 2007; Hacker and Pierson, 2020). Rather, we interpret the data as saying that values are a luxury good: whichever values people hold, they matter more for people's vote choice the richer they are.

2.2 Additional Indirect Evidence

There is also other, more indirect evidence to suggest that values are particularly important for the political views of the rich.[3] Based on a large focus group study of 8,000 Americans, the recent "Hidden tribes" report (Hawkins, Yudkin, Juan-Torres and Dixon, 2019) classifies voters according to their primary political concerns. In the report, the two groups that are most pre-occupied with moral and cultural issues are labeled "progressive activists" on the left and "devoted conservatives" on the right. The report describes these two voter groups by highlighting that their material positions are unusually secure:

> "Progressive activists: Their own circumstances are secure, which perhaps frees them to devote more attention to larger issues of justice in society... [such as] issues of fairness and equity."
> "Devoted conservatives: They are one of the highest income-earning groups, and feel more secure than most other Americans. They are highly engaged in social issues...[and] feel that traditional values are under assault."

Arguably, this implicity or explicitly alludes to the idea that materially secure voters can

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[3]Also see the discussion in Gelman et al. (2007).

"afford" to prioritize their values. On the flipside, the report highlights that those voter groups that are less concerned with moral or cultural issues are materially less secure. In line with this, U.S. Senator Sherrod Brown recently asserted that:[4]

> "*When you're on the edge, worried about the next layoff or health setback and struggling to make ends meet, the latest Twitter feud or cable news controversy [about culture wars] is just background noise.*"

3   Model

3.1   Preferences

The policy space is two-dimensional, with x_e and x_s denoting the realized economic and social policy, respectively. We adopt the convention that "higher" policies are more conservative. Voter primitives are given by log income, y, and the voter's values, μ. We emphasize that μ does not capture whether a voter has "better" or "worse" values but, instead, conservative or liberal ones. Our model is one of horizontal rather than vertical differences in values. Henceforth, we refer to voters with high (low) μ as "moral conservatives (liberals)," with the implicit understanding that some of the relevant values need not be moral in nature (e.g., cultural values). We don't impose assumptions on the correlation between y and μ.[5]

The deterministic part of a voter's overall utility is given by a weighted average of two components, which we call material (M) and non-material (or values-based) utility, P. The weight function $w(y)$ ranges from 0 to 1 and is increasing and concave.

$$U = [1 - w(y)]M + w(y)P. \tag{1}$$

Discussion.   In standard household theory, some physical goods are inferior and some are normal. In much the same way, it would be surprising if the rate at which voters trade off material wealth and their values is unaffected by their wealth. While diminishing marginal utility is a plausible reason for why higher incomes might lead to a higher effective weight on values, this is not mathematically true for all concave utility functions. The reason is that there are two countervailing effects. First, as people get richer, their marginal utility of money decreases, which makes values more important at the margin. Second, however, as people get richer, economic policy also becomes more important to them in absolute terms as their tax base increases. Nevertheless, it is clearly conceivable that the

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[4]See   https://www.sherrodbrown.com/news/2022/the-american-prospect-op-ed-becoming-the-workers-party-again/.

[5]In practice, there appears to be very little correlation. In the ANES, the correlation between log income and the moral conservatism score described below is negative but small $r = -0.04$, and in the Moral Foundations Questionnaire it is even positive (but also small), $r = 0.06$.

effective relative weight that a voter puts on values changes with income due to diminishing marginal utility. We are agnostic about whether the weight function $w(y)$ reflects the effects of diminishing marginal utility or some other effect.

Material utility. Material utility is a function of individual income and the implemented economic policy x_e. Rather than setting up an explicit model of material utility, we employ a reduced-form one, which is compatible with several interpretations:

$$M(x_e, y, \bar{y}) = y - \frac{1}{2} \left[x_e - \underbrace{(r(y - \bar{y}))}_{\substack{\text{Materially-optimal} \\ \text{economic policy}}} \right]^2. \tag{2}$$

Here, y denotes individual (log) income, and $\bar{y}$ average (log) income in society. We assume that $r(\cdot)$ is an increasing and differentiable function of the individual's relative economic position in society.

Many natural economic models have the property that materially-optimal policies are monotone in relative income. For example, in a model of redistribution, relatively richer agents prefer lower taxes. Similarly, if the level of taxation determines the amount of public goods that can be provided to citizens, the ideal level of taxation will also depend on relative income.

Values-based (non-material) utility. Non-material utility P depends on the deviation of social policy, x_s, from the voter's values, captured by μ. This is the first component of equation (3) below.

We also allow values to potentially affect how the voter thinks about economic policy. This is captured by the second term in eq. (3), according to which the voter suffers disutility from the degree to which the implemented social policy deviates from an increasing function of the voter's values. For example, a broad body of work in economics and psychology has documented that variation in moral values along the particularism-versus-universalism continuum is strongly linked not just to social policy views but also to economic policy views. Voters with more particularist (more morally conservative) values desire both lower redistribution and less immigration or affirmative action.[6]

The assumption that values affect both the voter's ideal social and their ideal economic policy implies that, in our model, economic and social ideal points are correlated. While we wish to allow for this possibility (and the underlying empirical regularities), almost all of our results are driven by the assumption of values as luxury goods (i.e., that $w(y)$ is strictly increasing), rather than by the relation between ideal social and economic policies.

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[6]See Enke et al. (2022) and Cappelen et al. (2022) for work in economics. In the psychology literature, the 20 papers reviewed in the meta-study by Kivikangas, Fernández-Castilla, Järvelä, Ravaja and Lönnqvist (2021) document that universalism is predictive of both social and economic left-wing orientation.

To make this transparent, we formulate overall non-material utility as

$$P(x_e, x_s, \mu) = -\frac{1}{2}(x_s - \mu)^2 - \frac{\lambda}{2}\left[x_e - \underbrace{h(\mu)}_{\substack{\text{Morally-optimal} \\ \text{economic policy}}}\right]^2, \qquad (3)$$

where $h(\cdot)$ is an increasing differentiable function capturing how the values-optimal economic policy depends on μ. The parameter $\lambda \geq 0$ determines how much ideal economic policies depend on values. If $\lambda = 0$, the voter's ideal economic policy only depends on income and is uncorrelated with his ideal social policy. Below, all propositions will clearly indicate if they require $\lambda > 0$ (only Proposition 1 does).

Utility function. Substituting (2) and (3) into (1) yields

$$U = [1 - w(y)]\left\{y - \frac{1}{2}\left[x_e - r\left(y - \bar{y}\right)\right]^2\right\} - w(y)\left[\frac{\lambda}{2}(x_e - h(\mu))^2 + \frac{1}{2}(x_s - \mu)^2\right] \qquad (4)$$

The key characteristic of this utility function is that the utility derived from social policy is a strongly superior good (luxury good). To see this, consider the equivalent variation of an individual's utility loss due to social policy differing from the individual's ideal position μ. Suppose the individual's income increases. For fixed weight w, the equivalent variation would increase proportionately with income. However, since w is increasing in y, the equivalent variation increases more than proportionately with income.

3.2   Ideal Policies

We now turn to characterizing a voter's ideal economic and social policies that maximize (4). Clearly, $x_s^* = \mu$ is optimal in terms of social policy. Maximizing with respect to x_e gives

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\begin{aligned}
x_e^* &= \frac{1 - w(y)}{1 - (1 - \lambda)w(y)}r\left(y - \bar{y}\right) + \frac{w(y)\lambda}{1 - (1 - \lambda)w(y)}h(\mu) \\
&= [1 - W(y, \lambda)]r\left(y - \bar{y}\right) + W(y, \lambda)h(\mu),
\end{aligned} \qquad (5)
$$

where $W(y, \lambda) \equiv \frac{w(y)\lambda}{1-(1-\lambda)w(y)}$. Thus, x_e^* is a weighted average of the materially-optimal economic policy and the values-optimal economic policy, where the weight on the values-optimal policy increases in income if and only if $\lambda > 0$.[7] Because of the indirect effect

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[7]To see this formally, observe that differentiating $W(y, \lambda)$ with respect to y yields

$$\frac{\partial W}{\partial y} = \frac{w'(y)\lambda[1 - (1 - \lambda)w(y)] + (1 - \lambda)w'(y)w(y)\lambda}{[1 - (1 - \lambda)w(y)]^2} = \frac{\lambda w'(y)}{[1 - (1 - \lambda)w(y)]^2} > 0.$$

that is due to $W(y, \lambda)$, the relationship between income and the ideal economic policy is more involved than in standard models.

3.3 Voting

Let x_e^i and x_s^i be the economic and social positions of party i. We assume that there are exactly two parties, called Democrats and Republicans. Party positions are exogenous, and we assume that, on both dimensions, Republican positions are more conservative than Democratic ones (i.e., $x_e^D < x_e^R$ and $x_s^D < x_s^R$).

In addition to their policy utility, voters also receive an idiosyncratic utility shock ε, which could reflect local candidates' competence or the voter's evaluation of differences between the parties beyond the economic and social policy dimensions that are at the center of our model. The utility shock enters additively to utility from party positions, and is measured in a way that positive realizations indicate a non-policy preference for the Democratic party. That is, voter j supports the Republican party if and only if

$$U_j^R - U_j^D > \varepsilon_j,$$

where the left-hand side is voter j's net policy preference for the Republican positions. Let the density of the net utility shock ε be denoted by ψ, and assume that it is always positive, with associated cumulative distribution Ψ. Then, the probability that a voter votes for the Republican candidate is given by $\Psi(U^R - U^D)$, where, of course, the policy utility difference depends on the voter's type (y, μ).

Without loss of generality, we can normalize policies in a way that they are symmetric around zero (i.e., such that $x_e^D = -x_e^R$ and $x_s^D = -x_s^R$). Furthermore, let $\Delta x_e \equiv x_e^R - x_e^D$ and $\Delta x_s \equiv x_s^R - x_s^D$ denote the degree of economic and more polarization between Republicans and Democrats. Using this, we can write the utility difference ΔU as

$$\Delta U \equiv U^R - U^D = [1 - w(y)]\Delta x_e r (y - \bar{y}) + w(y) \left[\lambda \Delta x_e h(\mu) + \Delta x_s \mu\right]. \tag{6}$$

4 Model Implications and Empirical Tests

Throughout the analysis, we intersperse theoretical predictions with empirical results. All empirical analyses are correlational in nature. We rely on two datasets: the Moral Foundations Questionnaire (MFQ) and the American National Election Studies (ANES). The MFQ is an influential psychological questionnaire that measures people's moral values (Haidt, 2012). Based on the MFQ, Enke (2020) develops a summary statistic of the relative importance of particularist versus universalist values for a nationally representative sample of about 4,000 respondents. For simplicity, we refer to this index as "moral conservatism." This dataset covers the 2016 election.

Unlike the MFQ, the ANES has the advantages that it allows for the construction of an economic conservatism index in addition to a moral conservatism index. As described in Appendix E.1, we follow the methodology of Ansolabehere, Rodden and Snyder (2006) in constructing an index of economic conservatism from survey questions about, e.g., social security and federal spending. Our ANES moral conservatism index follows the same methodology, except that we restrict attention to survey questions that are related to the universalism vs. particularism cleavage, such as questions about family values, LGBTQ rights and tolerance. We do this for the sake of comparability with the MFQ results, but our results are almost identical when we include all survey questions.[8] See Appendix E.1 for details. This dataset covers elections between 1988–2020 (roughly 18,000 respondents).

4.1 Income and Economic Policy Views

To begin, it is instructive to consider how support for a higher (more conservative) economic policy changes as a function of income:

$$\frac{\partial x_e^*}{\partial y} = \underbrace{[1 - W(y, \lambda)]r'(y - \bar{y})}_{\text{direct income effect, }+} + \underbrace{\frac{\partial W(y, \lambda)}{\partial y}[h(\mu) - r(y - \bar{y})]}_{\text{indirect values-based effect, ?}} \tag{7}$$

The first term (direct effect) is positive, as in standard political economy models: from the perspective of material incentives, higher income pushes the voter to prefer a more conservative economic policy, as in Meltzer and Richard (1981). However, the sign of the second term (indirect effect) depends on whether an individual's values-optimal economic policy, $h(\mu)$, is to the left or to the right of his materially-optimal economic policy, $r(y - \bar{y})$. For voters who are sufficiently morally conservative (high μ), both the direct and the indirect income effect are positive. For morally liberal voters, on the other hand, the two effects point in opposite directions because the higher weight on values leads them to favor left-wing economic policies. Thus, the desired economic policies of rich and poor moral liberals are more similar to each other than those of rich and poor moral conservatives. This gives rise to the concept of the "gauche caviar": people who are sufficiently rich that their values make them economically left-wing.

Proposition 1. *Suppose that $\lambda > 0$. Then, the relationship between economic policy views and income is stronger among moral conservatives. Equivalently, the relationship between economic and social policy views is stronger among the rich. Formally,*

$$\frac{\partial^2 x_e^*}{\partial y \partial x_s^*} = h'(\mu)\frac{\partial W(y, \lambda)}{\partial y} > 0.$$

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[8]Following Ansolabehere et al. (2006), we compute the economic and social conservatism indices by classifying issues as either economic or social, and then compute weighted averages of survey responses, where the weights are determined by a principal component analysis.
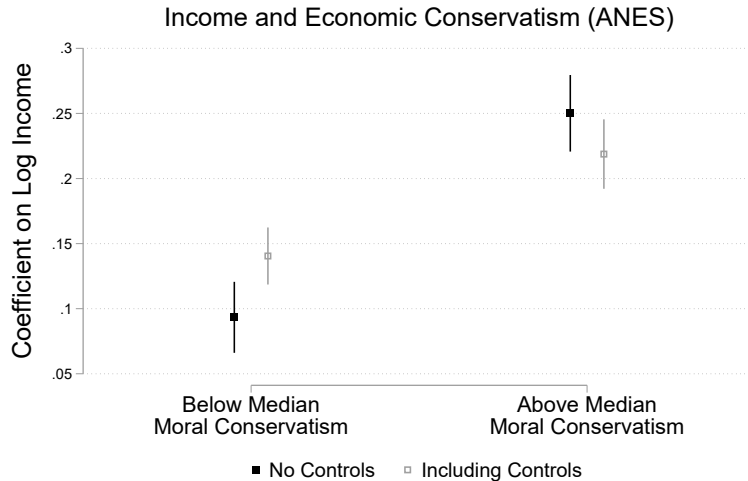
Figure 2: Coefficients from OLS regressions of the economic conservatism index on log income, split by moral conservatism. 95% confidence intervals reported. In a Wald test of the equality of coefficients, $p < 0.001$. Data from ANES, total $N = 18,193$. Income and the conservatism indices all have mean zero and standard deviation one. Controls include state and year FE, gender, age, age squared and education. Regression results are reported in Appendix Table 4.

The proof is obvious from (7) by noting that $x_s^* = \mu$. Note that Proposition 1 is the only one in the paper that relies on the assumption that values affect not only voters' social policy views but also their economic policy views ($\lambda > 0$).

Empirical evidence. To our knowledge, this is a new (and distinctive) prediction of our model that crucially depends on the idea that the non-material weight increases in income. For example, canonical models such as Meltzer and Richard (1981) do not make such a prediction. Similarly, two-dimensional models that feature both income and values do not make such a prediction as long as the utility weights do not depend on income.

We proceed by investigating the empirical patterns in the ANES. We use the economic conservatism index as proxy for x_e^* and the moral conservatism index as proxy for $x_s^* = \mu$. Figure 2 summarizes the results. We plot standardized beta coefficients that report by which fraction of a standard deviation economic conservatism changes in response to a one standard deviation increase in log income. We show the results of two regression specifications, one without controls and one that conditions on state and year FE, age, age squared, gender and education. Consistent with Proposition 1, we find that the coefficient in a regression of economic conservatism on income is more than twice as large among above- than among below-median moral conservatism respondents.

Throughout the paper, we reference regression evidence in figure notes and relegate the tables to appendices. None of our results rely on median splits but always also hold with the underlying continuous variables.

4.2 Income and Voting

Recall that the probability of voting R is $\Psi(\Delta U) = \Psi(U^R - U^D)$. Differentiating (6) with respect to μ shows that morally-conservative voters are more likely to vote Republican as

$$\frac{dPr(R|y,\mu)}{d\mu} = \psi(\Delta U)\frac{d\Delta U}{d\mu} = \psi(\Delta U)w(y)\left(\lambda h'(\mu)\Delta x_e + \Delta x_s\right) > 0. \qquad (8)$$

In contrast, the effect of an increase in income y on the probability of voting R is more complicated:

$$\frac{dPr(R|y,\mu)}{dy} = \psi(\Delta U)\left\{\underbrace{[1 - w(y)]\Delta x_e r'(y - \bar{y})}_{\text{direct income effect, }+} + \underbrace{w'(y)[\Delta x_e(\lambda h(\mu) - r(y - \bar{y})) + \Delta x_s\mu]}_{\text{indirect values-based effect, ?}}\right\} \qquad (9)$$

As in the analysis of economic policy views, there is a direct income effect and an indirect values-based effect. The sign of the direct income effect is positive because, from a purely material perspective, richer voters prefer the Republicans' more conservative economic policy (i.e., $r(\cdot)$ is increasing). The sign of the indirect effect again depends on a voter's values. It is positive for morally conservative voters, so that the probability of voting Republican is unambiguously increasing in income for these voters. However, the indirect effect is negative for morally sufficiently liberal voters. Intuitively, if an increase in income makes a sufficiently morally liberal voter rich enough to "afford" voting based on values, they can become more likely to vote Democrat. We now state results based on this intuition formally in Proposition 2.

Proposition 2. *1. For any y, there exists a critical level $\mu^*(y)$ such that $\frac{dPr(R)}{dy} \gtreqless 0$ if and only if $\mu \gtreqless \mu^*(y)$.*

2. We have $\frac{d^2 Pr(R)}{d\mu dy}$, as given by (12) in the Appendix, positive if $|\psi'(\Delta U(y,\mu))|$ is sufficiently small. In particular, this is the case if ψ is uniform.

The first part of Proposition 2 shows that, for each income level y, there is a critical level of moral conservatism, $\mu^*(y)$, such that the marginal income effect is negative for more liberal voters, and positive for more conservative ones. This claim follows immediately because the terms in curly brackets (9) are strictly increasing in μ in an unbounded way. This first part of the proposition has two closely related implications. First, among morally very liberal voters, the income effect on voting Republican can be zero or even negative. Second, unlike in a two-dimensional model with fixed utility weights, in our model it is not true that every voter – no matter how morally liberal – could state a cutoff income level above which s/he would vote Republican: in our model, not every moral liberal "has a price" because even a very high income need not push in a conservative direction if it increases the weight placed on values sufficiently strongly.

The second part of Proposition 2 contains a somewhat stronger claim, namely that the marginal effect of income is increasing in the voter's moral conservatism, μ. This

is not true in general because there are two effects. The first one, corresponding to the intuition discussed above, has a definitive sign. The second one is related to the fact that an increase in μ changes ΔU and thus $\psi(\Delta U)$, the value of the density of ε at ΔU. If the distribution of ε is sufficiently close to a uniform distribution ($\psi' \approx 0$), then the size of the second effect is small, and the first effect dominates. In this case, Proposition 2 states that voting is more responsive to variation in income among moral conservatives than among moral liberals.[9] As the proof in Appendix A highlights, this prediction is again driven by the assumption of income-dependent utility weights, $w'(y) > 0$. A two-dimensional setup with constant weights does not generate this prediction.

Empirical evidence. The left panel of Figure 3 shows the relationship between voting Republican in 1988-2020 and the ANES moral conservatism index, separately for respondents in the top and bottom third in the income distribution.[10] The right panel shows the same pattern for 2016, except that the x-axis represents the MFQ moral conservatism index. In both panels, we see that the link between values and voting is considerably stronger among the rich. For example, in the MFQ data, in the top third income group, the probability of voting Republican increases by 60 percentage points going from moral conservatism of less than (-1) to conservatism greater than 1, while the corresponding increase in the bottom third income group is only 46 percentage points.[11]

Relating this figure back to our model, the first part of Proposition 2 clarifies that our model is consistent with the stylized fact (visible in Figure 3) that, within the set of morally relatively liberal people, the rich are no more likely to vote Republican than the poor are. Indeed, in the MFQ data, the correlation between income and voting Republican is even significantly *negative* when we restrict attention to the 25% most morally liberal voters in the data ($p < 0.05$). In a two-dimensional voting model with fixed utility weights for material concerns and non-material issues, the probability of voting Republican would always strictly increase in income. Our model with income-dependent utility weights, on the other hand, is consistent with the zero (or even negative) correlation within the set of morally very liberal voters.

To evaluate the statistical significance of the interaction effect between moral conservatism and income that is at the heart of Proposition 2, we regress a binary voting indica-

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[9]We discuss the case where ψ is not approximately constant after the proof of Proposition 2 in Appendix A.

[10]The idea that the voting-income gradient is steeper among moral conservatives has loosely been discussed in the literature. For example, McCarty, Poole and Rosenthal (2016) and Gelman et al. (2007) both report that the income gradient is particularly steep among evangelicals and religious people more generally. Gelman et al. (2007) also report that the income gradient is steeper in rural and Southern states, where voters are plausibly more morally conservative than in urban states.

[11]A potential concern is that the results in Figure 3 reflect higher measurement error and, hence, greater attenuation among the poor. However, as we show in Appendix Figure 10, we don't see a similar pattern for the link between economic policy views and voting. This suggests that the main mechanism is not more noise for poorer people.
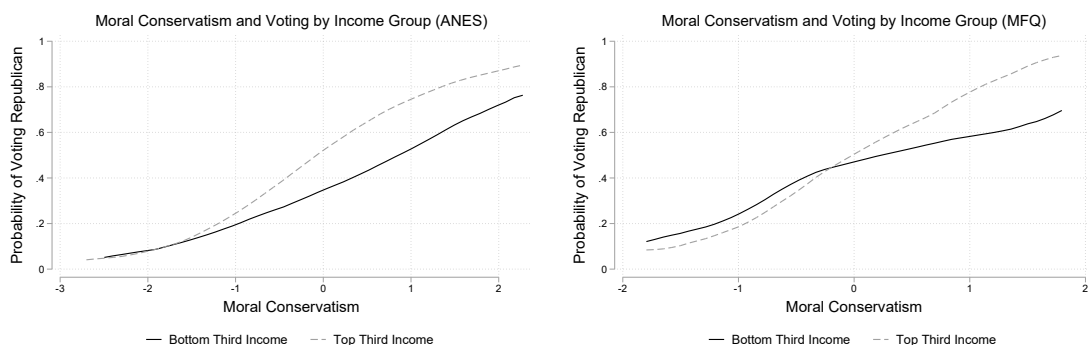
Figure 3: The figure shows local polynomial plots of the link between voting Republican and moral conservatism, separately for respondents in the top / bottom third of the income distribution. The left panel uses data from the ANES ($N = 16,164$) and the right panel from the MFQ ($N = 3,172$). Both moral conservatism indices have mean zero and standard deviation one, see Appendix E.
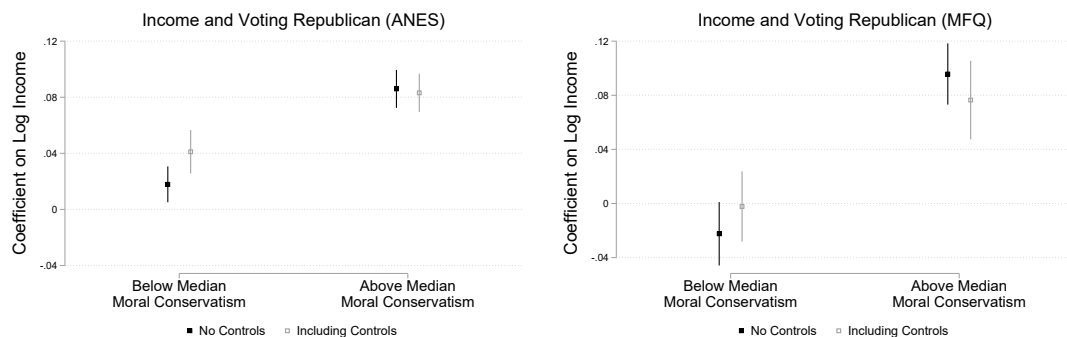

Figure 4: Log income coefficient in a voting regression, by level of moral conservatism. The left panel uses data from the ANES ($N = 16,164$) and the right panel from the MFQ ($N = 3,172$). In a Wald test of the equality of coefficients, $p < 0.01$ in both datasets. All variables are standardized to have mean zero and standard deviation one. Controls include state and year FE, gender, age, age squared and education. Regression results are reported in Appendix Tables 5 and 6.

tor on household income, separately for above- and below-median moral conservatism. As shown in Figure 4, in both the ANES and the MFQ, the effect of a one standard deviation increase in log income on the probability of voting Republican is about 8-10 percentage points larger among moral conservatives, see Appendix Tables 5 and 6 for regression tables. Thus, the evidence shows that – as predicted by our model – the link between values and voting is much stronger among the rich, or, equivalently, that the link between voting and income is stronger among moral conservatives.

4.3 Voting Against One's Material Interests

The insight that values are more relevant for the voting behavior of the rich affords interesting insights into the behavior of "off-diagonal" voters in economic / social conservatism space: those (y, μ) types who are either rich-and-morally-liberal or poor-and-morally-conservative. These voters align with the Democrats and the Republicans on one dimen-

sion each, such that they are potential swing voters in elections. Moreover, these groups have recently received a large amount of attention in the popular discussion, such as in the bestseller "What's the matter with Kansas?" (Frank, 2007). Interestingly, while Frank accuses the rich moral liberals in the Democratic party of being responsible for Democrats losing the heartland working class, he does not discuss that they themselves often vote against their (economic) interests, too. In fact, the existing literature has rarely compared how much poor moral conservatives actually vote Republican *relative to* how much rich moral liberals vote Democratic.

Proposition 3 compares the voting behavior of a rich moral liberal (RML) and a poor moral conservative (PMC) who are, in a sense, mirror images of each other: they have moral ideal points that are symmetric around zero and their materially-optimal economic policies are also symmetric around zero. Thus, RML is better off economically with the Republican platform, but prefers the Democrats values-wise, and vice versa for PMC.

Proposition 3 shows that RML is actually more likely to vote against their material interests than PMC. Intuitively, this again reflects the assumption of income-dependent utility weights. Because of the income effect, it is more important for RML to align with the Democrats values-wise than it is for PMC to align with the Republicans.

Proposition 3. *Suppose that h is a linear function (i.e., $h(\mu) = \ell\mu$ for some $\ell > 0$), and that the function ψ is symmetric around 0 (i.e., no party has an expected valence advantage).*

Consider two voters, RML and PMC, such that $-\mu_{PMC} = \mu_{RML}$ and $r(y_{RML} - \bar{y}) = -r(y_{PMC} - \bar{y})$. Then $Pr(D|RML) > Pr(R|PMC)$.

Since we cannot observe individual *probabilities* of voting Republican, an empirical test of Proposition 3 requires that we aggregate across voters. If, in such an aggregation, every voter in the set of "rich moral liberals" is perfectly matched with a mirror "poor moral conservative" type as defined in Proposition 3, then the percentage of Democratic votes in the former set should be larger than the percentage of Republican votes in the latter set (assuming sufficiently many voters in each set). Moreover, by continuity, the result holds in such an aggregation even if the two empirical groups are slightly unbalanced (i.e., do not consist of voters that are *exact* mirror images of each other.

Empirical evidence. Given that this new prediction is in stark contrast with many popular (qualitative) narratives, we again test it using ANES and MFQ data. Figure 5 plots the fraction of rich moral liberals and poor moral conservatives who vote "against their material interests." Here, we define "rich" and "poor" as the top/bottom third of household income, and "morally conservative" and "morally liberal" as top/bottom third of the moral conservatism indices. Figure 5 shows that rich moral liberals are about 35% more likely to vote Democrat than poor moral conservatives are to vote Republican. These
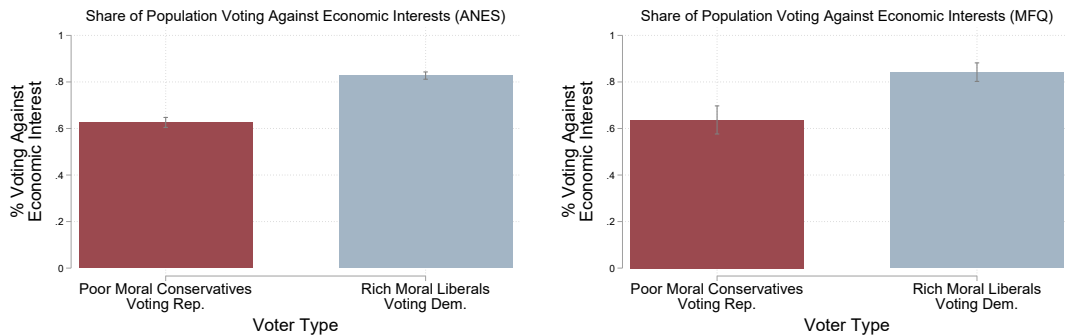
Figure 5: Sample mean and 95% confidence interval of the share of poor moral conservatives who vote Republican, and rich moral liberals who vote Democrat. Here, we define "rich" and "poor" as the top/bottom third of household income, and "morally conservative / liberal" as top/bottom third of the moral conservatism indices. The top panel uses ANES data ($N = 4,274$) and the bottom panel MFQ data ($N = 608$). In t-tests, $p < 0.001$ in both datasets.

comparisons are statistically significant in both datasets.[12] Again, we highlight that this new stylized fact is not predicted by two-dimensional voting models with constant weights, but it naturally arises in our setup with income-dependent weights.

4.4 Within-Party Supporter Heterogeneity

The higher emphasis on values among the rich also has direct implications for within-party constituent heterogeneity in income and values. Our main insight is that the set of Democratic voters is more fragmented than the set of Republican ones. To show this, we first introduce the concept of an iso-probability curve.

Definition 1. *An iso-probability curve is given by the set of (y, μ) for which the probability of voting Republican is constant, i.e., for which ΔU is constant.*

A special case of an iso-probability curve is the level set for which the probability of voting Republican is $1/2$. All voters who are located to the right of this curve are more likely to vote R rather than D, and vice versa.

Proposition 4 below analyzes properties of the iso-probability curves. Iso-probability curves are usually downward-sloping. We show that this holds also in our model for voters who are not too morally liberal, and also applies for all voters if the weight function is of the logistic form (i.e., $w(y) = \frac{c+\rho(y-k)}{1+\rho(y-k)}$, with ρ sufficiently small).[13]

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[12]A potential concern is that these results are spurious and driven by an overall higher vote share for Democrats than Republicans in the ANES and MFQ datasets. To correct for such a potential confound, Appendix Figure 11 shows the demeaned vote shares for each group by subtracting the overall Republican and Democratic vote shares. Rich moral liberals are still significantly more likely to vote against their economic interests relative to poor moral conservatives.

[13]Observe that, in this weight function, $c \in (0,1)$ is a lower bound for the weight placed on non-material utility, and $k \in [0, y)$ and $\rho > 0$ are parameters. Including k in addition to ρ allows to scale the level and the responsiveness of the weights separately. With $k = 0$, a high degree of
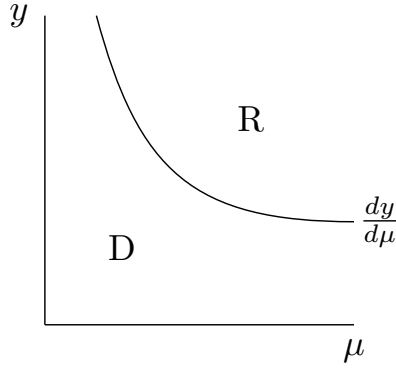
Figure 6: A voting iso-probability curve in (μ, y) space, where larger values of μ and y correspond to more conservative values and higher income respectively. Voters with preferences in the upper contour set of the curve vote Republican, and those with preferences in the lower contour set vote Democrat (in expectation).

Furthermore, if the weight function is either linear or logistic, then iso-probability curves are always strictly convex, as illustrated in Figure 6. Convexity establishes a sense in which the set of D voters is more heterogeneous than the set of R voters: both some very poor and some very rich people vote Democratic. Intuitively, the reason for this asymmetry is that rich moral liberals are more willing to vote against their material interests than poor moral conservatives. Thus, in our model, the D party is a "big tent" that attracts both the very poor and some of the very rich.

This prediction on differential within-party heterogeneity is quite particular to our model in that it crucially depends on $w'(y) > 0$. If, in contrast, the utility weight of non-material issues is constant ($\rho = 0$), then the iso-probability curves are linear and downward-sloping. This clarifies that what generates our prediction about differential supporter heterogeneity is indeed values as luxury goods, rather than a two-dimensional setup as such.

Proposition 4. *1. The slope of the isoprobability curve is given by*

$$\frac{dy}{d\mu} = -\frac{w(y)\left[\lambda h'(\mu)\Delta x_e + \Delta x_s\right]}{[1-w(y)]\Delta x_e r'(y-\bar{y}) + w'(y)[\lambda \Delta x_e(h(\mu) - r(y-\bar{y})) + \Delta x_s \mu]}$$

$$= -\frac{\frac{w(y)}{1-w(y)}\left[\lambda h'(\mu) + \frac{\Delta x_s}{\Delta x_e}\right]}{r'(y-\bar{y}) + \frac{d}{dy}\left(\frac{w(y)}{1-w(y)}\right)[1-w(y)][\lambda h(\mu) - r(y-\bar{y}) + \frac{\Delta x_s}{\Delta x_e}\mu]} \tag{10}$$

A sufficient conditions for (10) to be negative at (μ, y) for any weight function is that $\lambda h(\mu) - r(y-\bar{y}) + \frac{x_s^R - x_s^D}{x_e^R - x_e^D}\mu \geq 0$ (i.e., isoprobability curves are downward-sloping

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responsiveness ρ implies that the weights are always close to one. By including both k and ρ, it is possible to have a strong responsiveness without letting the weights tend to one.

While iso-probability curves in most places are downward sloping, the indirect income effect that operates through $w(\cdot)$ can be so strong for moral liberals that some iso-probability curves are locally upward-sloping. As the indirect income effect is proportional to ρ, assuming that ρ is not too large effectively limits the size of this effect.

for all individuals who are not too liberal).

An alternative condition for (10) to be negative for all voters is that $w(y) = \frac{c+\rho(y-k)}{1+\rho(y-k)}$, with $c \in (0,1)$ and ρ sufficiently small.

2. *Suppose that $r(\cdot)$ and $h(\cdot)$ are linear functions. If the weight function satisfies $\frac{d}{dy}\left(\frac{w'(y)}{w(y)}\right) \leq 0$ and $w''(y)(1-w(y)) + 2[w'(y)]^2 \geq 0$ for all y, then all downward-sloping iso-probability curves are convex.*

   In particular, a linear weight function, and $w(y) = \frac{c+\rho(y-k)}{1+\rho(y-k)}$ with $\rho > 0$ satisfy these conditions.

Proposition 4 suggests that it is interesting to empirically compare intraparty standard deviations of income and values for Democrats and Republicans. Intuitively, when voters may support the Republican party if they are *both* relatively affluent and morally conservative, while the Democratic supporters are *either* poor *or* morally-liberal, then the standard deviation of values and income should be higher in the set of Democratic voters.[14]

Empirical evidence. To test the novel prediction that the set of Democratic supporters is more heterogeneous, we compute the standard deviation of income and moral conservatism within the sets of ANES and MFQ respondents who voted Republican and Democrat, respectively. Figure 7 summarizes the results. All four comparisons point in the hypothesized direction, as Democratic voters are more heterogeneous in terms of their values and income across datasets. All of these comparisons are statistically significant.

Our evidence here is also consistent with the data summarized in Rodden (2019), who argues that the Democratic party represents a more heterogeneous set of districts than the Republicans. Moreover, Bock (2020) finds that Democrats exhibit greater within-party variation in views on immigration than Republicans.

4.5   An Income-Voting Puzzle

A widely-known stylized fact is that the correlation between income and voting switches going from the individual to the district or state level. At the individual level, income and voting Republican are positively correlated. At the district or state level, on the other hand, average income and Republican vote shares are negatively correlated. This pattern was first popularized by Gelman et al. (2007) and Gelman (2009). Interestingly, they informally propose that these patterns could be driven by the logic of values as luxury

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[14]Of course, the degree of intra-party heterogeneity does not only depend on the shape of the iso-probability curves in Figure 6, but also on the size of the different parties (we'd expect a party with more supporters to be more heterogeneous than one with fewer) and on the shape of the joint distribution of voter types (e.g., if voter types below the isoprobability curve are heavily clustered, while those above it are more spread out, then the Republican party could be more heterogeneous).
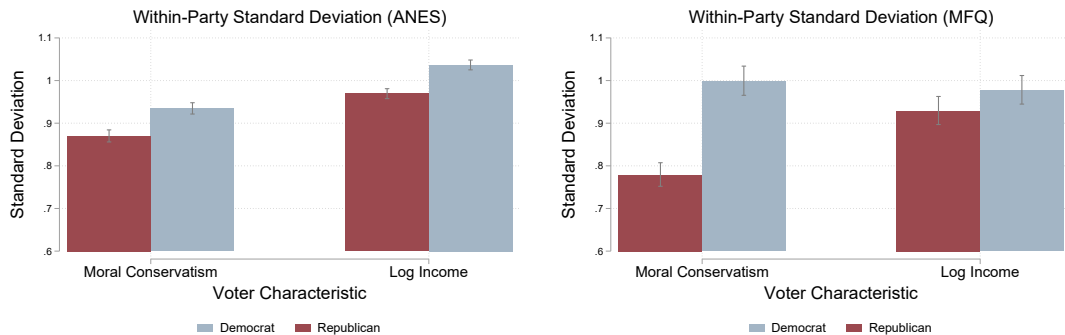
Figure 7: Sample standard deviation and 95% confidence interval of moral conservatism and log income, split by whether a respondent voted Republican or Democrat. The top panel uses ANES data ($N = 13,175$) and the bottom panel MFQ data ($N = 3,471$). In F-tests of the equality of standard deviations across groups, the p-value is $p < 0.01$ for moral conservatism and log income in the ANES, and for moral conservatism in the MFQ. For log income in the MFQ it is $p = 0.08$.

goods. Figure 8 illustrates their argument. Suppose there are two states, one that is morally relatively liberal and one that is morally relatively conservative. Further assume that average income in the morally conservative state is lower.

Proposition 2 showed that, in our model, the voting-income gradient will be larger when voters are morally more conservative. As shown in Figure 8, this differential slope can produce that average income and Republican vote shares are negatively correlated (if the morally conservative state is, on average, poorer). These patterns are not just a hypothetical possibility: as proposed in Gelman et al. (2007), we confirm in Appendix Figure 12 that the voting-income gradient in the ANES is indeed significantly steeper in morally more conservative states.

Proposition 5 below formally clarifies under which conditions our model can generate these patterns, i.e., that the marginal income effect is larger in states that have, on average, more morally-conservative voters.

Proposition 5. *Suppose that ψ is uniform, and $r(\cdot)$ and $w(\cdot)$ are linear functions. Consider two subsets of voters, S_1 and S_2, and let the type distribution in S_i be given by the density $f_i(\mu)g_i(y)$.*

Then, the following are sufficient conditions for the average marginal effect of income on the probability of voting Republican to be larger in set S_1 than in S_2:

1. *Density f_1 first-order dominates density f_2, while $g_1 = g_2$.*

2. *Density g_2 first-order dominates density g_1, while $f_1 = f_2$.*

The intuition for the first condition is straightforward from Proposition 2: Set S_1 contains a more conservative distribution of voters, and thus comprises voters whose probability to vote Republican reacts more strongly to increased income.

As for the second condition in Proposition 5, the assumptions on functional forms are sufficient to guarantee that the probability of voting Republican is concave in income. In
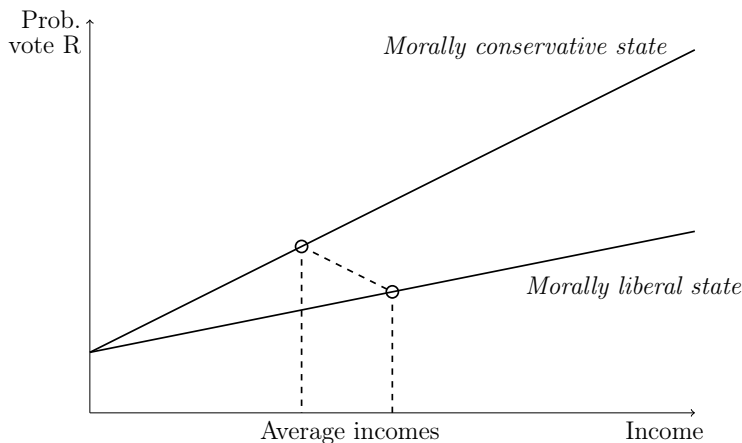
Figure 8: Illustration of across-individual and across-state relationship between income and voting. The solid line illustrate the individual-level link between income and the probability of voting R. The dots show average incomes in each of the two states.

combination, the two parts of Proposition 5 show that two effects point in the same direction: if a state is poorer and morally more conservative, then both of these effects make the voting-income gradient steeper, hence producing the pattern illustrated in Figure 8.

5 Extension: Secular Change

The main objective of this paper is to understand the implications of the luxury goods idea for policy views and voting at any given point in time. We here present a tentative extension to changes over time. In doing so, we focus on secular change and the consequences of long-term economic growth. The most widely discussed voter realignments that have taken place over the last 50 years are those of poor-and-morally-conservative voters (such as the rural working class) from Democrats to Republicans (Frank, 2007; Hacker and Pierson, 2020), and those of rich-and-morally-liberal voters (the "educational elite") from Republicans to Democrats (Gethin et al., 2021).

We view a medium- or long-run analysis as a plausible application of our theory because we believe that the relevant utility weights might be relatively slow to change. For this analysis, it is analytically convenient to focus on a setting in which the income of all voters is scaled multiplicatively by $\beta > 1$ between an "early" period and a "late" period, so that voters' relative incomes remain constant. Since the income variable in the model, y, is the logarithm of income, this means that y grows by $\ln(\beta)$. This keeps each voter's materially-optimal economic policy constant, while increasing the weight on non-material issues.

The following Proposition 6 shows that, as incomes increase over time, poor moral conservatives become more likely to vote Republican, and rich moral liberals become more likely to vote for Democrats when party positions are fixed.

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Proposition 6. *Assume that each voter's income increases by a factor of $\beta - 1$ (i.e., a voter's y increases by $\ln(\beta)$), while party positions remain fixed. Then a voter's probability of voting Republican increases if and only if*

$$\lambda h(\mu) + \frac{(x_s^R - x_s^D)}{(x_e^R - x_e^D)}\mu - [r(y - \bar{y})] > 0. \tag{11}$$

To interpret this proposition, define a moral conservative (liberal) as a voter for whom $\lambda h(\mu) + \frac{x_s^R - x_s^D}{x_e^R - x_e^D}\mu > (<)0$. Likewise, define a voter as rich (poor) if $r(y - \bar{y}) > (<)0$.

For morally conservative and poor voters, the first term in (11) is positive, and the second (deducted) term is negative, so that the left-hand side of (11) is unambiguously positive. Thus, poor moral conservatives become more likely to vote Republican. Analogously, for rich moral liberals, both effects go in the opposite direction, so they become more likely to vote for Democrats. These effects are intuitive: As voters weigh their values more highly after everyone's income increases, a realignment based on values takes place.

In contrast, and somewhat surprisingly, for the two "core supporter" groups (i.e., poor moral liberals among the Democrats, and rich moral conservatives among Republicans), the effect of a uniform income increase on voting is ambiguous, as the two partial effects go in opposite directions. Intuitively, core supporters agree with their party both on moral and on economic grounds. As moral issues rise in importance for voters, economic ones decrease, and so the net effect is ambiguous.

Changes in party positions. While the analysis above sheds some light on realignment, the underlying assumption (that incomes increased by the same factor for all voter groups) is empirically counterfactual. In other words, the mechanism described above is arguably a plausible mechanism for rich moral liberals (who actually got richer over time) but not entirely for that of poor moral conservatives (who did not). It is, hence, worth asking how our model could potentially accommodate not only the realignment of rich moral liberals but also that of poor moral conservatives.

For conceptual clarity, Proposition 6 keeps party positions fixed. When the set of party supporters changes, it is plausible that this, in turn, changes the equilibrium party positions. For instance, it appears plausible that a general increase in voters' emphasis on moral issues, in conjunction with the result of Proposition 6 that rich moral liberals leave the Republican party, leads to a morally-conservative shift for the Republican party, and a symmetric movement by the Democratic party (because both parties now need to appease a different voter group).

However, to fully endogenize party positions requires a model of how they are determined based on voters' preferences, and this is beyond the scope of the present paper. Instead, the following Proposition helps us to think about how changes in party positions – however achieved – affect voter behavior.

We consider a symmetric change in party positions that leaves the midpoint between

the two parties' positions unchanged;[15] that is, when Democrats move to the left (on economic and/or social issues), then Republicans move to the right by the same amount.[16] The first part of Proposition 7 deals with a balanced polarization on both economic and social issues and shows that this intensifies the probability that any given type votes for his policy-preferred party ("sorting"). In contrast, the second part deals with polarization on social issues, which leads to a systematic realignment of which voter types prefer which party, on average. Any mixed change in polarization can be decomposed into the two cases covered by the proposition.[17]

Proposition 7. *1. If both economic and social party platforms polarize symmetrically over time, then voter sorting increases. Formally, if*

$$\frac{x_{s,1}^R - x_{s,1}^D}{x_{s,0}^R - x_{s,0}^D} = \frac{x_{e,1}^R - x_{e,1}^D}{x_{e,0}^R - x_{e,0}^D} = k > 1,$$

then $\Psi(U_1^R - U_1^D) \gtreqless \Psi(U_0^R - U_0^D)$ if and only if $\Psi(U_0^R - U_0^D) \gtreqless 1/2$.

2. If social party platforms polarize symmetrically over time and economic platforms are unchanged, a realignment based on values takes place, meaning that moral conservatives (liberals) become more (less) likely to vote R. Formally, if

$$\frac{x_{s,1}^R - x_{s,1}^D}{x_{s,0}^R - x_{s,0}^D} > 1 \quad \wedge \quad x_{e,1}^R = x_{e,0}^R \quad \wedge \quad x_{e,1}^D = x_{e,0}^D,$$

then $\Psi(U_1^R - U_1^D) \gtreqless \Psi(U_0^R - U_0^D)$ if and only if $\mu \gtreqless 0$.

Both claims follow from (6) in a straightforward way. Part 2 of Proposition 7 implies a form of realignment based on values. When only social polarization increases, then the utility difference changes by $w(y)\mu\Delta x_s$, which is positive if and only if $\mu > 0$. As a result, values become "more important" for voting: any fixed voter type becomes more likely to vote R if and only if he is morally conservative. Note that this occurs without any voter becoming more extreme (in terms of their values), or putting more weight on non-material issues (in terms of the weight w). This effect is of particular relevance for those voters who are close to being indifferent, such as "off-diagonal" voters that are either poor-and-morally-conservative or rich-and-morally-liberal.

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[15]Without loss of generality, we normalize the mid-point of party positions to zero.

[16]The reason for this assumption is that asymmetric movements – say, Republicans becoming much more extreme than Democrats – will clearly benefit one side, but the reason is less "polarization," but rather that one party takes up less competitive positions.

[17]If $\frac{x_{s,1}^R - x_{s,1}^D}{x_{s,0}^R - x_{s,0}^D} = \ell > k$, then we can think of the total change as the sum of two steps: First, pure social polarization by factor ℓ/k that leads to moral liberals/ conservatives being more likely to vote D/ R, respectively. Second, after the first step, a proportional increase in polarization which increases every type's probability of voting for their ideologically-preferred party. In such a mixed case, (i) realignment based on values takes place; and (ii) core supporters become more likely to vote for their previously preferred parties, which implies stronger voter sorting.

Both Proposition 6 and part 2 of Proposition 7 provide complementary explanations regarding the realignment of morally conservative working class voters towards the Republican party. Why have many of these voters swung Republican *even though* incomes in the United States increased more strongly for the rich than for the poor over the last generation, which should push the poor towards the Democrats?

First, Proposition 6 shows that an income increase over time can explain why rich moral liberals swung Democratic. If, in response to these voter movements, the parties polarize on social issues, this can lead poor moral conservatives to swing Republican *even if* their relative incomes decreases. This is stated formally in the following Corollary.

Corollary 1. *Consider a voter of a fixed type μ_j, y_j, and suppose that there is symmetric social polarization, as well as growth in average income from $\bar{y}_{old}$ to $\bar{y}_{new}$ (voter j's income remains fixed). Then, the change in voter j's policy utility difference is given by*

$$\Delta(U^R - U^D) = [1 - w(y_j)](x_e^R - x_e^D)\left[r\left(y_j - \bar{y}_{new}\right) - r\left(y_j - \bar{y}_{old}\right)\right]$$
$$+ w(y_j)\mu\left[x_{s,new}^R - x_{s,old}^R + x_{s,old}^D - x_{s,new}^D\right]$$

While we view this application of our model to secular change as more speculative than the core results presented in Section 4, we believe that the main mechanism is well-worth exploring in detail in future research: that rich moral liberals may swing Democratic because rising incomes induce them to prioritize their values, and that this, in turn, induces the parties to polarize on social issues. We view this perspective as promising in part because it is consistent with work in sociology that argues that rural working class voters feel that the Democratic party "abandoned" them to cater to the values of coastal elites (e.g., Sherman, 2009; Cramer, 2016).

6   Conclusion

This paper has shown that the simple idea of income-dependent utility weights – which is bolstered by a considerable body of evidence – generates a host of new testable predictions and sheds light on various stylized facts about the nature of political conflict in the U.S.: (i) in a survey, voters' social issue weights increase in income; (ii) the voting-income gradient strongly depends on the voters' moral conservatism; (iii) more rich moral liberals than poor moral conservatives vote against their economic interests; (iv) within-party heterogeneity is larger on the left; and (v) individual-level and state-level voting-income gradients can look very different from each other. We are not aware of previous contributions that have tied these patterns together in a single, simple model.

An important open question is to which extent our insights are also applicable to the Western European context. Some of the empirical regularities that motivate this paper are also visible in Europe. For instance, the contemporaneous importance of values is a recurring phenomenon throughout the Western world (Enke et al., 2022; Cappelen et al.,

2022). One reason why we believe that our approach could plausibly shed light also on the European context is our model prediction that the voters of left-wing parties will be more internally heterogeneous than those of right-wing parties. This prediction jives with a casual observation of the party landscape in some European countries. For example, in Germany, until the 1980s, politics was largely organized around a traditional economic left-right divide between the Social Democrats and the Christian Democrats. Then, the internal divisions within the Social Democratic Party became so large that the Green party (essentially the culturally very liberal wing of the Social Democrats) emerged.

Relatedly, in both France and Italy, a widely-discussed stylized fact is that the party landscape on the left is more fragmented than on the right, which puts left-wing parties there at a "structural disadvantage" in terms of winning elections.[18] While these are informal conjectures, we believe that a variant of our model that allows for party entry and a PR system is a promising avenue to formally explore these empirical regularities.

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[18]The electoral systems in both France and Italy feature some majoritarian elements that make winning elections more difficult for ideological camps that are politically fractured in several parties. We are grateful to Clemence Tricaud and Guido Tabellini for pointing us to these discussions in French and Italian politics.

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ONLINE APPENDIX

A   Proofs

Proof of Proposition 1. In the text. □

Proof of Proposition 2. The proof for the first part of the proposition follows directly from arguments given in the main text.

For the second part, differentiating (9) with respect to μ yields

$$
\begin{aligned}
\frac{d^2 Pr(R)}{d\mu dy} =& \psi(\Delta U) w'(y)[\lambda h'(\mu)\Delta x_e + \Delta x_s] \\
&+ \psi'(\Delta U)\frac{d\Delta U}{d\mu}\left\{[1 - w(y)]\Delta x_e r'(y - \bar{y}) + w'(y)[\Delta x_e(\lambda h(\mu) - r(y - \bar{y})) + \Delta x_s \mu]\right\}.
\end{aligned}
$$

(12)

Positivity of this expression, if $|\psi'|$ is sufficiently small, follows because the second term then is close to zero, and the term in the first line of (12) is positive: The density, the derivative of the weight, and both terms in the parenthesis are positive. □

What happens if ψ is not constant, but rather single-peaked (for example, if it is normal)?

Intuitively, under normal circumstances, increases in both μ and y will increase a voter's likelihood of voting Republican.[19]

Moreover, as μ increases, the effect of an income increase *on the utility difference* ΔU increases. Thus, μ and y are complements in terms of shifting up the cutoff value of the critical ε shock (remember that voters vote Republican if their ε is smaller than the critical value).

The only case in which this complementarity in terms of shifting the cutoff does not translate into complementarity in terms of the probability of voting Republican is if the density ψ decreases rapidly.

To see this more formally, observe first that $d\Delta U/d\mu$ is positive. As we show in the proof of Proposition 4, the term in curly brackets in the second line of (12) is positive whenever the slope of the isoprobability curve is negative (see discussion in footnote 19 why this is arguably the standard case).

In this case, $\psi' \geq 0$ is sufficient (but not necessary) for $\frac{d^2 Pr(R)}{d\mu dy} > 0$ because the density effect further strengthens the shift of the cutoff. In contrast, if $\psi' << 0$, it is possible that μ and y are not complements in terms of the probability of voting Republican.

---

[19]As shown, this is definitely the case for an increase in μ, and while an opposite effect is possible for y for very socially-liberal voters, the standard case is probably that richer people are more likely to prefer the Republicans.

Proof of Proposition 3. The probability of voting against one's economic interest for RML is $Pr(D|RML) = 1 - \Psi(U^R - U^D) = \Psi(U^D - U^R)$, and for PMC is $Pr(R|PMC) = \Psi(U^R - U^D)$. Given that Ψ is symmetric around zero, the claim holds if and only if $(U^D - U^R)_{RML} > (U^R - U^D)_{PMC}$. By (6), we have for the RML

$$
\begin{aligned}
(U^D - U^R)_{RML} = & - [1 - w(y_{RML})]\Delta x_e \left[r\left(y_{RML} - \bar{y}\right) \right] \\
& - w(y_{RML}) \left[\Delta x_e \lambda h(\mu_{RML}) + \Delta x_s \mu_{RML} \right]
\end{aligned}
$$

and for PMC, we have

$$
\begin{aligned}
(U^R - U^D)_{PMC} = & [1 - w(y_{PMC})]\Delta x_e \left[r\left(y_{PMC} - \bar{y}\right) \right] \\
& + w(y_{PMC}) \left[\Delta x_e \lambda h(\mu_{PMC}) + \Delta x_e \mu_{PMC} \right].
\end{aligned}
$$

Differencing these two expressions, and substituting $r\left(y_{PMC} - \bar{y}\right) = -r\left(y_{RML} - \bar{y}\right)$ and $\mu_{RML} = -\mu_{PMC}$ yields

$$
(U^D - U^R)_{RML} - (U^R - U^D)_{PMC} =
$$
$$
[w(y_{RML}) - w(y_{PMC})] \left\{ \Delta x_e \lambda h(\mu_{PMC}) + \Delta x_s \mu_{PMC} + \Delta x_e r\left(y_{RML} - \bar{y}\right) \right\} > 0,
\tag{13}
$$

because $w(y_{RML}) > w(y_{PMC})$ and all terms in the curly brackets are positive. Thus, it follows that the probability that RML votes against his economic interest is larger than that PMC votes against his economic interest. $\square$

Proof of Proposition 4. 1. The first line in (10) follows directly from applying the implicit function theorem to (6). The second line follows from dividing both numerator and denominator by $[1 - w(y)]\Delta x_e$, and observing that $\frac{d}{dy}\left(\frac{w(y)}{1-w(y)}\right) = \frac{w'(y)}{(1-w(y))^2}$.

Since all terms in the numerator are positive, and both $r' > 0$ and $\frac{d}{dy}\left(\frac{w(y)}{1-w(y)}\right) > 0$, a sufficient condition for an iso-probability curve to be downward sloping is that $[\lambda h(\mu) - r(y - \bar{y}) + \frac{\Delta x_s}{\Delta x_e}\mu] \geq 0$, though, clearly, the same result would still hold if it is slightly negative.

Similarly, if $w(y) = \frac{c+\rho(y-k)}{1+\rho(y-k)}$, then (10) simplifies to

$$
\begin{aligned}
\frac{dy}{d\mu} &= -\frac{\frac{c+\rho(y-k)}{1-c}\left[\lambda h'(\mu) + \frac{\Delta x_s}{\Delta x_e}\right]}{r'(y - \bar{y}) + \frac{\rho}{1-c}\frac{1-c}{1+\rho(y-k)}[\lambda h(\mu) - r(y - \bar{y}) + \frac{\Delta x_s}{\Delta x_e}\mu]} \\
&= -\frac{\lambda h'(\mu) + \frac{\Delta x_s}{\Delta x_e}}{r'(\cdot)\frac{1-c}{c+\rho(y-k)} + \frac{\rho(1-c)}{[c+\rho(y-k)][1+\rho(y-k)]}[\lambda h(\mu) - r(y - \bar{y}) + \frac{\Delta x_s}{\Delta x_e}\mu]}.
\end{aligned}
\tag{14}
$$

Observe that the numerator (of the term in the second line) in (14) is independent of y and μ (because h is linear). If $\rho \to 0$, then (14) goes to $-\frac{c}{(1-c)r'}\left[\lambda h'(\mu) + \frac{\Delta x_s}{\Delta x_e}\right] < 0$.

2. Using $r(y) = r_0(y - \bar{y})$ and $h(\mu) = h_0\mu$ with $r_0, h_0 > 0$, we can rewrite (10) as

$$\frac{dy}{d\mu} = -\frac{\lambda h_0 + \frac{\Delta x_s}{\Delta x_e}}{\frac{1-w}{w}r_0 + \frac{w'}{w}\left(\lambda h_0\mu - r_0(y - \bar{y}) + \mu\frac{\Delta x_s}{\Delta x_e}\right)} \tag{15}$$

For downward-sloping isoprobability curves, the denominator is positive, which implies

$$\lambda h_0\mu - r_0(y - \bar{y}) + \mu\frac{\Delta x_s}{\Delta x_e} \geq -\frac{1-w}{w'}r_0. \tag{16}$$

To show the claim, we have to show that the value of the denominator in (15) increases at μ increases (because the numerator is a constant in μ and y).

Differentiating the denominator with respect to μ, taking into account that, along an isoprobability curve, y is a function of μ, yields

$$\left[-\frac{w'}{w^2}r_0 + \frac{w''w - (w')^2}{w^2}\left(\lambda h_0\mu - r_0(y - \bar{y}) + \mu\frac{\Delta x_s}{\Delta x_e}\right) - \frac{w'}{w}r_0\right]\frac{dy}{d\mu} + \frac{w'}{w}\left(\lambda h_0 + \frac{\Delta x_s}{\Delta x_e}\right). \tag{17}$$

Clearly, the second summand is positive, so, given that $dy/d\mu < 0$, to show that (17) is positive, it is sufficient to show that the term in square brackets is negative. By assumption, $\frac{w''w - (w')^2}{w^2} = \frac{d}{dy}\left(\frac{w'(y)}{w(y)}\right) \leq 0$. Together with (16), this implies that the term in square brackets is smaller than

$$-\frac{w'}{w^2}r_0 + \frac{w''w - (w')^2}{w^2}\left(-\frac{1-w}{w'}r_0\right) - \frac{w'}{w}r_0. \tag{18}$$

Putting all terms in (18) in a common fraction, we have

$$-\frac{w'^2 + w''w(1-w) - (1-w)(w')^2 + (w')^2 w}{w^2 w'}r_0 = -\frac{w''(1-w) + 2w'^2}{ww'}r_0 \leq 0. \tag{19}$$

Observe that, since $r_0 > 0$, (19) holds if and only if

$$w''(1-w) + 2w'^2 \geq 0 \tag{20}$$

for all y. In particular, this is satisfied whenever w is linear or convex,[20] and when it is not too concave.

If $w(y) = \frac{c+\rho(y-k)}{1+\rho(y-k)}$, then $w'(y) = \frac{\rho(1-c)}{(1+\rho(y-k))^2}$ and $w''(y) = -\frac{2\rho^2(1-c)}{(1+\rho(y-k))^3}$. Substituting, the left hand side of (20) is identically zero for all y. (Note that this does not mean that $w(y) = \frac{c+\rho(y-k)}{1+\rho(y-k)}$ is a knife-edge case. After all, the second summand in (17) is strictly positive.) $\qquad\square$

---

[20]Though, note that it should not be too convex, as we have used the assumption that $\frac{d}{dy}\left(\frac{w'(y)}{w(y)}\right) \leq 0$.

Proof of Proposition 5. Let $\Xi(\mu, y)$ denote the term in curly brackets in (9):

$$\Xi(\mu, y) = [1 - w(y)]\Delta x_e r'(y - \bar{y}) + w'(y)[\Delta x_e(\lambda h(\mu) - r(y - \bar{y})) + \Delta x_s \mu].$$

We first show that the function Ξ is increasing in μ and decreasing in y. Differentiating yields

$$\frac{\partial \Xi}{\partial \mu} = w'(y)[\Delta x_e \lambda h'(\mu) + \Delta x_s] > 0,$$

and, using the assumption that $r'' = w'' = 0$,

$$\frac{\partial \Xi}{\partial y} = -2w'(y)\Delta x_e r'(y - \bar{y}) < 0.$$

Consider the first condition in Proposition 5. The average marginal effect of income on the probability of voting Republican in voter set 1 is

$$\psi \int_{-\infty}^{\infty} \int_{-\infty}^{\infty} \Xi(\mu, y) dF_1(\mu) dG_1(y) \tag{21}$$

Since F_1 first-order dominates F_2 and Ξ is increasing in μ, standard arguments imply that $\int_{-\infty}^{\infty} \Xi(\mu, y) dF_1(\mu) > \int_{-\infty}^{\infty} \Xi(\mu, y) dF_2(\mu)$ for any y. Furthermore, since the outer integration is done with respect to the same density in both sets, the relation is preserved.

The second claim follows from analogous steps (with a flipped order of integration; observing that Ξ is decreasing in y; and that g_2 first-order dominates g_1). $\square$

Proof of Proposition 6. Consider how $U^R - U^D$ changes with β. Since a voter's relative income remains unchanged by β, we have

$$\frac{\partial(U^R - U^D)}{\partial \beta} = \frac{w'(y + \ln(\beta))}{\beta}\Delta x_e \left\{ \lambda h(\mu) + \frac{\Delta x_s}{\Delta x_e}\mu - [r(y - \bar{y})] \right\} \tag{22}$$

As the first two terms are positive, the sign of this expression is the same as the sign of the term in curly brackets, as claimed. $\square$

Proof of Proposition 7. 1. Let $\Delta x_{p,t} = x_{p,t}^R - x_{p,t}^D$ be the policy polarization between Republicans and Democrats in policy $p \in \{e, s\}$ at time $t \in \{0, 1\}$. Inspection of (6) shows that, if $\frac{\Delta x_{s,1}}{\Delta x_{s,0}} = \frac{\Delta x_{e,1}}{\Delta x_{e,0}} = k > 1$, then $U_1^R - U_1^D = k(U_0^R - U_0^D)$. Thus, if $U_0^R - U_0^D > 0$ (so that $\Psi(U_0^R - U_0^D) > 1/2$), then $U_1^R - U_1^D > U_0^R - U_0^D$, and hence $\Psi(U_1^R - U_1^D) > \Psi(U_0^R - U_0^D)$. The case that $U_0^R - U_0^D < 0$ is analogous.

2. If $\frac{\Delta x_{s,1}}{\Delta x_{s,0}} > 1$ while economic positions are unchanged, then inspection of (6) shows that $U^R - U^D$ increases if and only if $\mu > 0$. This immediately implies the claim. $\square$

B Screenshots of Survey to Elicit Issue Weights

Instructions

This study will take approximately 12 minutes to complete. You will earn a reward of $2 for completing the study in its entirety.

To complete the study, you will need to read all instructions carefully and answer the corresponding comprehension questions correctly.

We are interested in learning about your views on 10 issues that are often discussed by politicians and among the public at large. In the next 10 questions, we are going to ask you for your views on each of these issues.

Once you click the next button, the comprehension check questions will start.

→

Comprehension check

To verify your understanding of the instructions, please answer the comprehension question below. If you get it wrong, you will not be allowed to participate in the study. That means you will not be eligible for the completion payment. Exactly one response option is correct.

Which of the following statements is correct?

In each question, I will be asked to select the answer that corresponds most closely to my honest view on the given issue.

In each question, I will be asked to guess which answer corresponds most closely to the honest view of the majority of Americans.

In each question, I will be asked to select the answer that corresponds the least to my honest view on the given issue.

→

Which statement comes closest to describing your views on the taxes paid by U.S. corporations?

The amount of taxes paid by corporations should increase: the tax rate paid on corporate income should be increased from the current 21 percent to 35 percent (the rate that was in place until 2017). In addition, large corporations (with more than $100 million in profits) should be taxed even more.

The amount of taxes paid by corporations should increase: the tax rate paid on corporate income should be increased from the current 21 percent to 35 percent (the rate that was in place until 2017).

The amount of taxes paid by corporations should increase: the tax rate paid on corporate income should be increased from the current 21 percent to 28 percent.

The amount of taxes paid by corporations should remain as they are: the tax rate paid on corporate income should remain at its current 21 percent.

The amount of taxes paid by corporations should be decreased relative to the current 21 percent.

→

Which statement comes closest to describing your views on the taxes paid by U.S. households?

The government should increase the amount of federal income taxes paid by high earners. The government should also impose a 2% wealth tax on households with a net worth over $5 million (i.e., an annual tax on all of these households' assets). The increased government revenue should be used to provide more government services, and to lower the amount of taxes paid by the middle class and the poor.

The government should increase the amount of federal income taxes paid by high earners. The government should also impose a 2% wealth tax on households with a net worth over $50 million (i.e., an annual tax on all of these households' assets). The increased government revenue should be used to provide more government services, and to lower the amount of taxes paid by the middle class and the poor.

The government should increase the amount of federal income taxes paid by high earners. The increased government revenue should be used to provide more government services, and to lower the amount of taxes paid by the middle class and the poor. But there should be no wealth tax.

The government should maintain federal income taxes at their current levels for everybody, and there should be no wealth tax.

The government should decrease the amount of federal income taxes paid by everybody, and there should be no wealth tax. Government services should be decreased to finance the tax cut.

→

Which statement comes closest to describing your views on the environment?

The government should significantly decrease US carbon emissions and invest in green energy, ensuring that the United States achieves a 100% clean energy economy and reaches net-zero emissions no later than 2050.

The government should tax carbon emissions and subsidize the use and development of green energy. However, there should be no explicit cap on carbon emissions.

The government should subsidize the use and development of green energy. However, there should be no explicit cap to carbon emissions and no tax on carbon emissions.

The government should allow increased domestic production of fossil fuels, prioritizing American energy independence and low prices over environmental concerns.

The government should both allow and subsidize increased domestic production of fossil fuels.

→

Which statement comes closest to describing your views on immigration?

The United States should have open borders and allow further immigration on an unlimited basis.

Immigration of highly skilled individuals should greatly increase. Immigration by those without such skills should continue at its current pace, although this immigration should be legalized.

Immigration of highly skilled individuals should greatly increase, and immigration among those without such skills should be limited in time and/or magnitude, e.g., through a guest worker program.

The United States should admit more highly skilled immigrants and secure the border with increased physical barriers to stem the flow of other immigrants.

Further immigration to the United States should be banned until the border is fully secured, and all illegal immigrants currently in the US should be deported immediately.

→

Which statement comes closest to describing your views on abortion?

Abortions should always be legal, and the government should require private insurers to cover abortions.

Abortions should be legal in the first two trimesters, and the government should require private insurers to cover abortions.

Abortions should be legal in the first two trimesters, though the government should not play any role in financially supporting abortions.

Abortion should only be legal if the life of the mother is in danger or in cases of rape and incest.

Abortion should always be illegal.

→

Which statement comes closest to describing your views on the issues of health care?

The government should expand Medicare to cover all Americans ("Medicare for All"), directly providing insurance coverage for every American free of charge.

The government should provide all health care for vulnerable populations like the elderly, children, and those with low incomes; for all other Americans, the government should guarantee full private health insurance coverage.

The government should help pay for all health care for vulnerable populations like the elderly, children, and those with low incomes. Other Americans should only receive assistance in paying for catastrophic illnesses.

The government should only help pay for emergency medical care among the elderly and those with very low incomes. Other individuals and any routine care should not be covered. Instead, the government should pursue market reforms to make insurance more affordable.

The government should spend no money on health care for individuals. Those who cannot afford health care should turn to their families and private charity for help.

→

Which statement comes closest to describing your views on the issue of affirmative action and minorities?

Racial, ethnic and sexual minorities should always receive preferential treatment when it comes to jobs and college admissions.

Racial, ethnic and sexual minorities should generally receive a bit of preferential treatment when it comes to jobs and college admissions, but the current system has gone too far.

When two candidates are equally qualified, racial, ethnic and sexual minorities should be prioritized for jobs and college admissions.

Minority status should be irrelevant for all professional contexts, including jobs and college admissions.

Racial, ethnic and sexual minorities have received so much preferential treatment in recent years that it is now time to extend preferential treatment to traditional majority populations.

→

Which statement comes closest to describing your views on the minimum wage?

The federal government should raise the hourly minimum wage from the current $7.25 to $15.

The federal government should raise the hourly minimum wage from the current $7.25 to $12.

The federal government should keep the hourly minimum wage at the current $7.25.

There should not be a federal minimum wage. The federal government should leave to each state the ability to decide on a state-level minimum wage.

There should not be any minimum wage, neither at the federal nor at the state level.

→

Which statement comes closest to describing your views on rights for homosexuals?

Same-sex couples should be allowed to marry and adopt children; the government should prosecute companies for firing individuals because they are lesbian or gay; and, the government should require corporations to offer the same benefits to partners of gay and lesbian employees as they do to straight employees' partners.

Same-sex couples should be allowed to marry and adopt children; and, the government should prosecute companies for firing individuals because they are lesbian or gay.

Same-sex couples should be allowed to marry each other and adopt children.

Gay sex should be permitted, but same-sex marriage should be illegal and known gays and lesbians should not be allowed to adopt children.

Gay sex should be illegal and punishable by imprisonment, similar to the penalties for committing incest and bestiality.

→

Which statement comes closest to describing your views on the issue of free speech and cancel culture?

Free speech should always be allowed and prioritized, even if what is said is politically incorrect or potentially causes emotional harm for certain groups such as minorities.

Colleges and firms should never cancel public speaking events with controversial speakers, but the organizers should ensure that victims of hate speech are also given a chance to speak.

It should be at the discretion of each organization whether or not to cancel public speaking events at which politically incorrect language and ideas are expressed.

Colleges and firms should only cancel public events at which speakers reveal implicit racism.

Colleges and firms should cancel all public events at which speakers express ideas that may emotionally harm marginalized groups.

→

We have just asked for your opinions on 10 issues. Of course, you may think that some of these issues are more important than others.

We are interested in **how much** you think **each of these issues is important**. Specifically, imagine that you are looking at the **political agenda of a candidate for U.S. Congress** and deciding how important the candidate's position on a particular issue is for you.

For each of these 10 issues, how important is the position of the candidate on the issue, for your decision to vote or not for this candidate?

We reproduce the position that you selected as your favorite earlier. You can see the issue on the left, and your selected position in the middle column.

You have a budget of **100 "importance points"** *that you can* **allocate as you wish between the 10 issues**.
Each issue *can receive any number of "importance points"* **between 0 and 100**, *depending on how important that issue is for your decision to vote or not for a candidate. Please note that your* **entries need to add up to 100** *or you will not be able to move on to the next page.*

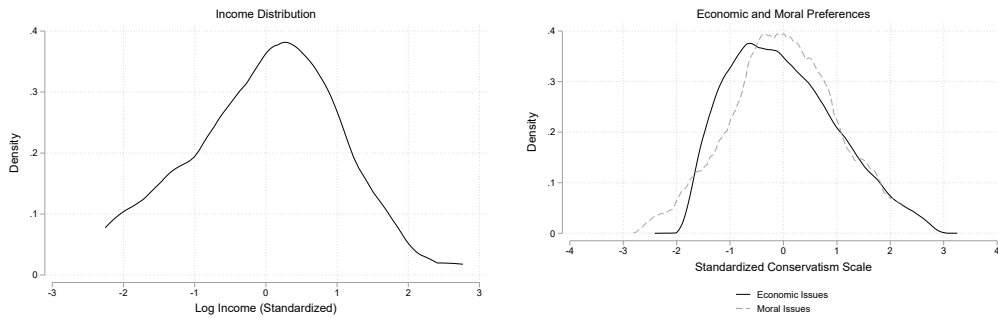| Topic	Your opinion	How important?
Environment	The government should both allow and subsidize increased domestic production of fossil fuels.	0
Minimum wage	There should not be any minimum wage, neither at the federal nor at the state level.	0
Taxes on corporations	The amount of taxes paid by corporations should increase: the tax rate paid on corporate income should be increased from the current 21 percent to 35 percent (the rate that was in place until 2017). In addition, large corporations (with more than $100 million in profits) should be taxed even more.	0
Abortion	Abortion should always be illegal.	0
Affirmative action and minorities	Racial, ethnic and sexual minorities should generally receive a bit of preferential treatment when it comes to jobs and college admissions, but the current system has gone too far.	0
Taxes on households	The government should increase the amount of federal income taxes paid by high earners. The government should also impose a 2% wealth tax on households with a net worth over $50 million (i.e., an annual tax on all of these households' assets). The increased government revenue should be used to provide more government services, and to lower the amount of taxes paid by the middle class and the poor.	0
Health care	The government should only help pay for emergency medical care among the elderly and those with very low incomes. Other individuals and any routine care should not be covered. Instead, the government should pursue market reforms to make insurance more affordable.	0
Rights of homosexuals	Same-sex couples should be allowed to marry each other and adopt children.	0
Immigration	Further immigration to the United States should be banned until the border is fully secured, and all illegal immigrants currently in the US should be deported immediately.	0
Free speech and cancel culture	Colleges and firms should only cancel public events at which speakers reveal implicit racism.	0
Total		0

C Additional Figures

Figure 9: This figure shows a kernel denisty plot of standardized log income on the left, and standardized economic and moral conservatism on the right. All variables are measured from the ANES (data cover 1988–2020). See Appendix E for details on the construction of both indices.
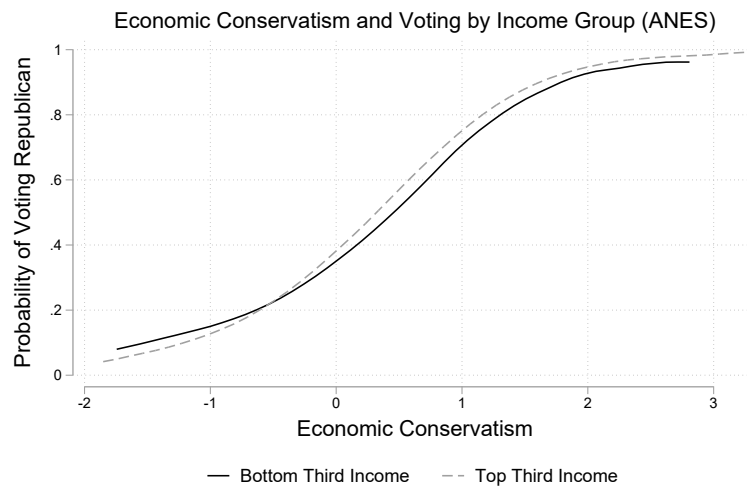

Figure 10: This figure shows a local polynomial plot of the link between voting Republican and economic conservatism, separately for respondents in the top / bottom third of the income distribution. Economic conservatism is measured from the ANES (data cover 1988–2020), and the index is normalized into a z-score. See Appendix E for details on the construction of both indices.
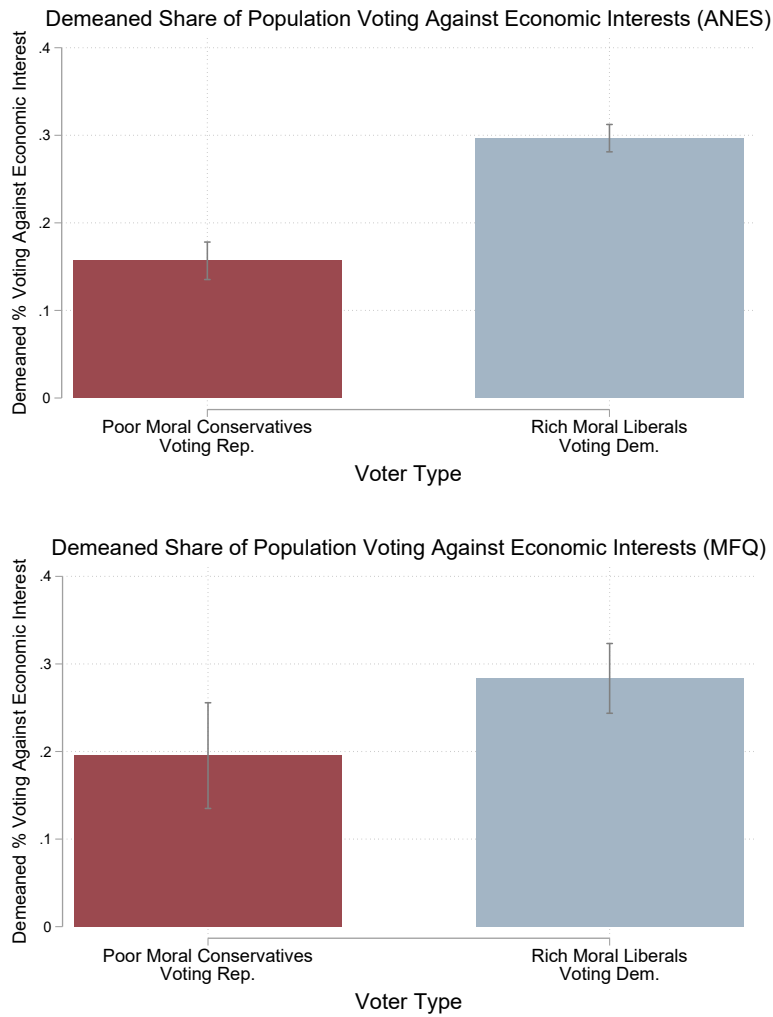
Figure 11: This figure reports the demeaned share and 95% confidence interval of the share of poor social conservatives who vote Republican, and rich social liberals who vote Democrat. The demeaning is done by subtracting the overall Republican vote share from the poor conservative Republican share, and the overall Democratic vote share from the rich liberals Democratic share. Here, we define "rich" and "poor" as the top/bottom third of household income, and "socially conservative / liberal" as top/bottom third of the social / moral conservatism indices. The panel on the top uses ANES data ($N = 4,274$) and the panel on the bottom uses MFQ data ($N = 608$). In t-tests of the equality of means across groups, the p-value is $p < 0.01$ in both the ANES and the MFQ.
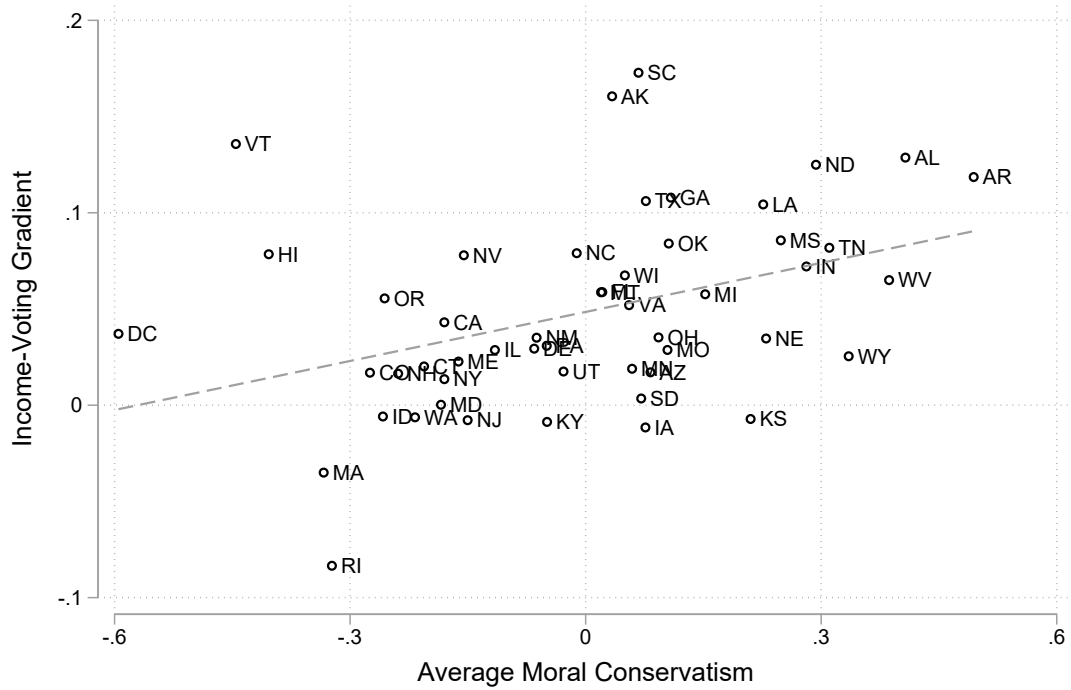
Figure 12: This figure plots the relationship between income and voting Republican in each state against the average level of moral conservatism in the state. The y-axis is the regression coefficient from a state-by-state regression of voting Republican on standardized log income on a sample from 1988-2020. The x-axis is the average value of standardized moral conservatism by state. The grey dotted line is the regression line - the estimated slope coefficient is 0.85 (t-statistic is 2.58).

D   Additional Tables

Table 2: Income and issue weights by policy topic

	Dependent variable:									
	Issue weight									
	Min. wage	Taxes HH	Taxes corp.	Health care	Envi- ment	Free speech	LGTBQ rights	Abor- tion	Affirm. action	Immi- gration
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Income category (0-11)	-0.22***	0.24***	0.14**	-0.32***	-0.053	0.27***	-0.16***	0.16	0.13**	0.19**
	(0.07)	(0.08)	(0.07)	(0.09)	(0.09)	(0.08)	(0.06)	(0.11)	(0.06)	(0.09)
Extremity of opinion (0-2)	3.38***	1.05***	2.47***	3.80***	4.59***	3.36***	3.03***	4.20***	1.35***	4.69***
	(0.33)	(0.36)	(0.26)	(0.44)	(0.36)	(0.29)	(0.22)	(0.44)	(0.33)	(0.45)
Pilot wave FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1196	1196	1196	1196	1196	1196	1196	1196	1196	1196
R^2	0.08	0.02	0.06	0.07	0.10	0.10	0.10	0.07	0.02	0.10

Notes. OLS estimates, standard errors (clustered at respondent level) in parentheses. The dependent variable is the weight assigned to each policy topic. Log HH income is computed as the log of the average of (i) a text box entry asking for HH income and (ii) the midpoint of the income category a respondent indicated.

Table 3: Voting and Moral Conservatism By Income and Education (MFQ)

	Bottom 1/3 Income	Top 1/3 Income		
			Dependent variable:	
		Indicator for Voting Republican (MFQ)		
	(1)	(2)	(3)	(4)
Moral Conservatism	0.23***	0.30***	-0.12	-0.12
	(0.02)	(0.01)	(0.10)	(0.11)
Log [Household income]			0.0072	0.0071
			(0.01)	(0.01)
Moral Conservatism x Log Income			0.036***	0.037***
			(0.01)	(0.01)
College				0.00066
				(0.01)
Moral Conservatism x College				-0.00038
				(0.01)
State FE	Yes	Yes	Yes	Yes
Baseline controls	Yes	Yes	Yes	Yes
Observations	914	791	2714	2714
R^2	0.21	0.41	0.30	0.30

Notes. OLS estimates, clustered standard errors in parentheses. The dependent variable is an indicator for voting Republican. Moral conservatism is standardized into a z-score. Controls include age, age squared, and gender fixed effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 4: Economic Conservatism and Income (ANES)

| | Dependent variable: | | | |
| | Economic conservatism (ANES) | | | |
	(1)	(2)	(3)	(4)
Log [HH income]	0.15***	0.19***	0.20***	0.18***
	(0.02)	(0.01)	(0.01)	(0.01)
Log [HH income] × Moral Conservatism		0.068***	0.072***	0.071***
		(0.01)	(0.01)	(0.01)
Moral Conservatism		0.38***	0.39***	0.39***
		(0.01)	(0.01)	(0.01)
State FE	No	No	Yes	Yes
Survey year FE	No	No	Yes	Yes
Controls	No	No	No	Yes
Observations	22972	18193	18193	18193
R^2	0.03	0.22	0.30	0.31

Notes. OLS estimates, clustered standard errors in parentheses. The dependent variable is the economic conservatism index, standardized into a z-score. Log income is standardized into a z-score. Controls include age, age squared, gender fixed effects, and educational attainment fixed effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 5: Income Gradient in Voting (ANES)

| | Dependent variable: | | | |
| | Indicator for Voting Republican (ANES) | | | |
	(1)	(2)	(3)	(4)
Log [HH income]	0.037***	0.062***	0.062***	0.061***
	(0.01)	(0.00)	(0.00)	(0.00)
Log [HH income] × Moral Conservatism		0.027***	0.027***	0.025***
		(0.00)	(0.00)	(0.00)
Moral Conservatism		0.22***	0.23***	0.23***
		(0.00)	(0.00)	(0.00)
State FE	No	No	Yes	Yes
Survey year FE	No	No	Yes	Yes
Baseline controls	No	No	No	Yes
Observations	28554	16164	16164	16164
R^2	0.01	0.25	0.28	0.28

Notes. OLS estimates, clustered standard errors in parentheses. The dependent variable is an indicator which equals 100 if a respondent votes Republican and 0 if they vote Democrat. Controls include age, age squared, gender fixed effects, and educational attainment fixed effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

| | *Dependent variable:* | | | |
| | Indicator for Voting Republican (MFQ) | | | |
	(1)	(2)	(3)	(4)
Log Income [std.]	0.040***	0.027***	0.035***	0.027***
	(0.01)	(0.01)	(0.01)	(0.01)
Log Income [std.] $\times$ Moral conservatism		0.035***	0.032***	0.032***
		(0.01)	(0.01)	(0.01)
Moral conservatism		0.22***	0.21***	0.21***
		(0.01)	(0.01)	(0.01)
State FE	No	No	Yes	Yes
Baseline controls	No	No	No	Yes
Observations	3172	3172	3172	3172
R^2	0.01	0.23	0.25	0.27

Notes. OLS estimates, clustered standard errors in parentheses. The dependent variable is an indicator which equals 1 if a respondent votes Republican and 0 if they vote Democrat. Controls include age, age squared, gender fixed effects, and educational attainment fixed effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

E   Data Description

E.1   American National Election Studies

Economic and social conservatism indices.   Since 1988, the ANES has consistently included questions on economic issues such as social security and federal spending on public schools, and on social issues such as gay rights and the importance of family values. We adopt the methodology of Ansolabehere et al. (2006) in aggregating survey questions to construct indices of economic and social conservatism. We classify issues as either economic or moral, then perform factor analyses on each set of questions. The factor analysis allows us to construct a weighted average of the questions, where the weight placed on each question is determined its factor loading. We standardize the factor scores to have mean zero and standard deviation one, and arrange them such that higher values correspond to more conservative issue positions. Across years, our sample spans up to 18,432 respondents. The economic conservatism scale is constructed from survey responses to the following ten items:

1. "Some people think the government should provide fewer services, even in areas such as health and education, in order to reduce spending. (2004: Suppose these people are at one end of a scale, at point 1.) Other people feel that it is important for the government to provide many more services even if it means an increase in spending. (2004: Suppose these people are at the other end, at point 7. And of course, some

other people have opinions somewhere in between, at points 2,3,4,5, or 6.) Where would you place yourself on this scale, or haven't you thought much about this?"

2. "There is much concern about the rapid rise in medical and hospital costs. Some (1988,1994-LATER: people) feel there should be a government insurance plan which would cover all medical and hospital expenses (1984 AND LATER: for everyone). (1996,2004: Suppose these people are at one end of a scale, at point 1). Others feel that (1988,1994-1996: all) medical expenses should be paid by individuals, and through private insurance (1984 AND LATER: plans) like Blue Cross (1984-1994: or [1996:some] other company paid plans). (1996,2004: Suppose these people are at the other end, at point 7. And of course, some people have opinions somewhere in between at points 2,3,4,5 or 6.) Where would you place yourself on this scale, or haven't you thought much about this?"

3. "Some people feel that the government in Washington should see to it that every person has a job and a good standard of living. (1972-1978,1996-LATER: Suppose these people are at one end of a scale, at point 1). Others think the government should just let each person get ahead on his/their own. (1972-1978,1996: Suppose these people are at the other end, at point 7. And, of course, some other people have opinions somewhere in between, at pints 2,3,4,5 or 6.). Where would you place yourself on this scale, or haven't you thought much about this?"

4. "Should federal spending on improving and protecting the environment (2000,2002: environmental protection; 2008,2012,2016: protecting the environment) be increased, decreased, or stay the same?"

5. "If you had a say in making up the federal budget this year, for which (1986 AND LATER: of the following) programs would you like to see spending increased and for which would you like to see spending decreased:"

   (a) Child care

   (b) Welfare programs

   (c) Social security

   (d) Public schools

6. "We'd also like to get your feelings about some groups in American society. When I read the name of a group, we'd like you to rate it with what we call a feeling thermometer. Ratings between 50 degrees-100 degrees mean that you feel favorably and warm toward the group; ratings between 0 and 50 degrees mean that you don't feel favorably towards the group and that you don't care too much for that group. If you don't feel particularly warm or cold toward a group you would rate them at

50 degrees. If we come to a group you don't know much about, just tell me and we'll move on to the next one."

(a) Labor unions

The social conservatism scale is constructed from survey responses to the following nine items:

1. "Do you favor or oppose laws to protect [homosexuals/gays and lesbians] against job discrimination? Do you favor/oppose such laws strongly or not strongly?"

2. "Now, I am going to read several statements. After each I would like you to tell me whether you agree strongly, agree somewhat, neither agree nor disagree, disagree somewhat or disagree strongly with this statement."

   (a) The newer lifestyles are contributing to the breakdown of our society.

   (b) The world is always changing and we should adjust our view of moral behavior to those changes.

   (c) This country would have many fewer problems if there were more emphasis on traditional family ties.

   (d) We should be more tolerant of people who choose to live according to their own moral standards, even if they are very different from our own.

3. "Do you think gay or lesbian couples, in other words, homosexual couples, should be legally permitted to adopt children?"

4. "There has been some discussion about abortion during recent years. (RESPONDENT BOOKLET) Which one of the opinions on this page best agrees with your view? You can just tell me the number of the opinion you choose."

   (a) By law, abortion should never be permitted.

   (b) The law should permit abortion only in case of rape, incest, or when the woman's life is in danger.

   (c) The law should permit abortion for reasons other than rape, incest, or danger to the woman's life, but only after the need for the abortion has been clearly established.

   (d) By law, a woman should always be able to obtain an abortion as a matter of personal choice.

   (e) DK; other

5. "Which of these statements comes closest to describing your feelings about the Bible?"

(a) The Bible is the actual Word of God and is to be taken literally, word for word

(b) The Bible is the Word of God but not everything in it should be taken literally, word for word

(c) The Bible is a book written by men and is not the Word of God

(d) Other; DK

6. "Do you consider religion to be an important part of your life, or not?"

In our baseline specification, we allow the set of questions used to calculate the indices to vary across years, as some questions are added and removed from the survey over time. Two advantages of this approach are that it (i) incorporates the broadest amount of information possible and (ii) accounts for the fact that some issues which were important in 2020 were not included in the survey in 1988. A concern with this approach is that it skews comparisons across time because liberals and conservatives in 2020 are defined over a different set of questions than their counterparts in 1988. To address this, we construct indices from a factor analysis on a restricted set of issues which are available in all years from 1988 to 2020. The correlation between the baseline and restricted indices is $\rho = 0.95 - 0.97$, and we verify that all of the empirical results are consistent across specifications.

Income. The income variable in the ANES consists of five buckets that partition the population into income percentiles. These buckets are the 0-16th percentile, 17-33rd percentile, 34-67th percentile, 68-95th percentile, and 96-100th percentile. The ANES also provides the lower and upper bounds of the lower four buckets. To impute (log) income from the buckets, we take the average of the upper and lower bounds for the four lowest buckets. To estimate income in the top bucket, we use data from the Tax Policy Center on average US incomes in the 96th to 99th percentile and the top 1% for each year. We take a weighted average of these incomes to get average income within the 96th-100th percentile group.

E.2   Moral Foundations Questionnaire

See Enke (2020) for a detailed description of the dataset and how the moral conservatism index (relative importance of communal vs. universalist moral values) is computed.