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MORAL VALUES AND VOTING

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ABSTRACT

This paper studies the supply of and demand for moral values in recent U.S. presidential elections. Using a combination of large-scale survey data and text analyses, I find support for the hypothesis that both voters and politicians exhibit heterogeneity in their emphasis on universalist relative to communal moral values, and that politicians' vote shares partly reflect the extent to which their moral appeal matches the values of the electorate. Over the last decade, Americans' values have become increasingly communal – especially in rural areas – which generated increased moral polarization and is associated with changes in voting patterns across space.

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A few moments later, the President said, "I need loyalty, I expect loyalty."
James B. Comey, Testimony on conversations with Donald J. Trump
June 7, 2017

This cultural tradition comes with . . . an intense sense of loyalty,
a fierce dedication to family and country . . .
J.D. Vance, *Hillbilly Elegy*, 2016

1 Introduction

In an effort to better understand voting behavior, this paper introduces a core aspect of modern moral psychology into the study of political economy. Recently, the psychologist Haidt (2007, 2012) and his collaborators popularized a very influential *positive* framework of morality, i.e., of people's beliefs about what is "right" and "wrong." This framework, known as Moral Foundations Theory (MFT), is centered on the basic empirical fact that individuals exhibit strong heterogeneity in the types of values they emphasize. On the one hand, people assign moral relevance to concepts that pervade normative analyses of morality, including individual rights, justice, impartial fairness, and avoidance of externalities. Such "universalist" values have the key characteristic that they apply irrespective of the context or identity of the people involved. On the other hand, people also assign moral meaning to "communal" or "particularist" concepts, such as community, loyalty, betrayal, respect, and tradition. These values differ from universalist ones in that they are tied to certain relationships or groups. For example, one core tradeoff that characterizes these different values is that between an ethic of universal human concern versus loyalty to the local community. The basic distinction between a universalist and particularist morality has been at the center of philosophical debates for decades (e.g., Rawls, 1971, 2005; Sandel, 1998), and is the subject of much psychological and evolutionary research (Haidt, 2007; Graham et al., 2017; Greene, 2014; Hofmann et al., 2014; Henrich et al., 2010; Norenzayan, 2013).

There are strong reasons to hypothesize that heterogeneity in moral values may help understand the outcomes of elections. Political theorists have long argued that past U.S. presidential nominees have lost elections because they failed to appeal to voters' communal moral values (Sandel, 2005). In addition, a rich body of sociological work forcefully argues that many, particularly those forming the white rural working class, are deeply concerned about a "moral decline," in particular as it relates to the loyalties and interpersonal obligations that characterize the social fabric of many local communities (e.g., Etzioni, 1994; Wuthnow, 2018). Yet even though psychologists have documented that communal values are more prevalent among conservatives (Graham

et al., 2009) and that differences in deep beliefs about "right" and "wrong" induce strong emotional reactions, heterogeneity in the internal structure of moral values has received scant attention in political economy and economics more generally.

This paper formally studies the hypothesis that voting decisions partly reflect the match between voters' and politicians' moral values. To this effect, the paper proposes a methodology for jointly studying the supply and demand sides of morality in voting contexts. Here, "supply side" means the idea that politicians might supply different degrees of universalism. "Demand side," on the other hand, refers to the notion that people may vote for candidates or political parties that appeal to their own moral values.

The analysis is structured by a simple formal framework of voting that rests on the assumption that voters aim to minimize the distance between their own moral type and the weighted average type of the candidate and their party. This is similar in spirit to other political economy models (Persson and Tabellini, 2016), except that it substitutes moral values for policy platforms. The formal framework makes both cross-sectional and time-series predictions about how the relationship between moral values and voting should vary as a function of the moral types of political candidates and their parties. To test the resulting predictions, the paper estimates the moral types of political actors and then analyzes whether voters indeed vote for those candidates and parties that are close to them in moral terms. In doing so, the entire paper is descriptive in nature and presents various different types of (conditional) correlations.

Because both politicians' and voters' moral types are latent, I estimate them using the analytical tools behind MFT: the Moral Foundations Questionnaire (MFQ) and the Moral Foundations Dictionary (MFD). The MFQ is a psychological questionnaire that comprises various Likert scale questions. Here, the subjective importance of universalist moral concepts is elicited through questions that assess the extent to which "treating people equally," "caring for the weak," or "denying rights," among others, are morally relevant. Communal concepts, on the other hand, are measured through the moral relevance of concepts such as "a lack of loyalty," "betraying the group," or "a lack of respect for authority." The MFD, developed by psychologists in 2009, consists of a set of corresponding keywords that can be associated with a communal or universalist morality and hence allows to estimate politicians' moral types using simple text analyses.

On both the demand- and supply-side, the key measure I develop is a one-dimensional summary statistic of morality, the *relative importance of universalist versus communal moral values*. This index does not capture variation in who is "more moral," but rather heterogeneity in the types of values that people emphasize. To derive this measure, I implement a tailored nationally representative survey that includes the MFQ. In line with how psychologists think about the structure of morality, the difference between univer-

salist and communal values endogenously emerges in a principal component analysis of the moral dimensions in the MFQ. This simple difference has two intuitively appealing properties: (i) it is strongly predictive of easily interpretable economic behaviors, such as the extent to which people donate money or volunteer time to nationwide charities relative to their local communities; and (ii) it is weakly – if at all – correlated with traditional variables such as income, education, or altruism.

To determine politicians' moral types, I conduct text analyses. First, to classify the "average" Republican and Democrat, I study moral rhetoric in speeches given in the U.S. Congress between WWII and 2016. Based on the MFD, I conduct a transparent exercise of counting relative word frequencies to generate a summary statistic of the relative frequency of universalist over communal moral rhetoric. The results document that, starting in the 1960s, Republicans and Democrats polarized in their moral appeal: for more than 30 years, Democrats increasingly placed a stronger emphasis on universalist moral concepts, a trend that was considerably weaker among Republicans. Thus, today, the Democratic party has a substantially more universalist profile than the Republican party.

These cross-party differences set the stage for an analysis of individual candidates. Donald Trump provides a particularly attractive first step for this investigation both because he turns out to be an outlier in his moral rhetoric relative to past nominees and because several features of the demand-side data – explained in greater detail below – enable more sophisticated analyses for 2016 than for prior elections.

The supply-side analysis compares the moral content of Trump's speeches and texts with that of all other contenders for the presidency since 2008. For this purpose, I make use of a dataset of almost $17,000$ campaign documents that was gathered by the American Presidency Project. The results document that Trump's moral language is less universalist (or, equivalently, more communal) than that of any other presidential nominee in recent history. Trump is also more communal than his 2016 primary contenders. Moreover, the difference in moral appeal between Trump and Hillary Clinton is particularly pronounced, also relative to earlier candidate pairs. Viewed through the lens of the simple formal framework, these results from the text analysis deliver the prediction that the relative importance that voters place on universalist values should be negatively correlated with voting for Trump in three different comparison sets: (i) relative to Clinton in the 2016 general election; (ii) relative to Romney and McCain in earlier general elections; and (iii) relative to other competitors in the GOP primaries.

I implement a pre-registered nationally representative survey ($N \approx 4,000$) to test these predictions. In the survey data, the relative importance of universalist moral values is strongly negatively correlated with (i) the probability of voting for Trump in the

general election; (ii) the *difference* between the propensity to vote for Trump in 2016 and Romney or McCain in 2012 and 2008, respectively; and (iii) voting for Trump in the Republican primaries. For example, a one standard deviation increase in moral universalism is associated with a decrease in the probability of voting for Trump in the primaries of ten percentage points. When I separately consider the level of universalist and communal values as explanatory variables (rather than their difference as summary statistic), the results show that voting for Trump is always negatively correlated with universalist and positively correlated with communal moral values.

I benchmark these results against more traditional variables that are correlated with voting for Republicans vs. Democrats, such as income, religiosity, population density, education, or attitudes about the size of government, pro-environmentalism, crime policies, and gun control. In these analyses, moral values explain a larger fraction of the variation in voting than any of the other variables, in particular in within-party analyses. In addition, all individual-level results also hold when I restrict attention to within-state or even within-county variation, and when I condition on a rich set of observables.

While the individual-level analysis has the benefit of featuring a representative sample and a rich set of covariates, it is ill-suited to investigating the joint relationship between the supply of and demand for morality in the full sample of candidates that have competed in the primaries since 2008. This is because many candidates receive such small vote shares that gathering a sufficiently powered survey dataset on voters for each candidate is highly impractical. To circumvent this problem, the analysis exploits variation in politicians' vote shares across counties in combination with a county-level index of moral values. Constructing such an index requires a large number of underlying individual-level observations on moral values. Since 2008, almost 280,000 U.S. residents have completed the MFQ on the website www.yourmorals.org. While this self-selected set of respondents is not representative of a county's population, the large number of respondents allows me to compute a meaningful county-level index of moral values that is constructed in the same manner as in the individual-level analysis.

Across counties, the relative importance of universalist versus communal values is again strongly negatively correlated with Trump's vote shares (i) in the primaries, (ii) in the presidential election, and (iii) in terms of the difference relative to past Republican candidates in the general election. These results all hold when I exploit variation across counties within commuting zones. In addition, the correlations hold up when controlling for county-level observables, including local income, unemployment, population density, religiosity, or an index of racism. Finally, the analysis documents that the relationship between moral values and voting for Trump is not driven by priming effects from Trump's language: when contemporary county-level moral values are in-

strumented with moral values from a period when Trump was not even politically active, moral values are still strongly related to Trump's vote share.

In summary, both individual-level and county-level analyses confirm the predictions of the text analysis regarding Trump. The final part of the paper generalizes the analysis to all candidates in the primaries and general elections since 2008. By estimating a simple discrete choice model of voting, these analyses link the results of supply- and demand-side regressions in a way that has a structural interpretation. Loosely speaking, the logic is that, if a candidate in a given race is relatively more universalist in their moral language than their direct competitors, then that candidate's county-level vote share should be more positively correlated with the county-level moral values index.

In the data, supply- and demand-side results match up reasonably well. To pick a few illustrative examples, in the general elections, the difference in universalist moral appeal is larger between Obama and Romney in 2012 than between Obama and McCain in 2008, and county-level vote shares are indeed more strongly related to moral values in 2012 than in 2008. In the Republican primaries in 2016, Ted Cruz is less universalist than Marco Rubio and John Kasich, and his county-level vote share is indeed more negatively correlated with moral universalism. In 2012, Rick Santorum is very communal and his vote share is negatively correlated with universalist values; opposite patterns hold for Newt Gingrich. In 2008, John McCain and Ron Paul are both more universalist in their moral rhetoric than their Republican competitors, and their county-level vote shares are positively correlated with moral universalism. These results show that the methodology of connecting supply- and demand-side analyses of morality developed in this paper may generalize to contexts other than Trump. At the same time, other patterns in the data do not conform to the predictions of the text analysis. For example, the text analysis shows that Obama was more communal than Clinton in 2008, yet Obama's vote share is positively correlated with universalism.

Up to this point, all analyses treat moral values as fixed. However, county-level moral values may vary over time, potentially in different ways across space, either because values genuinely change or because of selective in- and out-migration. To study this issue and its link to voting patterns, I again make use of the large-scale longitudinal survey dataset from www.yourmorals.org. In these data, Americans have become considerably less universalist in their moral values between 2008 and 2018, akin to the patterns in Congressional speeches. This medium-run hike in communal values is visible for respondents across diverse regions, but is especially pronounced in relatively rural areas, hence generating "moral polarization" across space.

To gauge the relationship between changes in values and changes in voting patterns, I employ difference-in-difference analyses that correlate differential changes in moral

values across counties over time with corresponding changes in local vote shares. In these analyses, counties that became more universalist between 2008 and 2016 also experience significantly larger increases in Democratic vote shares. Thus, not only does the level of moral values correlate with the level of vote shares, but changes in values also correlate with changes in vote shares.

This paper ties into the empirical literature on the behavioral or social determinants of voting patterns or preferences for redistribution (Alesina and Giuliano, 2011; Ortoleva and Snowberg, 2015; Fisman et al., 2015; Kuziemko and Washington, 2018). Related is also a stream of recent papers on social identity (Shayo, 2009; Grossman and Helpman, 2018; Gennaioli and Tabellini, 2019), the rise of populism (Bursztyn et al., 2017; Guiso et al., 2016, 2017), and polarization (Gentzkow et al., 2019; Desmet and Wacziarg, 2018; Bertrand and Kamenica, 2018), although this literature has not focused on moral values. Morality has attracted recent interest in the literature on behavioral economics (e.g., Bursztyn et al., forthcoming) and cultural economics (Greif and Tabellini, 2017; Enke, 2019), yet this work is not concerned with voting. Relative to all these papers, the key contribution here is to introduce a core concept of modern moral psychology into political economy.

Finally, this paper also contributes to the psychological and political science literatures by formally investigating the link between moral values and voting decisions, the manner in which politicians cater to the moral needs of their constituents, and how these two forces interact in generating election outcomes.[1]

The paper proceeds as follows. Sections 2 and 3 discuss conceptual background and measurement. Section 4 studies the supply of morality. Sections 5 and 6 investigate the demand side of the 2016 election. Sections 7 and 8 look at the primaries and general elections 2008–2016. Section 9 concludes.

2 Conceptual Framework

There is a finite set of voters index by $i \in \mathbb{I}$. In each of two parties $p \in \{D, R\}$, there is a finite set of politicians indexed by $j \in \mathbb{J}_p$. Denote by θ_i the moral type of the voter, by θ_j the type of the politician, and by $\bar{\theta}_j$ the average type of politicians in j's party. Below, we will interpret higher values of θ as a stronger emphasis on universalist relative to communal moral values.

[1] In political science, researchers have linked the 2016 election to concepts including status loss (Gidron and Hall, 2017) and authoritarianism (MacWilliams, 2016).

Voter i's utility from politician j getting elected is

$$u_{i,j} = -\lambda(\theta_i - \theta_{j,p_j})^2 + x_i\eta_j + \epsilon_{i,j} \tag{1}$$

$$\text{where } \theta_{j,p_j} = \gamma\theta_j + (1-\gamma)\bar{\theta}_j \tag{2}$$

The voter derives disutility from having a leader (or a leading party) whose moral framework differs from their own. Here, $(1-\gamma)$ measures the extent to which the voter cares not only about the moral type of the candidate but also about the average moral framework of the candidate's political party. The average moral type of a party can be thought of as average type of all politicians in a party in recent history, including those that do not run in the races that I consider below.

The reduced-form assumption that voters care about a convex combination of the politician's and the party's type has two possible interpretations. First, this assumption could reflect the idea that voters are aware that candidates – once elected – are still influenced by demands from within their party, so that voters care about the "package" of moral frameworks of both party and candidate. Second, the moral type of a politician may not be perfectly observable, so that – in the spirit of Bayesian updating – observing the average type of the politician's party is informative about the type of the candidate.

The parameter $\lambda > 0$ measures the importance of morality in voting, and x_i are additional individual characteristics that may affect the utility i derives from j, such as their economic incentives. I assume that $\epsilon_{i,j}$ is continuously distributed according to the density function $f(\epsilon_{i,j})$ with support S and $E[\epsilon_{i,j}] = 0$, and that $\epsilon_{i,j}$ is orthogonal to $(\theta_i, \theta_{j,p}, \eta_j, x_i)$. I also assume that a voter's moral type θ_i and their concerns about other issues x_i are uncorrelated. Likewise, θ_j and $\bar{\theta}_j$ are orthogonal to η_j. The vote v_i is given by $v_i = \arg\max_j u_{i,j}$.

Expanding the expression above delivers

$$u_{i,j} = -\lambda\theta_{j,p_j}^2 - \lambda\theta_i^2 + 2\lambda\theta_{j,p_j}\theta_i + x_i\eta_j + \epsilon_{i,j} \tag{3}$$

where $-\lambda\theta_i^2$ can be omitted because it is a voter-specific constant that does not affect i's choice among different candidates. In what follows, I derive three types of predictions about the relationship between moral values and voting as a function of the moral types of politicians.

Cross-sectional variation I: General elections. One politician from each party competes in the general election. Voter i's net utility of voting for candidate k as opposed

to l is given by

$$u_{i,k} - u_{i,l} = \underbrace{-\lambda(\theta^2_{k,p_k} - \theta^2_{l,p_l})}_{\equiv\alpha_{k,l}} + \underbrace{2\lambda(\theta_{k,p_k} - \theta_{l,p_l})}_{\equiv\beta_{k,l}}\theta_i + \underbrace{(\eta_k - \eta_l)}_{\equiv\delta_{k,l}}x_i + \underbrace{\epsilon_{i,k} - \epsilon_{i,l}}_{\equiv\epsilon_{i,k,l}} \quad (4)$$

That is, the moral part of the net utility of candidate k getting elected can be represented as (i) a constant $\alpha_{k,l}$ that depends on the candidates' types but not on θ_i and (ii) the interaction of the voter's moral type and the difference in types of the two candidates $\beta_{k,l}$. Thus, the probability that i votes for k is given by:

$$Pr(u_{i,k} > u_{i,l}) = Pr(\alpha_{k,l} + \beta_{k,l}\theta_i + \delta_{k,l}x_i > \epsilon_{i,k,l}) \quad (5)$$

Throughout, I assume that the distribution of the noise term is such that the choice probabilities are strictly interior for all voters and candidates.

Now consider two voters, a and b, who are identical in terms of their non-moral characteristics ($x_a = x_b \equiv x$), yet differ in their moral types $\theta_a > \theta_b$. Further suppose that $\theta_k > \theta_l \wedge \bar{\theta}_k > \bar{\theta}_l$, meaning that both candidate k and their party are more universalist than their counterparts. This implies that $\beta_{k,l} > 0$. It then follows that

$$\begin{aligned} Pr(u_{a,k} > u_{a,l}) =& Pr(\alpha_{k,l} + \beta_{k,l}\theta_a + \delta_{k,l}x > \epsilon_{a,k,l}) & (6)\\ >& Pr(\alpha_{k,l} + \beta_{k,l}\theta_b + \delta_{k,l}x > \epsilon_{b,k,l}) = Pr(u_{b,k} > u_{b,l}) & (7)\end{aligned}$$

because $f(\epsilon)$ is continuously distributed and the choice probabilities are strictly interior. Thus, the more universalist voter a is more likely to vote for candidate k than voter b.

Observation 1. *If $\theta_k > \theta_l$ and $\bar{\theta}_k > \bar{\theta}_l$, then the probability of voting for candidate k is increasing in the relative importance of universalist values of a voter θ_i.*

Note that this prediction does not imply that, in general elections, the probability of voting for a universalist candidate is always increasing in the voter's universalism θ_i, even holding constant the voter's other attributes x_i. The reason is that what matters for the voting decision is a convex combination of the politician's and their party's type. Below, we will see an example of this: Democrats are on average more universalist than Republicans, yet McCain was more universalist than Obama. Thus, in the absence of specific assumptions on the magnitude of γ, the framework does not generate an unambiguous prediction about how people's moral values should be correlated with voting for McCain or Obama. At the same time, the model makes the falsifiable prediction that the probability of voting for a candidate cannot be increasing in a voter's type if both $\theta_k < \theta_l$ and $\bar{\theta}_k < \bar{\theta}_l$.

Cross-sectional variation II: Primaries. A finite set of politicians $j \in J$ compete in the primaries. Evidently, in within-party competition, a party's average moral type drops out of the analysis. For simplicity, this section focuses on the most and least universalist candidates in a given race. An analysis of the more general case is relegated to Section 7.

Consider candidates k and l such that $\theta_k > \theta_j \forall j \neq k$ and $\theta_l < \theta_j \forall j \neq l$. The probability that i votes for k is given by the probability that the utility of voting for k is higher than the utility of voting for any other candidate. Denote $u_{i,\bar{k}} = \underset{j \neq k}{argmax}\ u_{i,j}$. We then have:

$$Pr(u_{i,k} > u_{i,j})\ \forall j \neq k \quad = Pr(u_{i,k} > u_{i,\bar{k}}) = Pr(\alpha_{k,\bar{k}} + \beta_{k,\bar{k}}\theta_i + \delta_{k,\bar{k}}x_i > \epsilon_{i,k,\bar{k}}) \tag{8}$$

In words, for each realization of the noise terms, there is a candidate $\bar{k}$ who for voter i delivers the highest utility in the set of candidates $J \setminus k$. However, regardless of the identity of $\bar{k}$, by assumption we have $\beta_{k,\bar{k}} > 0$ because k is the most universalist candidate. Thus, as exposited in Appendix A, we can apply an analogous argument as in equations (6) and (7): for two voters who differ in their moral types $\theta_a > \theta_b$ but are otherwise identical, it follows that a is more likely to vote for k than b (again assuming that the choice probabilities are strictly interior and $f(\epsilon)$ is continuously distributed). By an analogous argument, we get for the least universalist type θ_l that a is less likely to vote for l than b.

Observation 2. *If $\theta_k > \theta_j \forall j \neq k$ and $\theta_l < \theta_j \forall j \neq k$, the probability of voting for candidate k (l) is increasing (decreasing) in the relative importance of universalist values of a voter θ_i.*

Time variation in types of nominees. I now consider within-party variation in the moral types of the presidential nominees over time. Consider two general elections in $t = 1$ and $t = 2$ with candidates k and k' for party D and candidates l and l' for party R. I will assume that a party's average type remains constant over time.

We are interested in the extent to which voter i is more likely to vote for the candidate of party D in $t = 1$ than in $t = 2$. Using obvious time subscripts:

$$Pr(u_{i,k,1} > u_{i,l,1}) - Pr(u_{i,k',2} > u_{i,l',2}) \tag{9}$$

$$= Pr(\alpha_{k,l} + \beta_{k,l}\theta_i + \delta_{k,l}x_i > \epsilon_{i,k,l}) - Pr(\alpha_{k',l'} + \beta_{k',l'}\theta_i + \delta_{k',l'}x_i > \epsilon_{i,k',l'}) \tag{10}$$

Now suppose that $\theta_k - \theta_l > \theta_{k'} - \theta_{l'}$, so that $\beta_{k,l} > \beta_{k',l'}$. In words, the difference in universalism between candidates k and l in $t = 1$ is larger than between candidates k' and l' in $t = 2$, such that party D appears unusually universalist in $t = 1$. We now evaluate whether for two voters a and b with $\theta_a > \theta_b$ and $x_a = x_b \equiv x$, the more

universalist voter a is differentially more likely to vote for D in $t = 1$ than in $t = 2$, relative to voter b. This would be the case if the following holds:

$$Pr(u_{a,k} > u_{a,l}) - Pr(u_{a,k'} > u_{a,l'}) \overset{?}{>} Pr(u_{b,k} > u_{b,l}) - Pr(u_{b,k'} > u_{b,l'}) \tag{11}$$

Define the intervals $I_1 = [\alpha_{k,l} + \beta_{k,l}\theta_b + \delta_{k,l}x, \alpha_{k,l} + \beta_{k,l}\theta_a + \delta_{k,l}x]$ and $I_2 = [\alpha_{k',l'} + \beta_{k',l'}\theta_b + \delta_{k',l'}x, \alpha_{k',l'} + \beta_{k',l'}\theta_a + \delta_{k',l'}x]$ as well as their union $I = I_1 \cup I_2$. In order for the inequality to hold, $f(\epsilon)$ needs to be distributed such that there is more probability mass in I_1 than in I_2. Note that I_1 is wider because $\beta_{k,l} > \beta_{k',l'}$ and $\theta_a > \theta_b$.

Observation 3. *Suppose that, at least on I, the distribution of the noise term satisfies*

$$\frac{\sup_{\epsilon \in I} f(\epsilon)}{\inf_{\epsilon \in I} f(\epsilon)} < \frac{\beta_{k,l}}{\beta_{k',l'}} = \frac{\theta_k - \theta_l}{\theta_{k'} - \theta_{l'}} \tag{12}$$

Then, if $\theta_k - \theta_l > \theta_{k'} - \theta_{l'}$, the difference in the probability to vote for candidate k in $t = 1$ compared to candidate k' in $t = 2$ is increasing in the relative importance of universalist values of a voter θ_i.

A formal derivation can be found in Appendix A. Intuitively, this prediction says that – under suitable assumptions – if in $t = 1$ the candidate from party D is more universalist than the candidate from party R *relative to the difference in moral types between candidates in the other election*, then universalist values should be positively predictive of the difference between the probability of voting D in $t = 1$ and $t = 2$.

The sufficient condition on the distribution of the noise term in Prediction 3 says that $f(\epsilon)$ is locally not "too different" from a uniform distribution, relative to the magnitude of the cross-candidate differences in moral types (note that the uniform distribution always satisfies equation (12)). Three remarks are in order. First, this condition is only sufficient. Second, we do not need this condition to hold globally but only locally on an interval that is implicitly defined by the relevant choice probabilities. Third, the condition is weaker the larger the difference in moral types in $t = 1$ relative to $t = 2$. In my application, Clinton and Trump will be more than an order of magnitude more different from each other in terms of their moral types than, for example, Obama and Romney.

In summary, while stylized, this simple framework highlights the need to study the supply and demand side of morality in combination. In the following, I test these predictions by first focusing on the special case of Donald Trump in the 2016 election. The analysis will proceed in two steps. First, I estimate politicians' and parties' types θ_j and $\bar{\theta}_j$ to derive predictions about how voters' moral values should be related to voting

behavior ("supply-side analysis"). Second, I test these predictions by measuring voters' moral values and relating them to their voting behavior ("demand-side analysis"). In Section 7, I return to estimating the model more explicitly by considering all candidates and elections between 2008–2016.

3 Moral Values and Their Measurement

3.1 Moral Foundations Theory

Moral values correspond to people's deep beliefs about what is "right" and "wrong." Psychologists think of moral values as being different from preferences in that preferences over, say, bananas versus apples do not trigger the types of strong emotional responses that are associated with morally relevant concepts ("But this is *wrong*!").

To measure the importance of a broad spectrum of values, Haidt and Joseph (2004) and Graham et al. (2013) developed a new *positive* framework of morality: MFT. MFT rests on the idea that people's moral concerns can be partitioned into five "foundations:"

1. Care / harm: Measures the extent to which people care for the weak and attempt to keep others from harm.

2. Fairness / reciprocity: Measures the importance of ideas relating to equality, justice, rights, and autonomy.

3. In-group / loyalty: Measures people's emphasis on being loyal to the "in-group" (family, country) and the moral relevance of betrayal.

4. Authority / respect: Measures the importance of respect for authority, tradition, and societal order.

5. Purity / sanctity: Measures the importance of ideas related to purity, disgust, and traditional religious attitudes.

Crucially, the harm / care and fairness / reciprocity dimensions correspond to universalist moral values. For example, the fairness principle requires that people be fair, not that they only be fair to their neighbors. On the other hand, in-group / loyalty and authority / respect are tied to certain groups or relationships. In what follows (as specified in a pre-registration; see below), the fifth foundation is ignored because "divine" values are not directly related to the distinction between universalist and communal ones.

Table 1: Overview of MFQ survey items

	Moral relevance of:	Agreement with:
Harm / Care	Emotional suffering Care for weak and vulnerable Cruelty	Compassion with suffering crucial virtue Hurt defenseless animal is worst thing Never right to kill human being
Fairness / Reciprocity	Treat people differently Act unfairly Deny rights	Laws should treat everyone fairly Justice most important requirement for society Morally wrong that rich children inherit a lot
In-group / Loyalty	Show love for country Betray group Lack of loyalty	Proud of country's history Be loyal to family even if done sth. wrong Be team player, rather than express oneself
Authority / Respect	Lack of respect for authority Conform to societal traditions Cause disorder	Children need to learn respect for authority Men and women have different roles in society Soldiers must obey even if disagree with order

Notes. Each moral foundation is measured using six survey items. The items in the second column ask respondents to state to what extent the respective category is of moral relevance for them (on a scale of 0–5), while the items in the third column ask them to indicate their agreement with a given statement (also 0–5). For each dimension, the final score is computed by summing responses across items; see Appendix F for details.

While there is an active debate in the psychological literature about the assumption that morality can be partitioned into exactly five foundations, the broad distinction between universalist and communal values is widely accepted nowadays (see, e.g., Napier and Luguri, 2013; Hofmann et al., 2014; Smith et al., 2014; Hannikainen et al., 2017, for recent applications).[2]

Moral Foundations Questionnaire. Table 1 presents a stylized version of the 24 survey items underlying the universalist and communal MFQ foundations. Appendix F contains the questionnaire in its entirety. Each moral foundation is measured through six survey items. Of these, three ask people to assess the moral relevance of certain phenomena and behaviors, while the other three elicit respondents' agreement with moral value statements. All questions are to be answered on a Likert scale ranging from 0 to 5. For each foundation, the score consists of the sum of responses across questions.

Moral Foundations Dictionary. The Moral Foundations Dictionary (MFD) is a set of moral keywords created by Graham and Haidt in 2009.[3] The MFD is partly based on the

[2]MFT builds on and is related to other work in psychology, sociology, and philosophy, such as relational models theory of Fiske (1991) and the qualitative writings of Sandel (1998) and Etzioni (1994) on communitarianism.

[3]See http://www.moralfoundations.org/othermaterials.

terminology in the MFQ and additionally includes words that the psychologists intuited would belong to a particular moral category. For each of the four dimensions harm / care, fairness / reciprocity, in-group / loyalty, and authority / respect, the MFD contains a list of words (often word stems), for a total of 215 words. The 12 most frequent moral keywords of the 2008–2016 presidential candidates are: nation*, leader*, care, unite*, secur*, families, fight*, war, communit*, together, family, and law; see Appendix H. Appendix G contains the entire MFD. While some of these most common words appear to be related to specific policies, including war and national security, other common words such as care, families, communit*, together, family, and law appear less directly linked to specific policies or national security.

3.2 Construction and Validation of Moral Values Index

3.2.1 Derivation of Index

I derived and validated a summary statistic of moral values through a tailored, nationally representative pre-registered internet survey of $N = 4,011$ Americans through *Research Now*.[4] This survey also forms the basis of the individual-level demand-side analysis below. The data collection procedure and sample characteristics are described in detail in Section 5. The survey contained all MFQ survey items.

I construct a summary statistic of the *relative importance of universalist versus communal moral values* as the simple difference between universalist and communal values:

$$\begin{aligned} \text{Rel. imp. universalist values} &= \text{Universalist values} - \text{Communal values} \\ &= \text{Care} + \text{Fairness} - \text{In-group} - \text{Authority} \end{aligned} \tag{13}$$

By construction of the MFQ foundations, this summary statistic amounts to summing responses to all universalist questions and then subtracting responses to all communal questions (all questions are coded such that higher values indicate stronger agreement).

The summary statistic is validated in two ways. First, I document that a principal component analysis of the four MFQ foundations gives rise to a first eigenvector that very closely resembles the simple summary statistic. Specifically, harm / care and fairness / reciprocity enter with positive weights (0.50 and 0.53, respectively), while in-group / loyalty and authority / respect enter with negative weights (−0.53 and −0.44,

[4] See http://egap.org/registration/2849 for the pre-registration.

respectively).[5] [6]

Second, the summary statistic of morality is validated by correlating it with measures that are more closely related to how economists might think about trading off the welfare of all individuals in society and exhibiting loyalty to the local community. The survey contained a set of four pre-registered measures. Appendix I describes the underlying survey items in detail: (i) the decision in a money allocation task in which respondents were asked to split the hypothetical sum of $99 between United Way Worldwide and local firefighters; (ii) the difference between self-reported monetary donations to more "global" entities (non-profit organizations such as Feeding America or United Way Worldwide) and to local entities (churches, firefighters, local libraries, etc.) over the past 12 months; (iii) the difference between hours volunteered to global entities and local entities over the last month; and (iv) the extent to which people prefer that taxes for schools be collected and redistributed at the federal level as opposed to taxes being collected locally and redistributed only among local schools.

Table 12 in Appendix D documents that all of these measures are strongly and significantly correlated with the relative importance of universalist moral values, also conditional on a rich set of covariates. That is, people with stronger universalist versus communal values allocate more money to United Way Worldwide, donate and volunteer more to global charities, and favor taxation and redistribution at the federal level. Indeed, the structure of moral values is much more predictive of these attitudes and behaviors than either income or education.

3.2.2 County-Level Variation

In 2008, Haidt and his collaborators uploaded the MFQ on www.yourmorals.org for all visitors to complete. Presumably due to extensive media coverage and because the online tool provides individualized feedback on how respondents' moral values compare to those of others, traffic has remained high ever since. I received access to individual-level responses from August 2008 through April 2018.

[5] To conduct the principal component analysis, the data were first normalized across respondents by dividing each of the four MFQ foundations by the sum of all four foundations since the research hypothesis is not about heterogeneity in the level of morality, but instead concerns the relative nature of those values. The first eigenvector explains 55% of the variance in the original MFQ foundations, and it is the only component with an eigenvalue that is larger than one (2.19).

[6] The pre-registration specified that the moral values index would be constructed by applying the weights that emerge from the same principal component analysis as described in the text, yet applied to (an outdated version of) the MFQ dataset from www.yourmorals.org that forms the basis of the county-level analysis. However, for the sake of simplicity, I settled for a summary statistic with uniform weights, which was specified in the pre-registration as a robustness check. In practical terms, this makes virtually no difference because the pre-specified weights, in order of appearance in the text, are 0.58, 0.35, −0.52, and −0.52, respectively, and hence very similar to uniform weights. All results from the survey are robust to using the pre-registered index of moral values; see Table 13 in Appendix D.

I construct the same individual-level index of the relative importance of universalist moral values as above. To generate a county-level variable, I aggregate the data by matching respondents' ZIP codes to counties using the HUD USPS ZIP Code Crosswalk Files.[7] In total, I was able to match 277,060 respondents to 2,933 counties. The sample is neither random nor representative of the US population. The average age of respondents is 34.0, 46.2% are female, and only 9.5% have not entered college.

The number of observations within a given county exhibits significant variation: the median number of respondents is 17, with an average of 95, and a maximum of 6,531. Given that the moral values of a small number of people are only a very noisy proxy for a county's true average moral values, I undertake two steps to reduce measurement error and resulting attenuation bias. First, I exclude all counties with less than five respondents, which leaves me with 2,263 counties. Second, I apply techniques from the recent social mobility literature (Chetty and Hendren, 2016) and shrink county-level moral values to the sample mean by its signal-to-noise ratio. Specifically, I first standardize county-level moral values into a z-score. Then, the shrunk moral values of county c, θ_c^s, are computed as a convex combination of observed average moral values in county c, θ_c, and the mean $\bar{\theta}$ of the county sample averages:

$$\theta_c^s = w_c \theta_c + (1 - w_c)\bar{\theta} \tag{14}$$

where the county-specific weights are given by

$$w_c = \frac{Var(\theta_c) - E[se_c^2]}{Var(\theta_c) - E[se_c^2] + se_c^2} \tag{15}$$

Here, $Var(\theta_c)$ is the variance of the county means and se_c the standard error of θ in county c. This shrinkage procedure has a Bayesian interpretation according to which observations with high noise (e.g., due to small N) are shrunk further towards the sample average. Figure 1 shows that moral values (standardized into a z-score) exhibit considerable heterogeneity across space, including within relatively narrow geographic regions.

3.2.3 Stability and Correlates of Moral Values

Psychologists argue that moral values are deeply ingrained and relatively stable beliefs about what is "right" and "wrong." Of course, this does not preclude that values change over time to some extent. There are two types of evidence to support the assumption

[7] Some ZIP codes intersect with multiple counties. In such cases, I duplicate respondents q times, where q is the number of counties that respondents could potentially live in. When I aggregate the data, each respondent is weighted by $1/q$, so that in total each respondent receives a weight of one.

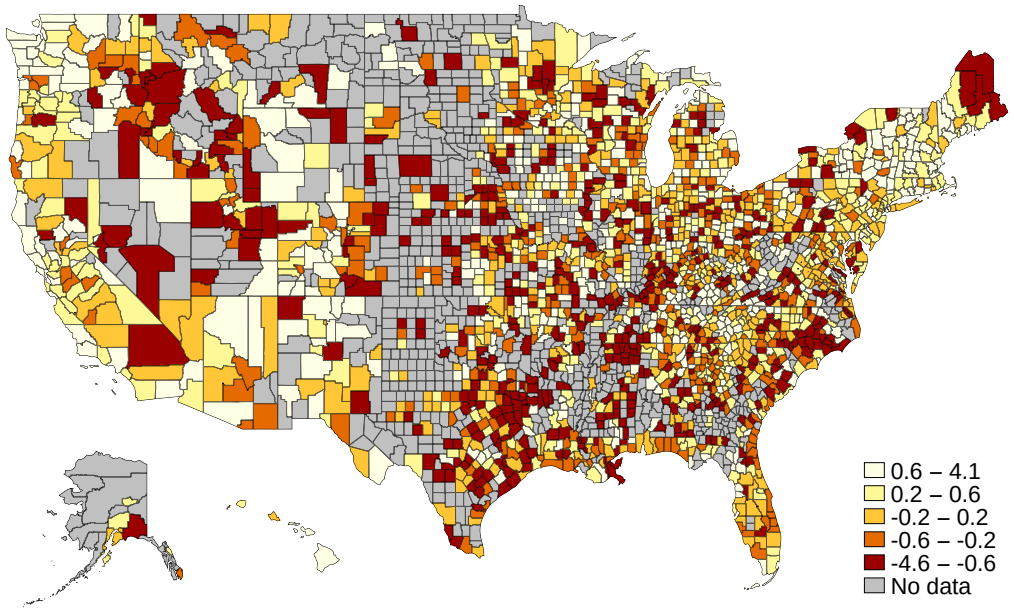

Figure 1: Relative importance of universalist versus communal moral values at the county level

that moral values as measured by the MFQ contain a temporally stable signal. First, Graham et al. (2011) report that the average test-retest correlation of the MFQ foundations over the course of a month is $\rho = 0.73$. A test-retest correlation of $\rho = 0.73$ compares favorably to test-retest correlations for risk aversion measures in economics lab experiments reported by Cesarini et al. (2009), which range between $0.48 - 0.67$.

A second piece of evidence for stability of moral values stems from noting that the county-level variation depicted in Figure 1 appears to be temporally relatively stable: as I document in Figure 9 in Appendix B, county-level values computed separately from respondents in 2008–2012 and in 2013–2018 are strongly correlated with one another once counties with few respondents are ignored ($\rho = 0.84$).

Table 2 reports the Pearson correlations between moral values and various individual characteristics in the nationally representative *Research Now* survey. The relative importance of universalist values is essentially uncorrelated with an experimentally validated survey measure of altruism (Falk et al., 2018) and educational attainment (measured in six categories), though the latter correlation becomes positive once income is controlled for. In addition, universalist values are negatively correlated with income (11 brackets), age, being male, religiosity (eleven-point scale), and low population density. In total, the variables listed in Table 2 explain about 11% of the variation in the moral values index.

Investigating correlations at the county level allows for the linkage of moral values to variables for which individual-level data are difficult to obtain (such as racism), and to variables that capture the broader local economic environment. Table 32 in Ap-

Table 2: Individual-level correlates of relative importance of universalist vs. communal moral values

	Correlation between relative importance of universal moral values and:						
	Age	Female	Income	Educ.	Religiosity	Pop. density	Altruism
Raw corr.	-0.10^{***}	0.14^{***}	-0.07^{***}	0.01	-0.23^{***}	0.15^{***}	-0.02
Partial corr. (all variables)	-0.05^{***}	0.14^{***}	-0.08^{***}	0.08^{***}	-0.23^{***}	0.14^{***}	-0.00
Partial corr. (County FE)	-0.10^{***}	0.13^{***}	-0.07^{***}	0.01	-0.23^{***}	0.06^{***}	-0.02

Notes. The first row reports the Pearson raw correlation between individual characteristics and the relative importance of universalist versus communal moral values in the nationally representative *Research Now* survey ($N = 4,011$). The second row reports partial correlations conditional on the entire set of variables in the table. The third row reports partial correlations conditional on county fixed effects. Income = income brackets (11 steps). Education = six steps. Religiosity = eleven-point scale. Population density is in logs and constructed from ZIP code level data, see Appendix I. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

pendix E shows the correlations between the county-level relative importance of universalist moral values and (i) the unemployment rate, (ii) median income, (iii) local population density, (iv) the fraction of the population that is religious, and (v) the racism index of Stephens-Davidowitz (2014). Again, the strongest correlate of the structure of moral values conditional on state fixed effects is local population density ($\rho = 0.11$). The correlations with income and unemployment rates are tiny in magnitude, and I can rule out correlations larger than $\rho = 0.06$.

The usually weak correlations between the index of moral values and other variables are not meant to imply that moral values do not matter for anything other than voting, or to make causal claims about how moral values are formed. Instead, I take the lack of strong correlations as encouraging evidence that (i) moral values pick up new and hitherto potentially unexplained variation and (ii) that a number of important economic variables are unlikely to induce severe endogeneity concerns because they are uncorrelated with the structure of moral values.

3.3 Supply-Side Text Analyses: Methodology and Data

Methodology. Politicians' moral types are latent. I estimate these types using data on political rhetoric by implementing a simple word count exercise that is based on the keywords in the MFD. I construct a continuous summary statistic of the relative frequency of universalist versus communal moral terminology that closely corresponds to the measure of the relative importance of universalist values developed above. The construction of this summary statistic needs to account for two types of imbalances within the MFD. First, the dictionary contains more words for some MFQ foundations than for others. Second, morality can be referred to in terminology that focuses on either virtue ("A is loyal") or vice ("B betrays"), and the fraction of MFD words within a

given foundation that refers to virtues or vices is not constant across values. This issue is potentially problematic because politicians might speak about morality in different ways.

To account for these imbalances, the index of the relative frequency of universalist moral terminology is computed using the following procedure:

1. Count the frequency of each moral keyword.
2. Compute the average frequency across keywords for each moral foundation, separately for vice terms and virtue terms.
3. Compute the average frequency across vices and virtues for each foundation.

Denote by N_f^v the number of vice words for foundation f in the MFD and by N_f^m the number of virtue words for foundation f. Further denote by n_z the frequency of word z in a text. The summary statistic is then given by

$$\text{Rel. freq. univ. terminol.} = \frac{\#\text{ Care } + \#\text{ Fairness} - \#\text{ In-group } - \#\text{ Authority}}{\text{Total number of non-stop words}} \tag{16}$$

where

$$\#\, f = \frac{1/N_f^v \sum_{z=1}^{N_f^v} n_z + 1/N_f^m \sum_{z=1}^{N_f^m} n_z}{2} \tag{17}$$

In words, the value for foundation f is computed by computing separately the average frequency of vice words of foundation f in the MFD and the average frequency of virtue words of foundation f in the MFD, and then averaging these two average frequencies. This summary statistic is a direct analog of the index of the relative importance of universalist values on the demand side in equation (13), normalized by text length.

Below, I will occasionally also make use of measures of the *absolute* frequency of universalist and communal moral terminology, respectively. To construct these measures, I follow the same procedure as outlined above, except that the numerator in equation (16) is not given by the difference between universalist and communal rhetoric, but rather by the sum of the MFQ foundations "Care" and "Fairness" or by the sum of "In-group" and "Authority."

Data. To analyze variation in political language across parties, the methodology described above was applied to speeches delivered in the U.S. Congress. For this analysis, I work with data from the text of the *United States Congressional Record* that was made

publicly available in a cleaned form by Gentzkow et al. (2019), see Appendix I. I restructured these data such that an observation corresponds to all words publicly uttered by a politician on a given date.

To classify individual candidates in presidential elections, the analysis makes use of data on political rhetoric during presidential campaigns from the American Presidency Project (APP) at UC Santa Barbara (Peters and Woolley, 2017). The data contain campaign speeches, official statements, press releases, debates, and speeches at fundraisers by Republican and Democratic contenders for the presidency since 2008.[8] APP draws primarily on materials posted on candidate websites. In total, the data cover 45 candidates and 16,698 campaign documents with an average length of 671 words.[9] In the analysis, each observation is a campaign document.[10] Because the documents exhibit significant variation in length, the moral content of these documents is measured with differential precision. Following Dickens (1990) and Solon et al. (2015), I perform heteroscedasticity diagnostics that strongly reject homoscedasticity as a function of text length.[11] The analysis hence weights each document by the square root of the total number of non-stop words.

4 Supply Side: Moral Values in Political Rhetoric

This section derives the predictions for the demand-side analysis by estimating the moral types of both individual politicians and party averages (θ_j and $\bar{\theta}_j$ in the framework in Section 2).

[8] Coverage is sparse for 2004 and non-existent for 2000.

[9] To prepare the data for text analysis, the following steps are applied: (i) manually check the debate documents for any errors or inconsistencies; (ii) delete words between parentheses as they typically provide information that was not delivered during the speech; (iii) strip out all punctuation; and (iv) delete all stop words – i.e., frequent words that convey very little content.

[10] To verify the validity of the summary statistic of moral language in the APP data, I conduct two tests. First, for each politician, I compute the relative frequency of universalist language, averaged separately across all documents (i) in the year of the election and (ii) in the previous year. When I restrict attention to politicians with at least 100 documents in either year, the correlation between first and second campaign year is $\rho = 0.88$. Second, I split each campaign document at the midpoint and correlate the resulting indices of the relative frequency of universalist moral language. When we restrict attention to those document halves that have at least 100 non-stop words each, the correlation is $\rho = 0.52$.

[11] Specifically, as recommended by Solon et al. (2015), I assess the necessity of implementing weighted least squares as follows. First, compute residuals from an OLS regression of the relative frequency of universalist rhetoric on a Trump indicator. Second, regress the squared residuals on the inverse of the number of words in a document. The significance of the t-ratio for the coefficient indicates whether weighting is called for. In my application, the t-statistic is 12.

4.1 Cross-Party Variation in Morality

To estimate the moral types of political parties, I make use of rich text data on political speeches from the U.S. Congress. Figure 2 illustrates the results from computing the relative frequency of universalist versus communal moral terminology in speeches in five-year intervals in the post-WWII period. Three trends stand out. First, across both parties, the relative frequency of universalist moral rhetoric experienced a long and steady increase between the mid-1960's and 2000. The starting point of this trend is intuitively plausible (for example, recall that the U.S. Civil Rights Act was passed in 1964). In quantitative terms, political language became about 40% of a standard deviation more universalist in this period. Figure 10 in Appendix B shows that this increase in the *relative* frequency of universalist over communal language is largely driven by an increase in the *absolute* frequency of universalist words.[12] Second, over roughly the same period, Democrats and Republicans polarized in their moral appeal. While politicians from both parties became increasingly universalist in their expressed values, this trend was substantially more pronounced among Democrats.[13] Third, the relative frequency of communal language experienced a substantial rebound starting in the early 2000s, a trend that is visible for both parties and continues to this date. We will return to the observation of decreases in universalist morality (and increasing differences between Republicans and Democrats) in Section 8. Still, the key insight for the demand-side analysis is that, on average, Republican politicians tend to be more communal than Democratic ones.

4.2 Classifying Individual Presidential Candidates

Next, I turn to classifying individual candidates to estimate θ_j. Figure 3 illustrates the moral appeal of the 2008–2016 presidential candidates by plotting the average relative frequency of universalist terminology by (sets of) candidate(s) in the APP project data. In this figure, the document-level summary statistic of universalist versus communal language is standardized into a z-score and multiplied by 100, so that the x-axis can be interpreted as a percentage of a standard deviation. For reasons that will become clear below, this figure is constructed only from campaign documents that stem from the time periods of the primaries.

Two aspects stand out. First, the figure confirms the cross-party differences estab-

[12]Tables 39–42 in Appendix H.1 provide the 15 most common words in the U.S. Congress speeches dataset, separately for (i) all years; (ii) 1955–1965; (iii) 1995–2005; and (iv) since 2010. Appendix H.3 presents the set of MFD words whose usage has changed by the largest margin between 1950 and 2010.

[13]The Civil Rights Act and the associated Democratic "loss of the South" (Kuziemko and Washington, 2018) may be one expression of this more general shift in the relative emphasis on different types of morality.

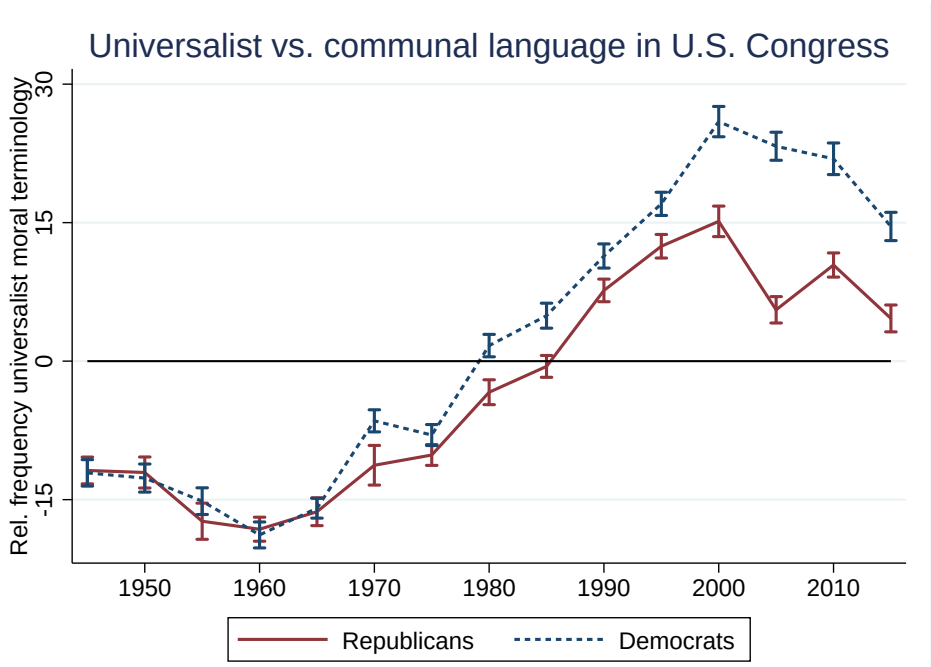

Figure 2: Relative frequency of universalist versus communal moral rhetoric in the U.S. Congress, 1945–2016. The straight red line plots the average relative frequency of universalist rhetoric across all speeches by Republicans, along with standard error bars (clustered at the candidate level). The dashed blue line represents the relative frequency of universalist terminology among Democrats. The year of observation of each speech is rounded to the nearest multiple of five. The relative frequency of universalist moral rhetoric is a z-score multiplied by 100, where the z-score is computed at the level of separate speeches.

lished above: on average, Republican politicians are less universalist (more communal) than Democrats. Second, there is significant heterogeneity also across politicians from the same party. In particular, Trump has a strong communal moral appeal relative to three comparison sets that are relevant in light of the framework in Section 2. (i) Trump is less universalist relative to Clinton in 2016; (ii) he is less universalist than the average competitor in the 2016 GOP primaries (and in fact the least universalist candidate in the set of serious competitors Cruz, Kasich, and Rubio); and (iii) the *difference* in moral appeal between Trump and Clinton is substantially larger than that between Romney and Obama or between McCain and Obama, respectively. Slightly more formally, $\theta_{Clinton} - \theta_{Trump} > (\theta_{Obama12} - \theta_{Romney} + \theta_{Obama08} - \theta_{McCain})/2$.[14]

Looking at other election years, we see that, in 2012, Obama was slightly more universalist than Romney. Given that the Democratic party is also more universalist than the Republican party, on average, this predicts that voting for Obama versus Romney should be positively correlated with the relative importance of universalist values. On the other hand, in 2008, Obama is less universalist than McCain. Thus, in the absence of specific assumptions on the magnitude of α in the framework in Section 2, we cannot

[14]Figures 13 and 14 break these patterns down into the absolute frequency of universalist and communal moral terminology.

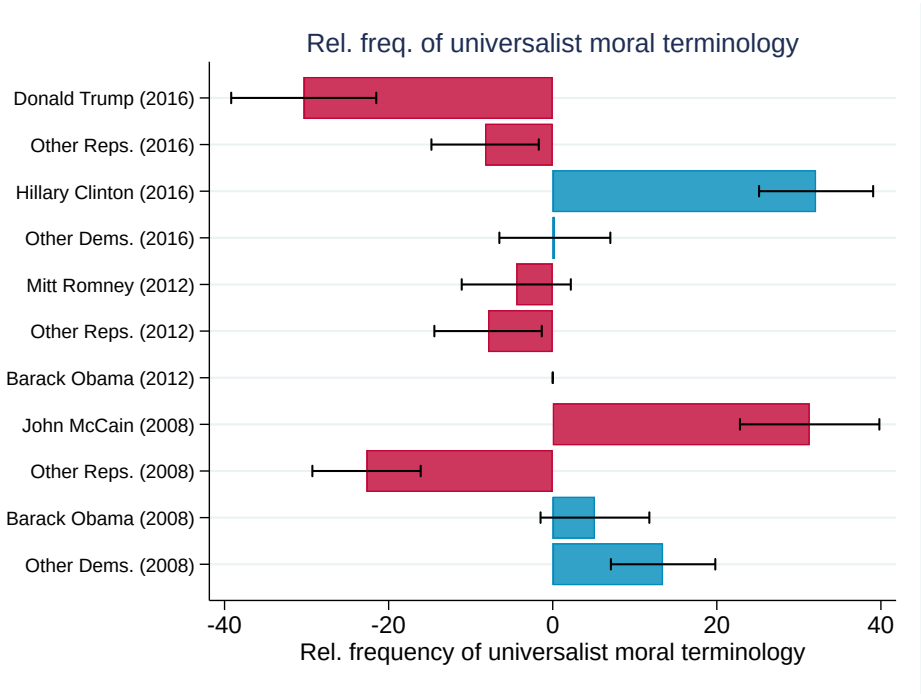

Figure 3: Relative frequency of universalist versus communal moral terminology in the primaries. The bars depict the estimates (+/- 1 SE) for the candidate fixed effects in an OLS regression of the relative frequency of universalist terminology in a campaign document on candidate (or candidate group) fixed effects, controlling for document type FE and campaign day FE (where the first campaign day is defined as January 1st of the year prior to the respective election). The omitted category is Obama in 2012. As in the regressions in Table 3, each document is weighted by the square root of the total number of non-stop words. The index of the relative frequency of universalist moral rhetoric is standardized into a z-score and multiplied by 100. The sample is restricted to campaign documents from during the primaries, where for Obama in 2012 this is defined as during the Republican primaries.

generate a prediction about how moral values should be related to voting for Obama vs. McCain.

Restricting Figure 3 to the primaries has the appealing feature that it makes all candidates comparable. Including data from the period of the general election has the potential drawback that some candidates only competed in the primaries and hence perhaps responded to their intra-party competition to a greater degree than those politicians who turned out to be presidential nominees. While not part of the framework laid out in Section 2, it may be of interest to investigate how moral rhetoric evolves in the course of the 2016 election season. This is done in Figure 4.[15] The relative frequency of universalist moral rhetoric at a given point in time is computed using a $k = 120$ nearest neighbor algorithm, i.e., based on the 120 campaign documents closest to a given date.

Confirming the results from above, the figure shows that Trump's moral language is initially very communal. However, this changes substantially around when he wins

[15]Figure 15 in Appendix B shows the trends for candidates other than Trump and Clinton.

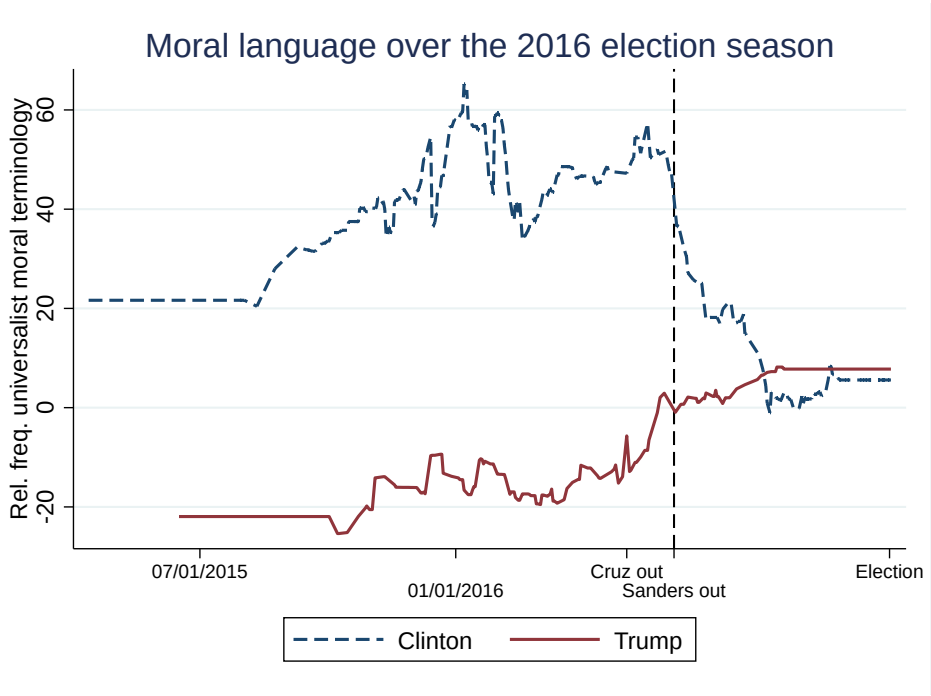

Figure 4: Relative frequency of universalist versus communal moral terminology over the course of the 2016 election season. The relative frequency of universalist moral rhetoric at any given point in time is computed as weighted average using a $k = 120$ nearest neighbor algorithm, i.e., the 120 campaign documents closest to a given date. As in the regressions, each document is weighted by the square root of the total number of non-stop words. The first and second vertical dashed lines denote the dates on which Cruz and Sanders dropped out of the primaries as the last remaining competitors of Trump and Clinton, respectively. The index of the relative frequency of universalist moral rhetoric is standardized into a z-score and multiplied by 100.

the Republican primaries, i.e., his language becomes much more universalist when Ted Cruz drops out. Similarly, Clinton's language exhibits a jump in communal appeal when she wins the Democratic nomination. While these patterns are neither predicted nor ruled out by the model, they may still be of interest. For example, a potential (post-hoc) explanation of these trends is that they may reflect politicians' understanding that their marginal voter is more centrist in the general election than in the primaries. If true, such a perspective would suggest that at least part of the variation in moral appeal across politicians is strategic.

Despite the fact that Trump becomes more universalist in his rhetoric after the primaries, he is also very communal on average, i.e., in the full set of campaign documents. To show this, Figure 11 in Appendix B replicates Figure 3 based on all campaign documents.

Table 3 formally summarizes the results. Here, the analysis includes all campaign documents from both the primaries and the general elections. In the table, all variables except for binary ones are transformed into z-scores.

Table 3: Politicians' moral rhetoric

	Dependent variable: Rel. frequency of universalist vs. communal moral terminology					
	Sample: All candidates			Trump & Clinton	Pres. nominees	GOP 2016
	(1)	(2)	(3)	(4)	(5)	(6)
1 if Trump	-17.3***	-18.0***	-11.4**	-34.6***	-46.7***	-29.7***
	(4.0)	(4.2)	(4.5)	(10.0)	(6.8)	(6.5)
Log [# of non-stop words]		10.0***	9.0***	-0.6	5.3***	6.5***
		(1.1)	(1.1)	(8.6)	(1.8)	(2.3)
Overall degree of morality		3.4	3.3	1.8	9.2*	-5.6*
		(2.3)	(2.3)	(17.7)	(4.9)	(2.9)
Flesch reading ease score		6.7***	6.7***	18.0**	3.9***	10.1***
		(0.9)	(0.9)	(7.7)	(1.2)	(1.7)
1 if Republican			-17.0***		13.8***	
			(2.0)		(3.3)	
1 if presidential nominee			9.1***			
			(2.2)			
Document type FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	No	Yes	No
Campaign day FE	No	Yes	Yes	Yes	Yes	Yes
Observations	16698	16698	16698	1043	5372	3455
R^2	0.02	0.12	0.13	0.44	0.20	0.27

Notes. WLS estimates, robust standard errors in parentheses. The dependent variable is the relative frequency of universalist versus communal moral terminology, expressed as z-score multiplied by 100. Each document is weighted by the square root of the total number of non-stop words. In columns (1)–(3), the sample includes all candidates in 2008–2016. Columns (4)–(6) restrict the sample to Trump and Clinton, presidential nominees (2008–2016), and 2016 Republicans, respectively. Campaign day FE are constructed by defining January 1st of the year prior to the election as first campaign day. Overall morality is constructed like the relative frequency of communal terminology in eq. (16), except that the numerator is given by the sum of the four MFT foundations.
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Columns (1)–(3) of Table 3 confirm that Trump's language exhibits a low relative frequency of universalist moral terminology, relative to the full set of candidates. The binary Trump indicator suggests that Trump's moral rhetoric is about 17% of a standard deviation less universalist than that of the average candidate. Among others, these analyses also control for the overall emphasis on morality, measured by the frequency of all MFD words combined.

Columns (4)–(6) directly develop the supply-side predictions for the demand-side analyses below, as discussed in the framework in Section 2. For this purpose, the analysis is restricted to various sub-samples of interest. First, column (4) confirms that Trump's language is significantly less universalist than that of Clinton. Second, column (5) shows that the difference in moral appeal between Trump and Clinton is larger than

that between other pairs of presidential candidates. This is because the regression is restricted to presidential nominees and includes both a Republican and year fixed effects. Thus, the binary Trump indicator effectively corresponds to a difference-in-difference-style interaction term between "Republican" and "2016 election." The coefficient hence shows that the difference in moral appeal between Trump and Clinton is unusually large relative to differences between Republicans and Democrats in earlier years. Finally, column (6) documents that Trump's language is also significantly less universalist than that of the average Republican contender in the 2016 primaries. Indeed, Figure 12 in Appendix B documents that Trump is the least universalist contender in the GOP primaries if one focuses on candidates that eventually garnered at least 5% of the popular vote (Cruz, Kasich, and Rubio).

Tables 9 and 10 in Appendix C break these patterns down into the absolute frequency of universalist and communal language, respectively. The results show that, across most of the specifications shown in Table 3, Trump exhibits both (i) a lower absolute frequency of using universalist moral language and (ii) a higher absolute frequency of employing communal moral language than the respective comparison sets. Thus, the patterns that are presented in the main text do not rely on the procedure of differencing universalist and communal terminology.

Combining the abstract predictions in Section 2 with the results of the text analysis, we are now in a position to state the following predictions for the demand-side analysis of the 2016 election:

Observation 4. *The importance that a voter assigns to universalist relative to communal moral values is negatively correlated with:*

1. *Voting for Trump in the general election.*
2. *The difference between the propensity to vote for Trump and earlier Republican presidential nominees in the general election.*
3. *Voting for Trump in the GOP primaries.*

Of course, analogs of these predictions can also be investigated for politicians other than Trump. This is done in Section 7.

5 Demand-Side I: Individual-Level Evidence

5.1 Survey Design

I conducted a pre-registered survey of $N = 4,011$ Americans through *Research Now*, a commercial market research internet panel. The pre-registration contains all depen-

dent variables and the sample size.[16] *Research Now* recruited a stratified sample of respondents who are registered voters and born in or before 1989. The sample closely matches the US general population along the following dimensions: age, gender, educational attainment, income, race, employment status, and state of residence. Table 11 in Appendix D describes the sample characteristics in detail.

To avoid priming effects, the survey was not described as a study about voting or elections. Rather, respondents were only asked to complete questionnaires. The survey contained (i) the full set of MFQ items; (ii) questions to elicit who respondents voted for in the 2008, 2012, and 2016 presidential elections as well as the 2016 primaries; (iii) an additional pre-registered outcome variable specified below; and (iv) a wide range of covariates. The survey was structured such that respondents first completed the MFQ and then provided answers to additional questions, including about their past voting behavior. Respondents received email invitations to participate in the survey. After clicking on a link, respondents were routed through a set of screening questions to stratify the sample. Responses were collected between September 20, 2017 and October 17, 2017.

As detailed in the hypotheses in Sections 2 and 4, the dependent variables of interest are (i) whether the respondent voted for Trump in the 2016 presidential election; (ii) the difference in the propensity to vote for Trump and prior Republican presidential candidates (Romney and McCain); and (iii) voting for Trump in the 2016 Republican primaries. All of these variables were pre-registered.[17] The analysis links these outcome variables to the relative importance of universalist values, which is constructed as described in Section 3.2.

5.2 Covariates

Prior work in political economy has established the importance of a variety of economic and social factors for voting behavior and attitudes towards redistribution. Thus, many specifications will control for a host of covariates. Naturally, due to logistical constraints, it was not feasible for me to include in the survey the entire set of variables that has been deemed relevant in the literature. In addition, "controlling" for individual-level characteristics potentially entails the risk of misspecification because those very characteristics may ultimately generate the variation in morality that is the object of interest in this paper. For example, it is conceivable that age or religiosity matter for voting at least partly because they generate a particular type of morality. Thus, analyses involving

[16] See http://egap.org/registration/2849. The pre-registration specified a sample size of $N = 4,000$. The surplus reflects respondents who started the survey before number 4000 finished.

[17] Table 16 in Appendix D presents an analysis of the relationship between moral values and changes in turnout in the presidential election between 2016 and prior elections. This analysis was not pre-registered and is not part of the conceptual framework laid out in Section 2.

covariates are best viewed as sensitivity checks.

The analysis of covariates proceeds in two steps. In a first step, I pick covariates by largely following a recent survey paper on the correlates of attitudes towards redistribution (Alesina and Giuliano, 2011). This set includes the following variables: age; gender; race (six categories); employment status; educational attainment (six categories); religious denomination (10 categories); and income bracket (ten categories).[18] On top of these variables from Alesina and Giuliano's overview paper, I also elicited occupation (11 categories), local population density (computed from respondents' ZIP codes), established survey measures of altruism and generalized trust as more traditional social variables, as well as state and county of residence.[19] Finally, I also control for the absolute value of the relative importance of universalist versus communal values. It is worth pointing out that this vector of controls is at least as, if not more, comprehensive than in related recent contributions to the literature (e.g., Fisman et al., 2015; Ortoleva and Snowberg, 2015).

In a second step of the analysis, I benchmark the results on moral values explicitly against variables that have previously been identified as important drivers of voting decisions: political conservatism, income, education, religiosity, and population density.

5.3 Results

Table 4 summarizes the results of various OLS regressions. For each dependent variable, I present three specifications: (i) an analysis that introduces universalist and communal values separately; (ii) a regression that uses the main measure of the *relative* importance of universalist versus communal values; and (iii) a specification with the baseline set of controls discussed above: year of birth fixed effects; gender; race fixed effects; employment status; educational attainment fixed effects; religious denomination fixed effects; income bracket fixed effects; occupation fixed effects; local population density; altruism; generalized trust; and the absolute value of the moral values index. Each specification includes state fixed effects for comparability because in the primaries the set of candidates differs across states.[20]

Column (1) documents that universalist and communal values are correlated with voting for Trump in the 2016 presidential election in opposite directions. A higher absolute emphasis placed on universalist values is negative related to voting for Trump,

[18] Unlike Alesina and Giuliano (2011), I do not have access to data on marital status, respondents' own experienced social mobility relative to their parents, the respondent's perception of whether effort or luck matters for success in life, and the presence of macroeconomic shocks in their region of residence during age 18–25.

[19] See Appendix I for a description of the covariates.

[20] Still, the results are almost identical without state fixed effects, see Table 14 in Appendix D.

while a higher emphasis placed on communal values is positively correlated with voting for him (both measures are standardized into z-scores for ease of interpretation). Note that there is nothing mechanical about the construction of the universalist and communal values measures that would generate this pattern as they are constructed from separate survey questions. Column (2) combines the separate moral values measures into the main explanatory variable in this paper, the relative importance of universalist versus communal values, which is also standardized into a z-score. The quantitative magnitude of the regression coefficient suggests that an increase in the relative importance placed on universalist values by one standard deviation is related to an increase in the probability of voting for Trump of 21 percentage points. Here, the moral values measure alone explains 20% of the variation in voting behavior. Column (3) adds controls and shows that the relative importance of universalist values is strongly negatively related to voting for Trump conditional on this large vector of controls.

Just like columns (1)–(3) show that voting for Trump vs. Clinton is negatively related to the relative importance of universalist values – as predicted by the text analysis – Table 17 in Appendix D shows that voting for Romney versus Obama in the general election 2012 is likewise negatively correlated with the relative importance of universalist values. Again, this pattern is predicted by the text analysis. The relative importance of universalist values is also strongly negatively correlated with a respondent's propensity to vote for McCain rather than Obama in the general election 2008. This pattern is neither predicted nor ruled out by the conceptual framework and the text analysis. As discussed above, the reason is that McCain is classified as more universalist than Obama, but the Republican average is more communal than the Democratic average. Hence, in the absence of specific assumptions on γ, the framework does not generate an unambiguous prediction. Section 7 returns to a detailed study of candidates other than Trump.

While columns (1)–(3) of Table 4 study voting Republican vs. Democratic, columns (4)–(9) explicitly turn to studying within-party variation, both over time in the general election and in the primaries. Columns (4)–(6) document that universalist moral values are also significantly negatively related to the *difference between voting for Trump and past Republican presidential candidates* (Romney and McCain) in the general election.[21] As discussed in Section 2, the intuitive logic behind this regression is that it takes out the

[21]This variable is constructed by generating binary variables for Trump, Romney, and McCain, each of which assumes a value of 100 if the respondent voted for the respective candidate in the corresponding presidential election and 0 if they voted for a different candidate. The dependent variable of interest is then computed as the difference between the binary Trump variable and the average of the corresponding Romney and McCain variables. In Table 15 in Appendix D, I verify that very similar results hold if I instead code a three-step variable for each candidate that assumes a value of 50 if the respondent did not vote in the relevant election. Similar results hold if I code "I don't remember" as 50.

level effect of being Republican in the first place, just like the text analysis showed that Trump is more communal in his moral appeal than past Republican presidential candidates. In these regressions, we observe a similar pattern as in columns (1)–(3): the absolute importance that respondents place on universalist values is negatively and the importance placed on communal values positively correlated with voting for Trump, relative to past Republican nominees. Moreover, the statistically significant coefficient of the combined measure of the relative importance of universalist values is robust to including the vector of controls discussed above, see column (6).

In an identical fashion, columns (7)–(9) show that moral values are likewise related to voting for Trump in the GOP primaries. Quantitatively, an increase in the relative importance of universalist moral values by one standard deviation is associated with a decrease in voting for Trump in the primaries of about ten percentage points.[22,23]

As noted above, discussing coefficient stability across regression specifications is not necessarily meaningful because some of the controls (such as age, population density, or religious denomination) could matter for voting precisely because they shape moral values, which in turn drive voting decisions. For instance, sociologists and anthropologists have long written about the idea that living in small-scale communities induces a communal morality (Henrich et al., 2010; Norenzayan et al., 2016; Wuthnow, 2018). Thus, the thought experiment of "changing moral values while holding observables constant" may not be a sensible one, which is why I view regressions with an extensive set of controls more as sensitivity checks than as representations of the likely true causal model that generates the data. Nonetheless, for completeness, I report Oster's (2019) δ as a measure of how much unobservables would have to bias the coefficient of moral values, relative to the "bias" that is introduced by ignoring the large set of observables in Table 4. Going from column (1) to (3), we get $\delta = 0.4$. Going from column (4) to (6), we get $\delta = 0.1$ and going from (7) to (9) we get $\delta = 0.6$. Thus, for example, in order for the true coefficient in column (1) to be zero, unobservables would have to bias the coefficient estimate 40% as much as the vector of observables. While these numbers are low, I emphasize that the full specifications in columns (3), (6) and (9) include variables that plausibly cause some of the variation in moral values themselves.

To visualize the relationship between moral values and voting behavior, I compute average moral values across groups of respondents that exhibit a certain voting pattern.

[22] In the survey, "too many" respondents report to have voted for a third candidate (8.6% vis a vis 5.7% in the election). Such a pattern would be expected if some respondents clicked randomly.

[23] Appendix D replicates the analysis in Table 4, separately for each of the 24 survey items from which the MFQ foundations are derived. The results document that 63 out of 72 regression coefficients have the expected sign, i.e., negative for items that underlie care / harm and fairness / reciprocity and positive for items that underlie in-group / loyalty and authority / respect. Of these 63 items, 53 are statistically significant at least at the 10% level.

Table 4: Moral values and voting: Individual-level evidence

	Dependent variable:								
	Votes in presidential election						Votes in GOP primaries		
	1 if voted for Trump			Δ [Trump – Ave. GOP]			1 if voted for Trump		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Absolute importance of universalist moral values	-19.8***			-2.27***			-6.21***		
	(0.83)			(0.69)			(1.36)		
Absolute importance of communal moral values	23.6***			4.23***			15.7***		
	(0.76)			(0.63)			(1.42)		
Relative importance of universalist vs. communal moral values		-21.1***	-17.2***		-3.24***	-2.47***		-10.1***	-8.20***
		(0.62)	(0.86)		(0.50)	(0.76)		(1.23)	(1.34)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year of birth FE	No	No	Yes	No	No	Yes	No	No	Yes
Race FE	No	No	Yes	No	No	Yes	No	No	Yes
Income bracket and education FE	No	No	Yes	No	No	Yes	No	No	Yes
Religious denomination FE	No	No	Yes	No	No	Yes	No	No	Yes
Occupation FE	No	No	Yes	No	No	Yes	No	No	Yes
Gender and employment status	No	No	Yes	No	No	Yes	No	No	Yes
Local population density	No	No	Yes	No	No	Yes	No	No	Yes
Altruism and generalized trust	No	No	Yes	No	No	Yes	No	No	Yes
Abs. value of moral values index	No	No	Yes	No	No	Yes	No	No	Yes
Observations	3471	3471	3342	2973	2973	2860	1888	1888	1817
R^2	0.22	0.22	0.38	0.03	0.03	0.08	0.10	0.07	0.20

Notes. OLS estimates, robust standard errors in parentheses. In columns (1)–(3), the dependent variable is a binary indicator that equals 100 if the respondent voted for Trump in the general election and zero if the respondent voted for Clinton. In columns (4)–(6), the dependent variable is the difference in the propensity to vote for Trump and the average propensity to vote for Romney and McCain, where the propensity to vote for a given candidate is a binary indicator that equals 0 if the respondent voted for a different candidate and 100 if they voted for the respective candidate. The difference in sample size between columns (1)–(3) and (4)–(6) is that a respondent had to vote in all elections 2008–2016 to be included in columns (4)–(6). In columns (7)–(9), the dependent variable is a binary indicator that equals 100 if the respondent voted for Trump in the 2016 GOP primaries and 0 if they voted for another candidate. See Appendix I for a description of the covariates. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

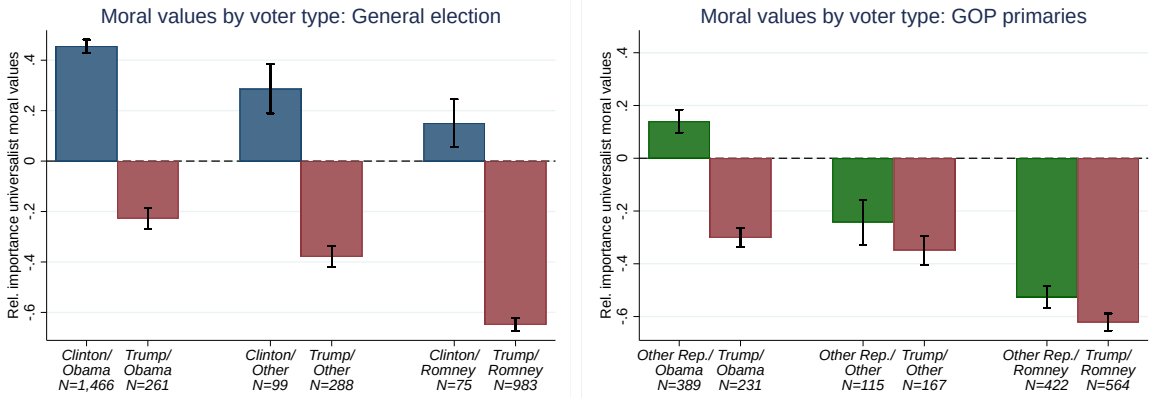

Figure 5: Moral values by type of voter. The bar graph depicts the average relative importance of universalist moral values of all respondents that report a given voting pattern (+/- 1 SE). The left panel focuses on voting behavior in the 2016 presidential election, conditioned by voting in the 2012 presidential election. Here, the first bar corresponds to voters who voted Democratic in both presidential elections. The second one corresponds to voting for Obama and voting for Trump, and so forth. The group "Other" includes respondents who voted for a third candidate, did not vote, or do not remember who they voted for (in 2012). The right panel follows an analogous logic, except that here groups are partitioned by their voting pattern in the 2016 GOP primaries, conditioned by voting in the 2012 presidential election. For example, the first bar corresponds to voters who voted for Obama in 2012 and for a candidate other than Trump in the 2016 GOP primaries. The difference in overall sample size between the left panel and column (1) of Table 4 reflects respondents who voted for a third candidate in 2016.

This is done in Figure 5. The left panel focuses on voting in the 2016 presidential election, conditioned by voting in the 2012 election. For instance, the first bar shows the average relative importance of universalist moral values of respondents who voted for Obama in 2012 and for Clinton in 2016. Likewise, the third bar shows the average values of respondents who voted for Clinton in 2016 and voted for neither Obama nor Romney in 2012. The figure documents a clear pattern: conditional on voting behavior in 2012, Trump voters consistently place a lower emphasis on universalist relative to communal concepts in their morality than Clinton voters.

The right panel of Figure 5 follows the same logic, but focuses on variation within the 2016 Republican primaries, conditional on a given voting pattern in the 2012 presidential election. Again, Trump voters consistently exhibit a weaker emphasis on universalist moral values than those who voted for other GOP candidates.[24]

[24]To provide direct evidence for the extent to which concepts such as in-group loyalty are of importance to voters relative to abstract economic and social policies, the survey contained an additional pre-registered outcome variable. This survey item asks respondents which of two aspects is more important for their evaluation of Trump: (i) the extent to which Trump shows loyalty to his supporters and does not betray the respondent's community or (ii) Trump's economic and social policies, such as his impact on the unemployment rate. universalist moral values exhibit a correlation of $\rho = -0.13$ ($p < 0.01$) with the extent to which voters evaluate Trump based on loyalty as opposed to his economic policies.

5.4 Benchmarking Against Traditional Variables

To provide a benchmark for the relationship between moral values and voting behavior, I now introduce a set of covariates that has previously been shown to be predictive of voting behavior. This set includes both social and economic variables. I work with (i) a summary statistic of political liberalism versus conservatism that aggregates political views towards the size of government, gun control, crime policies, and environmentalism using 13 questions from the Cooperative Congressional Election Study; (ii) religiosity (measured on an 11-point scale); (iii) local population density as constructed from respondents' ZIP codes; (iv) a self-reported measure of annual pre-tax household income;[25] and (v) educational attainment.

The objective of this section is to document that moral values have explanatory power for voting behavior (in a statistical sense) above and beyond the aforementioned "benchmarking" variables as well as the vector of controls that I used in the preceeding section. In these types of analyses, there exists a tradeoff between controlling for too few variables (omitted variable bias) and too many covariates (because a potential causal effect of e.g. population density could operate through moral values). Thus, for each dependent variable, I present three specifications. First, a specification that controls for all benchmarking variables as well as state fixed effects. Second, a large kitchen sink regression in which I control for all benchmarking variables, all covariates from Section 5.3, and county fixed effects. The third specification follows a post-double-selection (PDS, also known as "double lasso") methodology (Belloni et al., 2014) to select the "right" set of controls from the high-dimensional control vector.[26]

Table 5 presents the regression results. For ease of interpretation, all explanatory variables are standardized into z-scores. Column (1) confirms that all "benchmarking" variables are significantly related to voting for Trump vs. Clinton with well-known signs: the religious, people with more conservative policy views, those with higher income, and people from rural areas are more likely to vote Republican. At the same time, the coefficient of the relative importance of universalist moral values remains large and statistically highly significant in this specification. As shown in columns (2) and (3), similar results hold when I additionally control for 1,079 county fixed effects and the full vector of additional controls that I introduced in Section 5.3. These results hold

[25] Appendix D.8 discusses a robustness check, in which I instead work with an estimate of lifetime income.

[26] This procedure proceeds in three steps: First, implement two separate lasso regressions: the outcome variable on the vector of controls; and the moral values index on the vector of controls. In these regressions, the lasso estimator achieves a sparse solution, i.e., most coefficients are set to zero. Second, define the appropriate set of controls as the union of the controls with non-zero coefficients in the two regressions. Third, regress the outcome variable on the moral values index, controlling for this selected vector of controls.

in both OLS and PDS regressions. In these analyses, the moral values index alone "explains" about 26% of the variation in voting behavior, while the full set of benchmarking variables jointly explains 24% of the variation.

Columns (4)–(6) and (7)–(9) follow an analogous logic, except that these regressions again leverage within-party variation, either over time or in the primaries. In columns (4)–(6), the dependent variable is the difference between the propensity to vote for Trump in 2016 and the average propensity to vote for Romney and McCain in the general elections. In these regressions, the relative importance of universalist moral values is consistently strongly negatively related to the propensity to vote for Trump, relative to earlier Republican presidential nominees. Interestingly, the standard variables that are typically associated with voting Republican vs. Democratic (conservative policy views, income, population density, and religiosity) are individually only weakly, if at all, predictive of the extent to which voters switch towards or away from voting Republican in 2016. Here, the R^2 of the moral values index alone is 1%, while that of the full set of benchmarking variables is 2%.

Very similar results hold in the analysis of the GOP primaries, see columns (7)–(9). Again, the coefficient of the relative importance of universalist moral values remains statistically highly significant and comparable in size to the earlier analyses, even when all benchmarking variables and the vector of controls are included. Here, the R^2 of the moral values index alone is 3%, while that of the full set of benchmarking variables is 5%.[27]

In summary, the structure of moral values is consistently related to voting for Trump, both in cross-party and in within-party comparisons. Other variables that have previously been identified to be predictive of voting Republican vs. Democratic, on the other hand, are correlated with voting for Trump relative to Clinton, but not in within-party analyses. This suggests that traditional variables largely capture across-party variation in political leanings, whereas moral values also capture more nuanced within-party variation in ways that are predicted by supply-side text analyses.

[27]A potential concern is that these variables are measured with more error than moral values. Appendix D.6 investigates this issue. Following Gillen et al. (2015), I make use of multiple measurements for each variable and instrument the measures with each other to eliminate attenuation bias. The results of these IV regressions are very similar to those reported in Table 5.

Table 5: Moral values and voting: Benchmarking and additional controls

	Dependent variable:								
	Votes in presidential election						Votes in GOP primaries		
	1 if voted for Trump			Δ [Trump – Ave. GOP]			1 if voted for Trump		
	OLS	OLS	PDS	OLS	OLS	PDS	OLS	OLS	PDS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Relative importance of universalist vs. communal moral values	-14.0***	-12.4***	-12.3***	-2.55***	-3.68***	-1.96**	-9.49***	-5.32**	-7.78***
	(0.81)	(1.36)	(1.04)	(0.70)	(1.42)	(0.93)	(1.49)	(2.66)	(1.54)
Political liberalism	-12.7***	-11.1***	x	-1.19	-0.45	x	-0.19	-0.75	x
	(0.89)	(1.19)		(0.82)	(1.18)		(1.30)	(2.33)	
Log [Household income]	3.07***	0.70		-1.36	-0.90		-0.61	-1.11	
	(0.97)	(1.24)		(0.92)	(1.32)		(1.23)	(1.79)	
Education	0.059	-0.88		-3.19***	-2.39*	x	-9.16***	-8.30***	x
	(0.86)	(1.31)		(0.83)	(1.42)		(1.32)	(2.53)	
Log [Population density]	-7.57***	-5.43***	x	-0.99	-2.46		-4.35***	-4.66	
	(0.89)	(1.88)		(0.93)	(2.18)		(1.45)	(3.76)	
Religiosity	2.67***	3.40***	x	0.072	0.85	x	-0.027	-0.88	
	(0.82)	(1.29)		(0.79)	(1.25)		(1.36)	(2.67)	
State FE	Yes	No		Yes	No		Yes	No	
County FE	No	Yes	x	No	Yes	x	No	Yes	x
Additional controls	No	Yes	x	No	Yes	x	No	Yes	x
Observations	2852	2852	2852	2452	2452	2452	1544	1544	1544
R^2	0.32	0.64		0.05	0.47		0.11	0.60	

Notes. Regression estimates, robust standard errors in parentheses. Columns (3), (6), and (9) present PDS and all other columns OLS regressions. In columns (1)–(3), the dependent variable is a binary indicator that equals 100 if the respondent voted for Trump in the general election and zero if the respondent voted for Clinton. In columns (4)–(6), the dependent variable is the difference between the propensity to vote for Trump and the average propensity to vote for Romney and McCain. In columns (7)–(9), the dependent variable is a binary indicator that equals 100 if the respondent voted for Trump in the GOP primaries. Additional controls include year of birth fixed effects, gender, employment status, race fixed effects, religious denomination fixed effects, occupation fixed effects, altruism, generalized trust, and the absolute value of the moral values index. See Appendix I for a description of all variables. The PDS procedure selects the following covariates (denoted by "x"): Column (3): political liberalism, log pop. density, religiosity, gender, white race dummy, Atheist dummy, and various county FE. Column (6): political liberalism, log pop. density, education, religiosity, gender, white race dummy, Atheist dummy, and various county FE. Column (9): political liberalism, education, white race dummy, and various county FE. For comparability, all explanatory variables are standardized into z-scores. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

6 Demand-Side II: County-Level Evidence

6.1 Baseline Results

The individual-level analysis is complemented by a county-level analysis. These modes of analysis exhibit different strengths and weaknesses: the tailored internet survey features rich individual-level data and a representative sample, but has to make do with self-reported voting decisions. The county-level analysis, on the other hand, builds on a different, non-representative, dataset on moral values, but makes use of official voting records.[28] Perhaps most importantly, in the next section, the county-level analysis allows for the scope of the analysis to be extended to all candidates who have competed for the presidency since 2008.

This section proceeds in the same fashion as the individual-level analysis by testing the three predictions regarding Trump outlined in Section 4. Table 6 reports the results. The county-level average relative importance of universalist versus communal moral values is strongly negatively correlated with Trump's vote share in the presidential election (the raw correlation is $\rho = 0.31$). As column (2) shows, this result holds conditional on median household income, unemployment rates, local population density, the share of religious people, the local racism index developed by Stephens-Davidowitz (2014), the absolute value of the moral values index, and geographical controls.[29]

While columns (1)–(2) include state fixed effects, the regressions in columns (3) and (4) exploit variation within more narrowly defined geographical units. In column (3), the analysis includes 595 commuting zone (CZ) fixed effects. Column (4) provides an even more conservative estimation that includes fixed effects for core-based statistical areas (CBSAs). A CBSA is a geographic area that consists of one or more counties anchored by an urban center. Again, moral values remain a significant correlate of Trump's vote share.

Columns (5)–(8) document that universalist moral values are also negatively correlated with the *difference* between the vote share for Trump and the average share of votes garnered by GOP candidates in 2000–2012. Finally, columns (9)–(12) extend the analysis to the GOP primaries. Again, Trump's vote share is consistently related to moral values, within states, commuting zones, and CBSAs. The partial correlation – conditional on state fixed effects – between the relative importance of universalist moral values and the dependent variables in columns (1), (5), and (9) is −0.22, −0.12

[28] The county-level voting data stem from "Dave Leip's Atlas of US Presidential Elections" (Leip, 2004).
[29] Appendix I describes all covariates and their sources in detail.

Table 6: Moral values and county-level voting patterns

	Dependent variable:											
	Vote shares											
	Presidential election								GOP primaries			
	Trump				Δ [Trump – Ave. GOP]				Trump			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rel. importance of universalist vs. communal moral values	-2.27***	-1.63***	-1.36***	-2.00***	-0.58***	-0.33***	-0.26**	-0.30	-0.58***	-0.40***	-0.35*	-0.93*
	(0.29)	(0.24)	(0.24)	(0.56)	(0.13)	(0.11)	(0.11)	(0.25)	(0.17)	(0.14)	(0.20)	(0.51)
Log [Median HH income]		1.68	10.9***	12.3***		-7.46***	-6.78***	-8.43***		-5.97***	-4.42***	-5.81**
		(1.59)	(1.92)	(3.23)		(0.72)	(0.84)	(1.41)		(0.96)	(1.48)	(2.67)
Unemployment rate		-0.68***	-0.41***	-0.24		0.057	0.16***	0.30**		0.56***	0.71***	0.56**
		(0.14)	(0.15)	(0.29)		(0.06)	(0.06)	(0.13)		(0.07)	(0.16)	(0.24)
Racism index		2.16***	1.58***	-0.059		0.97***	0.30	0.064		0.84***	0.56	-0.39
		(0.40)	(0.59)	(3.22)		(0.18)	(0.27)	(0.78)		(0.20)	(0.45)	(1.18)
Log [Population density]		-5.84***	-6.80***	-7.49***		-2.25***	-2.99***	-3.32***		-1.73***	-2.36***	-2.59***
		(0.23)	(0.23)	(0.34)		(0.11)	(0.10)	(0.16)		(0.14)	(0.20)	(0.30)
Fraction religious		8.99***	7.42***	4.25		0.23	-0.19	-0.43		-5.43***	-3.92***	-7.52***
		(2.08)	(2.18)	(3.88)		(0.83)	(0.76)	(1.17)		(1.12)	(1.48)	(2.75)
Abs. value of moral values index		-0.14	-0.38	-0.47		0.29	0.049	0.20		-0.040	-0.25	0.26
		(0.39)	(0.36)	(0.83)		(0.18)	(0.16)	(0.35)		(0.21)	(0.28)	(0.71)
Latitude		0.43*	0.29	0.64		0.16*	-0.27	0.43		-0.64***	-1.06**	-1.19
		(0.23)	(0.68)	(1.38)		(0.10)	(0.29)	(0.61)		(0.11)	(0.50)	(1.17)
Longitude		0.079	0.11	-0.64		0.19**	0.36	0.75		0.22***	0.24	2.09**
		(0.16)	(0.50)	(1.06)		(0.08)	(0.23)	(0.50)		(0.08)	(0.54)	(0.94)
State FE	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No
Commuting zone FE	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
CBSA FE	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	2255	2249	2249	1635	2255	2249	2249	1635	2116	2110	2110	1547
R^2	0.36	0.59	0.81	0.88	0.38	0.64	0.85	0.89	0.81	0.87	0.89	0.92

Notes. County-level OLS estimates, robust standard errors in parentheses. The dependent variable in columns (1)–(4) is Trump's vote share in the 2016 general election. The dependent variable in columns (5)–(8) is the difference between Trump's vote share in the election and the average GOP vote share in presidential elections between 2000 and 2012. The dependent variable in (9)–(12) is Trump's vote share in the GOP primaries.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

and −0.09, respectively.[30] [31]

In summary, the county-level analysis delivers similar patterns as the individual-level analysis. These patterns closely correspond to the predictions from the conceptual framework in Section 2 and the text analysis in Section 4.[32]

6.2 Priming?

It is conceivable that the correlation between Trump votes and moral values only reflects a "priming effect," according to which Trump primed voters with a particular type of moral language (potentially differentially across counties), which then in turn affected how voters responded to the MFQ. To investigate whether this is a plausible account of the results, I make use of the time variation in the MFQ data: many respondents on www.yourmorals.org completed the MFQ before Trump even became politically active. Thus, I proceed by presenting instrumental variable estimates that relate the 2016 election outcomes to the moral values of MFQ respondents between 2013 and 2018, instrumented by the moral values of MFQ respondents between 2008 and 2012. This addresses the issue of priming effects because the structure of moral values in the past is unlikely to have been affected by Trump. At the same time, it is important to point out that these IV regressions do not (and are not intended to) cleanly identify causal effects: they only rule out reverse causality from Trump's language to measured moral values, but not other potential endogeneity concerns.

Table 7 presents the results of the second stage regressions. Throughout, the IV coefficients are sizable and statistically significant.[33] This shows that the cross-sectional heterogeneity that is correlated with voting for Trump already existed before Trump became politically active, so that, at least to some extent, Trump seems to have tapped into pre-existing moral convictions.

[30] Table 33 in Appendix E replicates Table 6 using the common sample for which the CBSA dummy is not missing.

[31] Table 34 in Appendix E breaks these patterns down into the absolute importance placed on universalist and communal values, respectively. The results show that county-level communal values are always positively correlated with voting for Trump. The coefficient of the absolute importance of universalist values is sometimes positive and sometimes negative, but it is always more negative than the coefficient of communal values.

[32] Table 36 in Appendix E studies the relationship between county-level values and increases in turnout relative to previous election years, both in the general election and in the GOP primaries. The relative importance of universalist moral values is consistently negatively related to increases in voter turnout. Thus, as in the individual-level analysis, it appears as though moral values are linked to both turnout and voting conditional on turnout.

[33] The IV coefficients are substantially larger than their OLS counterparts. This is indicative of attenuation bias in the moral values variable, perhaps because the shrinkage procedure does not fully account for the sometimes small number of respondents in a county and resulting measurement error.

Table 7: Moral values and county-level voting patterns: IV estimates

	Dependent variable: Vote shares		
	Pres. election:		GOP primaries:
	Trump	Δ (Trump – Ave. GOP)	Trump
	(1)	(2)	(3)
Rel. imp. of universalist vs. communal moral values (2013-2018)	-15.0***	-3.03**	-3.83**
	(4.13)	(1.35)	(1.83)
State FE	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Observations	2017	2017	1892

Notes. County-level IV estimates, robust standard errors in parentheses. The table reports the second stage of IV regressions in which county-level moral values (measured between 2013 and 2018) are instrumented by county-level moral values measured between 2008 and 2012. Both moral values variables are standardized into a z-score and then shrunk towards the sample mean using the methodology outlined in Section 3.2.2. All dependent variables are computed as in Table 6. See Table 6 for a list of the controls. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

7 Estimating the Model: 2008 – 2016

If the methodology of connecting demand- and supply-side analyses of morality developed in this paper is meaningful more generally, then it should also be able to explain voting patterns for candidates other than Trump. This section hence extends the analysis to 2008–2016. The set of candidates includes those 16 politicians in the Republican and Democratic primaries who received at least 5% of the popular vote. Given the small number of candidates, this analysis should naturally be seen as tentative. The analysis focuses on county-level variation because individual-level surveys of the relationship between moral values and voting would have to have a very large number of respondents to be sufficiently powered to analyze candidates with relatively small vote shares.

I begin by describing the analysis for the within-party competition in the primaries. The analysis of the general elections will follow immediately from this discussion. To structure the analysis, I return to the discrete choice model in Section 2. Recall from equation (1) in Section 2 that, when all politicians are in the same party (and hence effectively $\gamma = 1$), voter i's utility from candidate j getting elected in race t is:

$$\begin{aligned} u_{i,j,t} =& -\lambda(\theta_i - \theta_{j,t})^2 + x_i\eta_{j,t} + \epsilon_{i,j,t} \\ =& \underbrace{-\lambda\theta_{j,t}^2}_{\equiv\alpha_{j,t}} - \lambda\theta_i^2 + \underbrace{2\lambda\theta_{j,t}}_{\equiv\beta_{j,t}}\theta_i + x_i\eta_{j,t} + \epsilon_{i,j,t} \\ =& \alpha_{j,t} + \beta_{j,t}\theta_i + x_i\eta_{j,t} + \epsilon_{i,j,t} \end{aligned} \tag{18}$$

As we will see below, the key observation here is that $\beta_{j,t}$ is linear and increasing in the candidate's type $\theta_{j,t}$. If we impose the assumption that $\epsilon_{i,j,t} \sim T1EV$, this discrete choice model can be directly translated into an estimating equation at the county level,

where the independent variable is a candidate's (normalized) vote share. Specifically, separately for each primary t, stack the data across candidates j and counties c. Denote by w the candidate who won the popular vote in a given race. Then, I relate a candidate's county-level vote shares $v_{c,j,t}$ to the moral values in county c:

$$ln(v_{c,j,t}+x)-ln(v_{c,w,t}+x)=\alpha_{j,t}+\beta_{j,t}\theta_c+x_c\eta_{j,t}+u_{c,j,w,t} \tag{19}$$

where $x=0.00001$ (the smallest non-zero vote share). $v_{c,w,t}$ is the vote share in county c of the candidate who won the popular vote in t; this normalization is needed because we usually have more than two candidates.[34] $\alpha_{j,t}$ are fixed effects for candidate j in election t; $\beta_{j,t}$ are candidate-election-specific coefficients on county-level universalist moral values θ_c; and x_c are control variables (CBSA or commuting zone fixed effects), interacted with candidate indicators. The regression residual $u_{c,j,w,t}$ is specific to an observation, as defined by county c, candidate j, winner w and race t. It is instructive to note the direct correspondence between regression equation (19) and the utility function in equation (18).

The outcome of interest is the vector of $\beta_{j,t}$. Here, by construction, the coefficient of the winner of the popular vote in the respective race is zero and the coefficients of all other candidates are scaled relative to this value. As noted above, the key observation here is that $\beta_{j,t}$ should be increasing in $\theta_{j,t}$, the candidate's moral type. Intuitively, the more universalist a candidate, the larger (more positive) should be the relationship between that candidate's vote share and the county-level relative importance of universalist moral values. In other words, this analysis is not about the overall vote share of a politician, but about how vote shares vary across space as predicted by the text analysis.

To test this model prediction, we need to identify a candidate's type $\theta_{j,t}$ as relevant for the choice model, i.e., relative to their direct competitors in a given race. To do so, I estimate analogous regressions to those for Trump in Section 4:

$$l_{j,d,t}=\eta+\theta^n_{j,t}\mathbb{1}_{j,t}+\gamma x_d+\epsilon_{j,d,t} \qquad s.t. \quad j\in\mathbb{S}_t \tag{20}$$

where $l_{j,d,t}$ is the relative frequency of universalist versus communal moral rhetoric in campaign document d of candidate j in election t, $\mathbb{1}_{j,t}$ a dummy for candidate j in election t, x_d document-level controls (document type fixed effects and campaign day fixed effects), and $\mathbb{S}_t$ the set of candidates that compete in race t. The object of interest in the supply-side analysis is $\theta^n_{j,t}$, which identifies how universalist j is relative to their direct competitors in period t (i.e., a normalized version of θ_j in the choice model).

[34] This is always the resulting presidential nominee, except for the Democratic primaries 2008, where Clinton won the popular vote, but not the nomination.

Note that the entire preceding discussion is applicable not just to the primaries, but – with a slight twist – also to the general elections. Here, we have only two candidates per race and hence only cross-party variation (hence only one β and one θ^n per race), However, analogously to the analysis of Trump in Sections 5 and 6, we can compare the coefficient magnitudes across elections and hence implicitly generate within-party variation.[35]

Figure 6 plots the relationship between $\theta^n_{j,t}$ and $\beta_{j,t}$ across candidates, separately for each race. As discussed above, the choice model would predict that $\beta_{j,t}$ (on the y-axis) is linear and increasing in $\theta^n_{j,t}$ (on the x-axis). The top left panel visualizes the results for the general elections. The top right panel as well as the middle panels depict Republican primaries, and the bottom panels Democratic ones. While the number of candidates (or races) is too small to allow strong conclusions, the patterns suggest that the model performs reasonably well in explaining general elections and Republican primaries, but less well in the Democratic primaries.

In the panel for the general elections, the x-axis denotes the universalist moral appeal of the Democratic candidate relative to their direct Republican competitor. Here, the difference in moral appeal is largest in 2016, followed by 2012 (Obama / Romney) and 2008 (Obama / McCain). In line with this result on the supply-side, the demand-side relationship between moral values and vote shares (y-axis) follows the same pattern. As discussed above, in 2008 McCain was more universalist than Obama, as can be inferred from the negative value on the x-axis. Still, universalist voters on average vote for Obama, as we can see from the positive value on the y-axis. As noted in Section 2, the conceptual framework does not make a prediction about the Obama-McCain comparison because while McCain is more universalist, Obama is a member of the more universalist party. At the same time, the framework *does* generate a prediction about how the 2008 Obama-McCain regression coefficients on the supply- and demand-side compare to the corresponding coefficients in 2012 and 2016. This is indeed what is plotted in the top left panel.

In the 2016 Republican primaries, the text analysis successfully pedicts demand side patterns not just for Trump, but also for Cruz, Rubio, and Kasich, although Kasich is a mild outlier. Rubio and Kasich are both universalist in their moral rhetoric (relative to Trump and Cruz), and their demand-side coefficients are indeed more positive than those of Trump and Cruz.

In 2008 and 2012, the overall patterns are also encouraging. For example, the text analysis identifies Ron Paul and McCain as universalist candidates in 2008, Gingrich

[35]The straightforward amendment of the estimating equation (19) is that the dependent variable is the log difference of the candidates' vote shares, and the candidate fixed effects $\alpha_{j,t}$ get replaced by election fixed effects α_t.

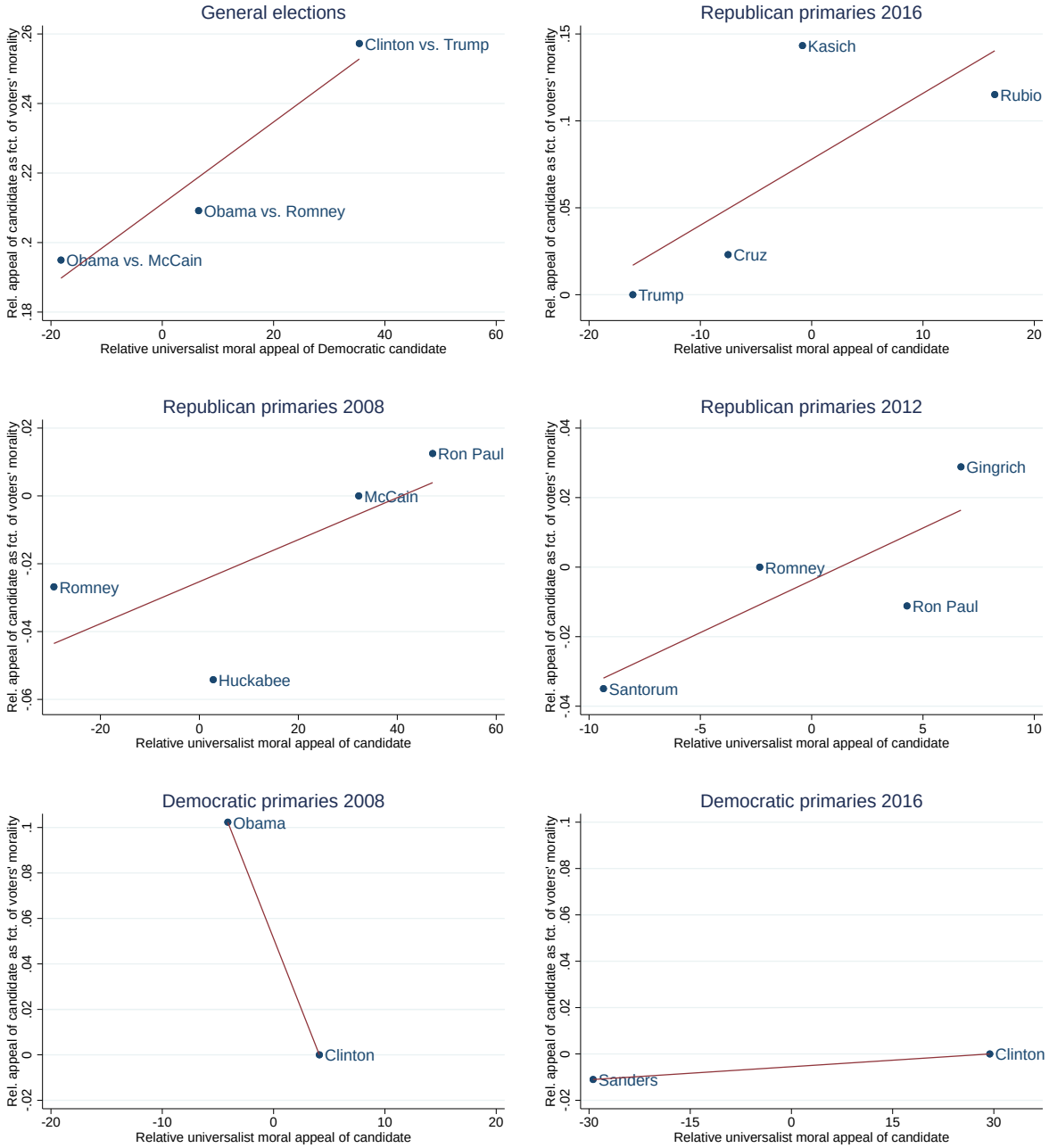

Figure 6: Estimating the model. Each panel focuses on a separate race. The x-axis (supply side) denotes the relative moral appeal of a candidate, where higher values mean that a candidate is more universalist, i.e., $\theta^n_{j,t}$ in eq. (20). The y-axis (demand side) denotes the relative moral appeal of a candidate as a function of voters' universalist morality, i.e., $\beta_{j,t}$ in eq. (19). Eq. (19) is estimated with CBSA fixed effects. See Figure 16 in Appendix B for the analogous figures estimated with commuting zone fixed effects. Intuitively, the higher the value on the y-axis, the higher the correlation between a candidate's vote share and the relative importance of universalist moral values.

as universalist candidate in 2012, Huckabee as communal candidate in 2008, and Santorum as communal candidate in 2012; and these text analysis predictions somewhat successfully map onto corresponding demand-side patterns.

In the Democratic primaries, the patterns are considerably less consistent with the

model. In particular, the candidate for whom the supply- and demand-side analyses do not nearly match up is Obama: his vote share is strongly positively correlated with universalist values even though – conditional on being a Democrat – he is relatively communal. The negative point estimate of $\beta \approx 0.1$ is about five times as large as that of any other candidate in Figure 6. In 2016, the demand-side coefficients for Clinton and Sanders are very similar, despite a considerable difference in moral appeal. In summary, the model presented in this paper does not perform well in explaining the results of the Democratic primaries.[36]

8 Moral Values and Voting Over Time

8.1 Demand Side: Changes in Moral Values over Time

Thus far, the empirical analysis has treated demand-side moral values as fixed over time. Yet, as documented by the time trend of moral language in the Congress, the relative importance of universalist vs. communal values does appear to fluctuate over time. Most notably for our purposes, the text analysis suggests that communal moral language experienced a significant increase since the early 2000s that also continued throughout the 2010s, a trend that applies to both Republicans and Democrats.

In fact, the MFQ data from www.yourmorals.org allow for an analysis of whether the recent increase in communal language is mirrored on the demand side because respondents completed the questionnaire starting in 2008. Figure 7 computes the average relative importance of universalist moral values separately for each year since 2008, partitioned by local population density (computed from respondents' ZIP codes). Since 2008, the relative importance of a universalist morality steadily decreased by about 3.5% of a standard deviation per year, on average.[37] This pattern is most pronounced in rural ZIP codes (defined as less than 250 inhabitants per square kilometer), so that we observe "moral polarization" between urban and rural areas. However, even areas with more than 2000 inhabitants per square kilometer (green line) become more communal over time.

These patterns are noteworthy in that they suggest that the recent increase in the importance that people place on communal over universalist values is not a "Trump

[36] A potential post-hoc explanation for these results is offered by Haidt (2012) who argues that conservatives and liberals not only care about *which* types of values they emphasize but also *how much* they care about moral concepts. According to Haidt's account, morality in general plays a more important role in the decision-making of conservatives than in that of liberals.

[37] These findings are conceptually distinct from but related to Gentzkow et al.'s (2019) finding that partisan language started increasing in the early 1990s, and to recent studies of the cultural divide in the United States (Bertrand and Kamenica, 2018; Desmet and Wacziarg, 2018).

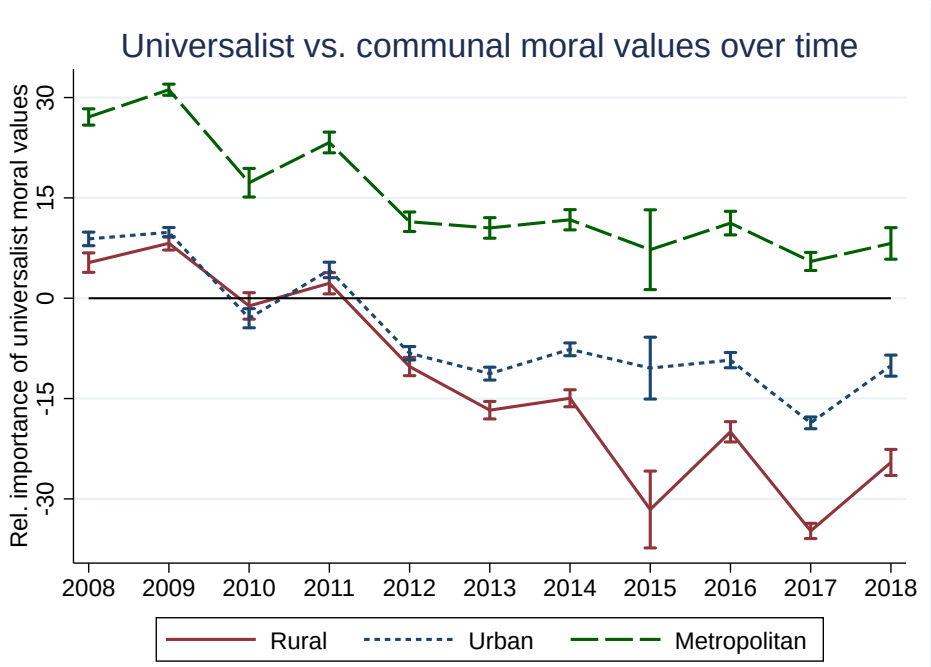

Figure 7: Relative importance of universalist vs. communal moral values among $N = 198,077$ respondents on www.yourmorals.org. The straight red line plots the average relative frequency of universalist moral values across respondents who live in ZIP codes with population density below 250 inhabitants per square mile. The dashed green line plots respondents in ZIP codes with more than 2,000 inhabitants per square mile. The dashed blue line represents intermediate cases. The relative importance of universalist moral values is a z-score multiplied by 100.

effect," but instead a more long-lasting trend that started at least in 2008, and probably earlier given the results from the text analysis of Congressional speeches (Figure 2).

8.2 Changes in Values and Changes in Voting Patterns

In a final step, I investigate the relationship between changes in moral values and changes in vote shares in the general election over time. This analysis is not a clean test of the model in Section 2 but may nonetheless be informative. The analysis exploits a difference-in-difference strategy that relates county-level changes in moral values to changes in Republican vote shares in the general election. For each year $x \in \{2008, 2012, 2016\}$, I compute the average relative importance of universalist values in $[x-1, x+2]$ (recall that elections take place late in year x). I then regress county-level Republican vote shares in x on corresponding values, controlling for county and election fixed effects. Thus, the regressions pick up neither time-invariant cross-county differences nor location-invariant time trends, but only differential changes in values and vote shares across space and time. County-level changes in moral values may reflect either individual-level changes in moral values, or changes in the composition of the population due to selective migration, or both. These differences-in-differences analy-

Table 8: Moral values and county-level voting patterns: Differences-in-differences estimates

	Dependent variable: GOP vote share in year x	
	(1)	(2)
Rel. imp. of universalist vs. communal moral values (in years [x-1, x+2])	-0.24**	-0.25**
	(0.11)	(0.11)
Log [Median HH income]		4.41**
		(2.07)
Unemployment rate		-0.40***
		(0.07)
County FE	Yes	Yes
Election FE	Yes	Yes
Observations	6200	6200
R^2	0.96	0.96

Notes. County-level OLS panel estimates. Standard errors (in parentheses) are clustered at the county level. The dependent variable is the GOP vote share in a given election year, stacked across the general elections $x \in \{2008, 2012, 2016\}$. The independent variable is the relative importance of universalist versus communal moral values in $[x-1, x+2]$. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

ses are correlational in nature because changes in county-level values over time need not be exogenous.

Table 8 reports the results.[38] The results show that increases in the relative importance of universalist moral values are significantly related to decreases in Republican vote shares. This result holds up when controlling for time-variant county characteristics (household income and the unemployment rate).[39]

9 Conclusion

Based on recent developments in moral psychology, this paper has developed a methodology for jointly studying the supply and demand sides of moral values in voting contexts. The results document a rich pattern that links heterogeneity in the structure of morality of both voters and political candidates. To establish the importance of moral values for voting, the paper has followed two complementary paths. First, by focusing on the most recent election and rich corresponding data, the analysis shed light on the role of a universalist versus communal morality in political rhetoric and voting behavior, while controlling for a rich set of covariates and benchmarking the results against more traditional variables. Second, by extending the analysis to other recent elections, I have

[38] Table 35 in Appendix E reports the results for the separate components of universalist and communal moral values.

[39] Median household income and the local unemployment rate (both taken from the American Community Surveys) are not available for 2008. I hence work with data from 2009.

shown that the link between heterogeneity in morality and voting is not an artifact of Trump alone, but rather generalizes to different ways of examing political data.

This is a descriptive paper, and a perfect identification strategy is difficult to imagine given the nature of the research question. At the same time, the breadth of the correlational results may provide encouraging support for a causal interpretation: (i) moral values are strongly correlated with voting for Trump in both the general election and the primaries, at both the individual and the county level, conditional on a large set of covariates; (ii) these patterns are predicted by a corresponding supply-side analysis; (iii) the link between supply- and demand-side results extends to other candidates and elections; and (iv) similar results hold in differences-in-differences analyses that leverage changes in moral values over time.

The paper opens up at least four avenues for future research: (i) the extent to which the findings extend beyond presidential elections; (ii) their applicability beyond the U.S. context; (iii) the roots of variation in moral values, both across space and over time; and (iv) the development of formal models of communal and universalist moral values.

Regarding (ii), this paper has an interesting relationship to the recent debate about voting patterns both in the U.S. and in Europe. Researchers and commentators have pointed to two interesting facts: a strong rural-urban divide in voting and particularly pronounced support for right-wing parties not among the very poor, but among working class voters. A common narrative employed to rationalize these stylized facts has been that working class voters in rural areas have suffered economically. However, while some commentators have attributed the success of Trump and others to economic factors, other voices have pointed out that, in voting for Trump, voters might actually have acted against their material self-interest, hence raising the question of which motives had ultimately underlain their voting decisions. Sociologists, on the other hand, have long argued that morality plays a key role in understanding these patterns, in particular because the rural working class exhibits a high demand for a communal morality. Thus, a potential reconciliation of these narratives is that voters did act in their self-interest, albeit from a moral rather than economic perspective. Indeed, in Enke et al. (2019), we work with a utilitarian definition and measurement of moral universalism to document a tight connection between universalism and a broad spectrum of policy views, in both the U.S. and Western Europe.

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ONLINE APPENDIX

A Model Derivations

Cross-sectional variation II: Primaries. Consider candidates k and l such that $\theta_k > \theta_j \forall j \neq k$ and $\theta_l < \theta_j \forall j \neq l$. The probability that i votes for k is given by the probability that the utility of voting for k is higher than the utility of voting for any other candidate. Denote $u_{i,\bar{k}} = \underset{j \neq k}{argmax}\ u_{i,j}$. We then have:

$$Pr(u_{i,k} > u_{i,j})\ \forall j \neq k \quad = Pr(u_{i,k} > u_{i,\bar{k}}) = Pr(\alpha_{k,\bar{k}} + \beta_{k,\bar{k}}\theta_i + \delta_{k,\bar{k}}x_i > \epsilon_{i,k,\bar{k}}) \tag{21}$$

In words, for each realization of the noise terms, there is a candidate $\bar{k}$ who for voter i delivers the highest utility in the set of candidates $J \setminus k$. However, regardless of the identity of $\bar{k}$, by assumption we have $\beta_{k,\bar{k}} > 0$ because k is the most universalist candidate. I now seek to show that for two voters a and b with $\theta_a > \theta_b$ and $x_a = x_b \equiv x$, we have that

$$\begin{aligned} &Pr(\alpha_{k,\bar{k}} + \beta_{k,\bar{k}}\theta_a + \delta_{k,\bar{k}}x > \epsilon_{a,k,\bar{k}}) \\ >&Pr(\alpha_{k,\bar{k}} + \beta_{k,\bar{k}}\theta_b + \delta_{k,\bar{k}}x > \epsilon_{b,k,\bar{k}}) \end{aligned}$$

We will evaluate this expression separately for different types of realizations of the noise terms. That is, fix a realization of $\epsilon_{a,k,\bar{k}} = \epsilon_{b,k,\bar{k}} \equiv \epsilon_{k,\bar{k}}$ and evaluate whether a change in voter type ($\theta_a > \theta_b$) affects choices.

There are three cases of realizations of the noise terms to consider. First, there may be realizations such that both θ_a and θ_b imply a vote for candidate k:

$$\alpha_{k,\bar{k}} + \beta_{k,\bar{k}}\theta_a + \delta_{k,\bar{k}}x > \alpha_{k,\bar{k}} + \beta_{k,\bar{k}}\theta_b + \delta_{k,\bar{k}}x > \epsilon_{k,\bar{k}} \tag{22}$$

By the same logic, there may be realizations of the noise terms such that both θ_a and θ_b lead to a vote for candidate $\bar{k}$. However, by continuity of $f(\epsilon)$ and the assumption that the choice probabilities for all candidates and voters are strictly interior, there exists a set of realizations of the noise terms such that

$$\alpha_{k,\bar{k}} + \beta_{k,\bar{k}}\theta_a + \delta_{k,\bar{k}}x > \epsilon_{i,k,\bar{k}} > \alpha_{k,\bar{k}} + \beta_{k,\bar{k}}\theta_b + \delta_{k,\bar{k}}x + \epsilon_{k,\bar{k}} \tag{23}$$

That is, there exist realizations of the noise terms such that the utility of voting for candidate k and the utility of voting for candidate $\bar{k}$ are sufficiently close to each other, so that increasing θ_i from θ_b to θ_a makes the voter switch from candidate $\bar{k}$ to k.

In summary, for two types of realizations of the noise terms, a and b exhibit the same voting behavior, and in one type of realizations (which has strictly positive probability), a votes for k while b does not. This establishes the desired inequality (21).

Time variation in types of nominees. Consider voters a and b with $\theta_a > \theta_b$ and $x_a = x_b \equiv x$. As per the discussion in the main text, we are interested in establishing when the following condition holds:

$$Pr(u_{a,k} > u_{a,l}) - Pr(u_{a,k'} > u_{a,l'}) \tag{24}$$

$$= Pr(\alpha_{k,l} + \beta_{k,l}\theta_a + \delta_{k,l}x > \epsilon_{a,k,l}) - Pr(\alpha_{k',l'} + \beta_{k',l'}\theta_a + \delta_{k',l'}x > \epsilon_{a,k',l'}) \tag{25}$$

$$\overset{?}{>} Pr(\alpha_{k,l} + \beta_{k,l}\theta_b + \delta_{k,l}x > \epsilon_{b,k,l}) - Pr(\alpha_{k',l'} + \beta_{k',l'}\theta_b + \delta_{k',l'}x > \epsilon_{b,k',l'}) \tag{26}$$

$$= Pr(u_{b,k} > u_{b,l}) - Pr(u_{b,k'} > u_{b,l'}) \tag{27}$$

Define the intervals

$$I_1 = [\alpha_{k,l} + \beta_{k,l}\theta_b + \delta_{k,l}x, \alpha_{k,l} + \beta_{k,l}\theta_a + \delta_{k,l}x] \tag{28}$$

$$I_2 = [\alpha_{k',l'} + \beta_{k',l'}\theta_b + \delta_{k',l'}x, \alpha_{k',l'} + \beta_{k',l'}\theta_a + \delta_{k',l'}x] \tag{29}$$

In order for the inequality to hold, $f(\epsilon)$ needs to be distributed such that there is more probability mass in I_1 than in I_2. I_1 has width $\beta_{k,l}(\theta_a - \theta_b)$, which is larger than the width of I_2, given by $\beta_{k',l'}(\theta_a - \theta_b)$. A sufficient condition is that

$$\frac{\beta_{k,l}}{\beta_{k',l'}} = \frac{\theta_k - \theta_l}{\theta_{k'} - \theta_{l'}} > \frac{\sup_{\epsilon \in I} f(\epsilon)}{\inf_{\epsilon \in I} f(\epsilon)} \tag{30}$$

which says that $f(\epsilon)$ is locally not "too different" from a uniform distribution, relative to the magnitude of the cross-candidate differences in moral types captured by $\beta_{k,l}$ and $\beta_{k',l'}$. Formally, this condition is sufficient because

$$\int_{\beta_{k,l}\theta_b}^{\beta_{k,l}\theta_a} f(\epsilon)d\epsilon \geq \beta_{k,l}(\theta_a - \theta_b)\inf_{\epsilon \in I} f(\epsilon) > \beta_{m,o}(\theta_a - \theta_b)\sup_{\epsilon \in I} f(\epsilon) \geq \int_{\beta_{k',l'}\theta_b}^{\beta_{k',l'}\theta_a} f(\epsilon)d\epsilon \tag{31}$$

B Additional Figures

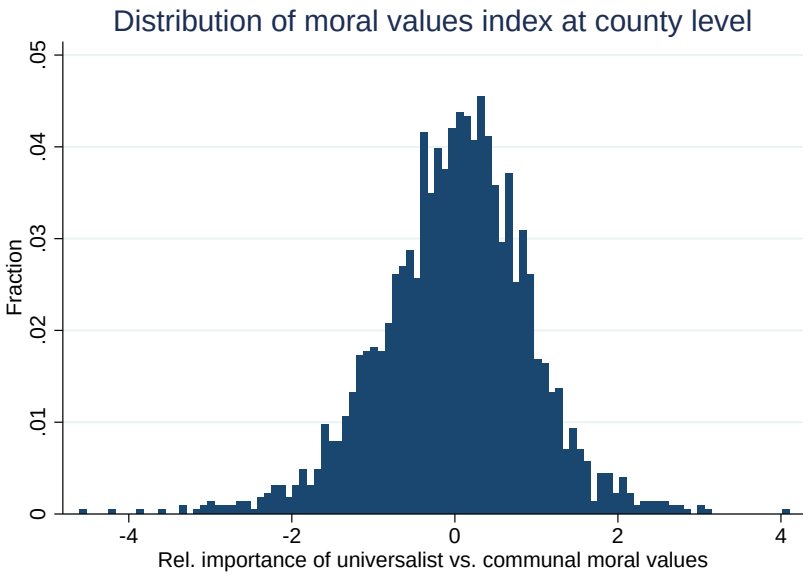

Figure 8: Distribution of relative importance of universalist moral values at the county level.

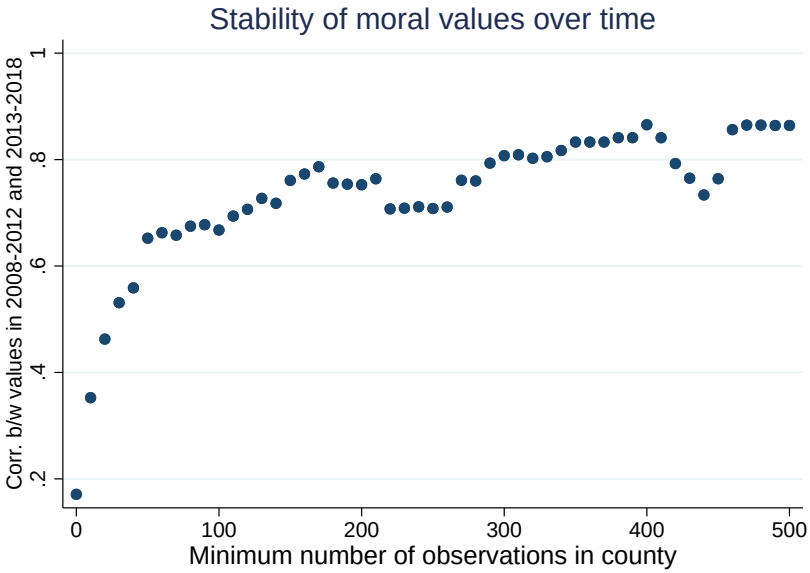

Figure 9: Stability of moral values at the county level. The figure depicts the correlation coefficient between values in 2008-2012 and 2013-2017 at the county level. The x-axis denotes the cutoff in terms of minimum number of respondents in a county used to compute the correlation coefficient.

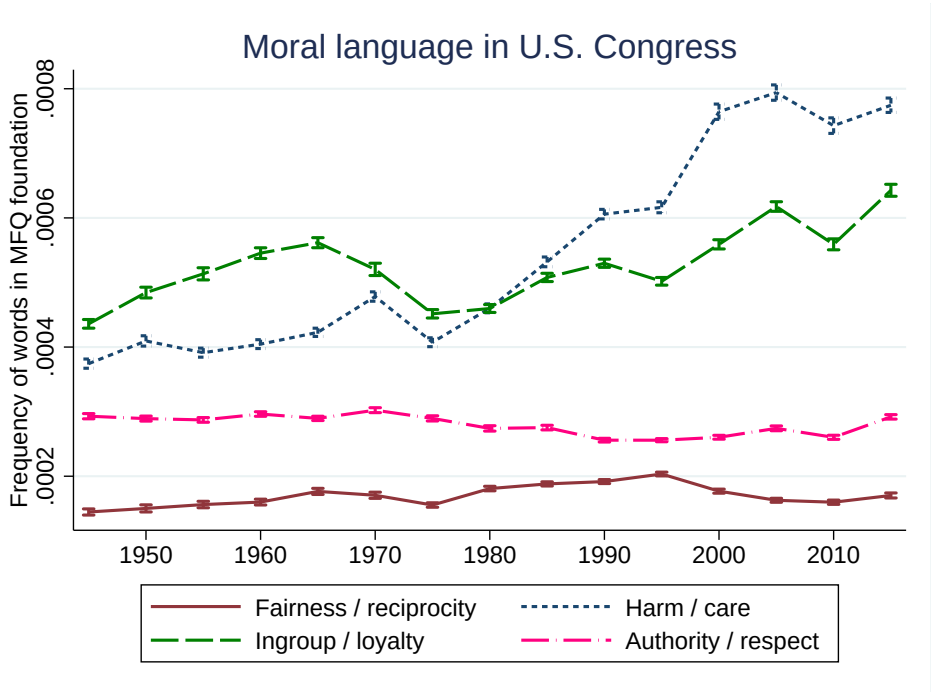

Figure 10: Frequency of words related to MFQ foundations in the U.S. Congress, 1945–2016. The year of observation of each speech is rounded to the nearest multiple of five. The figure disaggregates Figure 2 in the main text by showing the absolute frequency of word use within each of the four MFQ "foundations," across politicians from all parties. Recall that "fairness / reciprocity" and "harm / care" correspond to universalist values, while "ingroup / loyalty" and "authority / respect" correspond to communal values. The figure shows that the substantial increase in the relative frequency of universalist moral rhetoric is largely driven by an increase in the absolute frequency of universalist words, rather than a decrease in the frequency of communal words.

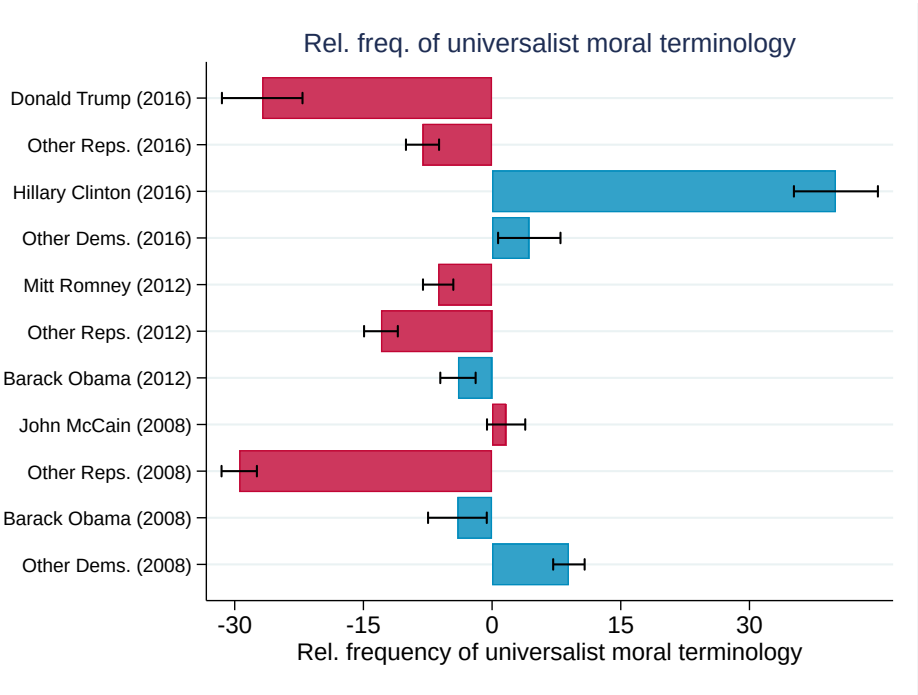

Figure 11: Relative frequency of universalist moral terminology. The bars depict averages across documents, along with standard errors. As in the regressions in Table 3, each document is weighted by the square root of the total number of non-stop words. The index of the relative frequency of universalist moral rhetoric is standardized into a z-score and multiplied by 100. The data include all campaign documents.

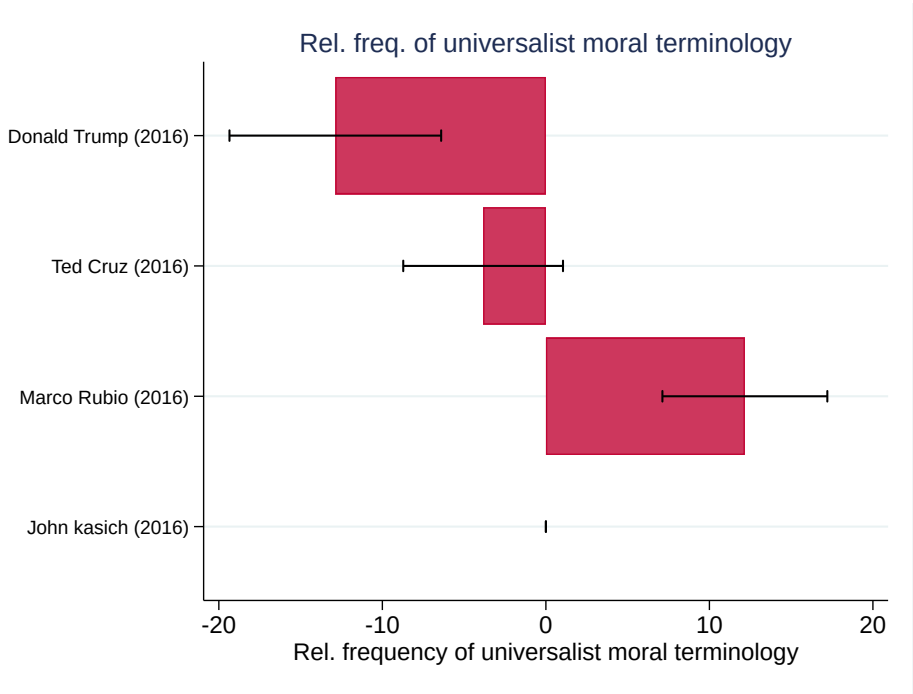

Figure 12: Relative frequency of universalist versus communal moral terminology in the primaries. The bars depict the estimates (+/- 1 SE) for the candidate fixed effects in an OLS regression of the relative frequency of universalist terminology in a campaign document on candidate (or candidate group) fixed effects, controlling for document type FE and campaign day FE (where the first campaign day is defined as January 1st of the year prior to the respective election). The omitted category is John Kasich. As in the regressions in Table 3, each document is weighted by the square root of the total number of non-stop words. The index of the relative frequency of universalist moral rhetoric is standardized into a z-score and multiplied by 100. The sample is restricted to campaign documents from during the primaries.

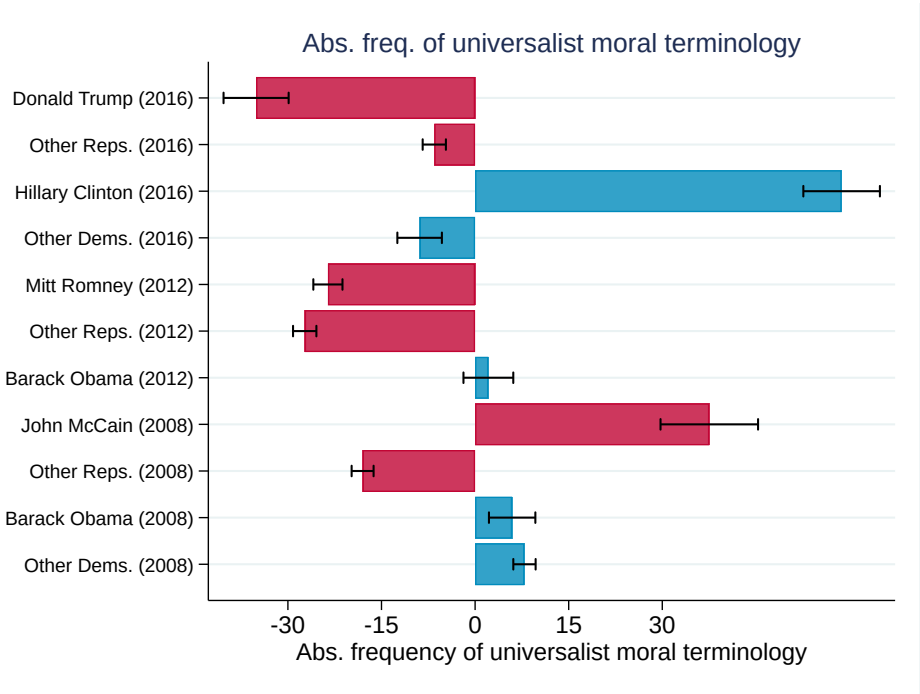

Figure 13: Absolute frequency of universalist moral terminology in the primaries. universalist terminology is computed as the sum of harm / care and fairness / reciprocity, in analogy to equations (16) and (17). The bars depict averages across documents, along with standard errors. As in the regressions in Table 3, each document is weighted by the square root of the total number of non-stop words. The index of the absolute frequency of universalist moral rhetoric is standardized into a z-score and multiplied by 100. The sample is restricted to campaign documents from during the primaries, where for Obama in 2012 this is defined as during the Republican primaries.

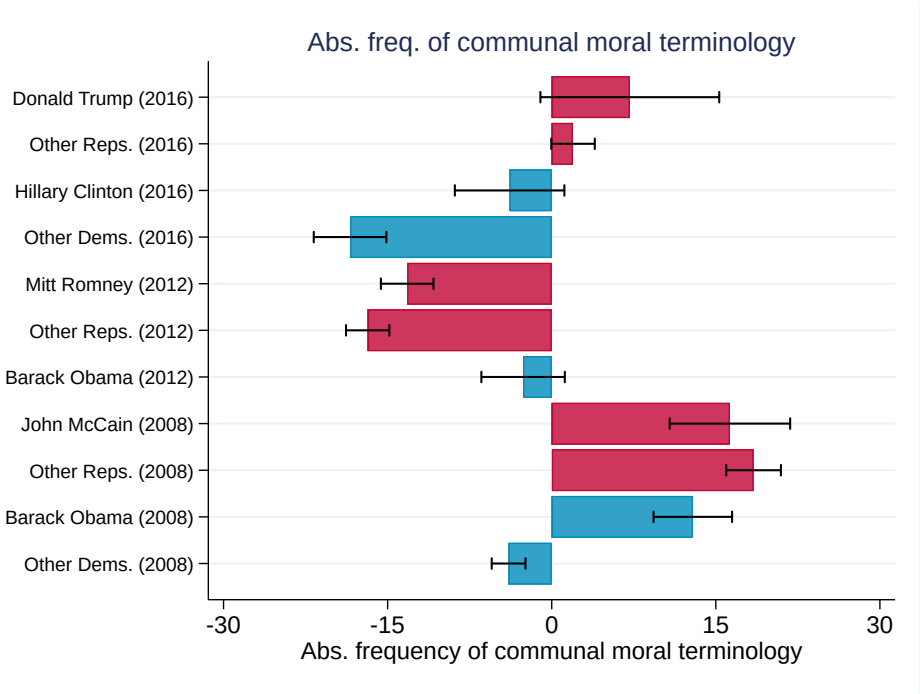

Figure 14: Absolute frequency of communal moral terminology in the primaries. Communal terminology is computed as the sum of ingroup / loyalty and authority / respect, in analogy to equations (16) and (17). The bars depict averages across documents, along with standard errors. As in the regressions in Table 3, each document is weighted by the square root of the total number of non-stop words. The index of the absolute frequency of communal moral rhetoric is standardized into a z-score and multiplied by 100. The sample is restricted to campaign documents from during the primaries, where for Obama in 2012 this is defined as during the Republican primaries.

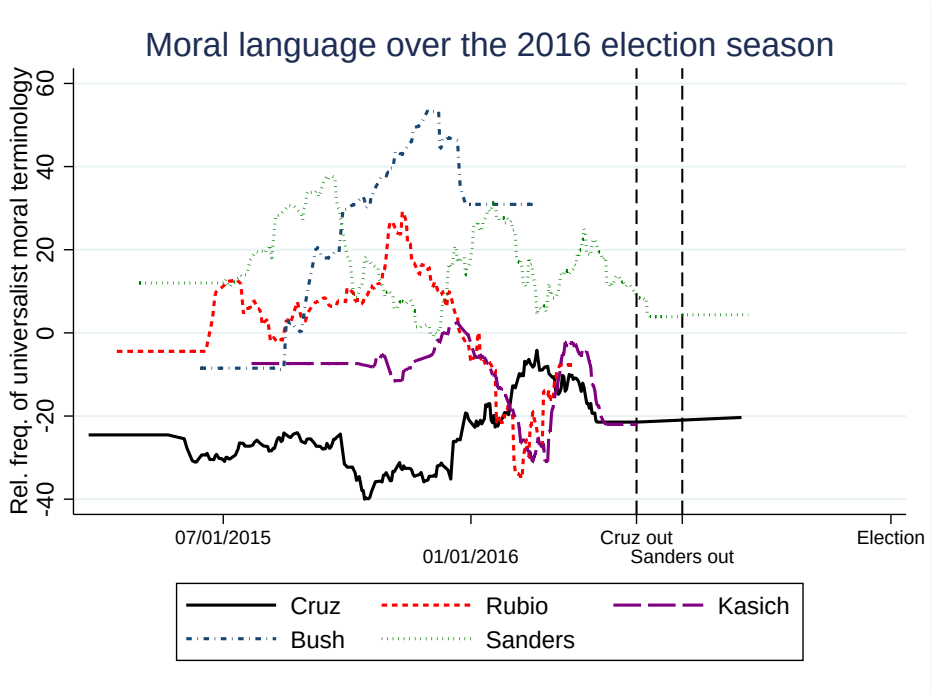

Figure 15: Relative frequency of universalist versus communal moral terminology over the course of the 2016 election season. The relative frequency of universalist moral rhetoric at any given point in time is computed as weighted average using a $k = 120$ nearest neighbor algorithm, i.e., the 120 campaign documents closest to a given date. As in the regressions, each document is weighted by the square root of the total number of non-stop words. The first and second vertical dashed lines denote the dates on which Cruz and Sanders dropped out of the primaries as the last remaining competitors of Trump and Clinton, respectively. The index of the relative frequency of universalist moral rhetoric is standardized into a z-score and multiplied by 100.

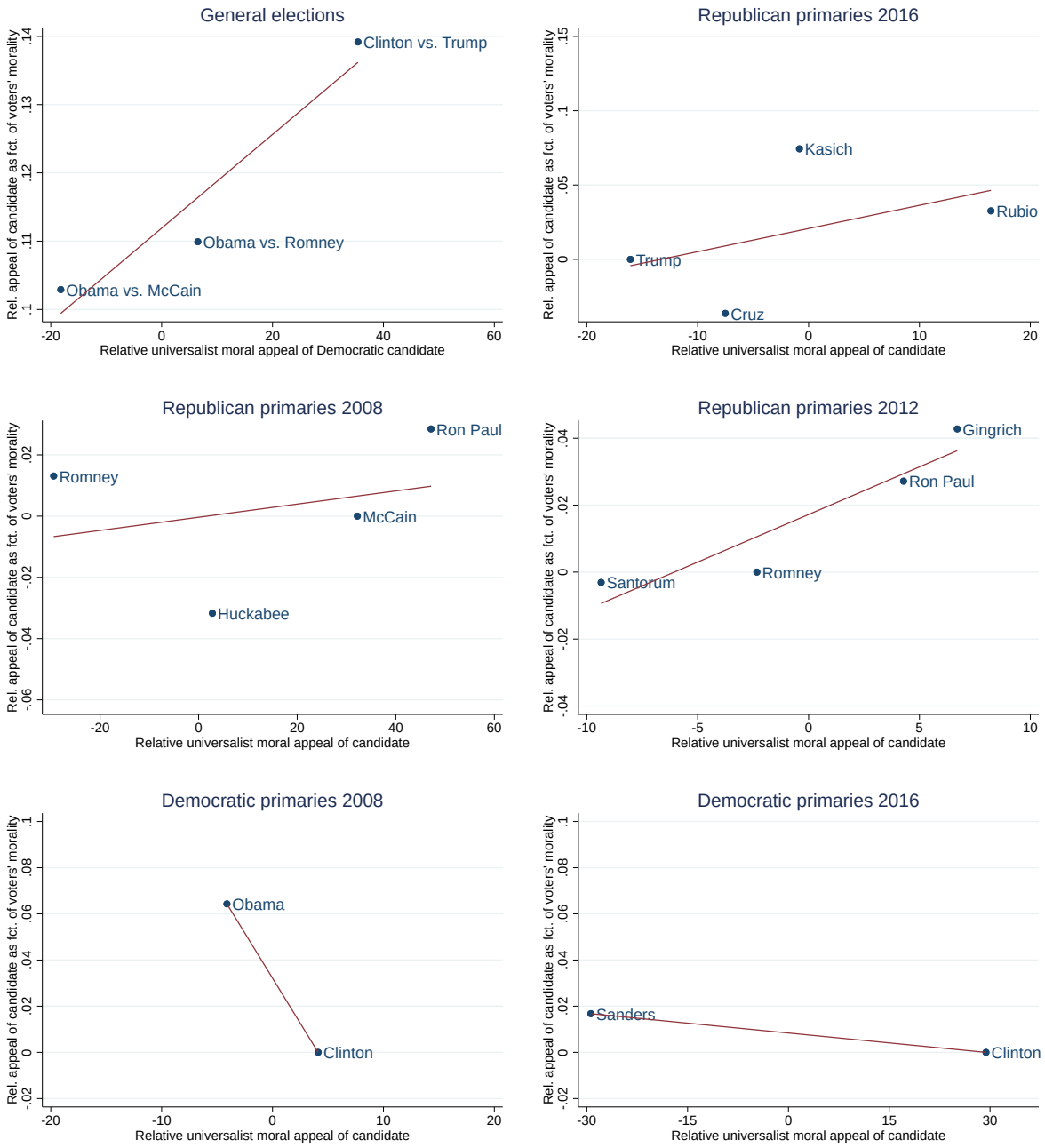

Figure 16: Estimating the model. Each panel focuses on a separate race. The x-axis denotes the relative moral appeal of a candidate, where higher values mean that a candidate is moral universal, i.e., $\beta_{j,t}$ in eq. (20). The y-axis denotes the relative moral appeal of a candidate as a function of voters' universalist morality, i.e., $\beta_{j,t}$ in eq. (19). Eq. (19) is estimated with CZ fixed effects. Intuitively, the higher the value on the y-axis, the higher the correlation between a candidate's vote share and universalist moral values.

C Additional Tables for Text Analysis of Presidential Candidates

Table 9: Politicians' moral rhetoric: Absolute frequency of universalist moral language as dependent variable

	Dependent variable: Absolute frequency of universalist moral terminology					
	Sample:					
	All candidates			Trump & Clinton	Pres. nominees	GOP 2016
	(1)	(2)	(3)	(4)	(5)	(6)
1 if Trump	-6.3	-7.6*	-4.2	-26.8***	-27.4***	-31.7***
	(4.3)	(4.5)	(4.9)	(8.6)	(6.7)	(5.6)
Log [# of non-stop words]		9.1***	8.4***	-0.07	2.5	4.5*
		(1.2)	(1.2)	(7.7)	(1.9)	(2.4)
Flesch reading ease score		1.9**	1.8*	-6.2	-5.3**	2.7
		(1.0)	(1.0)	(7.4)	(2.6)	(1.9)
1 if Republican			-11.4***		2.6	
			(2.0)		(3.6)	
1 if presidential nominee			8.8***			
			(2.2)			
Document type FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes
Campaign day FE	No	Yes	Yes	Yes	Yes	Yes
Observations	16698	16698	16698	1043	5372	3455
R^2	0.05	0.17	0.18	0.49	0.29	0.32

Notes. WLS estimates, robust standard errors in parentheses. The dependent variable is the absolute frequency of universalist moral terminology (normalized by the number of non-stop words), expressed as z-score multiplied by 100. Each document is weighted by the square root of the total number of non-stop words. In columns (1)–(3), the sample includes all candidates in 2008–2016. Columns (4)–(6) restrict the sample to presidential nominees (2008–2016), Republicans (2008–2016), and 2016 Republicans, respectively. Campaign day FE are constructed by defining January 1st of the year prior to the election as first campaign day. Overall morality is constructed like the relative frequency of universalist terminology in eq. (16), except that the numerator is is given by the sum of the four MFT foundations. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 10: Politicians' moral rhetoric: Absolute frequency of communal moral language as dependent variable

	Dependent variable:					
	Absolute frequency of communal moral terminology					
	Sample:					
	All candidates			Trump & Clinton	Pres. nominees	GOP 2016
	(1)	(2)	(3)	(4)	(5)	(6)
1 if Trump	16.7**	15.8***	10.8*	15.6*	31.4***	1.0
	(6.6)	(5.5)	(5.7)	(9.3)	(6.8)	(9.1)
Log [# of non-stop words]		-2.8**	-2.3**	0.7	-4.2**	-3.6
		(1.2)	(1.1)	(8.5)	(1.8)	(2.5)
Flesch reading ease score		-6.9***	-7.0***	-32.8**	-10.9***	-11.5***
		(1.6)	(1.6)	(13.6)	(3.0)	(2.5)
1 if Republican			9.9***		-15.2***	
			(1.8)		(2.8)	
1 if presidential nominee			-2.2			
			(2.3)			
Document type FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	Yes	Yes	Yes
Campaign day FE	No	Yes	Yes	Yes	Yes	Yes
Observations	16698	16698	16698	1043	5372	3455
R^2	0.02	0.13	0.13	0.55	0.25	0.30

Notes. WLS estimates, robust standard errors in parentheses. The dependent variable is the absolute frequency of communal moral terminology (normalized by the number of non-stop words), expressed as z-score multiplied by 100. Each document is weighted by the square root of the total number of non-stop words. In columns (1)–(3), the sample includes all candidates in 2008–2016. Columns (4)–(6) restrict the sample to presidential nominees (2008–2016), Republicans (2008–2016), and 2016 Republicans, respectively. Campaign day FE are constructed by defining January 1st of the year prior to the election as first campaign day. Overall morality is constructed like the relative frequency of universalist terminology in eq. (16), except that the numerator is is given by the sum of the four MFT foundations. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D Background and Additional Tables for *Research Now* Survey

D.1 Sample Characteristics

The population characteristics (except for the election data) are taken from the American Community Survey 2015.

Category	Study sample (%)	Population (%)
2016 election		
Trump	38.1	n/a
Clinton	40.8	n/a
Other	7.5	n/a
Didn't vote	11.8	n/a
Don't remember	1.7	n/a
2016 election if voted and remembers		
Trump	44.2	46.1
Clinton	47.2	48.2
Other	8.6	5.7
Gender		
Male	48.4	48.2
Female	51.6	51.8
Age		
28–29	5.1	4.1
30–34	12.3	10.7
35–39	12.0	10.1
40–49	23.2	21.5
50–59	18.8	21.9
≥60	28.6	31.7
Household income		
<10,000	6.5	7.2
10,000–14,999	5.2	5.3
15,000–24,999	9.9	10.6
25,000–34,999	11.2	10.1
35,000–49,999	13.1	13.4
50,000–74,999	18.6	17.8

75,000–99,999	12.7	12.1
100,000–149,999	13.3	13.1
150,000–199,999	5.4	5.1
≥200,000	4.1	5.3
Educational attainment		
Incomplete high school	11.6	13.3
High school graduate	27.4	27.8
Some college, no degree	20.0	21.1
Associate's degree	8.8	8.1
Bachelor's degree	19.8	18.5
Graduate or professional degree	12.5	11.2
Ethnicity		
White	66.7	62.3
African-American	15.8	17.1
Hispanic	10.8	12.3
American Indian	0.8	0.7
Asian	4.2	5.1
Other	1.8	2.5
Employment		
Full-time employed	58.7	63.7
Not employed full time	41.3	36.3
State		
Alabama	1.7	1.5
Alaska	0.1	0.2
Arizona	2.4	2.1
Arkansas	0.8	0.9
California	10.8	12.0
Colorado	1.5	1.7
Connecticut	1.1	1.2
Delaware	0.3	0.3
District of Columbia	0.3	0.1
Florida	7.6	6.5
Georgia	2.9	3.8
Hawaii	0.5	0.5
Idaho	0.5	0.5
Illinois	4.7	4.1

Indiana	2.3	2.0
Iowa	1.1	1.0
Kansas	0.7	0.9
Kentucky	1.8	1.4
Louisiana	1.6	1.4
Maine	0.5	0.5
Maryland	2.2	1.9
Massachusetts	1.8	2.2
Michigan	3.0	3.2
Minnesota	1.3	1.7
Mississippi	0.7	0.9
Missouri	2.3	1.9
Montana	0.1	0.3
Nebraska	0.7	0.6
Nevada	0.9	0.9
New Hampshire	0.4	0.4
New Jersey	3.0	2.9
New Mexico	0.4	0.7
New York	6.6	6.4
North Carolina	3.8	3.1
North Dakota	0.1	0.2
Ohio	4.2	3.7
Oklahoma	1.2	1.2
Oregon	1.1	1.3
Pennsylvania	4.9	4.2
Rhode Island	0.4	0.3
South Carolina	1.5	1.5
South Dakota	0.1	0.3
Tennessee	1.8	2.1
Texas	7.5	7.9
Utah	0.5	0.8
Vermont	0.1	0.2
Virginia	2.5	2.6
Washington	2.0	2.2
West Virginia	0.6	0.6
Wisconsin	1.5	1.8
Wyoming	0.0	0.2

City size		
>1 million	15.0	n/a
200,000–1 million	17.6	n/a
50,000–200,000	20.0	n/a
20,000–50,000, close to metro area	14.6	n/a
20,000–50,000, not close to metro area	5.8	n/a
3,000–20,000, close to metro area	9.3	n/a
3,000–20,000, not close to metro area	8.6	n/a
500–3,000, close to metro area	2.5	n/a
500–3,000, not close to metro area	3.7	n/a
<500	3.1	n/a

Regarding city size, the categories in the American Community Survey 2015 do not map perfectly into my variable. In the ACS, 71.2% live in cities with population of 50,000 or more, 9.5% in cities of size 2,500–50,000 and 19.3% in cities with population less than 2,500. The data above suggest that "too many" respondents live in medium-sized cities. This, however, may well be an artifact given that respondents may not know their city size (or be unsure about the definition of their city) and hence provide answers that are "middle of the road".

D.2 Validation of Moral Values Index

Table 12: Moral values, attitudes and behaviors

	Dependent variable:											
	Δ [Local – global]											
	Support taxation/ redistr.			Donations			Volunteering			Money allocation task		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Relative importance of universalist vs. communal moral values	-0.15***	-0.11***	-0.14***	-0.092***	-0.100***	-0.13***	-0.067***	-0.078***	-0.070**	-0.29***	-0.24***	-0.24***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)	(0.04)	(0.02)	(0.02)	(0.03)	(0.02)	(0.02)	(0.03)
Log [Pop. density]		-0.020**	-0.024		-0.0091	-0.0014		-0.023**	-0.032		-0.043***	-0.032
		(0.01)	(0.02)		(0.01)	(0.02)		(0.01)	(0.02)		(0.01)	(0.02)
State FE	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes	No
County FE	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Additional controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	3926	3864	3864	3872	3810	3810	3830	3769	3769	3527	3395	3395
R^2	0.02	0.12	0.39	0.01	0.11	0.40	0.00	0.06	0.36	0.08	0.19	0.45

Notes. OLS estimates, robust standard errors in parentheses. In columns (1)–(3), the dependent variable is the extent to which people prefer taxation and redistribution at the community level, relative to the federal level. In columns (4)–(6), the dependent variable is the difference in self-reported donations to local vs. more global entities over the past 12 months. Here, all observations with $x > |10,000|$ are excluded. In columns (7)–(9), the dependent variable is the difference in self-reported hours volunteered for local vs. more global entities over the past month. Here, all observations with $x > |100|$ are excluded. In columns (10)–(12), the dependent variable is the dollar amount (out of $99) that respondents allocated to the local firefighters as opposed to United Way Worldwide in a hypothetical money allocation task. Here, the analysis excludes all observations where the allocation did not add up to $x \in [98, 100]$. See Appendix I for a detailed description of each dependent variable. All dependent variables are expressed as z-scores. Additional controls include year of birth fixed effects, gender, income bracket fixed effects, education fixed effects, employment status, race fixed effects, religious denomination fixed effects, occupation fixed effects, altruism, generalized trust, and the absolute value of the moral values index. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.3 Pre-Registered Index of Relative Importance of Universalist Moral Values

Table 13: Moral values and voting: Pre-registered index of moral values

	Dependent variable:											
	Votes									Evaluation of Trump		
	Trump in election			Δ [Trump – Ave. GOP]			Trump in primaries			Loyalty vs. economy		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rel. imp. universalist values (pre-registered index)	-20.3***	-15.3***	-14.8***	-3.05***	-2.09***	-3.12***	-8.89***	-7.05***	-8.01***	-0.13***	-0.095***	-0.087***
	(0.80)	(0.95)	(1.24)	(0.47)	(0.72)	(1.08)	(1.28)	(1.32)	(2.19)	(0.02)	(0.02)	(0.03)
Log [Pop. density]		-2.91***	-3.64***		-0.71	-1.18		-1.84**	-2.55		-0.018*	-0.050**
		(0.47)	(0.92)		(0.49)	(1.02)		(0.76)	(1.69)		(0.01)	(0.02)
State FE	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes	No
County FE	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Additional controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	3471	3342	3342	2973	2860	2860	1888	1817	1817	4011	3864	3864
R^2	0.17	0.36	0.58	0.01	0.08	0.44	0.02	0.20	0.57	0.02	0.09	0.37

Notes. OLS estimates, robust standard errors in parentheses. Additional controls include year of birth fixed effects, gender, income bracket fixed effects, education fixed effects, employment status, race fixed effects, religious denomination fixed effects, occupation fixed effects, altruism, generalized trust, and the absolute value of the moral values index. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.4 No State Fixed Effects

Table 14: Moral values and voting: Individual-level evidence (no state FE)

	Dependent variable:								
	Votes in presidential election						Votes in GOP primaries		
	1 if voted for Trump			Δ [Trump – Ave. GOP]			1 if voted for Trump		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Absolute importance of universalist moral values	-20.3***			-2.23***			-6.01***		
	(0.83)			(0.67)			(1.36)		
Absolute importance of communal moral values	24.1***			4.31***			15.9***		
	(0.74)			(0.60)			(1.41)		
Relative importance of universalist vs. communal moral values		-21.6***	-17.4***		-3.27***	-2.57***		-10.1***	-8.21***
		(0.61)	(0.87)		(0.48)	(0.75)		(1.23)	(1.35)
Year of birth FE	No	No	Yes	No	No	Yes	No	No	Yes
Race FE	No	No	Yes	No	No	Yes	No	No	Yes
Income bracket and education FE	No	No	Yes	No	No	Yes	No	No	Yes
Religious denomination FE	No	No	Yes	No	No	Yes	No	No	Yes
Occupation FE	No	No	Yes	No	No	Yes	No	No	Yes
Gender and employment status	No	No	Yes	No	No	Yes	No	No	Yes
Local population density	No	No	Yes	No	No	Yes	No	No	Yes
Altruism and generalized trust	No	No	Yes	No	No	Yes	No	No	Yes
Abs. value of moral values index	No	No	Yes	No	No	Yes	No	No	Yes
Observations	3471	3471	3342	2973	2973	2860	1888	1888	1817
R^2	0.20	0.20	0.36	0.01	0.01	0.06	0.06	0.03	0.18

Notes. OLS estimates, robust standard errors in parentheses. In columns (1)–(3), the dependent variable is a binary indicator that equals 100 if the respondent voted for Trump in the general election and zero if the respondent voted for Clinton. In columns (4)–(6), the dependent variable is the difference in the propensity to vote for Trump and the average propensity to vote for Romney and McCain, where the propensity to vote for a given candidate is a binary indicator that equals 0 if the respondent voted for a different candidate and 100 if they voted for the respective candidate. The difference in sample size between columns (1)–(3) and (4)–(6) is that a respondent had to vote in all elections 2008–2016 to be included in columns (4)–(6). In columns (7)–(9), the dependent variable is a binary indicator that equals 100 if the respondent voted for Trump in the 2016 GOP primaries. See Appendix I for a description of the covariates. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.5 Alternative Dependent Variables

Table 15: Moral values and voting: Individual-level evidence (robustness)

	Dependent variable:								
	Votes								
	Δ Vote [Trump – Ave. GOP (NV)]			Δ [Trump – Romney]			Δ [Trump – McCain]		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Relative importance of universalist vs. communal moral values	-3.56***	-2.66***	-2.74***	-2.76***	-1.81**	-2.62**	-3.88***	-3.08***	-3.78***
	(0.47)	(0.72)	(0.95)	(0.50)	(0.79)	(1.10)	(0.57)	(0.91)	(1.29)
Log [Pop. density]		-0.30	-0.74		-0.68	-1.15		-0.73	-1.01
		(0.42)	(0.88)		(0.48)	(1.02)		(0.54)	(1.12)
State FE	No	Yes	No	No	Yes	No	No	Yes	No
County FE	No	No	Yes	No	No	Yes	No	No	Yes
Additional controls	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	3775	3637	3637	3150	3032	3032	3049	2930	2930
R^2	0.01	0.07	0.39	0.01	0.08	0.43	0.01	0.07	0.43

Notes. OLS estimates, robust standard errors in parentheses. In columns (1)–(3), the dependent variable is the difference in the propensity to vote for Trump and past Republicans. The difference to the main measure described in the main text is that here non-voters are coded as 50, rather than being excluded. In columns (4)–(9), the dependent variable is the difference between Trump and Romney or McCain, respectively, constructed as described in the main text (i.e., excluding people who did not vote). Additional controls include year of birth fixed effects, gender, income bracket fixed effects, education fixed effects, employment status, race fixed effects, religious denomination fixed effects, occupation fixed effects, altruism, generalized trust, and the absolute value of the moral values index. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 16: Moral values and voting: Turnout as dependent variable

	Dependent variable:			
	Turnout in pres. election Δ [2016 – Ave.]			
	(1)	(2)	(3)	(4)
Absolute importance of universalist moral values	-1.48**			
	(0.59)			
Absolute importance of communal moral values	1.65***			
	(0.57)			
Relative importance of universalist vs. communal moral values		-1.52***	-1.11**	-1.63**
		(0.48)	(0.57)	(0.76)
State FE	Yes	Yes	Yes	No
County FE	No	No	No	Yes
Year of birth FE	No	No	Yes	Yes
Race FE	No	No	Yes	Yes
Income bracket and education FE	No	No	Yes	Yes
Religious denomination FE	No	No	Yes	Yes
Occupation FE	No	No	Yes	Yes
Gender and employment status	No	No	Yes	Yes
Local population density	No	No	Yes	Yes
Altruism and generalized trust	No	No	Yes	Yes
Abs. value of moral values index	No	No	Yes	Yes
Observations	4011	4011	3864	3864
R^2	0.01	0.01	0.06	0.39

Notes. OLS estimates, robust standard errors in parentheses. The dependent variable is the difference between the propensity to vote in the 2016 presidential election and the average propensity to vote in 2012 and 2008. See Appendix I for a description of the covariates. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 17: Moral values and voting: 2012

	Dependent variable:				
	1 if voted for Romney in presidential election 2012				
	OLS	OLS	OLS	OLS	OLS
	(1)	(2)	(3)	(4)	(5)
Absolute importance of universalist moral values	-18.2***				
	(0.84)				
Absolute importance of communal moral values	19.4***				
	(0.77)				
Relative importance of universalist vs. communal moral values		-18.2***	-16.4***	-9.51***	-9.45***
		(0.64)	(0.90)	(1.11)	(1.47)
Political liberalism				-12.2***	-11.6***
				(0.87)	(1.21)
Log [Household income]				1.96**	1.66
				(0.89)	(1.09)
Education				3.28***	2.93**
				(0.92)	(1.25)
Log [Population density]				-2.89***	-1.83
				(0.92)	(2.01)
Religiosity				3.74***	2.79**
				(0.98)	(1.25)
State FE	Yes	Yes	Yes	Yes	No
County FE	No	No	No	No	Yes
Additional controls	No	No	Yes	Yes	Yes
Observations	3366	3366	3293	2745	2745
R^2	0.19	0.19	0.34	0.40	0.63

Notes. OLS estimates, robust standard errors in parentheses. The dependent variable is a binary indicator that equals 100 if the respondent voted for Romney in the general election 2012 and zero if the respondent voted for Obama. Additional controls include year of birth fixed effects, gender, income bracket fixed effects, education fixed effects, employment status, race fixed effects, religious denomination fixed effects, occupation fixed effects, altruism, generalized trust, and the absolute value of the moral values index. See Appendix I for a description of all variables. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.6 Benchmarking: IV estimates

This Appendix reports a set of robustness checks for the benchmarking analyses in Section 5.4. To address concerns about measurement error in the bechmarking variables, I proceed by making use of repeated measurements and instrumental variable estimates (Gillen et al., 2015). Specifically, for the following variables I have access to at least two measurements: political liberalism, household income, and population density:

- Political liberalism: As detailed in Appendix I, the survey contained 13 survey questions that are taken from the 2016 pre-election survey wave of the Cooperative Congressional Election Study. These questions elicit respondents' attitudes on four categories: gun control, environment policies, crime policies, and budget priorities. To arrive at two separate measurements, I proceed as follows. First, I compute the first principal component for the first two (last two) questions for each of the categories gun control, environment policies, and crime policies. Then, I compute a first liberalism score as first principal component of the principal components of the first two questions of each category plus the budget priorities variable. Likewise, I compute a second liberalism score as first principal component of the principal components of the last two questions from each category. These two liberalism scores exhibit a correlation of $\rho = 0.53$.

- Household income: The first measure is household income bracket in 10 steps. The second measure is a self-reported measure of (log) household income. The variables exhibit a correlation of $\rho = 0.59$.

- Population density: First measure is log population density as computed from a respondent's ZIP code. The second measure is given by a self-reported categorical variable of city size (ten steps). The variables exhibit a correlation of $\rho = 0.69$.

Table 18 reports the results of the IV regressions. In columns (1), (4) and (7), the first political liberalism component described above is instrumented with the second one. In columns (2), (5) and (8), log household income is instrumented by income bracket. In columns (3), (6) and (9), log population density is instrumented with self-reported neighborhood size.

Table 18: Moral values and voting: Benchmarking with IV

	Dependent variable:								
	Votes								
	1 if Trump in pres. election			Δ [Trump – Ave. GOP] in general election			1 if Trump in GOP primaries		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Relative importance of universalist vs. communal moral values	-8.02***	-14.0***	-14.0***	-2.12**	-2.56***	-2.67***	-7.62***	-9.49***	-9.54***
	(1.19)	(0.82)	(0.82)	(1.00)	(0.70)	(0.71)	(1.85)	(1.49)	(1.49)
Political liberalism component 1	-30.7***			-2.44			-4.95		
	(2.42)			(2.01)			(3.19)		
Log [Household income]	3.25***	5.53***	3.03***	-1.37	-2.95*	-1.29	-0.66	-0.70	-0.58
	(1.16)	(1.69)	(0.98)	(0.92)	(1.65)	(0.92)	(1.28)	(2.49)	(1.23)
Education	-0.34	-0.66	0.15	-3.23***	-2.74***	-3.28***	-9.38***	-9.13***	-9.23***
	(0.98)	(0.95)	(0.86)	(0.84)	(0.94)	(0.83)	(1.33)	(1.46)	(1.32)
Log [Population density]	-6.87***	-7.46***	-8.64***	-0.93	-1.08	0.39	-4.14***	-4.35***	-3.53
	(1.03)	(0.89)	(1.29)	(0.95)	(0.93)	(1.32)	(1.46)	(1.45)	(2.21)
Religiosity	0.75	2.81***	2.65***	-0.036	-0.036	0.11	-0.25	-0.032	0.0027
	(0.97)	(0.83)	(0.82)	(0.81)	(0.80)	(0.79)	(1.37)	(1.36)	(1.36)
Political liberalism		-12.8***	-12.6***		-1.18	-1.31		-0.19	-0.23
		(0.89)	(0.89)		(0.82)	(0.83)		(1.30)	(1.30)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2852	2852	2852	2452	2452	2452	1544	1544	1544
R^2	0.13	0.32	0.32	0.04	0.05	0.05	0.10	0.11	0.11

Notes. IV estimates, robust standard errors in parentheses. In columns (1)–(3), the dependent variable is 1 if the respondent voted for Trump in the 2016 election and 0 if they voted for Clinton. In columns (4)–(6), the dependent variable is the difference between the propensity to vote for Trump and the average propensity to vote for Romney and McCain. In columns (7)–(9), the dependent variable is a binary indicator for whether the respondent voted for Trump in the GOP primaries. Political liberalism, income, and population density are instrumented for as described in the text. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.7 Separate MFQ Survey Items

Table 19: Relationship between voting and separate MFQ items (1/12)

	Dependent variable:					
	1 if voted for Trump in pres. election					
	(1)	(2)	(3)	(4)	(5)	(6)
Harm / care: q. 1	-554.7***					
	(62.73)					
Harm / care: q. 7		-312.4***				
		(58.35)				
Harm / care: q. 12			-305.9***			
			(57.12)			
Harm / care: q. 17				-553.9***		
				(59.91)		
Harm / care: q. 23					-303.7***	
					(47.36)	
Harm / care: q. 28						-321.8***
						(39.86)
Observations	3471	3471	3471	3471	3471	3471
R^2	0.02	0.01	0.01	0.02	0.01	0.02

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 20: Relationship between voting and separate MFQ items (2/12)

	Dependent variable:					
	1 if voted for Trump in pres. election					
	(1)	(2)	(3)	(4)	(5)	(6)
Fairness / recip.: q. 2	-892.4***					
	(60.56)					
Fairness / recip.: q. 8		-434.1***				
		(62.63)				
Fairness / recip.: q. 13			-353.4**			
			(167.83)			
Fairness / recip.: q. 18				-649.9***		
				(54.48)		
Fairness / recip.: q. 24					-176.1***	
					(51.35)	
Fairness / recip.: q. 29						-497.3***
						(55.05)
Observations	3471	3471	3471	3471	3471	3471
R^2	0.06	0.01	0.02	0.04	0.00	0.04

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 21: Relationship between voting and separate MFQ items (3/12)

	Dependent variable:					
	1 if voted for Trump in pres. election					
	(1)	(2)	(3)	(4)	(5)	(6)
In-group / loyalty: q. 3	1037.3***					
	(53.80)					
In-group / loyalty: q. 9		45.2				
		(58.99)				
In-group / loyalty: q. 14			216.3***			
			(60.04)			
In-group / loyalty: q. 19				409.4***		
				(151.75)		
In-group / loyalty: q. 25					203.9***	
					(47.58)	
In-group / loyalty: q. 30						264.7***
						(49.29)
Observations	3471	3471	3471	3471	3471	3471
R^2	0.10	0.00	0.00	0.06	0.01	0.01

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 22: Relationship between voting and separate MFQ items (4/12)

	Dependent variable:					
	1 if voted for Trump in pres. election					
	(1)	(2)	(3)	(4)	(5)	(6)
Authority / respect: q. 4	553.5***					
	(62.25)					
Authority / respect: q. 10		443.4***				
		(53.94)				
Authority / respect: q. 15			2.12			
			(60.65)			
Authority / respect: q. 20				365.7***		
				(66.56)		
Authority / respect: q. 26					453.3***	
					(44.05)	
Authority / respect: q. 31						506.6***
						(50.77)
Observations	3471	3471	3471	3471	3471	3471
R^2	0.02	0.02	0.00	0.01	0.03	0.03

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 23: Relationship between voting and separate MFQ items (5/12)

	Dependent variable:					
	Pres. election: Δ [Trump – Ave. GOP]					
	(1)	(2)	(3)	(4)	(5)	(6)
Harm / care: q. 1	-141.2***					
	(48.04)					
Harm / care: q. 7		-113.2**				
		(45.90)				
Harm / care: q. 12			-161.2***			
			(44.91)			
Harm / care: q. 17				-96.2**		
				(47.13)		
Harm / care: q. 23					-40.4	
					(33.88)	
Harm / care: q. 28						55.4*
						(31.73)
Observations	2973	2973	2973	2973	2973	2973
R^2	0.00	0.00	0.00	0.00	0.00	0.00

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 24: Relationship between voting and separate MFQ items (6/12)

	Dependent variable:					
	Pres. election: Δ [Trump – Ave. GOP]					
	(1)	(2)	(3)	(4)	(5)	(6)
Fairness / recip.: q. 2	-151.9***					
	(45.95)					
Fairness / recip.: q. 8		-220.1***				
		(49.45)				
Fairness / recip.: q. 13			-97.5*			
			(55.97)			
Fairness / recip.: q. 18				-80.6*		
				(41.79)		
Fairness / recip.: q. 24					-39.2	
					(36.13)	
Fairness / recip.: q. 29						42.1
						(29.79)
Observations	2973	2973	2973	2973	2973	2973
R^2	0.00	0.01	0.00	0.00	0.00	0.00

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 25: Relationship between voting and separate MFQ items (7/12)

	Dependent variable:					
	Pres. election: Δ [Trump – Ave. GOP]					
	(1)	(2)	(3)	(4)	(5)	(6)
In-group / loyalty: q. 3	207.9***					
	(39.39)					
In-group / loyalty: q. 9		-14.1				
		(44.66)				
In-group / loyalty: q. 14			80.1*			
			(45.13)			
In-group / loyalty: q. 19				26.5		
				(21.79)		
In-group / loyalty: q. 25					65.4*	
					(35.75)	
In-group / loyalty: q. 30						106.2***
						(33.65)
Observations	2973	2973	2973	2973	2973	2973
R^2	0.01	0.00	0.00	0.00	0.00	0.00

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 26: Relationship between voting and separate MFQ items (8/12)

	Dependent variable:					
	Pres. election: Δ [Trump – Ave. GOP]					
	(1)	(2)	(3)	(4)	(5)	(6)
Authority / respect: q. 4	64.4					
	(47.92)					
Authority / respect: q. 10		184.6***				
		(43.74)				
Authority / respect: q. 15			-152.8***			
			(50.03)			
Authority / respect: q. 20				-92.1**		
				(42.70)		
Authority / respect: q. 26					134.4***	
					(31.08)	
Authority / respect: q. 31						76.7**
						(37.84)
Observations	2973	2973	2973	2973	2973	2973
R^2	0.00	0.01	0.00	0.00	0.01	0.00

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 27: Relationship between voting and separate MFQ items (9/12)

	Dependent variable:					
	1 if voted for Trump in GOP primaries					
	(1)	(2)	(3)	(4)	(5)	(6)
Harm / care: q. 1	-234.0***					
	(87.50)					
Harm / care: q. 7		-331.5***				
		(87.49)				
Harm / care: q. 12			-407.0***			
			(83.46)			
Harm / care: q. 17				-300.2***		
				(77.60)		
Harm / care: q. 23					163.9**	
					(68.41)	
Harm / care: q. 28						62.6
						(55.25)
Observations	1888	1888	1888	1888	1888	1888
R^2	0.00	0.01	0.01	0.01	0.00	0.00

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 28: Relationship between voting and separate MFQ items (10/12)

	Dependent variable:					
	1 if voted for Trump in GOP primaries					
	(1)	(2)	(3)	(4)	(5)	(6)
Fairness / recip.: q. 2	-489.6***					
	(84.12)					
Fairness / recip.: q. 8		-232.7***				
		(88.85)				
Fairness / recip.: q. 13			-101.2			
			(109.03)			
Fairness / recip.: q. 18				-187.9***		
				(68.68)		
Fairness / recip.: q. 24					-139.9**	
					(69.91)	
Fairness / recip.: q. 29						-32.7
						(49.08)
Observations	1888	1888	1888	1888	1888	1888
R^2	0.02	0.00	0.00	0.00	0.00	0.00

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 29: Relationship between voting and separate MFQ items (11/12)

	Dependent variable:					
	1 if voted for Trump in GOP primaries					
	(1)	(2)	(3)	(4)	(5)	(6)
In-group / loyalty: q. 3	620.8***					
	(80.20)					
In-group / loyalty: q. 9		138.9*				
		(82.97)				
In-group / loyalty: q. 14			182.0**			
			(85.34)			
In-group / loyalty: q. 19				125.9***		
				(43.69)		
In-group / loyalty: q. 25					119.7*	
					(66.58)	
In-group / loyalty: q. 30						99.7
						(68.53)
Observations	1888	1888	1888	1888	1888	1888
R^2	0.03	0.00	0.00	0.01	0.00	0.00

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

Table 30: Relationship between voting and separate MFQ items (12/12)

	Dependent variable:					
	1 if voted for Trump in GOP primaries					
	(1)	(2)	(3)	(4)	(5)	(6)
Authority / respect: q. 4	153.7*					
	(87.29)					
Authority / respect: q. 10		190.6**				
		(76.39)				
Authority / respect: q. 15			-352.9***			
			(81.49)			
Authority / respect: q. 20				-144.8*		
				(77.23)		
Authority / respect: q. 26					74.2	
					(62.09)	
Authority / respect: q. 31						169.9**
						(71.30)
Observations	1888	1888	1888	1888	1888	1888
R^2	0.00	0.00	0.01	0.00	0.00	0.00

Notes. OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. See Appendix F for the survey questions. The response to each survey question is normalized by the sum of responses to all MFQ questions.

D.8 Controlling for Lifetime Income

The main text controlled for estimates of current income. I now report a robustness check in which I work with an estimate of lifetime income. My survey asked respondents to provide a continuous estimate of annual pre-tax household income. 3,249 participants provided an estimate of at least $1000; this is the sample I work with. To transform annual income into an estimate of lifetime income, I follow the strategy of Chetty et al. (2016) and assume that cross-sectional variation in income across generations reflects life-cycle patterns. Accordingly, I apply the following steps: (i) assume a uniform 30% income tax rate; (ii) normalize the income of each household relative to that of the average 26-years old American (i.e., assume that variation across cohorts reflects life-cycle patterns); and (iii) compute estimated lifetime income by assuming a 0.5% wage growth and a discount factor of 3% (Chetty et al., 2016).

Table 31: Moral values and voting: Controlling for lifetime income

	Dependent variable:								
	Votes in presidential election						Votes in GOP primaries		
	1 if voted for Trump			Δ [Trump – Ave. GOP]			1 if voted for Trump		
	OLS	OLS	PDS	OLS	OLS	PDS	OLS	OLS	PDS
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Relative importance of universalist vs. communal moral values	-14.0***	-12.5***	-12.4***	-2.55***	-3.65**	-1.92**	-9.09***	-4.76*	-7.53***
	(0.81)	(1.38)	(1.05)	(0.71)	(1.42)	(0.94)	(1.51)	(2.74)	(1.56)
Political liberalism	-12.7***	-10.9***	-12.3***	-1.36	-0.57	-1.76**	-0.40	-1.26	-1.18
	(0.89)	(1.22)	(0.89)	(0.83)	(1.21)	(0.87)	(1.33)	(2.42)	(1.32)
Standardized values of (ln_life_inc)	3.99***	1.04		-1.53	0.18		0.54	-1.03	
	(0.96)	(1.38)		(1.00)	(1.41)		(1.44)	(2.67)	
Education	-0.90	-0.89		-3.22***	-3.23**	-3.49***	-9.43***	-7.50***	-8.77***
	(0.91)	(1.35)		(0.90)	(1.45)	(0.85)	(1.42)	(2.78)	(1.27)
Log [Population density]	-7.61***	-6.01***	-3.74***	-0.86	-2.51		-4.82***	-4.25	
	(0.90)	(1.92)	(0.82)	(0.93)	(2.21)		(1.47)	(3.89)	
Religiosity	2.90***	3.74***	4.40***	-0.0036	1.27	0.15	-0.17	-0.10	
	(0.83)	(1.31)	(0.86)	(0.80)	(1.26)	(0.83)	(1.39)	(2.82)	
State FE	Yes	No	No	Yes	No	No	Yes	No	No
County FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Additional controls	No	Yes	Yes	No	Yes	No	No	Yes	No
Observations	2780	2780	2780	2392	2392	2392	1494	1494	1494
R^2	0.33	0.65		0.05	0.48		0.12	0.61	

Notes. OLS estimates, robust standard errors in parentheses. In columns (1)–(4), the dependent variable is the average propensity to vote for Romney and McCain, where the propensity to vote for a given candidate is a binary indicator that equals 0 if the respondent voted for a different candidate and 100 if they voted for the respective candidate. In columns (5)–(8), the dependent variable is the difference between the propensity to vote for Trump and the average propensity to vote for Romney and McCain. In columns (9)–(12), the dependent variable is a binary indicator for whether the respondent voted for Trump in the GOP primaries. See Appendix I for a description of all variables. Additional controls include year of birth fixed effects, gender, employment status, race fixed effects, religious denomination fixed effects, occupation fixed effects, altruism, generalized trust, and the absolute value of the moral values index. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

E Additional Tables for County-Level Analysis

E.1 Correlates of County-Level Values

Table 32: Correlates of county-level moral values

	Corr. b/w rel. imp. of universalist versus communal moral values and:				
	Unemp.	Log [HH inc.]	Log [Pop. dens.]	Racism	Frac. religious
Partial corr. (State FE)	-0.02	-0.01	0.11^{***}	0.00	-0.08^{***}
95% CI	$[-0.06, 0.02]$	$[-0.05, 0.03]$	$[0.07, 0.15]$	$[-0.04, 0.04]$	$[-0.12, -.04]$
Partial corr. (CZ FE)	0.01	-0.05^{**}	0.12^{***}	n/a	-0.03

Notes. The first row reports the partial correlations between county characteristics and the relative importance of universalist moral values (conditional on state fixed effects), and the second row corresponding confidence intervals. The third row reports partial correlations conditional on commuting zone effects. The racism index measures the relative search frequency for "nigger(s)" on Google in a Designated Market Area (DMA), which is strongly predictive of Obama's vote share (Stephens-Davidowitz, 2014). The racism variable was assigned to all counties in a DMA. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

E.2 Replication using common CBSA Sample

Table 33: Moral values and county-level voting patterns (CBSA sample)

	Dependent variable:											
	Vote shares											
	Presidential election								GOP primaries			
	Trump				Δ [Trump – Ave. GOP]				Trump			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rel. importance of universalist vs. communal moral values	-2.93***	-1.94***	-2.16***	-2.00***	-0.61***	-0.30**	-0.43***	-0.30	-0.77***	-0.55***	-0.82***	-0.93*
	(0.45)	(0.35)	(0.34)	(0.56)	(0.19)	(0.15)	(0.16)	(0.25)	(0.23)	(0.19)	(0.27)	(0.51)
Log [Median HH income]		4.48**	13.4***	12.3***		-6.45***	-6.44***	-8.43***		-2.98***	-4.58***	-5.81**
		(2.01)	(2.35)	(3.23)		(0.83)	(1.01)	(1.41)		(1.10)	(1.73)	(2.67)
Unemployment rate		-0.45**	-0.13	-0.24		0.21***	0.28***	0.30**		0.81***	0.70***	0.56**
		(0.18)	(0.19)	(0.29)		(0.08)	(0.09)	(0.13)		(0.09)	(0.16)	(0.24)
Racism index		2.48***	1.13	-0.059		0.82***	0.22	0.064		0.90***	0.58	-0.39
		(0.50)	(0.95)	(3.22)		(0.21)	(0.35)	(0.78)		(0.24)	(0.63)	(1.18)
Log [Population density]		-6.61***	-7.22***	-7.49***		-2.49***	-3.12***	-3.32***		-1.70***	-2.37***	-2.59***
		(0.26)	(0.26)	(0.34)		(0.12)	(0.12)	(0.16)		(0.16)	(0.21)	(0.30)
Fraction religious		11.3***	7.57***	4.25		1.16	0.30	-0.43		-3.59***	-3.82**	-7.52***
		(2.83)	(2.88)	(3.88)		(0.99)	(0.89)	(1.17)		(1.36)	(1.93)	(2.75)
Abs. value of moral values index		-0.38	-0.50	-0.47		0.25	0.024	0.20		-0.20	-0.072	0.26
		(0.57)	(0.52)	(0.83)		(0.25)	(0.23)	(0.35)		(0.30)	(0.39)	(0.71)
Latitude		0.20	0.16	0.64		0.13	-0.15	0.43		-0.72***	-0.98	-1.19
		(0.28)	(0.86)	(1.38)		(0.11)	(0.38)	(0.61)		(0.13)	(0.61)	(1.17)
Longitude		0.016	-0.066	-0.64		0.14	0.21	0.75		0.16	0.92	2.09**
		(0.18)	(0.66)	(1.06)		(0.09)	(0.29)	(0.50)		(0.10)	(0.65)	(0.94)
State FE	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Yes	No	No
Commuting zone FE	No	No	Yes	No	No	No	Yes	No	No	No	Yes	No
CBSA FE	No	No	No	Yes	No	No	No	Yes	No	No	No	Yes
Observations	1640	1635	1635	1635	1640	1635	1635	1635	1552	1547	1547	1547
R^2	0.35	0.61	0.83	0.88	0.38	0.63	0.85	0.89	0.83	0.87	0.89	0.92

Notes. County-level OLS estimates, robust standard errors in parentheses. The dependent variable in columns (1)–(4) is Trump's vote share in the 2016 general election. The dependent variable in columns (5)–(8) is the difference between Trump's vote share in the election and the average GOP vote share in presidential elections between 2000 and 2012. The dependent variable in (9)–(12) is Trump's vote share in the GOP primaries.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

E.3 Universalist and Communal Values Separately

Table 34: Moral values and county-level voting patterns

	Dependent variable:					
	Vote shares					
	Presidential election				GOP primaries	
	Trump		Δ [Trump – Ave. GOP]		Trump	
	(1)	(2)	(3)	(4)	(5)	(6)
Abs. importance of universalist values	-0.88***	-0.74***	0.22	0.082	0.15	0.17
	(0.27)	(0.28)	(0.14)	(0.15)	(0.16)	(0.20)
Abs. importance of communal values	1.91***	1.94***	0.81***	0.72***	0.76***	0.89***
	(0.31)	(0.33)	(0.14)	(0.15)	(0.17)	(0.22)
State FE	Yes	No	Yes	No	Yes	No
Commuting zone FE	No	Yes	No	Yes	No	Yes
Observations	2255	2255	2255	2255	2116	2116
R^2	0.36	0.66	0.39	0.69	0.81	0.85

Notes. County-level OLS estimates, robust standard errors in parentheses. The dependent variable in columns (1)–(2) is Trump's vote share in the 2016 general election. The dependent variable in columns (3)–(4) is the difference between Trump's vote share in the election and the average GOP vote share in presidential elections between 2000 and 2012. The dependent variable in (5)–(6) is Trump's vote share in the GOP primaries.* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

Table 35: Moral values and county-level voting patterns: Differences-in-differences estimates

	Dependent variable:	
	GOP vote share in year x	
	(1)	(2)
Abs. imp. of universalist moral values (in years [x-1, x+2])	-0.25**	-0.25**
	(0.11)	(0.11)
Abs. imp. of communal moral values (in years [x-1, x+2])	0.10	0.12
	(0.11)	(0.10)
Log [Median HH income]		4.35**
		(2.07)
Unemployment rate		-0.40***
		(0.07)
County FE	Yes	Yes
Election FE	Yes	Yes
Observations	6200	6200
R^2	0.96	0.96

Notes. County-level OLS panel estimates. Standard errors (in parentheses) are clustered at the county level. The dependent variable is the GOP vote share in a given election year, stacked across the general elections $x \in \{2008, 2012, 2016\}$. The independent variable is the relative importance of universalist versus communal moral values in $[x-1, x+2]$. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

E.4 Changes in Turnout as Dependent Variable

Table 36: Moral values and county-level turnout

	Dependent variable:			
	Turnout Δ ['16 – Ave. (2000–2012)]			
	Pres. election		GOP primaries	
	(1)	(2)	(3)	(4)
Rel. importance of universalist vs. communal moral values	-0.051	-0.22	-0.20**	-0.65**
	(0.05)	(0.13)	(0.09)	(0.27)
State FE	Yes	No	Yes	No
CBSA FE	No	Yes	No	Yes
Observations	2255	1640	1940	1434
R^2	0.49	0.78	0.66	0.80

Notes. County-level OLS estimates, robust standard errors in parentheses. The dependent variable is the difference in turnout between 2016 and the average of 2000–2012, for either the general election or the GOP primaries. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

E.5 GOP Vote Shares and Moral Values: Controlling for Education

Table 37: Moral values and presidential elections 2008-2016: Controlling for education

	Dependent variable:					
	GOP vote share in pres. elections					
	2008		2012		2016	
	(1)	(2)	(3)	(4)	(5)	(6)
Rel. importance of universalist vs. communal moral values	-1.35***	-1.16***	-1.45***	-1.25***	-1.63***	-1.26***
	(0.22)	(0.22)	(0.23)	(0.23)	(0.24)	(0.23)
Log [Median HH income]	8.66***	15.0***	8.02***	14.7***	1.68	13.8***
	(1.46)	(1.65)	(1.56)	(1.77)	(1.59)	(1.67)
Unemployment rate	-0.68***	-0.77***	-0.87***	-0.97***	-0.68***	-0.86***
	(0.13)	(0.13)	(0.13)	(0.13)	(0.14)	(0.14)
Racism index	1.63***	1.79***	1.82***	1.99***	2.16***	2.47***
	(0.35)	(0.35)	(0.38)	(0.39)	(0.40)	(0.40)
Log [Population density]	-3.85***	-3.11***	-4.23***	-3.44***	-5.84***	-4.41***
	(0.21)	(0.23)	(0.22)	(0.24)	(0.23)	(0.24)
Fraction religious	9.78***	8.45***	9.80***	8.39***	8.99***	6.43***
	(1.99)	(1.92)	(2.05)	(1.98)	(2.08)	(1.87)
Abs. value of moral values index	-0.36	-0.38	-0.29	-0.32	-0.14	-0.19
	(0.35)	(0.34)	(0.37)	(0.36)	(0.39)	(0.36)
Latitude	0.29	0.39**	0.39*	0.49**	0.43*	0.62***
	(0.20)	(0.20)	(0.22)	(0.22)	(0.23)	(0.22)
Longitude	-0.050	-0.16	-0.035	-0.15	0.079	-0.13
	(0.14)	(0.14)	(0.15)	(0.15)	(0.16)	(0.16)
% high school graduate or less		29.0***		30.9***		56.0***
		(3.76)		(4.00)		(3.83)
State FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2249	2249	2249	2249	2249	2249
R^2	0.54	0.56	0.55	0.57	0.59	0.64

Notes. County-level OLS estimates, robust standard errors in parentheses. See columns (2) and (3) of Table 6 for a complete list of the economic and geographic covariates. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

F Moral Foundations Questionnaire

Part 1. When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement using this scale:

0 not at all relevant (This consideration has nothing to do with my judgments of right and wrong)

1 not very relevant

2 slightly relevant

3 somewhat relevant

4 very relevant

5 extremely relevant (This is one of the most important factors when I judge right and wrong)

1. Whether or not someone suffered emotionally
2. Whether or not some people were treated differently than others
3. Whether or not someone's action showed love for his or her country
4. Whether or not someone showed a lack of respect for authority
5. Whether or not someone violated standards of purity and decency
6. Whether or not someone was good at math
7. Whether or not someone cared for someone weak or vulnerable
8. Whether or not someone acted unfairly
9. Whether or not someone did something to betray his or her group
10. Whether or not someone conformed to the traditions of society
11. Whether or not someone did something disgusting
12. Whether or not someone was cruel
13. Whether or not someone was denied his or her rights

14. Whether or not someone showed a lack of loyalty
15. Whether or not an action caused chaos or disorder
16. Whether or not someone acted in a way that God would approve of

Part 2. Please read the following sentences and indicate your agreement or disagreement:

0 Strongly disagree

1 Moderately disagree

2 Slightly disagree

3 Slightly agree

4 Moderately agree

5 Strongly agree

17. Compassion for those who are suffering is the most crucial virtue.
18. When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.
19. I am proud of my country's history.
20. Respect for authority is something all children need to learn.
21. People should not do things that are disgusting, even if no one is harmed.
22. It is better to do good than to do bad.
23. One of the worst things a person could do is hurt a defenseless animal.
24. Justice is the most important requirement for a society.
25. People should be loyal to their family members, even when they have done something wrong.
26. Men and women each have different roles to play in society.
27. I would call some acts wrong on the grounds that they are unnatural.

28. It can never be right to kill a human being.
29. I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.
30. It is more important to be a team player than to express oneself.
31. If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.
32. Chastity is an important and valuable virtue.

The final scores for each moral foundation are then computed by summing responses across the following questions:
Harm / care: 1, 7, 12, 17, 23, 28
Fairness / reciprocity: 2, 8, 13, 18, 24, 29
In-group / loyalty: 3, 9, 14, 19, 25, 30
Authority / respect: 4, 10, 15, 20, 26, 31
Purity / sanctity: 5, 11, 16, 21, 27, 32

Items 6 and 22 are filler questions.

G Moral Foundations Dictionary

Care / Harm – Virtue: safe*, peace*, compassion*, empath*, sympath*, care, caring, protect*, shield, shelter, amity, secur*, benefit*, defen*, guard*, preserve

Care / Harm – Vice: harm*, suffer*, war, wars, warl*, warring, fight*, violen*, hurt*, kill, kills, killer*, killed, killing, endanger*, cruel*, brutal*, abuse*, damag*, ruin*, ravage, detriment*, crush*, attack*, annihilate*, destroy, stomp, abandon*, spurn, impair, exploit, exploits, exploited, exploiting, wound*

Fairness / Reciprocity – Virtue: fair, fairly, fairness, fair-*, fairmind*, fairplay, equal*, justice, justness, justifi*, reciproc*, impartial*, egalitar*, rights, equity, evenness, equivalent, unbias*, tolerant, equable, balance*, homologous, unprejudice*, reasonable, constant, honest*

Fairness / Reciprocity – Vice: unfair*, unequal*, bias*, unjust*, injust*, bigot*, discriminat*, disproportion*, inequitable, prejud*, dishonest, unscrupulous, dissociate, preference, favoritism, segregat*, exclusion, exclud*

Ingroup / Loyalty – Virtue: together, nation*, homeland*, family, families, familial, group, loyal*, patriot*, communal, commune*, communit*, communis*, comrad*, cadre, collectiv*, joint, unison, unite*, fellow*, guild, solidarity, devot*, member, cliqu*, cohort, ally, insider, segregat*

Ingroup / Loyalty – Vice: foreign*, enem*, betray*, treason*, traitor*, treacher*, disloyal*, individual*, apostasy, apostate, deserted, deserter*, deserting, deceiv*, jilt*, imposter, miscreant, spy, sequester, renegade, terroris*, immigra*, abandon*

Authority / Respect – Virtue: obey*, obedien*, duty, law, lawful*, legal*, duti*, honor*, respect, respectful*, respected, respects, order*, father*, mother, motherl*, mothering, mothers, tradition*, hierarch*, authorit*, permit, permission, status*, rank*, leader*, class, bourgeoisie, caste*, position, complian*, command, supremacy, control, submi*, allegian*, serve, abide, defere*, defer, revere*, venerat*, comply, preserve, loyal*

Authority / Respect – Vice: defian*, rebel*, dissent*, subver*, disrespect*, disobe*, sediti*, agitat*, insubordinat*, illegal*, lawless*, insurgent, mutinous, defy*, dissident, unfaithful, alienate, defector, heretic*, nonconformist, oppose, protest, refuse, denounce, remonstrate, riot*, obstruct, betray*, treason*, traitor*, treacher*, disloyal*, apostasy,

apostate, deserted, deserter*, deserting

Purity / Sanctity – Virtue: piety, pious, purity, pure*, clean*, steril*, sacred*, chast*, holy, holiness, saint*, wholesome*, celiba*, abstention, virgin, virgins, virginity, virginal, austerity, integrity, modesty, abstinen*, abstemiousness, upright, limpid, unadulterated, maiden, virtuous, refined, decen*, immaculate, innocent, pristine, church*, preserve

Purity / Sanctity – Vice: disgust*, deprav*, disease*, unclean*, contagio*, indecen*, sin, sinful*, sinner*, sins, sinned, sinning, slut*, whore, dirt*, impiety, impious, profan*, gross, repuls*, sick*, promiscu*, lewd*, adulter*, debauche*, defile*, tramp, prostitut*, unchaste, intemperate, wanton, profligate, filth*, trashy, obscen*, lax, taint*, stain*, tarnish*, debase*, desecrat*, wicked*, blemish, exploitat*, pervert, wretched*, ruin*, exploit, exploits, exploited, exploiting, apostasy, apostate, heretic*

H Most Common Moral Words from MFD

H.1 American Presidency Project Dataset

Table 38: Most Frequent MFD Words – All Candidates

Word	Moral Category	Rel. Freq. (%)
(1)	(2)	(3)
nation*	Ingroup Virtue	0.415
leader*	Authority Virtue	0.299
care	Harm Virtue	0.246
unite*	Ingroup Virtue	0.207
secur*	Harm Virtue	0.192
families	Ingroup Virtue	0.170
fight*	Harm Vice	0.154
war	Harm Vice	0.147
communit*	Ingroup Virtue	0.134
together	Ingroup Virtue	0.114
family	Ingroup Virtue	0.113
law	Authority Virtue	0.110

Notes. This table reports the 12 most common MFD words and word stems used by all candidates across the 2008-2016 elections in documents collected for the text analysis. Column (2) reports the moral values associated with the MFD keywords and column (3) reports the average relative frequency the candidates used the keywords across the documents. Only non-stop words in a text are considered when calculating relative frequencies. See Appendix G for a list of all MFD keywords.

H.2 U.S. Congress Dataset

Table 39: Most Frequent MFD Words – All Years

Word	Moral Category	Rel. Freq. (%)
(1)	(2)	(3)
nation*	Ingroup Virtue	0.373
unite*	Ingroup Virtue	0.280
law	Authority Virtue	0.200
order*	Authority Virtue	0.174
war	Harm Vice	0.148
secur*	Harm Virtue	0.120
leader*	Authority Virtue	0.115
protect*	Harm Virtue	0.113
defen*	Harm Virtue	0.109
foreign*	Ingroup Vice	0.100
care	Harm Virtue	0.095
benefit*	Harm Virtue	0.095
member	Ingroup Virtue	0.092
communit*	Ingroup Virtue	0.078
authorit*	Authority Virtue	0.077

Notes. This table reports the 15 most common MFD words and word stems used by all congresspeople across all years in the data. Column (2) reports the moral values associated with the MFD keywords and column (3) reports the average relative frequency the congresspeople used the keywords. Only non-stop words are considered when calculating relative frequencies. See Appendix G for a list of all MFD keywords.

Table 40: Most Frequent MFD Words – 1955 - 1965

Word	Moral Category	Rel. Freq. (%)
(1)	(2)	(3)
nation*	Ingroup Virtue	0.434
unite*	Ingroup Virtue	0.331
law	Authority Virtue	0.184
foreign*	Ingroup Vice	0.161
order*	Authority Virtue	0.157
defen*	Harm Virtue	0.130
leader*	Authority Virtue	0.120
communis*	Ingroup Virtue	0.107
rights	Fairness Virtue	0.101
member	Ingroup Virtue	0.100
secur*	Harm Virtue	0.098
war	Harm Vice	0.098
benefit*	Harm Virtue	0.090
authorit*	Authority Virtue	0.085
position	Authority Virtue	0.083

Notes. This table reports the 15 most common MFD words and word stems used by all congresspeople between 1955 and 1965. Column (2) reports the moral values associated with the MFD keywords and column (3) reports the average relative frequency the congresspeople used the keywords. Only non-stop words are considered when calculating relative frequencies. See Appendix G for a list of all MFD keywords.

Table 41: Most Frequent MFD Words – 1995 - 2005

Word	Moral Category	Rel. Freq. (%)
(1)	(2)	(3)
nation*	Ingroup Virtue	0.404
unite*	Ingroup Virtue	0.218
secur*	Harm Virtue	0.209
law	Authority Virtue	0.171
care	Harm Virtue	0.168
protect*	Harm Virtue	0.164
leader*	Authority Virtue	0.162
communit*	Ingroup Virtue	0.134
benefit*	Harm Virtue	0.127
order*	Authority Virtue	0.124
defen*	Harm Virtue	0.121
balance*	Fairness Virtue	0.120
families	Ingroup Virtue	0.108
war	Harm Vice	0.102
safe*	Harm Virtue	0.099

Notes. This table reports the 15 most common MFD words and word stems used by all congresspeople between 1995 and 2005. Column (2) reports the moral values associated with the MFD keywords and column (3) reports the average relative frequency the congresspeople used the keywords. Only non-stop words are considered when calculating relative frequencies. See Appendix G for a list of all MFD keywords.

Table 42: Most Frequent MFD Words – After 2010

Word	Moral Category	Rel. Freq. (%)
(1)	(2)	(3)
nation*	Ingroup Virtue	0.389
care	Harm Virtue	0.237
unite*	Ingroup Virtue	0.214
law	Authority Virtue	0.212
secur*	Harm Virtue	0.190
leader*	Authority Virtue	0.187
protect*	Harm Virtue	0.178
communit*	Ingroup Virtue	0.161
balance*	Fairness Virtue	0.139
order*	Authority Virtue	0.129
families	Ingroup Virtue	0.128
defen*	Harm Virtue	0.109
safe*	Harm Virtue	0.107
member	Ingroup Virtue	0.099
benefit*	Harm Virtue	0.099

Notes. This table reports the 15 most common MFD words and word stems used by all congresspeople after 2010. Column (2) reports the moral values associated with the MFD keywords and column (3) reports the average relative frequency the congresspeople used the keywords. Only non-stop words are considered when calculating relative frequencies. See Appendix G for a list of all MFD keywords.

H.3 Changes in Word Use in U.S. Congress Over Time

Below, I present a list of the words with the largest increase or decrease in usage between the 5-year period around 1950 and the 5-year period around 2010. The change in frequency is computed as

$$\Delta = 10,000 * \left[\frac{\text{Frequency in 2010}}{\text{\# non-stop words in 2010}} - \frac{\text{Frequency in 1950}}{\text{\# non-stop words in 1950}} \right]$$

I list words with $|\Delta| \geq 1$.

universalist words
care +22.3
balance* +9.7
protect* +8.5
safe* +7.0
secur* +5.2
benefit* +3.8
violen* +2.5
rights +2.0
abuse +1.8
hurt +1.6
justice +1.5
harm* +1.4
killed +1.1

war -13.5
defen* -6.3
justif* -1.9
fair -1.4
reasonable -1.2
sympath* -1.1

Communal words
communit* +11.8
families +10.9
leader +8.8
family +5.8

together +5.3
honor +4.5
terroris* +4.2
rank +2.8
class +2.6
homeland* +1.8
serve +1.7
individual* +1.3
father +1.1

unite -19.4
communis* -13.2
foreign -6.7
order -6.5
position -5.1
submi* -4.9
respect -4.7
control -4.3
permit -3.8
joint -3.8
law -2.4
member -2.1
duty -1.8
loyal* -1.3
duti* -1.2

I Description of Main Variables

I.1 Supply Side Analysis

Background on U.S. Congress Analyses. The data can be accessed online at https://data.stanford.edu/congress_text. In this paper, I use the processed speech text, date of speech, and the linked congressperson characteristics (i.e., speaker name, gender, congressional chamber, congressional state/district, and party affiliation). When both the bound edition and the daily edition are available for a congressional session, I follow Gentzkow et al. (2019) and use the bound edition in the main analysis. Gentzkow et al. (2019) show that results for these sessions are robust to which edition they use. See Amer (1993) and Gentzkow et al. (2019) for further discussion. To prepare the speech text for analysis, I take similar steps as described in Gentzkow et al. (2019). Specifically, for each speech, I (i) separate the text into individual words using all non-alphanumeric characters as delimiters; and (ii) delete all stop words – i.e., frequent words that convey very little content; and (iii) convert the words to lowercase. For congresspersons who delivered more than one speech on a given day, I collapsed the word counts to the day-level.

Relative frequency of universalist versus communal moral terminology. See Section 4.

Flesch reading ease score. A commonly used measure to assess the readability of a document. The formula for the Flesch reading ease score (Flesch, 1948) of a document is

$$\text{FRES} = 206.835 - 1.015\left(\frac{\text{total words}}{\text{total sentences}}\right) - 84.6\left(\frac{\text{total syllables}}{\text{total words}}\right).$$

Therefore, a higher score means that a document is easier to read.

Document type. Whether a document was classified as a campaign speech, official statement, debate, or fundraising speech by the APP.

I.2 Demand Side Analysis

I.2.1 *Research Now* Survey

Relative importance of universalist versus communal moral values. Constructed from MFQ moral foundations as: care / harm + fairness / reciprocity minus in-group / loyalty minus authority / respect.

Difference in propensity to vote for Trump and average Republican. First, generate a binary variable for Trump, Romney, and McCain each. Variable assumes a value of 0 if people voted for another candidate and 100 if voted for the respective candidate. Then compute the difference between the Trump variable and the average of the other two variables.

Difference in propensity to vote for Trump and Romney / McCain. Generate same binary variables as described above. Compute difference between Trump and Romney / McCain.

Difference in propensity to vote for Trump and average Republican (including non-voters). First, generate a three-step variable for Trump, Romney, and McCain each. Variable assumes a value of 0 if people voted for another candidate, 50 if they did not vote at all, and 100 if voted for the respective candidate. Then compute the difference between the Trump variable and the average of the other two variables.

Difference in turnout between 2016 and earlier elections. For each election year, generate a binary indicator that equals 100 if the respondents voted and 0 otherwise. Then compute the difference between 2016 and the average of 2008 and 2012.

Evaluation of Trump: Loyalty vs. economy. Based on responses to the following survey question: "Please use the scale below to indicate which factor is more relevant for your evaluation of President Trump.

-5 means that A is much more important than B. 5 means that B is much more important than A. 0 means that A and B are equally important, or equally unimportant. You can use the intermediate values to state your opinion in a nuanced way.

A: Mr. Trump's economic and social policies, such as his impact on the unemployment rate. B: The extent to which Mr. Trump shows loyalty to his supporters and does not betray my community."

Δ **[Local–global] Support taxation.** Based on responses to the following survey question: "Imagine that there will be a new tax levered that amounts to 5% on all income. Please assume that 100% of the money collected for this tax will be directly spent on increasing the quality of schooling for children. Please imagine that this new tax will be implemented no matter what. However, imagine that you have a say in HOW it gets implemented because there are two options.

Please use the scale below to express your opinion. -5 means that you like A much more than B. 5 means that you like B much more than A. 0 means that A and B are

equally attractive to you, or equally unattractive. You can use the intermediate values to state your opinion in a nuanced way.

Option A: The taxes are collected by the local community and the money goes to the local schools in your school district. Option B: The taxes are collected by the federal government and the money is distributed equally to all schools in the country."

Δ **[Local–global] Donations.** Based on responses to the following survey question: "Over the past 12 months, how much money have you donated to each of the following entities:

1. Local schools, local libraries, and city-sponsored functions
2. Local communities (e.g., firefighters, local church) and local cultural groups (e.g., art museums)
3. Non-profit organizations that work towards a better life for people in America in general (e.g., Feeding America)
4. Non-profit organizations that work towards a better life for people around the world (e.g., United Way Worldwide)"

Then, generate variable of interest as $q1. + q2. - q3. - q4.$

Δ **[Local–global] Volunteering.** Based on responses to the following survey question: "Over the past month, how many hours have you volunteered for each of the following entities:

1. Local schools, local libraries, and city-sponsored functions
2. Local communities (e.g., firefighters, local church) and local cultural groups (e.g., art museums)
3. Non-profit organizations that work towards a better life for people in America in general (e.g., Feeding America)
4. Non-profit organizations that work towards a better life for people around the world (e.g., United Way Worldwide)"

Then, generate variable of interest as $q1. + q2. - q3. - q4.$.

Money allocation task. Based on responses to the following survey question: "Imagine that you had $99 at your disposal that you have to split between United Way Worldwide (a non-profit organization that focuses on improving education, income and health around the world) and the local firefighters in your town. How would you allocate the money between these two? For both options, 100% of your donation will support the cause and not go towards administrative costs.

1. Amount to United Way Worldwide:

2. Amount to local firefighters:"

Altruism. This is an experimentally validated survey measure of altruism that is constructed as in Falk et al. (2018). Respondents were asked the following two survey questions:

- Imagine the following situation: Today you unexpectedly received $1,000. How much of this amount would you donate to a good cause?

- On a scale from 0 to 10, how willing are you to give to good causes without expecting anything in return?

The altruism summary index is computed as average of the z-score of responses to these two questions.

Political liberalism. This variable is constructed from 13 survey questions that are taken from the 2016 pre-election survey wave of the Cooperative Congressional Election Study. These questions elicit respondents' attitudes on four categories: gun control, environment policies, crime policies, and budget priorities.

1. On the issue of gun regulation, do you support or oppose each of the following proposals?

    - Background checks for all sales, including at gun shows and over the Internet
    - Prohibit state and local governments from publishing the names and addresses of all gun owners
    - Ban assault rifles
    - Make it easier for people to obtain concealed-carry permit

2. Do you support or oppose each of the following proposals?

- Give the Environmental Protection Agency power to regulate carbon dioxide emissions
- Raise required fuel efficiency for the average automobile from 25 mpg to 35 mpg
- Require a minimum amount of renewable fuels (wind, solar, and hydroelectric) in the generation of electricity even if electricity prices increase somewhat
- Strengthen enforcement of the Clean Air Act and Clean Water Act even if it costs US jobs

3. Do you support or oppose each of the following proposals?

   - Eliminate mandatory minimum sentences for non-violent drug offenders
   - Require police officers to wear body cameras that record all of their activities while on duty
   - Increase the number of police on the street by 10 percent, even if it means fewer funds for other public services
   - Increase prison sentences for felons who have already committed two or more serious or violent crimes

4. The federal budget deficit is approximately $1 trillion this year. If the Congress were to balance the budget it would have to consider cutting defense spending, cutting domestic spending (such as Medicare and Social Security), or raising taxes to cover the deficit. Please rank the options below from what would you most prefer that Congress do to what you would least prefer they do (1 means most preferred, 3 least preferred).

   - Cut Defense Spending
   - Cut Domestic Spending
   - Raise Taxes

For each of these questions, I code "support" as 1, "oppose" as 0 and "Prefer not to answer" as 0.5.[40] For each of the broad categories, I then construct a summary statistic by computing the first principal component of all items in the respective category. I then compute a summary statistic of political conservatism as first principal component of these four category-specific principal components.

[40] I have verified that almost identical results hold when I drop observations with "Prefer not to answer."

Income bracket. Ten-step variable: <10k, 10k-15k, 15k-25k, 25k-35k, 35k-50k, 50k-75k, 75k-100k, 100k-150k, 150k-200k, >200k.

Educational attainment. Six-step variable: incomplete high school, high school diploma, some college but no degree, Associate's degree, Bachelor's degree, graduate or professional degree.

Race. White, African-American, Hispanic, Asian, American Indian, Other.

City size. 10-step variable: > 1 million, 200k-1m, 50k-200k, 20k-50k and close to metro, 20k-50k and not close to metro, 3k-20k and close to metro, 3k-30k and not close to metro, 500-3k and close to metro, 500-3k and not close to metro, <500.

Population density. Computed as average of the z-scores of the city size variable reported above as well as ZIP code level log population density.

Religiosity. 11-step variable: "On a scale from 0 (not at all) to 10 (very much), how religious are you?"

Religious denomination. Catholic, Protestant, Other Christian, Muslim, Jewish, Hindu, Buddhist, Agnostic, Atheist, Other.

Overall strength of moral concerns. Sum of harm / care, fairness / reciprocity, ingroup / loyalty, and authority / respect.

General trust. 3-step variable: "Generally speaking, would you say that most people can be trusted, or that you can't be too careful in dealing with people?

1. Most people can be trusted
2. Don't know
3. Can't be too careful"

Personal job prospects. "On a scale from 0 (very bad) to 5 (very good), what do you think your personal job prospects look like?"

Occupation fixed effects. Business owner; clerical or office worker; construction or mining; fishing, farming and forestry; manger, executive or public official; manufacturing; professional worker: lawyer, doctor etc.; sales worker; service worker; transportation: driver etc.; other.

I.2.2 County-Level Analysis

Relative importance of universalist versus communal moral values. Constructed from the MFQ dataset from www.yourmorals.org. First, compute an individual-level index as described in the main text. Second, aggregate to the county level by weighting respondents by 1/n, where n is the number of counties that intersects with the respondent's ZIP code. Third, exclude all counties with less than five respondents. Fourth, apply the shrinkage procedure described in the main text.

Vote shares in presidential elections and primaries. Source: Dave Leip's Atlas of US Presidential Elections, see http://uselectionatlas.org/.

Turnout. Computed as total number of votes divided by the population aged 18+ in a given county. Population aged 18+ is linearly interpolated from the American Community Surveys Data, which provides population estimates for 15+ and 20+.

Unemployment rate, median household income. Source: American Community Surveys, average 2011–2015.

Geographic covariates. Computed as average within 2010 county boundaries.

Population density. Source: American Community Surveys, average 2011–2015.

Fraction religious. Share of religious adherents. Source: Chetty and Hendren (2016).

Racism index. This index is based on Google Trends data that are first computed at the level of 204 Designated Market Areas (DMAs) and then assigned to each county within a DMA. The index reflects how often people in a given DMA google "nigger" relative to overall search volume. Source: Stephens-Davidowitz (2014).

Fraction high school graduate or less. Fraction of the population who are at most high school graduates, but never attended some college. Taken from American Community Surveys, average 2011–2015.