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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 questionnaire data and text analyses, I find support for the hypothesis that both voters and politicians exhibit heterogeneity in their emphasis on "universal" 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, in particular in 2016. Over the last decade, Americans' values have become increasingly communal – especially in rural areas – which generated increased moral polarization and 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

Recent election results in the U.S. and Europe have generated renewed interest in the ultimate motivations that underlie voting decisions. For example, various casual accounts have argued that the 2016 U.S. presidential election was "different" and reflected a "cultural backlash," rather than merely economic factors. At the same time, little empirical progress has been made on identifying which (if any) specific aspects of culture actually affected the election outcome, and whether corresponding insights are generalizable to other settings or are, in fact, singular.

This paper contributes to the discussion by introducing 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, fairness, and avoidance of externalities. Such "universal" values have the key characteristic that they apply irrespective of the context or identity of the target person. On the other hand, people also assign moral meaning to "communal" concepts, such as loyalty, betrayal, respect, and tradition. These values differ from universal ones in that they are tied to certain relationships or groups.[1] 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 communal and universal values is widely accepted among psychologists and at the core of much contemporary psychological research.

There are strong reasons to hypothesize that heterogeneity in moral values may help understand the outcomes of elections: a rich body of sociological work forcefully argues that many, particularly those forming the white rural working class, are deeply

[1]The terminology of "universal" and "communal" implies no value judgment. This paper is not about who is "more" moral, only about *heterogeneity* in the types of values that people emphasize.

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 proposes that voting decisions partly reflect the match between voters' and politicans' moral values. Just like in canonical political economy models, voters might pick candidates by minimizing the distance between their preferred and the politician's actual platform, except that, in this paper, these platforms are moral in nature. To investigate this hypothesis, 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 types of morality. "Demand side," on the other hand, refers to the notion that people may vote for candidates who appeal to their own moral values.

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 universal 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 universal 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 communal vs. universal moral values*. 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 communal and universal 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 their local communities relative to nationwide charities; and (ii) it is weakly – if at all – correlated with variables such as income, education, altruism, or

a proxy for racism, which suggests that the structure of moral values picks up novel variation.

To build intuition for the connection between the structure of morality and politics, the analysis begins by studying the evolution of 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 communal over universal 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 universal moral concepts, a trend that was considerably weaker among Republicans. At the same time, since the early 2000's, communal concepts experienced a rebound in political language, a trend that continues to this date and is visible for both parties.

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 appeal relative to past candidates 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, i.e., the set of candidates for which the American Presidency Project gathered a dataset of almost $17,000$ campaign documents. The results document that Trump's moral language is more communal than that of any other presidential nominee in recent history. Trump is also more communal than other Republicans, both in the full set of candidates and among the 2016 primary contenders. Moreover, the difference in moral appeal between Trump and Hillary Clinton is particularly pronounced, also relative to earlier candidate pairs. The analysis also examines dynamics over the election season: Trump's moral appeal is initially very communal, yet his rhetoric becomes considerably more universal after he wins the Republican nomination. Similarly, Hillary Clinton's language becomes much more communal after she wins the Democratic primaries. These patterns suggest that the supply of morality is at least partly strategic.

Still, overall, the supply-side analysis predicts that voting for Trump should be positively correlated with holding communal moral values. Through a pre-registered nationally representative survey ($N \approx 4,000$), the analysis documents that this prediction is borne out in the data regarding (i) voting in the presidential 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 communalism is associated with an increase

in the probability of voting for Trump in the primaries of about nine percentage points. At the extensive margin of voting, people with stronger communal values were also differentially more likely to turn out in the presidential election, relative to their turnout in prior elections. All of these correlations exploit variation within states or counties and hold conditional on a rich set of observables that proxy for voters' economic incentives.

I benchmark these results against more traditional variables that are correlated with voting for Republicans vs. Democrats, such as a proxy for lifetime income, religiosity, population density, or attitudes about the size of government, pro-environmentalism, crime policies, and gun control. In these analyses, moral values are much more predictive of Trump's success relative to other Republicans than any of the other variables.

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 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. By linking this county-level index to official vote records, the analysis does not rely on self-reports of voting decisions.

Across counties, the relative importance of communal values is again strongly 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. Along the extensive margin, counties with more communal values experience higher turnout in 2016 compared to previous elections, both in the presidential election and in the Republican primaries. These results all hold when I exploit geographically fine-grained variation across counties within commuting zones. In addition, the correlations all hold up when controlling for county-level observables, including local income, unemployment, trade exposure to China, or an index of racism. Finally, the analysis documents that the relationship between moral values and voting for Trump is not driven by reverse causality: when contemporary county-level moral values are instrumented with moral values from a period when Trump was not even politically active

(2008–2012), moral values are still strongly predictive of Trump's vote share.

In the next step, the paper studies the relationship between moral values and voting across candidates in all 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 communal 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 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 communal moral appeal is larger between Romney and Obama in 2012 than between McCain and Obama 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 more communal than Marco Rubio and John Kasich, and his county-level vote share is indeed more positively correlated with the relative prevalence of moral communalism. In 2012, Rick Santorum is very communal and his vote share is positively correlated with communal values; opposite patterns hold for Newt Gingrich. In 2008, John McCain and Ron Paul are both less communal in their moral rhetoric than their Republican competitors, and their county-level vote shares are negatively correlated with moral communalism. These results show that the methodology of connecting supply- and demand-side analyses of morality developed in this paper is generalizable to contexts other than Trump. At the same time, the results also suggest that heterogeneity in morality is a better predictor of vote shares for Republican candidates than for Democrats.

Up to this point, all analyses treat moral values as fixed. However, moral values may vary over time, potentially in different ways across space or political groups. To study this issue and its implications for voting patterns, I make use of the large-scale longitudinal survey dataset from www.yourmorals.org. In these data, Americans have become considerably more communal 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 the political spectrum and across diverse regions, but is especially pronounced in relatively rural areas and for political conservatives, hence generating "moral polarization" across space and ideological backgrounds.

To gauge the impact of changes in values on voting patterns, I employ difference-in-difference analyses that link differential changes in moral values across counties over time to changes in vote shares. In these analyses, counties that became more communal between 2008 and 2016 also experience significantly larger increases in Republican vote shares. Thus, not only does the level of moral values predict the level of vote shares,

but changes in values also predict changes in vote shares. This suggests that 2016 was indeed "special" in that the electorate exhibited unusually communal values, but this appears to be part of a more general trend rather than a "Trump effect."

This paper ties into a stream of recent papers on the rise of populism (Bursztyn et al., 2017; Guiso et al., 2016, 2017; Cantoni et al., 2017; Autor et al., 2016), although this literature has not been concerned with moral values. More generally, the paper relates to the recent empirical literature on behavioral or cultural factors in political economy (Alesina and Giuliano, 2011; Ortoleva and Snowberg, 2015; Fisman et al., 2015; Perez-Truglia, 2016; Chen and Yang, 2017; Passarelli and Tabellini, 2017), as well as work on polarization (Gentzkow et al., 2016; Desmet and Wacziarg, 2018; Bertrand and Kamenica, 2018). Morality has attracted recent interest in the literature on behavioral economics (e.g., Bursztyn et al., forthcoming; Kranton et al., 2016) and cultural economics (Greif and Tabellini, 2017; Enke, 2017), yet this work is not concerned with voting. Relative to all these papers, the key contribution here is to introduce a core concept of 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.[2]

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

The idea underlying this paper is that voters are drawn to candidates that have moral values that are similar to their own. Suppose that both voters i and candidates j have moral types θ. Types are latent and will be estimated below using a questionnaire for voters and a text analysis for politicians. Voters may also have more traditional preferences over the policy space, as determined by their economic incentives.

In the spirit of canonical models in the literature (Meltzer and Richard, 1981), suppose that voter i's utility from j getting elected is

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

[2]In political science, researchers have linked the 2016 election to concepts including status loss (Gidron and Hall, 2017) and authoritarianism (MacWilliams, 2016). Inglehart and Norris (2016) argue for a more general "cultural backlash."

where the first term means that the voter derives disutility from having a leader whose moral framework differs from their own. λ measures the importance of morality in voting. x_i are additional individual characteristics that may affect the utility i derives from j, such as their economic incentives.

The vote v_i is assumed to be $v_i = \arg\max_j u_{i,j}$, so that voters are more likely to vote for candidates that are close to them in the moral space. While very stylized, this simple framework highlights the need to study the supply and demand side of morality in combination. In Section 7, I return to estimating this model.

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*!"). For years, the psychological study of morality was largely restricted to concepts that are closely tied to normative analyses of morality, such as justice, rights, compassion, fairness, and avoidance of externalities. Such values are said to correspond to moral universalism in that these values apply irrespective of the context or person under consideration. More recently, moral psychologists have begun to emphasize that – descriptively – people also assign moral relevance to communal concepts such as loyalty, betrayal, respect, obedience, and hierarchy that are relationship- or group-specific in nature (Haidt, 2012).[3]

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.

[3]Cultural and evolutionary psychologists argue that these communal values relate to humans' long tradition of living in small groups, and recent empirical research indeed suggests that communal moral values emerged to support small-scale cooperative behavior in social dilemmas (Enke, 2017).

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 universal 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 universal and communal ones.

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 communal and universal 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). 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 et al. (1998) and Etzioni (1994). What sets MFT apart from alternative frameworks is not just its popularity, but also the fact that it lends itself to quantitative analyses through its analytical tools: the Moral Foundations Questionnaire and the Moral Foundations Dictionary.

Moral Foundations Questionnaire. Table 1 presents a stylized version of the 24 survey items underlying the universal and communal MFQ foundations. Appendix E 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.[4] The MFD is partly based on the 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

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

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 E for details.

keywords of the 2008–2016 presidential candidates are: nation*, leader*, care, unite*, secur*, families, fight*, war, communit*, together, family, and law; see Appendix G. Appendix F contains the entire MFD.

3.2 Construction and Validation of Moral Values Index

3.2.1 Derivation of Index

This section describes the steps taken to construct a one-dimensional index of heterogeneity in moral values and to validate this analytical tool. Aggregating the various MFQ survey items / MFD target words has the benefit that it reduces multiple testing concerns; averages out measurement error; and aggregates up concepts that may differ in subtle ways that are relevant to psychologists, but not to economists.

A moral values index was derived and validated through a tailored, nationally representative pre-registered internet survey of $N = 4,011$ Americans through *Research Now*.[5] 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 communal moral values*

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

as the simple difference between universal and communal values:

$$\text{Rel. imp. communal values} = \text{In-group} + \text{Authority} - \text{Care} - \text{Fairness} \quad (2)$$

By construction of the MFQ foundations, this summary statistic amounts to summing responses to all communal questions and then subtracting responses to all universal questions (all questions are coded such that higher values indicate stronger agreement). This index purely measures heterogeneity in the structure of morality, not in its level.

While psychologists provide ample reasons for the conceptual distinction between communal and universal values, the summary statistic is validated in two ways: (i) by verifying that it endogenously emerges from the response patterns in the MFQ and (ii) by showing that it is predictive of easily interpretable economic behaviors.

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 negative weights (−0.50 and −0.53, respectively), while in-group / loyalty and authority / respect enter with positive weights (0.53 and 0.44, respectively).[6] Thus, the MFQ data endogenously reveal a structure that corresponds to the construction of the summary statistic.[7]

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 outcomes. Appendix H 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 local firefighters and United Way Worldwide; (ii) the difference between self-reported monetary donations to local entities (churches, firefighters, local libraries, etc.) and to more "global" entities (non-profit organizations such as Feeding America or United Way Worldwide) over the past 12 months; (iii) the difference between hours volunteered to local entities and global entities over the last month; and (iv) the extent to which people prefer that

[6] 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).

[7] 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 12 in Appendix C.

taxes for schools be collected locally and redistributed only among local schools (as opposed to taxes being collected and redistributed at the federal level).

Table 11 in Appendix C documents that all of these variables are strongly and significantly correlated with the relative importance of communal moral values, also conditional on a rich set of covariates. That is, people with stronger communal values allocate more money to local firefighters, donate and volunteer more to local charities, and favor taxation and redistribution at the local 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.

I construct the same individual-level index of the relative importance of communal 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.[8] 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, the shrunk moral values of county i, θ_i^s, are computed as a convex combination of observed average moral values in county i, θ_i, and the mean $\bar{\theta}$ of the county sample averages:

$$\theta_i^s = w_i \theta_i + (1 - w_i)\bar{\theta} \tag{3}$$

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

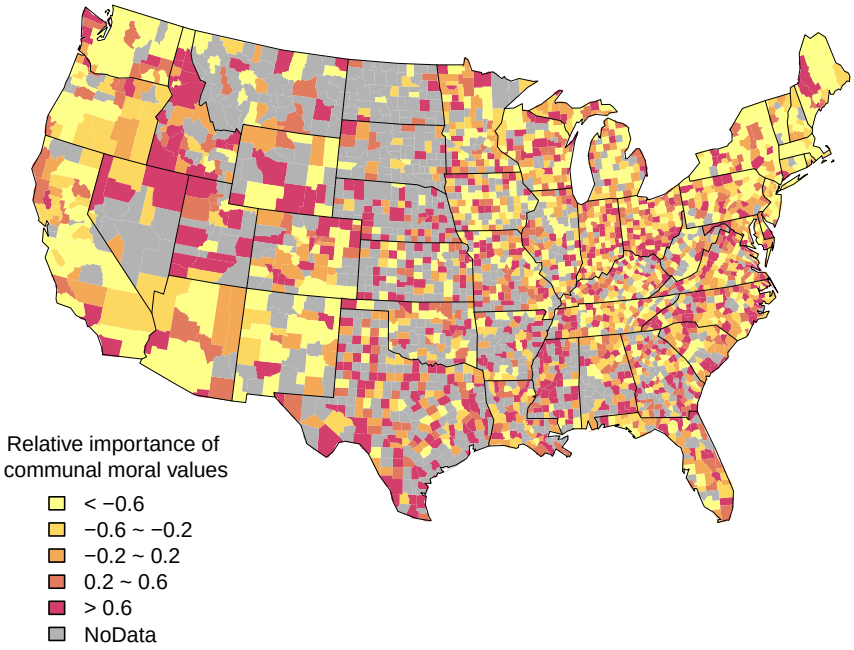

Figure 1: Relative importance of communal moral values at county level

where the county-specific weights are given by

$$w_i = \frac{Var(\theta_i) - E[se_i^2]}{Var(\theta_i) - E[se_i^2] + se_i^2} \tag{4}$$

Here, $Var(\theta_i)$ is the variance of the county means and se_i the standard error of θ in county i. This shrinkage procedure has an explicit 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 Correlates and Temporal Stability of Moral Values

Table 2 reports the Pearson correlations between moral values and various individual characteristics in the nationally representative *Research Now* survey. The relative importance of communal values is essentially uncorrelated with both educational attainment (measured in six categories) and an experimentally validated survey measure of altruism (Falk et al., forthcoming). In addition, communal values are positively correlated with income (11 brackets), age, being male, religiosity (eleven-point scale), and low population density.

Investigating correlations at the county level allows for the linkage of moral val-

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

	Correlation between relative importance of communal moral values and:						
	Age	Female	Income	Educ.	Religiosity	Pop. density	Altruism
Raw corr.	0.10^{***}	-0.14^{***}	0.07^{***}	-0.01	0.23^{***}	-0.13^{***}	0.02
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 communal moral values in the nationally representative *Research Now* survey ($N = 4,011$). The second row reports partial correlations conditional on county fixed effects. Income = income brackets (11 steps). Education = six steps. Religiosity = eleven-point scale. Population density is constructed from ZIP code level log population density and a ten-step variable of self-reported city size, see Appendix H. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

ues 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 22 in Appendix D shows the correlations between the county-level relative importance of communal moral values and (i) the unemployment rate, (ii) changes in county-level household income since 2000, (iii) trade exposure to China, and (iv) the racism index[9] of Stephens-Davidowitz (2014). All of these correlations are small in size, and almost always statistically insignificant.

Finally, the county-level variation depicted in Figure 1 appears to reflect temporally somewhat stable variation: as I document in Figure 12 in Appendix A, county-level values computed separately for respondents in 2008–2012 and in 2013–2018 are strongly correlated with one another once counties with few respondents are ignored ($\rho = 0.84$). Of course, this does not preclude that values *do* change over time to some extent; Section 8 analyzes this issue in detail.

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 communal moral terminology that closely corresponds to the measure of the relative importance of communal 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 words within a given foundation that refers

[9]This 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 relative to other Republicans (Stephens-Davidowitz, 2014). The racism variable was assigned to all counties in a DMA.

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 communal moral terminology was 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.

The summary statistic is then given by

$$\text{Rel. freq. comm. terminol.} = \frac{\#\text{ In-group } + \#\text{ Authority } - \#\text{ Care } - \#\text{ Fairness}}{\text{Total number of non-stop words}} \tag{5}$$

where

$$\#\ i = \text{Ave}\Big[\text{Ave}_i^{\text{vices}}(\text{word freq.}),\ \text{Ave}_i^{\text{virtues}}(\text{word freq.})\Big]$$

Note that this summary statistic has two interpretations. First, it is the direct analogue of the index of the relative importance of communal values on the demand side in equation (2), normalized by text length. Second, it can also be understood as relative importance of communal values, weighted by the overall morality of the text. To see this, denote by Δ the difference between the frequency of communal and universal rhetoric (the numerator in equation (5)), by s the sum of communal and universal word usage (a measure of the overall emphasis on morality in a text), and by l overall text length. Then, the index can also be written as

$$\text{Rel. freq. comm. terminol.} = \frac{\Delta}{s} \times \frac{s}{l}$$

This is intuitively meaningful because the ratio of Δ and the total usage of moral words should receive a higher weight if the ratio of moral words and text length is higher: trivially, if, say, 100% of all moral words are communal, then this should have a bigger effect on the audience if moral words as a whole make up a larger fraction of the text.

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, data from the text of the *United States Congressional Record* that was made publicly available in a cleaned form by Gentzkow et al. (2016) were used, see Appendix H. The data were restructured 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.[10] APP draws primarily on materials posted on candidate websites. In total, the data consist of 45 candidates and 16,698 campaign documents with an average length of 671 words.[11] In the analysis, each observation is a campaign document. Because the documents exhibit significant variation in length, the moral content of these documents is measured with differential precision. To account for this, the analysis weights each document by the square root of the total number of non-stop words.[12]

4 Supply Side: Moral Values in Political Rhetoric

4.1 Cross-Party Variation in Morality Over Time

To build intuition for the relationship between morality and politics, the analysis begins by briefly studying the evolution of cross-party differences in moral appeal over time since WWII. Figure 2 illustrates the results from computing the relative frequency of communal moral terminology in speeches in the U.S. Congress across speeches in a five-year interval. Three trends stand out. First, across both parties, the relative frequency of communal moral rhetoric experienced a long and steady decline 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 universal in this period.[13] Second, over roughly the same period, Democrats and Republicans polarized in

[10]Coverage is sparse for 2004 and non-existent for 2000. The "The Annenberg/Pew Archive of Presidential Campaign Discourse" has data on elections held between 1952 and 1996, but only for the presidential nominees.

[11]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.

[12]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 communal 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 communal moral language. When we restrict attention to those document halves that have at least 100 non-stop words each, the correlation is $\rho = 0.52$.

[13]Tables 28–31 in Appendix G.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.

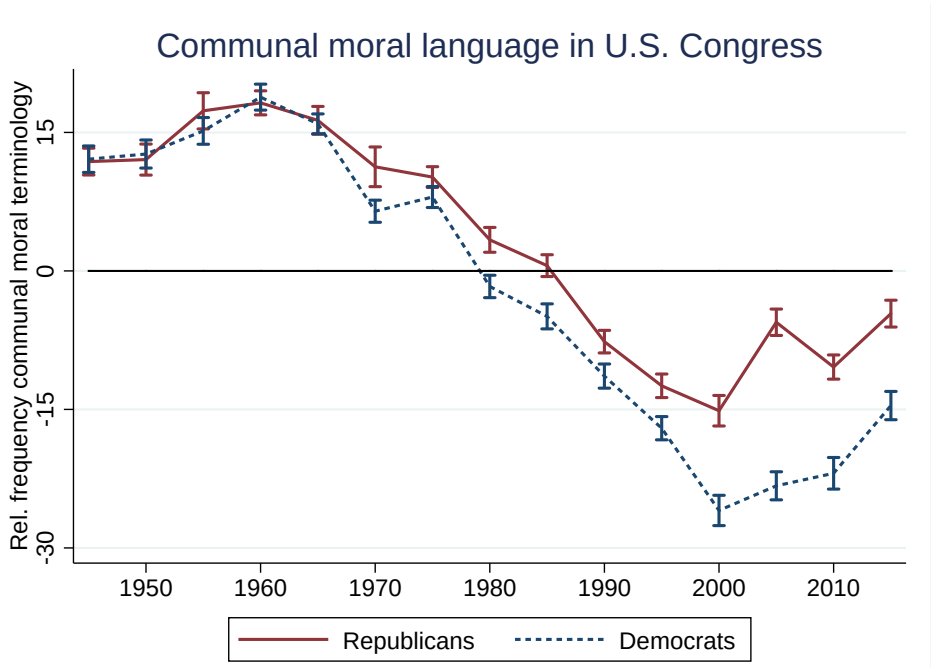

Figure 2: Relative frequency of communal moral rhetoric in the U.S. Congress, 1945–2016. The straight red line plots the average relative frequency of communal rhetoric across all speeches by Republicans, along with standard error bars (clustered at the candidate level). The dashed blue line represents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

their moral appeal. While politicians from both parties became increasingly universal in their expressed values, this trend was more pronounced among Democrats. Thus, today, Republicans are substantially more communal in their moral appeal than Democrats. 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 increases in communal morality (and increasing differences between Republicans and Democrats) in Section 8.

4.2 Classifying Individual Presidential Candidates

Figure 3 illustrates the moral appeal of the 2008–2016 presidential candidates by plotting the average relative frequency of communal terminology by (sets of) candidate(s) in the APP project data. In this figure, the document-level summary statistic of 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. The figure reveals the same cross-party differences as those established above, yet there is significant heterogeneity also across politicians

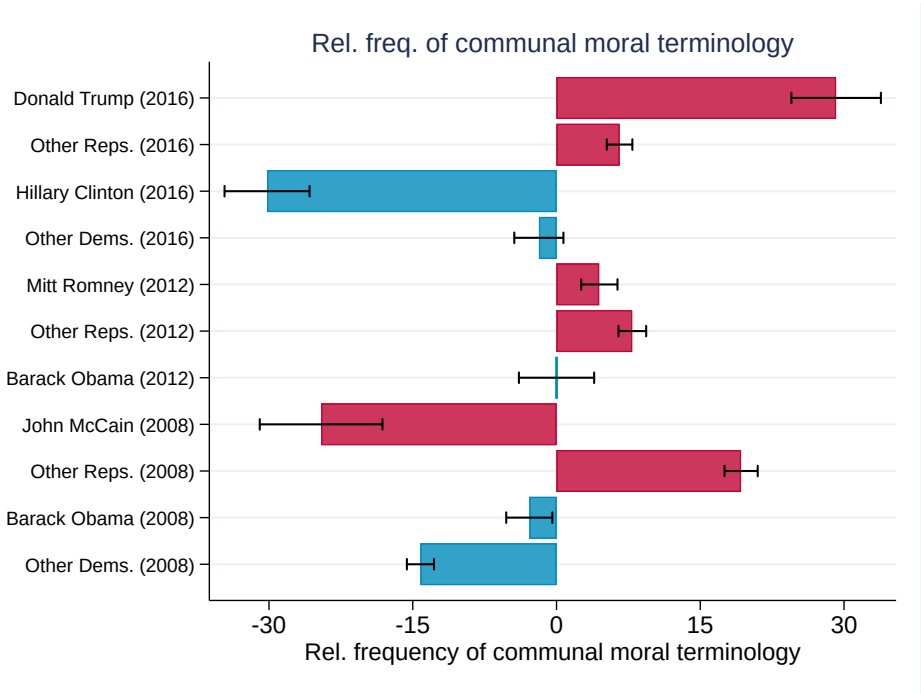

Figure 3: Relative frequency of communal moral terminology in the primaries. The bars depict averages across documents, along with standard errors. The moral values index is residualized from document type FE and campaign day FE (where the first campaign day is defined as January 1st of the year prior to the respective election). 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 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.

from the same party. In particular, Trump has a strong communal moral appeal, also relative to other Republicans. This is especially true when comparing Trump to the other presidential nominees Romney, McCain, Clinton, and Obama. An additional interesting feature is the large difference in communal rhetoric between Trump and Clinton, which is much larger than the difference between Romney and Obama as well as between Obama and McCain. I will return to this observation in Section 7.

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 drawback that some candidates only competed in the primaries and hence presumably responded to their intra-party competition to a greater degree than those politicians who turned out to be presidential nominees. In the data, this turns out to strongly be the case for Trump. To see this, Figure 4 analyzes how moral rhetoric evolves in the course of the 2016 election season.[14] The relative frequency of communal 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.

[14]Figure 14 in Appendix A shows the trends for the other candidates.

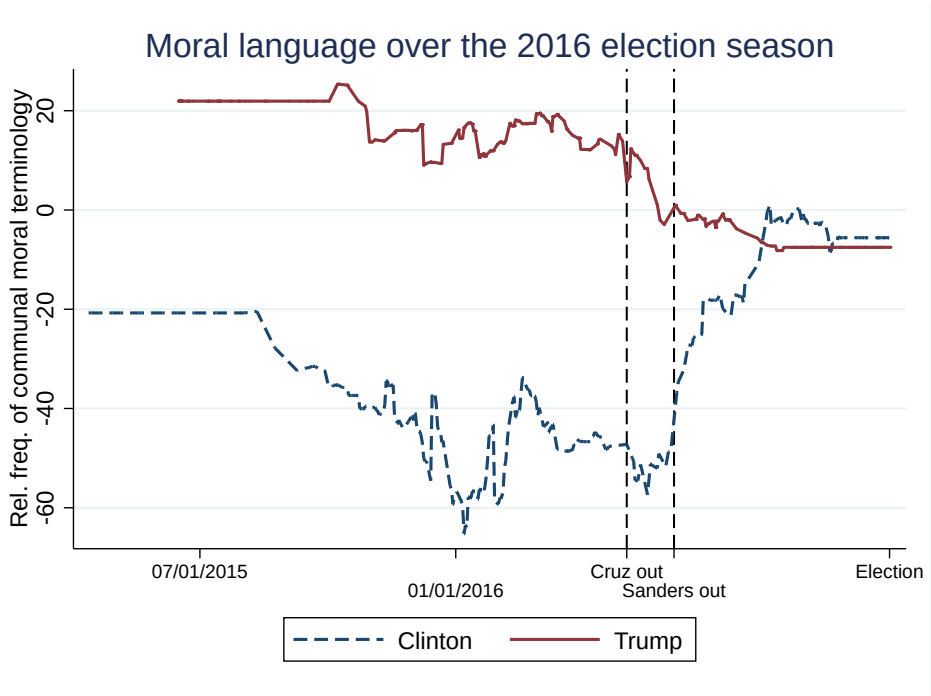

Figure 4: Relative frequency of communal moral terminology over the course of the 2016 election season. The relative frequency of communal moral rhetoric at any given point in time is computed using a $k = 120$ nearest neighbor algorithm, i.e., the 120 campaign documents closest to a given date. The 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 moral values index is residualized from document type FE. Each document is weighted by the square root of the total number of non-stop words. The index of the relative frequency of communal moral rhetoric is standardized into a z-score and multiplied by 100.

Confirming the results from above, the figure shows that Trump's moral appeal is initially very communal. However, his moral language changes substantially around when he wins the Republican primaries, i.e., his language becomes much more universal when Ted Cruz drops out. Similarly, Clinton's language exhibits a jump in communal appeal when she wins the Democratic nomination. Both of these trends may reflect politicians' understanding that their marginal voter is more centrist in the general election than in the primaries. This is hence suggestive that at least part of the variation in moral appeal across politicians is strategic.

Despite the fact that Trump becomes more universal 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 13 in Appendix A replicates Figure 3 based on all campaign documents. Table 3 investigates these patterns through regression analyses. Here, the analysis includes all documents from both the primaries and the general elections. In the table, all variables except for binary ones are transformed into z-scores. The table confirms that Trump's language exhibits a high relative frequency of communal moral

Table 3: Politicians' moral rhetoric

	Dependent variable: Rel. frequency of communal moral terminology					
	Sample:					
	All candidates			Pres. nominees	GOP	GOP 2016
	(1)	(2)	(3)	(4)	(5)	(6)
1 if Trump	17.3***	18.7***	12.0***	29.4***	27.0***	26.3***
	(4.0)	(4.3)	(4.6)	(4.8)	(4.2)	(7.0)
Log [# words]		-8.8***	-8.0***	-5.7***	-7.1***	-6.4***
		(1.0)	(1.0)	(1.7)	(1.1)	(2.2)
Overall degree of morality		-24.4***	-24.1***	-31.4***	-12.0***	-11.1***
		(2.1)	(2.1)	(3.9)	(2.0)	(3.1)
Flesch reading ease score		-7.2***	-7.2***	-6.4***	-7.1***	-11.0***
		(1.1)	(1.1)	(1.5)	(0.9)	(1.8)
1 if Republican			16.4***	-6.1**		
			(1.9)	(2.8)		
1 if presidential nominee			-8.1***		-11.9***	
			(2.2)		(2.5)	
Document type FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	No	Yes	Yes	No	No	Yes
Campaign day FE	No	Yes	Yes	Yes	Yes	Yes
Observations	16698	16698	16698	5372	10822	3455
R^2	0.02	0.17	0.18	0.26	0.17	0.28

Notes. WLS estimates, robust standard errors in parentheses. The dependent variable is the relative frequency of 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 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 communal terminology in eq. (5), except that the numerator is given by the overall frequency of MFD words. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

terminology. Columns (1)–(3) establish this in the full set of candidates and campaign documents, while columns (4)–(6) focus on various sub-samples of interest, i.e., all presidential nominees, all Republicans, and all 2016 Republicans. The binary Trump indicator suggests that Trump's moral rhetoric is about 17% of a standard deviation more communal than that of the average candidate. Among others, these analyses also control for the overall emphasis on morality, measured by the relative frequency of all MFD words combined. Based on the framework in Section 2, these patterns predict that the relative importance of communal values should be predictive of voting for Trump.

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 dependent variables (with one minor exception, which is specifically highlighted below) and the sample size.[15] *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 10 in Appendix C describes the sample characteristics in detail.

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. 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.

The main 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, i.e., Romney and McCain; (iii) voting for Trump in the 2016 Republican primaries; and (iv) the increase in the propensity to vote in the presidential election between 2016 and prior elections. All of these variables, except for the change in turnout, were pre-registered. Unfortunately, the possibility of studying both the intensive and extensive margin of voting only occurred to me after I had collected all data.

The analysis links these outcome variables to the relative importance of communal values, which is constructed as described in Section 3.2. This index is standardized into a z-score.

5.2 Simple Economic Benchmark

In its most basic form, economic theory postulates that voting decisions are a function of rational self-interest only (Meltzer and Richard, 1981). I assess the importance of moral values for voting decisions relative to economic factors in two ways: (i) through kitchen sink regressions that control for variables that are plausibly determinants of

[15] 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.

economic incentives; and (ii) by benchmarking the results against a rough measure of lifetime income.

First, I assess the sensitivity of the results to controlling for year of birth fixed effects, gender, income bracket fixed effects (ten categories), educational attainment fixed effects (six categories), race fixed effects (six categories), employment status, and local population density. Of course, "controlling" for individual-level characteristics 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. Thus, these analyses are best viewed as sensitivity checks.

Second, motivated by the framework in Section 2, I benchmark the magnitude of the relationship between moral values and voting against the effect of economic incentives, proxied by lifetime income. In terms of the utility function in equation (1), this amounts to gauging λ. 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 in the benchmarking exercise. 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).

5.3 Results

Figure 5 summarizes the relationship between voting Republican in the 2008–2016 presidential elections and moral values. Each red dot depicts an OLS point estimate of the relative importance of communal moral values. In these regressions, the dependent variable is a binary indicator that equals 100 if a respondent voted for the respective Republican candidate, and zero if they voted for another candidate. The blue squares depict the corresponding point estimates for regressions that condition on the full set of controls discussed above, plus county fixed effects. The results show that communal moral values are strongly correlated with the propensity to vote Republican. The point estimates suggest that a one standard deviation increase in the relative importance of communal values is associated with an increase in the probability of voting Republican by $17-21$ percentage points. Crucially, this relationship is much more pronounced for the 2016 election than for 2008 and 2012, i.e., we see a stronger connection between moral values and voting for Trump than was the case with prior Republican candidates.

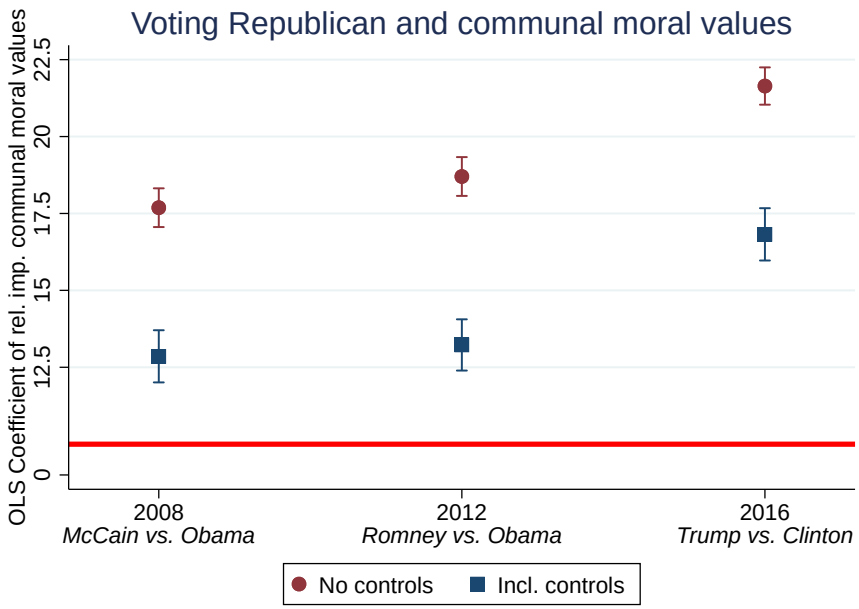

Figure 5: Voting Republican and the relative importance of communal moral values. The figure depicts the OLS coefficient and standard error from a regression of a binary indicator of voting for the Republican presidential candidate on the relative importance of communal moral values. The red dots correspond to a regression without controls and the blue squares to regressions that include county FE, year of birth FE, gender, local population density, employment status, income bracket FE, educational attainment FE, and race FE; see Table 4. The red line indicates a break in the scale of the y-axis.

Table 4 confirms these patterns econometrically through a series of OLS regressions. Each specification includes (at least) state fixed effects for comparability because in the primaries the set of candidates differs across states.[16] Columns (1)–(3) document that the relative importance of communal moral values is significantly related to voting for Trump. Column (2) benchmarks the result against the predictive power of lifetime income, which is also standardized into a z-score. Consistent with standard findings in the literature, higher income is associated with a higher probability of voting Republican. At the same time, the quantitative magnitude of the regression coefficient is much smaller (about one tenth) than that of moral values. In addition, moral values explain almost 20% of the variation in voting Republican, whereas log lifetime income explains less than 1%. Column (3) provides a sensitivity check by running a kitchen sink regression with the covariates discussed above, including county fixed effects. To account for potentially non-linear income patterns, this specification includes income bracket fixed effects (which is available for all respondents) as opposed to expected lifetime income.

While columns (1)–(3) could be interpreted as studying 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. First, Columns (4)–(6) document that

[16] Still, the results are almost identical without state fixed effects.

moral values are also significantly related to the *difference between voting for Trump and past Republican presidential candidates* (Romney and McCain) in the general election.[17] The logic behind this regression is that it takes out the 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 presidential candidates. Second, columns (7)–(9) show that moral values are likewise related to voting for Trump in the GOP primaries. Quantitatively, an increase in moral communalism by one standard deviation is associated with an increase in voting for Trump in the primaries of about ten percentage points.[18] Again, in columns (5) and (8), estimated lifetime income is much less predictive of voting for Trump (relative to other Republicans) than moral values. The negative and statistically significant coefficient estimates also suggest that voting for Trump is not a low-income phenomenon.

Finally, columns (10)–(12) extend the analysis to the extensive margin of voting, demonstrating that people with stronger communal moral concerns were indeed differentially more likely to vote relative to their average turnout in 2008 and 2012. The point estimate suggests that a one standard deviation increase in the relative importance of communal values is associated with an increase in the probability of turning out of about 1.5 percentage points. Thus, it appears as if Trump's popularity with voters of strong communal moral concern induced a shift along both the extensive and intensive margins of voting.[19]

Across the different dependent variables, the coefficient estimates of the relative importance of communal values are very stable and often even larger in the more conservative estimations that include individual characteristics and county fixed effects. Following Altonji et al. (2005), this indicates that the bias that would have to result from omitted unobservables to explain away the results would have to be *much* larger than the bias that results from omitting county fixed effects and the rich set of individual characteristics. These results are perhaps particularly noteworthy because the

[17]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 13 in Appendix C, 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.

[18]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. In Table 21 in Appendix C, I conduct reclassification exercises to investigate the sensitivity of the results.

[19]Tables 17 through 20 in Appendix C replicate the analysis in Table 4, separately for each of the 24 survey items from which the MFQ foundations are derived. The results document that 39 out of 48 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 39 items, 31 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			Turnout in pres. election		
	1 if voted for Trump			Δ [Trump – Ave. GOP]			1 if voted for Trump			Δ [2016 – Ave.]		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rel. imp. of communal values	21.1***	21.7***	16.8***	3.24***	3.53***	3.46***	10.1***	10.1***	9.06***	1.52***	1.19**	1.46**
	(0.62)	(0.66)	(0.85)	(0.50)	(0.54)	(0.77)	(1.23)	(1.34)	(2.06)	(0.48)	(0.50)	(0.62)
Log expected lifetime income		2.80***			-2.83***			-3.43**			-0.091	
		(0.88)			(0.85)			(1.36)			(0.62)	
1 if female			-2.42			0.69			-0.53			0.49
			(1.99)			(2.02)			(3.84)			(1.45)
Population density			-5.60***			-1.49			-3.46			-2.40**
			(1.61)			(1.75)			(3.02)			(1.19)
1 if employed full-time			0.48			-1.42			8.95*			1.14
			(2.45)			(2.39)			(4.93)			(1.74)
State FE	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No
County FE	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Year of birth FE	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Race FE	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Income bracket FE	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Education FE	No	No	Yes	No	No	Yes	No	No	Yes	No	No	Yes
Observations	3471	2884	3422	2973	2484	2929	1888	1551	1852	4011	3249	3949
R^2	0.22	0.25	0.57	0.03	0.04	0.42	0.07	0.08	0.55	0.01	0.02	0.38

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 otherwise. 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 (10)–(12), 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 H for a description of the covariates. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

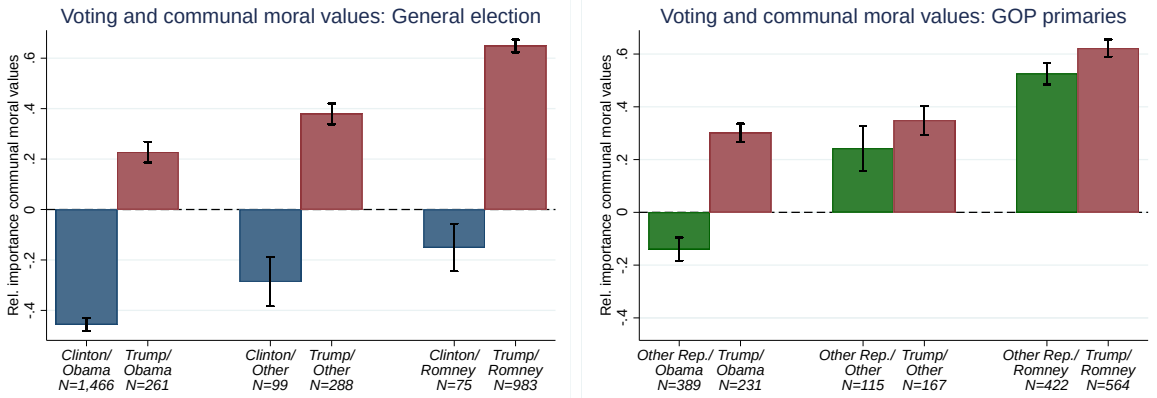

Figure 6: Moral values by type of voter. The bar graph depicts the average moral communalism index of all respondents that report a given voting pattern. The left panel focuses on voting behavior in the 2016 presidential election, conditioned by voting in the 2012 presidential election. Here, the first 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.

coefficient estimates are very stable even though the covariates explain a large share of the variation, in particular state and county fixed effects. Of course, one should keep in mind that some of these "controls" may themselves generate some of the variation in moral values to begin with.

A different way to appreciate these results is to compute average moral values across groups of respondents that exhibit a certain voting pattern. This is done in Figure 6. 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 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 are much more communal in their morality than Clinton voters.

The right panel of Figure 6 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 stronger emphasis on communal moral values than those who voted for other GOP candidates.

5.4 Further Benchmarking Against Traditional Variables

Prior literatures have identified other variables that are predictive of voting Republican vs. Democrat. Thus, a perhaps helpful way of illustrating the predictive power of the structure of moral values is to benchmark the results also against these more traditional variables that are known to be related to voting patterns. For this purpose, I focus on (i) an experimentally validated survey measure of altruism (Falk et al., forthcoming); (ii) religiosity (measured on an eleven-point scale); (iii) population density; and (iv) a summary statistic of political 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; see Appendix H.

The analysis proceeds in two steps. I first document that the aforementioned variables are "meaningful" in that they are indeed predictive of voting *Republican vs. Democratic*. Second, I show that these variables are much less predictive of voting for Trump *relative to other Republicans* than the structure of moral values.

Figure 7 illustrates the results. The left panel depicts the OLS coefficients from multiple regressions of a respondent's average propensity to vote Republican in 2008–2012 on the various explanatory variables. Each regression controls for the full set of covariates discussed above, including county fixed effects, as well as the moral values index. For ease of interpretation, all explanatory variables are standardized into z-scores. Consistent with previous findings, low altruism, political conservatism, religiosity, and low population density are all significantly correlated with voting Republican, also conditional on the structure of moral values. For example, the summary statistic of political conservatism exhibits a raw correlation of $\rho = 0.49$ with the average propensity to vote Republican.[20]

The right panel follows an analogous logic, except that the dependent variable is a binary indicator of whether a respondent voted for Trump in the 2016 primaries. Thus, in contrast to the left panel, the right panel evaluates the correlates of Trump's success relative to other Republicans. Here, the relative importance of communal moral values is a much stronger predictor of voting patterns than political conservatism, religiosity, or population density. Figure 15 in Appendix A shows that very similar patterns hold when we consider the difference in an individual's propensity to vote for Trump and past Republican candidates in the general election as dependent variable.

Table 5 presents corresponding regression results. Columns (1)–(5) confirm that all aforementioned variables are significantly related to voting for a Republican and hence appear to be measured in a meaningful way. However, conditional on moral values, the relationship between these variables and voting for Trump relative to other Republicans

[20]The correlation between the conservatism and moral values variables is $\rho = 0.46$.

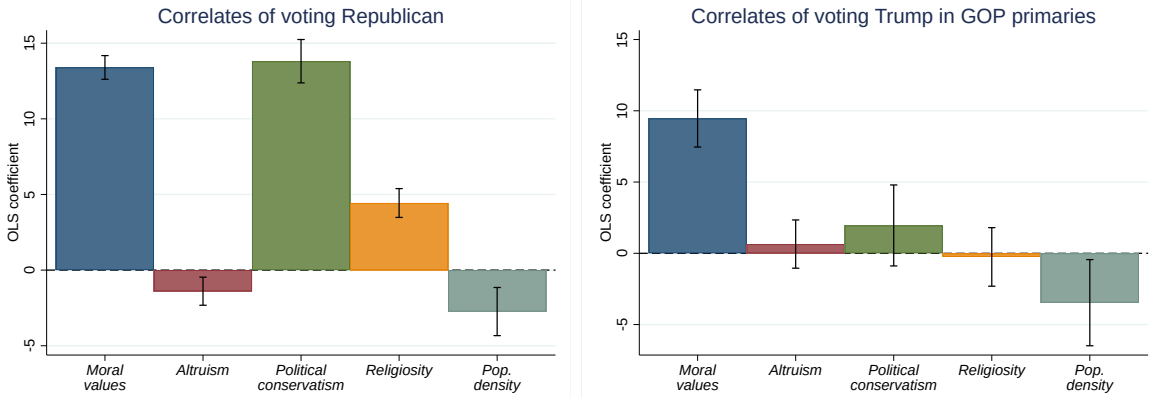

Figure 7: Correlates of voting decisions. The left panel depicts the OLS coefficients and standard errors from multiple regressions of an individual's average propensity to vote for Romney and McCain in the 2008–2012 general elections on various explanatory variables, conditional on voting. The right panel follows an analogous logic, except that the dependent variable is a binary indicator of whether a respondent voted for Trump in the GOP primaries (again conditional on voting). Each bar reflects a separate regression that includes the respective variable, the moral values index, and controls as regressors. Controls include county FE, year of birth FE, gender, employment status, income bracket FE, educational attainment FE, and race FE. All explanatory variables are standardized into z-scores.

is very weak. This is true both for the GOP primaries and for the difference between Trump and earlier Republicans in the general election; see columns (6)–(15). Thus, these traditional variables appear to explain very little of Trump's relative success.[21] In contrast, moral values continue to be significantly related to voting for Trump, and the OLS coefficients are again very similar in magnitude to those in Table 4.[22]

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

[21] A potential concern is that these variables are measured with more error than moral values. Appendix C.4 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.

[22] 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. Communal 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.

Table 5: Moral values and voting: Benchmarking

	Dependent variable:											
	Votes											
	Ave. GOP (2008 – 2012)				Δ [Trump – Ave. GOP] in general election				1 if Trump in GOP primaries			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rel. imp. of communal values	13.5***	7.76***	12.2***	13.1***	3.39***	2.61**	3.23***	3.46***	9.48***	11.2***	9.91***	9.06***
	(0.78)	(1.18)	(0.83)	(0.79)	(0.76)	(1.22)	(0.82)	(0.77)	(2.01)	(2.86)	(2.06)	(2.06)
Altruism	-1.39				1.12				0.65			
	(0.93)				(1.03)				(1.69)			
Political conservatism		13.8***				1.48				1.95		
		(1.43)				(1.47)				(2.84)		
Religiosity			4.44***				0.66				-0.25	
			(0.95)				(1.02)				(2.05)	
Population density				-2.74*				-1.49				-3.46
				(1.59)				(1.75)				(3.02)
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3148	2025	3078	3100	2973	1932	2904	2929	1888	1256	1853	1852
R^2	0.59	0.69	0.60	0.60	0.42	0.51	0.42	0.42	0.54	0.64	0.54	0.55

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 H for a description of all variables. Controls include year of birth fixed effects, gender, educational attainment fixed effects, income bracket fixed effects, and race fixed effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

different, non-representative, dataset on moral values, but makes use of official voting records. Perhaps most importantly, 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.

The voting data stem from "Dave Leip's Atlas of US Presidential Elections" (Leip, 2004). Appendix H describes all covariates and their sources in detail.

Table 6 reports the results for the 2016 election. The county-level average relative importance of communal values is strongly correlated with Trump's vote share in the presidential election (the raw correlation is $\rho = 0.31$), just as in the individual-level analysis. Columns (3)–(6) document that communal moral values are also correlated with the *difference* between the vote share for Trump and the average share of votes garnered by GOP candidates in 2000–2012.[23] This result holds conditional on median household income, unemployment rates, changes in household income since 2000, trade exposure to China, the local racism index developed by Stephens-Davidowitz (2014), and geographical controls. While columns (1)–(4) include state fixed effects, the regressions in columns (5) and (6) exploit variation within much more narrowly defined geographical units. In column (5), the analysis includes 595 commuting zone (CZ) fixed effects. Column (6) 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 relative to those of past Republicans.

Columns (7)–(10) extend the analysis to the GOP primaries. Again, Trump's vote share is consistently related to communal moral values, within states, commuting zones, and CBSAs.[24] The partial correlation – conditional on state fixed effects – between the relative importance of communal moral values and the dependent variables in columns (1), (3), and (7) is 0.22, 0.12 and 0.09, respectively.

Columns (11)–(14) study 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. Communal moral values are consistently positively related to increases in voter turnout. Thus, as in the individual-level analysis, it appears as though Trump's communal moral appeal affected both the intensive and the extensive margin of voting.

[23] An alternative approach is to regress Trump's vote share on moral values and control for the average Republican vote share. The results using this strategy are almost identical; see Table 23 in Appendix D.

[24] See Table 25 in Appendix D for further robustness checks and additional control variables.

Table 6: Moral values and county-level voting patterns

	Dependent variable:													
	Vote shares										Turnout Δ ['16 – Ave. (2000–2012)]			
	Presidential election						GOP primaries							
	Trump		Δ [Trump – Ave. GOP]				Trump				Pres. election		GOP primaries	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
Rel. imp. of communal moral values	2.98***	3.08***	0.76***	0.79***	0.85***	1.58***	0.67***	0.66***	0.79***	1.86***	0.082*	0.23**	0.33***	0.83***
	(0.28)	(0.27)	(0.13)	(0.12)	(0.13)	(0.31)	(0.16)	(0.14)	(0.22)	(0.49)	(0.05)	(0.11)	(0.08)	(0.22)
Log [Median HH Income]		-3.90***		-3.53***	-3.03***	-3.26***		-2.69***	-2.00***	-2.08***				
		(0.41)		(0.18)	(0.27)	(0.50)		(0.23)	(0.39)	(0.75)				
Δ Log [Median income p/c] (2000–2016)		1.80***		1.25***	1.56***	2.16***		0.76***	0.56*	-0.31				
		(0.36)		(0.14)	(0.18)	(0.35)		(0.18)	(0.34)	(0.63)				
Unemployment rate		-3.52***		-0.26	0.11	0.23		1.42***	1.74***	0.94				
		(0.44)		(0.19)	(0.21)	(0.50)		(0.21)	(0.48)	(0.74)				
Trade exposure to China		0.87***		0.37***	0.21**	0.097		-0.12	-0.038	-0.088				
		(0.30)		(0.11)	(0.09)	(0.17)		(0.12)	(0.15)	(0.39)				
Racism index		2.54***		1.08***	0.13	-1.83		0.92***	0.45	-2.20				
		(0.47)		(0.21)	(0.36)	(1.20)		(0.23)	(0.48)	(1.46)				
Latitude		4.50***		1.89***	0.82	3.24		-2.26***	-3.49	-3.20				
		(1.20)		(0.49)	(1.66)	(4.05)		(0.56)	(2.53)	(6.26)				
Longitude		-4.20*		0.55	8.17**	-3.43		1.48	6.63	21.9*				
		(2.27)		(1.02)	(3.60)	(8.84)		(1.10)	(6.56)	(13.26)				
State FE	Yes	Yes	Yes	Yes	No	No	Yes	Yes	No	No	Yes	No	Yes	No
Commuting zone FE	No	No	No	No	Yes	No	No	No	Yes	No	No	No	No	No
CBSA FE	No	No	No	No	No	Yes	No	No	No	Yes	No	Yes	No	Yes
Observations	2255	2249	2255	2249	2249	1635	2116	2110	2110	1547	2255	1640	1940	1434
R^2	0.37	0.45	0.39	0.55	0.74	0.77	0.81	0.86	0.87	0.89	0.49	0.78	0.66	0.80

Notes. County-level OLS estimates, robust standard errors in parentheses. The dependent variable in columns (3)–(6) 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 (7)–(10) is Trump's vote share in the GOP primaries. In columns (11)–(14), the dependent variables are the difference in turnout between 2016 and the average of 2000–2012, for either the general election or the GOP primaries. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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

	Dependent variable:			
	Vote shares		Turnout	
	Pres. election: Δ (Trump – Ave. GOP)	GOP primaries: Trump	Pres. election: Δ [2016 – Ave.]	GOP primaries: Δ [2016 – Ave.]
	(1)	(2)	(3)	(4)
Rel. imp. of communal moral values (2013-2018)	2.61*** (0.76)	2.90*** (0.95)	0.70** (0.30)	1.64*** (0.61)
State FE	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes
Observations	2127	1997	2127	1834

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 shrunk towards the sample mean using the methodology outlined in Section 3.2.2 and then standardized into a z-score. All dependent variables are computed as in Table 6. See Table 6 for a list of the controls. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

6.2 Reverse Causality?

It is conceivable that the correlation between Trump votes and moral values is driven by reverse causality, i.e., that Trump's political activism caused changes in moral values. 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 reverse causality because the structure of moral values in the past is unlikely to have been affected by Trump since he was not politically active at the time. Table 7 presents the results of the second stage regressions. The results indicate that Trump at least to some extent tapped into pre-existing moral convictions.

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. As discussed above, the basic intuition behind the model is that politicians should get higher vote shares in those counties that are closer to them in moral terms. Formally, recall that voter i's utility from candidate j getting elected is modeled as:

$$\begin{aligned} u_{i,j} =& -\lambda(\theta_i - \theta_j)^2 + x_i\eta_j + \epsilon_{i,j} \\ =& \underbrace{-\lambda\theta_j^2}_{\equiv\alpha_j} - \lambda\theta_i^2 + \underbrace{2\lambda\theta_j}_{\equiv\lambda_j}\theta_i + x_i\eta_j + \epsilon_{i,j} \\ =& \alpha_j + \lambda_j\theta_i + x_i\eta_j + \epsilon_{i,j} \end{aligned} \tag{6}$$

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. As we will see below, the key observation here is that λ_j is linear and increasing in the candidate's type θ_j.

If we impose the assumption that $\epsilon_{i,j} \sim T1EV$, 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 i and relate a candidate's county-level vote shares $v_{i,j,t}$ to the moral values in county i:

$$ln(v_{i,j,t} + x) - ln(v_{i,\text{max},t} + x) = \alpha_{j,t} + \lambda_{j,t}\theta_i + x_i\eta_{j,t} + \epsilon_{i,j,t} \tag{7}$$

where $x = 0.00001$ (the smallest non-zero vote share). $v_{i,\text{max},t}$ is the vote share in county i of the candidate who won the popular vote in t; this normalization is needed because we usually have more than two candidates.[25] $\alpha_{j,t}$ are fixed effects for candidate j in election t; $\lambda_{j,t}$ are candidate-election-specific coefficients on county-level communal moral values θ_i; and x_i are control variables (CBSA or commuting zone fixed effects), interacted with candidate indicators. It is instructive to note the direct correspondence between regression equation (7) and the utility function in equation (6).

The outcome of interest is the vector of $\lambda_{j,t}$. 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 λ_j should be increasing in θ_j, the candidate's moral type. Intuitively, the more communal a candidate, the larger (more positive) should be the relationship between that candidate's vote share and the county-level relative importance of communal 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

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

analysis.

To test this model prediction, we need to identify a candidate's type θ_j 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:

$$l_{c,d} = \alpha + \theta_j^n \mathbb{1}_j + \gamma x_d + \epsilon_{c,d} \qquad s.t. \quad c \in \mathbb{S}(j) \tag{8}$$

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

Note that the entire preceeding 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 (hence only one λ and one θ^n per race, respectively), yet we can compare the coefficient magnitudes across elections and hence implicitly generate within-party variation as in the analysis of the primaries.[26]

Figure 8 plots the relationship between θ_j^n and λ_j across candidates, separately for each race. As discussed above, the choice model would predict that λ_j (on the y-axis) is linear and increasing in θ_j^n (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 communal moral appeal of the Republican candidate relative to their direct Democratic competitor. Here, the difference in moral appeal is largest in 2016, followed by 2012 (Romney vs. Obama) and 2008 (McCain vs. Obama). 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.

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 universal in their moral rhetoric (relative to Trump and Cruz), and their demand-side coefficients are indeed more negative than those of Trump and Cruz.

[26]The straightforward amendment of the estimating equation (7) is that the dependent variable is the log difference of the candidates' vote shares, and the candidate fixed effects α_j drop out.

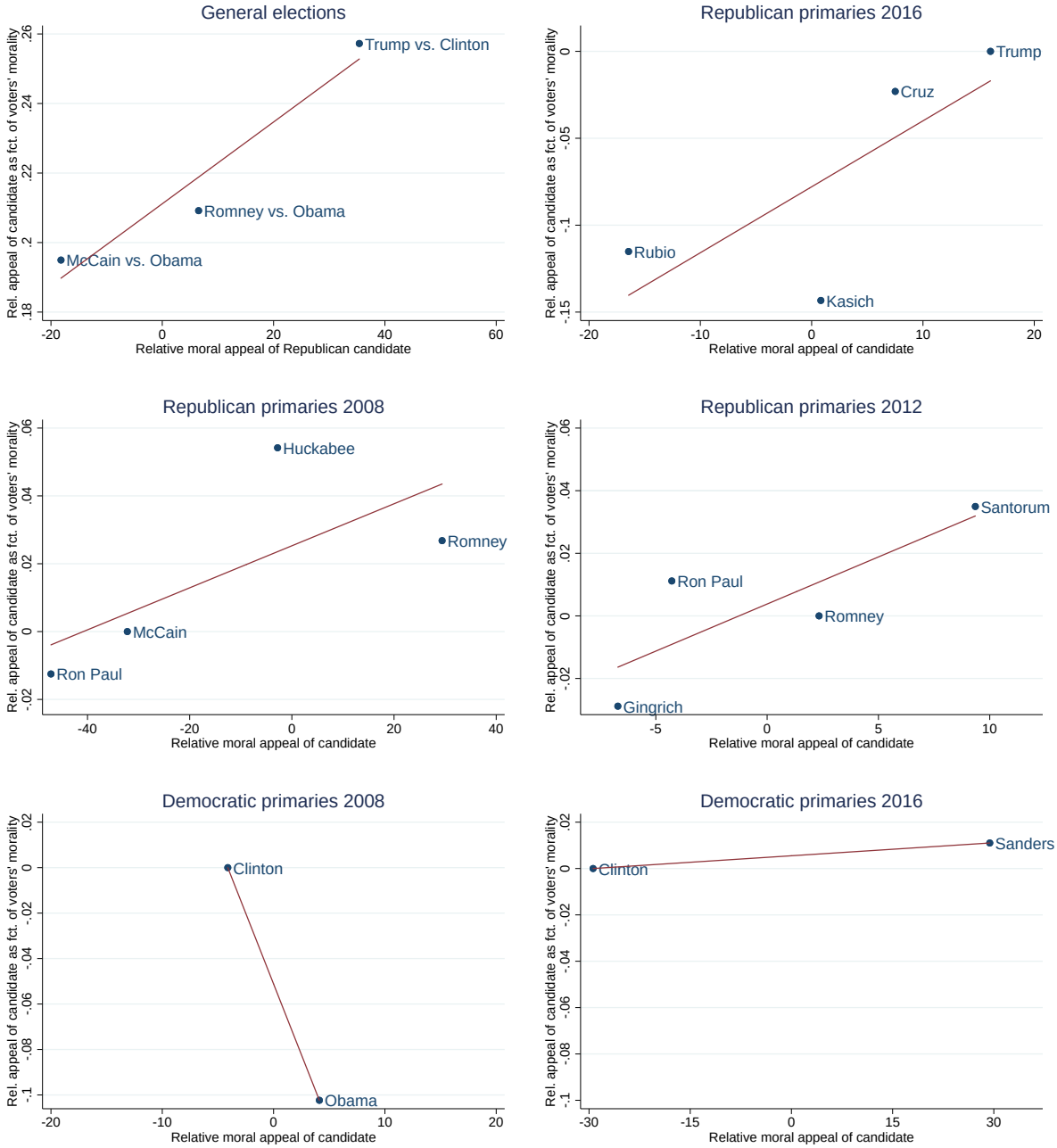

Figure 8: Estimating the model. Each panel focuses on a separate race. The x-axis (supply side) denotes the relative moral appeal of a candidate, where higher values mean that a candidate is more communal, i.e., θ_j^n in eq. (8). The y-axis (demand side) denotes the relative moral appeal of a candidate as a function of voters' communal morality, i.e., λ_j in eq. (7). Eq. (7) is estimated with CBSA fixed effects. See Figure 16 in Appendix A 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 communal moral values.

In 2008 and 2012, the overall patterns are also encouraging. For example, the text analysis identifies Ron Paul and McCain as universal candidates in 2008, Gingrich as universal candidate in 2008, Huckabee as communal candidate in 2008, and Santorum as communal candidate in 2012; and these text analysis predictions successfully map

onto corresponding demand-side patterns.

In the Democratic primaries, the patterns are less consistent. In particular, the candidate for whom the supply- and demand-side analyses do not nearly match up is Obama: his vote share is strongly negatively correlated with communal values. The negative point estimate of $\lambda \approx -0.1$ is about five times as large as that of any other candidate in Figure 8.[27] Continuing with the Democratic primaries, in 2016, the demand-side coefficients for Clinton and Sanders are very similar, despite a considerable difference in moral appeal.

Again, the sample size is too small to draw definitive conclusions from the data. Still, the patterns appear more consistent for Republicans than Democrats. Psychologists and sociologists have articulated the view that moral concepts in general – and a fear about a "moral decline" in particular – are more important for conservatives than for liberals. If this was indeed the case, this might explain why variation in morality predicts election results well within the Republican primaries and in the general election, but not within the Democratic primary.

8 Moral Values and Voting 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 communal and universal 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 9 computes the average relative importance of communal moral values separately for each year since 2008, partitioned by local population density (computed from respondents' ZIP codes). Since 2008, the relative importance of communal morality steadily increased by about 3.5% of a standard deviation per year, on average.[28] This pattern is most pronounced in rural ZIP codes (defined as less than 250 inhabitants per square kilometer), so that we

[27] This raises the question of why Obama is such a significant outlier. One conjecture is that Obama's relatively strong communal appeal in fact antagonized some communal voters: if successful communal appeal requires some form of ethnic similarity, then speaking to communal values may actually induce those with communal values to vote *against* communal candidates if they are of a different "tribe."

[28] These findings are conceptually distinct from but related to Gentzkow et al.'s (2016) 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).

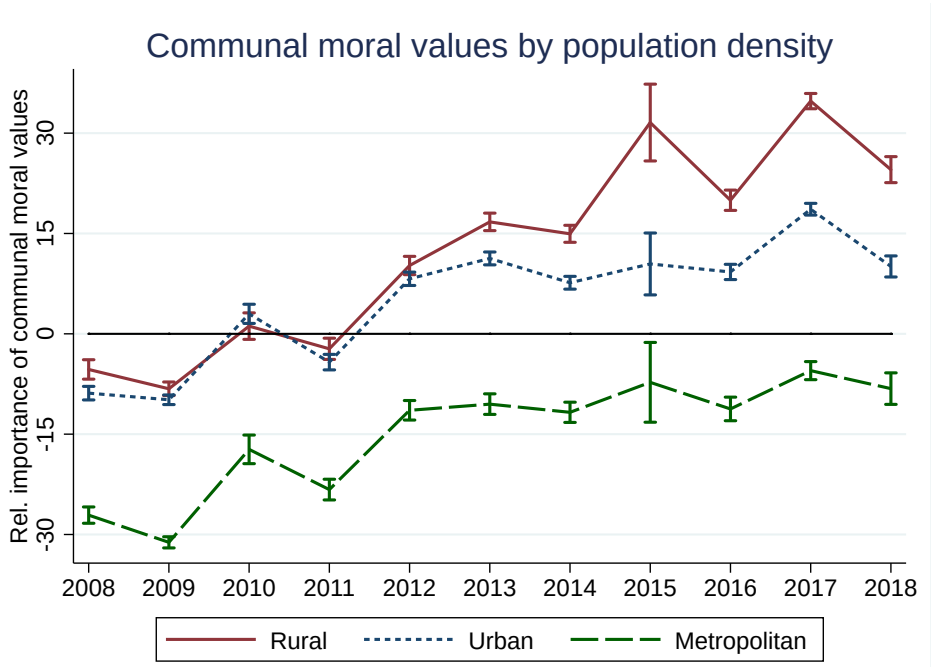

Figure 9: Relative importance of communal moral values among $N = 198,077$ respondents on www.yourmorals.org. The straight red line plots the average relative frequency of communal moral values across respondents who live in ZIP codes with population density below 250 inhabitants per square mile. The 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 communal moral values is a z-score multiplied by 100.

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.

Figure 10 provides an analogous time series, partitioned by whether respondents self-identify as conservatives or liberals/ middle-of-the-road (political affiliation was only elicited starting in 2010). The chart reveals that, on average, both conservatives and liberals are more communal today than they used to be in 2010. However, this trend is stronger for conservatives. Notice that this pattern closely matches the one documented in text analyses in the U.S. Congress, see Section 4.

To investigate how changes in values translate into changes in vote shares, 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 communal values in $[x-1, x+2]$ (recall that elections take place late in year x).[29] I then regress county-level Republican vote shares in x on corresponding values, controlling for county and elec-

[29]Table 26 in Appendix D presents a set of regressions in which the moral values variable is computed only based on respondents in year x. The results are broadly robust, though of course computing moral values this way runs into issues of small samples of respondents within a given cell.

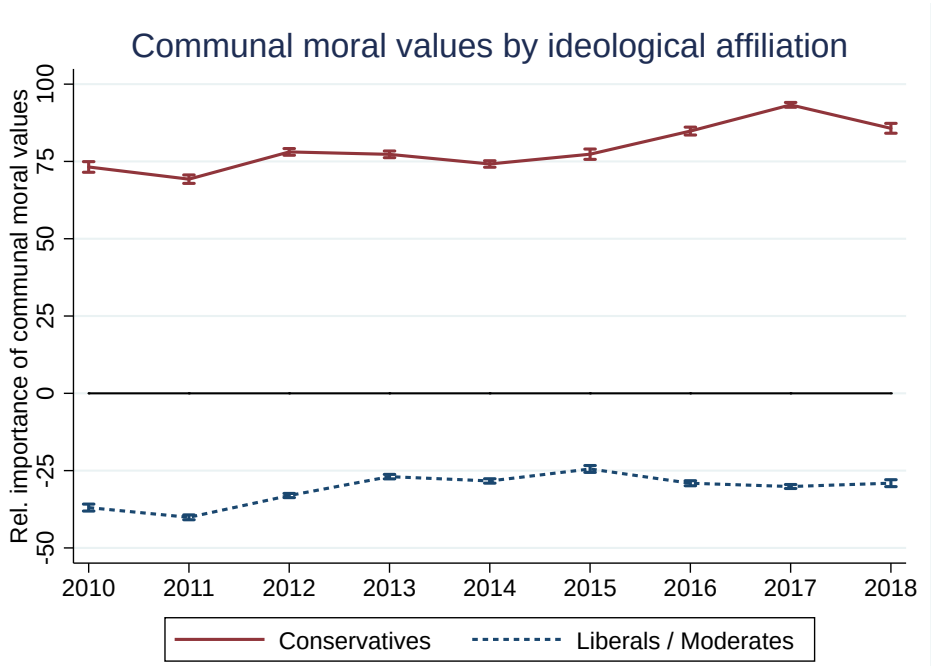

Figure 10: Relative importance of communal moral values among $N = 151,302$ respondents on www.yourmorals.org who both completed the MFQ and provided their political leanings. The straight red line plots the average relative frequency of communal moral values across respondents who self-identify as conservatives, along with standard error bars. The dashed blue line represents the relative importance of communal moral values among respondents who self-identify as liberals or moderates. The relative importance of communal moral values is a z-score multiplied by 100.

tion fixed effects. Thus, the regressions pick up neither time-invariant locational cross-county differences nor location-invariant time trends, but only differential changes in values and vote shares across space and time.

Table 8 reports the results. Here, the dependent variable is the Republican vote share in a given county-year. Because the regressions control for county fixed effects and election fixed effects, the regression identifies the relationship between changes in vote shares and changes in moral values. The results show that increases in moral values are significantly related to increases in Republican vote shares. This result holds up when controlling for time-variant county characteristics such as household income, the unemployment rate, and trade exposure to China.[30] Thus, changes in moral values predict changes in vote shares, just as levels of moral values predict levels of vote shares. This suggests that 2016 was "special" in that the stock of communal values was higher than in other recent elections. However, this demand-side pattern does not seem to reflect a Trump effect, but is rather part of a more general trend.

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

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 communal moral values (in years [x-1, x+2])	0.22***	0.23***
	(0.08)	(0.08)
Log [Median HH income]		2.06
		(1.76)
Unemployment rate		-0.38***
		(0.06)
Trade exposure to China		0.17**
		(0.08)
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 communal moral values in $[x-1, x+2]$. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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 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 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.

While a perfect identification strategy is difficult to imagine given the nature of the research question, the breadth of the results provides encouraging support for a causal interpretation: (i) moral values predict 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 universal 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 experienced stagnant real wages or even job losses due to a decline in domestic manufacturing. 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 working class outside the urban centers exhibits a high demand for communal values.

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A Additional Figures

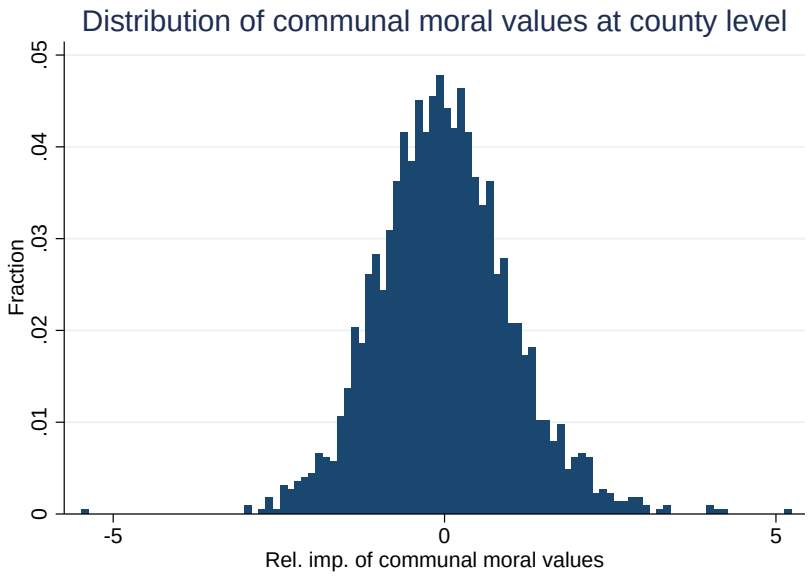

Figure 11: Distribution of relative importance of communal moral values at the county level.

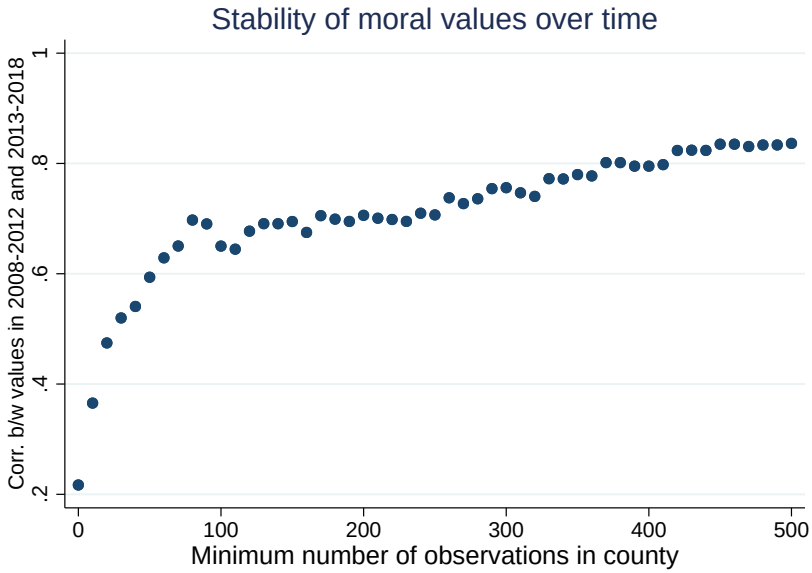

Figure 12: Stability of moral values at the county level. The figure depicts the correlation coefficient between values in 2008-2012 and 2013-2017 at the county level. The x-axis denotes the cutoff in terms of minimum number of respondents in a county used to compute the correlation coefficient.

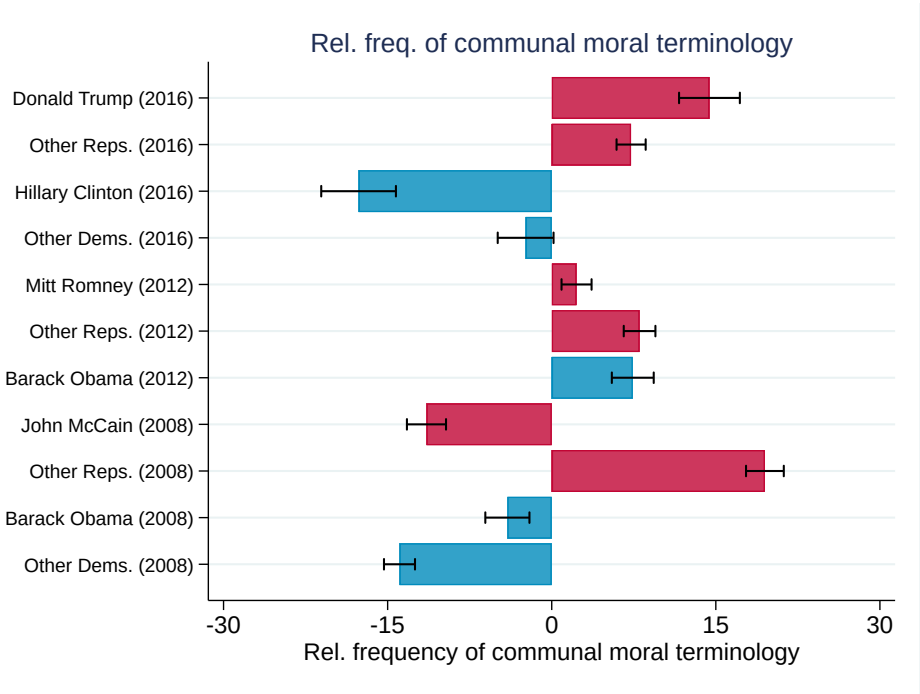

Figure 13: Relative frequency of communal moral terminology. The bars depict averages across documents, along with standard errors. The moral values index is residualized from document type FE and campaign day FE (where the first campaign day is defined as January 1st of the year prior to the respective election). 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 communal moral rhetoric is standardized into a z-score and multiplied by 100. The data are restricted to the period of the respective primary election.

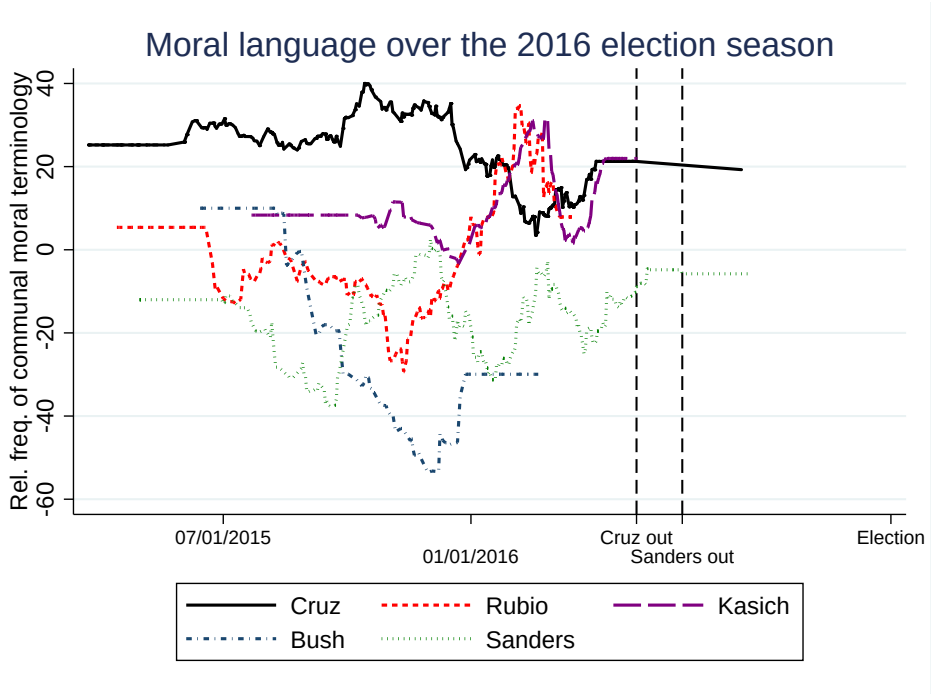

Figure 14: Relative frequency of communal moral terminology over the course of the 2016 election season. The relative frequency of communal moral rhetoric at any given point in time is computed using a $k = 120$ nearest neighbor algorithm, i.e., the 120 campaign documents closest to a given date. The first and second vertical dashed lines denote the dates on which Cruz and Sanders dropped out of the primaries as last remaining competitors of Trump and Clinton, respectively. The moral values index is residualized from document type FE. Each document is weighted by the square root of the total number of non-stop words. The index of the relative frequency of communal moral rhetoric is standardized into a z-score and multiplied by 100.

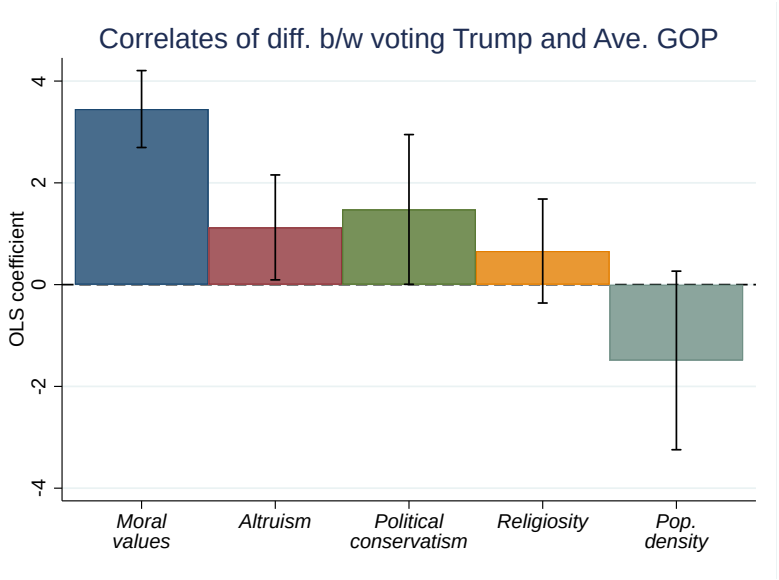

Figure 15: Correlates of voting decisions. The figure depicts the OLS coefficients and standard errors from a multiple regression. In this regression, the dependent variable is an individual's difference in the propensity to vote for Trump and the average propensity to vote for McCain and Romney, respectively. All explanatory variables are standardized into z-scores. Controls include county FE, age FE, gender, employment status, educational attainment FE, and race FE; see Table 4.

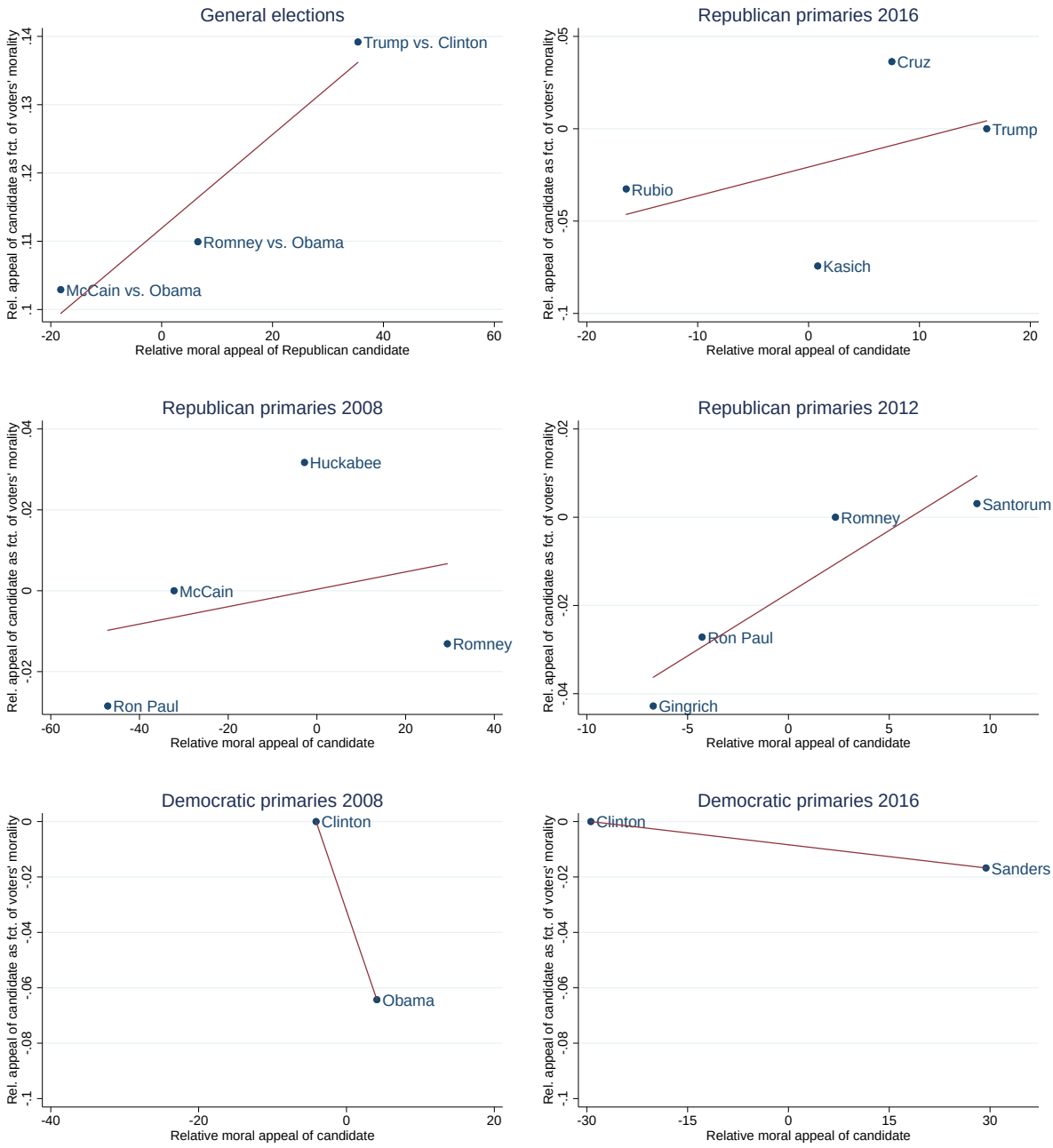

Figure 16: Estimating the model. Each panel focuses on a separate race. The x-axis denotes the relative moral appeal of a candidate, where higher values mean that a candidate is moral communal, i.e., β_j in eq.(8). The y-axis denotes the relative moral appeal of a candidate as a function of voters' communal morality, i.e., λ_j in eq. (7). Eq. (7) is estimated with CZ fixed effects. See Figure 16 in Appendix A 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 communal moral values.

B Additional Tables for Text Analysis of Presidential Candidates

Table 9: Politicians and communal moral rhetoric: Robustness checks

	Dependent variable:					
	Rel. frequency of communal moral terminology					
	(1)	(2)	(3)	(4)	(5)	(6)
1 if Trump	17.3***	17.3***	12.4***	12.5***	12.1***	10.4**
	(4.0)	(4.3)	(4.6)	(3.9)	(4.2)	(4.5)
Frequency of purity / sanctity language	-0.00004	0.1	0.6**			
	(0.6)	(0.5)	(0.3)			
Log [# words]			-8.3***			-8.2***
			(1.0)			(1.0)
Overall degree of morality			-24.1***			-24.2***
			(2.1)			(2.0)
Flesch reading ease score			-7.2***			-7.1***
			(1.1)			(1.1)
1 if Republican			16.4***			12.4***
			(1.9)			(1.9)
1 if presidential nominee			-8.1***			-7.4***
			(2.2)			(2.2)
Rel. frequency of right-wing partisan phrases				11.7***	10.6***	7.7***
				(1.2)	(1.3)	(1.3)
Document type FE	Yes	Yes	Yes	Yes	Yes	Yes
Document year FE	No	Yes	Yes	No	Yes	Yes
Campaign day FE	No	Yes	Yes	No	Yes	Yes
Observations	16698	16698	16698	16698	16698	16698
R^2	0.02	0.11	0.18	0.03	0.12	0.18

Notes. WLS estimates, robust standard errors in parentheses. The dependent variable is the relative frequency of communal moral terminology, computed using relative word frequencies. Each document is weighted by the square root of the total number of non-stop words. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C Background and Additional Tables for *Research Now* Survey

C.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".

C.2 Validation of Moral Communalism Index

Table 11: 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)
Rel. imp. communal values	0.15***	0.12***	0.12***	0.081***	0.071***	0.073***	0.056***	0.051***	0.051**	0.27***	0.22***	0.24***
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.03)
1 if female		0.063*	0.046		0.037	0.014		0.035	0.046		0.022	0.014
		(0.03)	(0.04)		(0.03)	(0.05)		(0.03)	(0.04)		(0.04)	(0.05)
Population density		-0.037**	-0.016		-0.034*	0.013		-0.053***	-0.031		-0.093***	-0.086**
		(0.02)	(0.04)		(0.02)	(0.04)		(0.02)	(0.04)		(0.02)	(0.04)
1 if employed full-time		-0.015	-0.026		-0.0080	-0.026		-0.0080	-0.0062		0.040	0.038
		(0.04)	(0.05)		(0.04)	(0.05)		(0.04)	(0.06)		(0.04)	(0.05)
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
Year of birth FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Race FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Income bracket FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Education FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	3926	3864	3864	3872	3810	3810	3830	3769	3769	3527	3474	3474
R^2	0.02	0.10	0.37	0.01	0.08	0.38	0.00	0.05	0.35	0.07	0.17	0.43

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 H for a detailed description of each dependent variable. All dependent variables are expressed as z-scores. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.3 Extensions and Robustness Checks

C.3.1 Pre-Registered Index of Relative Importance of Communal Moral Values

Table 12: Moral values and voting: Pre-registered index of moral values

	Dependent variable:														
	Votes									Turnout			Evaluation of Trump		
	Trump in election			Δ [Trump – Ave. GOP]			Trump in primaries			Δ [2016 – Ave.]			Loyalty vs. economy		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)
Rel. imp. communal values (pre-registered index)	20.3*** (0.80)	17.0*** (0.76)	15.8*** (0.94)	3.05*** (0.47)	2.96*** (0.55)	3.49*** (0.79)	8.89*** (1.28)	7.73*** (1.28)	8.90*** (2.03)	1.51*** (0.46)	1.21** (0.49)	1.54** (0.60)	0.13*** (0.02)	0.14*** (0.02)	0.13*** (0.02)
1 if female		-3.73** (1.53)	-2.34 (2.02)		0.88 (1.47)	0.75 (2.03)		-6.30*** (2.44)	-0.17 (3.86)		-0.31 (1.12)	0.52 (1.45)		0.025 (0.04)	0.020 (0.05)
Population density		-5.44*** (0.84)	-5.85*** (1.63)		-0.73 (0.85)	-1.53 (1.75)		-2.76** (1.33)	-3.45 (3.02)		-0.67 (0.63)	-2.40** (1.19)		-0.028 (0.02)	-0.083** (0.04)
1 if employed full-time		0.43 (1.82)	1.06 (2.49)		-0.38 (1.80)	-1.30 (2.39)		0.99 (2.88)	9.27* (4.92)		1.26 (1.43)	1.19 (1.74)		0.093** (0.04)	0.11* (0.06)
1 if voted for Trump														0.13*** (0.04)	0.081 (0.06)
State FE	No	Yes	No	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	No	No	Yes
Year of birth FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Race FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Income bracket FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Education FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	3471	3422	3422	2973	2929	2929	1888	1852	1852	4011	3949	3949	4011	3422	3422
R^2	0.17	0.34	0.56	0.01	0.07	0.42	0.02	0.17	0.54	0.00	0.05	0.38	0.02	0.09	0.39

Notes. OLS estimates, robust standard errors in parentheses. Additional controls include age fixed effects, gender, income bracket, educational attainment, population density, and ethnicity fixed effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.3.2 Alternative Dependent Variables

Table 13: 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)
Rel. imp. communal values	3.27***	3.28***	3.25***	2.58***	2.70***	3.35***	3.66***	3.38***	3.78***
	(0.45)	(0.50)	(0.67)	(0.48)	(0.57)	(0.79)	(0.55)	(0.62)	(0.89)
1 if female		-0.87	-1.21		2.76*	2.91		-0.95	-0.97
		(1.30)	(1.72)		(1.51)	(2.03)		(1.64)	(2.23)
Population density		-0.33	-1.03		-0.58	-1.41		-0.86	-1.64
		(0.73)	(1.49)		(0.85)	(1.75)		(0.93)	(1.88)
1 if employed full-time		-0.68	-1.56		0.030	-0.32		-0.65	-1.07
		(1.55)	(2.06)		(1.83)	(2.39)		(2.07)	(2.70)
State FE	No	Yes	No	No	Yes	No	No	Yes	No
County FE	No	No	Yes	No	No	Yes	No	No	Yes
Year of birth FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Race FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Income bracket FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Education FE	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
Observations	3775	3718	3718	3150	3104	3104	3049	3004	3004
R^2	0.01	0.06	0.38	0.00	0.07	0.42	0.01	0.06	0.42

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). * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.3.3 Additional Covariates

Table 14: Moral values and voting: Individual-level evidence (additional covariates)

	Dependent variable:				
	Δ Vote [Trump – Ave. GOP]				
	(1)	(2)	(3)	(4)	(5)
Rel. imp. communal values	2.73***	2.87***	2.86***	2.50***	2.76***
	(0.60)	(0.60)	(0.63)	(0.59)	(0.60)
1 if female	1.75	1.94	1.89	2.14	1.95
	(1.53)	(1.54)	(1.54)	(1.53)	(1.54)
Population density	-0.64	-0.65	-0.65	-0.72	-0.63
	(0.88)	(0.88)	(0.88)	(0.88)	(0.88)
1 if employed full-time	-1.06	-1.11	-1.09	-1.07	-1.39
	(2.03)	(2.03)	(2.03)	(2.02)	(2.05)
Overall strength of moral concerns	1.03				
	(0.76)				
General trust		0.41			
		(0.73)			
Trust in mainstream media			0.047		
			(0.73)		
Trust in politicians				3.10***	
				(0.78)	
Personal job prospects					0.71
					(0.55)
State FE	Yes	Yes	Yes	Yes	Yes
Year of birth FE	Yes	Yes	Yes	Yes	Yes
Race FE	Yes	Yes	Yes	Yes	Yes
Income bracket FE	Yes	Yes	Yes	Yes	Yes
Education FE	Yes	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes	Yes
Religious denomination FE	Yes	Yes	Yes	Yes	Yes
Observations	2860	2860	2860	2860	2860
R^2	0.08	0.08	0.08	0.09	0.08

Notes. OLS estimates, robust standard errors in parentheses. The overall strength of moral concerns is defined as sum of the MFQ foundations harm / care, fairness / reciprocity, in-group / loyalty, and authority / respect. Occupation fixed effects include eleven categories; see Appendix H. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

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

	Dependent variable:				
	Vote for Trump in primaries				
	(1)	(2)	(3)	(4)	(5)
Rel. imp. communal values	7.75***	7.56***	7.39***	7.08***	7.39***
	(1.45)	(1.36)	(1.39)	(1.34)	(1.36)
1 if female	-6.76***	-5.79**	-5.82**	-5.63**	-5.62**
	(2.53)	(2.55)	(2.55)	(2.52)	(2.54)
Population density	-2.22	-2.53*	-2.47*	-2.80**	-2.49*
	(1.38)	(1.38)	(1.39)	(1.37)	(1.38)
1 if employed full-time	-0.053	-0.47	-0.51	-0.57	-1.26
	(3.23)	(3.27)	(3.27)	(3.22)	(3.26)
Overall strength of moral concerns	7.29***				
	(1.20)				
General trust		-0.29			
		(1.17)			
Trust in mainstream media			-0.94		
			(1.23)		
Trust in politicians				6.82***	
				(1.11)	
Personal job prospects					2.17**
					(0.87)
State FE	Yes	Yes	Yes	Yes	Yes
Year of birth FE	Yes	Yes	Yes	Yes	Yes
Race FE	Yes	Yes	Yes	Yes	Yes
Income bracket FE	Yes	Yes	Yes	Yes	Yes
Education FE	Yes	Yes	Yes	Yes	Yes
Occupation FE	Yes	Yes	Yes	Yes	Yes
Religious denomination FE	Yes	Yes	Yes	Yes	Yes
Observations	1817	1817	1817	1817	1817
R^2	0.21	0.19	0.19	0.21	0.19

Notes. OLS estimates, robust standard errors in parentheses. The overall strength of moral concerns is defined as sum of the MFQ foundations harm / care, fairness / reciprocity, in-group / loyalty, and authority / respect. Occupation fixed effects include eleven categories; see Appendix H. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.4 Benchmarking: IV estimates

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

- Altruism: The first measure is the response to the survey question: " Imagine the following situation: Today you unexpectedly received $1,000. How much of this amount would you donate to a good cause?" The second measure is the response to the survey question: "On a scale from 0 to 10, how willing are you to give to good causes without expecting anything in return?" These two altruism scores exhibit a correlation of $\rho = 0.19$.

- Political conservatism: As detailed in Appendix H, 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 category gun control, environment policies, and crime policies. Then, I compute a first conservatism 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 conservatism score as first principal component of the principal components of the last two questions from each category. These two conservatism 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 16 reports the results of the IV regressions. In all regressions, altruism, political conservatism, household income, and population density are proxied by the first measure described above, instrumented with the second measure. The results of the IV estimations are very similar to the OLS results reported in the main text.

Table 16: Moral values and voting: Benchmarking with IV

	Dependent variable:											
	Votes											
	Ave. GOP (2008 – 2012)				Δ [Trump – Ave. GOP] in general election				1 if Trump in GOP primaries			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Rel. imp. of communal values	17.7***	5.75***	17.6***	16.6***	3.25***	2.66**	3.73***	3.12***	9.32***	8.18***	10.7***	9.50***
	(0.62)	(1.23)	(0.65)	(0.64)	(0.50)	(1.10)	(0.55)	(0.54)	(1.32)	(2.07)	(1.34)	(1.26)
Altruism	0.027*				-0.0021				-0.058***			
	(0.02)				(0.01)				(0.02)			
Political conservatism		30.3***				2.28				6.88*		
		(2.49)				(2.16)				(3.54)		
Income bracket			10.4***				-4.40***				-5.93**	
			(1.53)				(1.58)				(2.47)	
Log [Pop. density]				-5.21***				-0.38				-2.06*
				(0.69)				(0.68)				(1.11)
State FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	3148	2025	2671	3100	2973	1932	2545	2929	1888	1256	1602	1852
R^2	0.15	0.16	0.23	0.22	0.03	0.03	0.04	0.03	-0.03	0.06	0.08	0.08

Notes. IV 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. Altruism, political conservatism, income bracket, and log populsation density are instrumented for as described in the text. Controls include age fixed effects, gender, educational attainment fixed effects, and race fixed effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

C.4.1 Separate MFQ Survey Items

Table 17: Relationship between Trump voting and separate MFQ items: Harm / care

	Dependent variable:											
	Election: Δ Vote [Trump – Ave. GOP]						Vote for Trump in primaries					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Harm / care: q. 1	-141.2***						-234.0***					
	(48.04)						(87.50)					
Harm / care: q. 7		-113.2**						-331.5***				
		(45.90)						(87.49)				
Harm / care: q. 12			-161.2***						-407.0***			
			(44.91)						(83.46)			
Harm / care: q. 17				-96.2**						-300.2***		
				(47.13)						(77.60)		
Harm / care: q. 23					-40.4						163.9**	
					(33.88)						(68.41)	
Harm / care: q. 28						55.4*						62.6
						(31.73)						(55.25)
Observations	2973	2973	2973	2973	2973	2973	1888	1888	1888	1888	1888	1888
R^2	0.00	0.00	0.00	0.00	0.00	0.00	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 E for the survey questions.

Table 18: Relationship between Trump voting and separate MFQ items: fairness / reciprocity

	Dependent variable:											
	Election: Δ Vote [Trump – Ave. GOP]						Vote for Trump in primaries					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Fairness / recip.: q. 2	-151.9***						-489.6***					
	(45.95)						(84.12)					
Fairness / recip.: q. 8		-220.1***						-232.7***				
		(49.45)						(88.85)				
Fairness / recip.: q. 13			-97.5*						-101.2			
			(55.97)						(109.03)			
Fairness / recip.: q. 18				-80.6*						-187.9***		
				(41.79)						(68.68)		
Fairness / recip.: q. 24					-39.2						-139.9**	
					(36.13)						(69.91)	
Fairness / recip.: q. 29						42.1						-32.7
						(29.79)						(49.08)
Observations	2973	2973	2973	2973	2973	2973	1888	1888	1888	1888	1888	1888
R^2	0.00	0.01	0.00	0.00	0.00	0.00	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 E for the survey questions.

Table 19: Relationship between Trump voting and separate MFQ items: In-group / loyalty

	Dependent variable:											
	Election: Δ Vote [Trump – Ave. GOP]						Vote for Trump in primaries					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
In-group / loyalty: q. 3	207.9***						620.8***					
	(39.39)						(80.20)					
In-group / loyalty: q. 9		-14.1						138.9*				
		(44.66)						(82.97)				
In-group / loyalty: q. 14			80.1*						182.0**			
			(45.13)						(85.34)			
In-group / loyalty: q. 19				26.5						125.9***		
				(21.79)						(43.69)		
In-group / loyalty: q. 25					65.4*						119.7*	
					(35.75)						(66.58)	
In-group / loyalty: q. 30						106.2***						99.7
						(33.65)						(68.53)
Observations	2973	2973	2973	2973	2973	2973	1888	1888	1888	1888	1888	1888
R^2	0.01	0.00	0.00	0.00	0.00	0.00	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 E for the survey questions.

Table 20: Relationship between Trump voting and separate MFQ items: Authority / respect

	Dependent variable:											
	Election: Δ Vote [Trump – Ave. GOP]						Vote for Trump in primaries					
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Authority / respect: q. 4	64.4						153.7*					
	(47.92)						(87.29)					
Authority / respect: q. 10		184.6***						190.6**				
		(43.74)						(76.39)				
Authority / respect: q. 15			-152.8***						-352.9***			
			(50.03)						(81.49)			
Authority / respect: q. 20				-92.1**						-144.8*		
				(42.70)						(77.23)		
Authority / respect: q. 26					134.4***						74.2	
					(31.08)						(62.09)	
Authority / respect: q. 31						76.7**						169.9**
						(37.84)						(71.30)
Observations	2973	2973	2973	2973	2973	2973	1888	1888	1888	1888	1888	1888
R^2	0.00	0.01	0.00	0.00	0.01	0.00	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 E for the survey questions.

C.5 Reclassification Exercises

Table 21: Moral values and voting: Individual-level evidence (reclassification exercises)

	Dependent variable: Δ Vote [Trump – Ave GOP]					
	Reclassify as Trump voter everyone who stated that:					
	Didn't vote/ don't remember			Voted for third candidate		
	(1)	(2)	(3)	(4)	(5)	(6)
Rel. imp. communal values	1.71***	2.06***	2.42***	2.55***	2.26***	2.69***
	(0.55)	(0.61)	(0.86)	(0.65)	(0.70)	(0.94)
1 if female		1.91	1.42		-0.96	-0.19
		(1.55)	(2.12)		(1.53)	(2.13)
Population density		-0.86	-1.02		-1.09	-1.12
		(0.89)	(1.82)		(0.88)	(1.76)
1 if employed full-time		-3.05	-4.06		2.44	1.15
		(1.93)	(2.58)		(1.91)	(2.55)
State FE	No	Yes	No	No	Yes	No
County FE	No	No	Yes	No	No	Yes
Year of birth FE	No	Yes	Yes	No	Yes	Yes
Race FE	No	Yes	Yes	No	Yes	Yes
Income bracket FE	No	Yes	Yes	No	Yes	Yes
Education FE	No	Yes	Yes	No	Yes	Yes
Observations	3148	3100	3100	2973	2929	2929
R^2	0.00	0.07	0.41	0.00	0.07	0.41

Notes. OLS estimates, robust standard errors in parentheses. In columns (1)–(3), the dependent variable is constructed by treating all respondents who stated that they did not vote or don't remember who they voted for, as if they had voted for Trump. In columns (4)–(6), I likewise classify all respondents who stated that they voted for a third candidate as if they had voted for Trump. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D Additional Tables for County-Level Analysis

D.1 Correlates of County-Level Values

Table 22: Correlates of county-level moral values

	Corr. b/w rel. imp. of communal moral values and:			
	Unemployment	Δ Inc. (2000–2015)	China trade exposure	Racism
Raw corr.	−0.02	−0.00	0.03	0.07***
Partial corr. (State FE)	0.02	0.00	0.03*	−0.00
Partial corr. (CZ FE)	−0.00	0.00**	0.05***	n/a

Notes. The first row reports the raw correlation between county characteristics and the relative importance of communal moral values. The second raw reports partial correlations conditional on state fixed effects. The third raw reports partial correlations conditional on commuting zone effects. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.2 Robustness: Controlling for Earlier Vote Shares

Table 23: Moral values and voting: Robustness to controlling for earlier vote shares / turnout

	Dependent variable:								
	Vote share of Trump					Turnout			
	Presidential election					Pres. election		GOP primaries	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Rel. imp. of communal moral values	0.36**	0.52***	0.50***	0.39***	0.36	0.073	0.099*	0.28***	0.27***
	(0.15)	(0.12)	(0.11)	(0.12)	(0.26)	(0.05)	(0.05)	(0.08)	(0.09)
Average vote share GOP	1.10***	1.11***	1.12***	1.22***	1.36***				
	(0.01)	(0.01)	(0.01)	(0.02)	(0.03)				
Log [Median HH Income]			-3.49***	-3.63***	-4.63***	-0.057	0.093		
			(0.17)	(0.25)	(0.41)	(0.08)	(0.12)		
Δ Log [Median income p/c] (2000–2016)			1.19***	1.46***	1.99***	0.21***	0.30***		
			(0.14)	(0.17)	(0.28)	(0.07)	(0.08)		
Unemployment rate			0.14	0.63***	1.12***	-0.14*	-0.12		
			(0.19)	(0.21)	(0.42)	(0.08)	(0.10)		
Trade exposure to China			0.31***	0.13	-0.087	0.091**	0.094**		
			(0.10)	(0.08)	(0.16)	(0.04)	(0.04)		
Racism index			0.90***	-0.084	-0.83	-0.093	-0.12		
			(0.20)	(0.35)	(1.37)	(0.07)	(0.13)		
Latitude			1.57***	-0.42	2.52	0.19	0.65		
			(0.47)	(1.57)	(3.19)	(0.20)	(0.72)		
Longitude			1.13	8.63**	6.97	0.062	0.26		
			(1.00)	(3.36)	(7.15)	(0.44)	(1.53)		
Average turnout in pres. elections						0.97***	0.97***		
						(0.01)	(0.01)		
Average turnout in GOP primaries								1.11***	1.20***
								(0.02)	(0.03)
State FE	No	Yes	Yes	No	No	Yes	No	Yes	No
Commuting zone FE	No	No	No	Yes	No	No	Yes	No	Yes
CBSA FE	No	No	No	No	Yes	No	No	No	No
Observations	2255	2255	2249	2249	1635	2249	2249	1940	1940
R^2	0.77	0.86	0.90	0.95	0.96	0.95	0.96	0.85	0.91

Notes. County-level OLS estimates, robust standard errors in parentheses. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.3 Robustness: Base Years 2008–2012

Table 24: Moral values and voting: Robustness

	Dependent variable:							
	Vote share				Turnout			
	Pres. election Δ [Trump – Ave. GOP (2008–2012)]				Pres. election Δ ['16 – Ave. ('08–'12)]		GOP primaries Δ ['16 – Ave. ('08–'12)	
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rel. imp. of communal moral values	0.55***	0.57***	0.63***	1.18***	0.12***	0.13***	0.27***	0.29***
	(0.10)	(0.09)	(0.11)	(0.24)	(0.04)	(0.04)	(0.07)	(0.06)
Log [Median HH Income]		-2.95***	-2.67***	-2.95***		-0.51***		-0.078
		(0.14)	(0.21)	(0.38)		(0.07)		(0.09)
Δ Log [Median income p/c] (2000–2016)		0.85***	0.97***	1.35***		0.31***		0.22**
		(0.11)	(0.14)	(0.27)		(0.06)		(0.09)
Unemployment rate		-0.060	0.16	0.17		-0.40***		-0.62***
		(0.14)	(0.17)	(0.38)		(0.07)		(0.09)
Trade exposure to China		0.27***	0.16**	0.073		0.089*		0.12**
		(0.08)	(0.07)	(0.13)		(0.05)		(0.06)
Racism index		0.53***	-0.092	-1.37		0.079		0.39***
		(0.14)	(0.26)	(0.98)		(0.07)		(0.10)
Latitude		1.31***	0.19	2.40		0.37**		1.46***
		(0.36)	(1.33)	(3.08)		(0.19)		(0.28)
Longitude		0.093	7.18**	-0.38		-0.54		0.29
		(0.75)	(2.92)	(6.58)		(0.42)		(0.55)
State FE	Yes	Yes	No	No	Yes	Yes	Yes	Yes
Commuting zone FE	No	No	Yes	No	No	No	No	No
CBSA FE	No	No	No	Yes	No	No	No	No
Observations	2255	2249	2249	1635	2255	2249	2068	2062
R^2	0.43	0.60	0.76	0.80	0.36	0.40	0.67	0.70

Notes. County-level OLS estimates, robust standard errors in parentheses. The dependent variable is the difference in vote shares between Trump and the average GOP vote share in 2008–2012. See columns (2) and (3) of Table 6 for a complete list of the economic and geographic covariates. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.4 Robustness: Additional Covariates

Table 25: Moral values and the presidential election: Robustness

	Dependent variable:			
	Δ [Trump – Avg. GOP]		Trump in primaries	
	(1)	(2)	(3)	(4)
Rel. imp. of communal moral values	0.68***	0.29***	0.64***	0.38***
	(0.12)	(0.10)	(0.14)	(0.13)
Δ Unemployment rate	-0.22	0.11	-0.82***	-0.49***
	(0.15)	(0.14)	(0.15)	(0.14)
Δ % employed in manufacturing (1970–2015)	0.13	0.085	0.48***	0.38***
	(0.14)	(0.12)	(0.16)	(0.14)
% employed in manufacturing	0.93***	-0.020	-0.035	-0.77***
	(0.14)	(0.13)	(0.16)	(0.15)
% high school graduate or less		4.56***		3.80***
		(0.20)		(0.23)
Fraction religious		-0.50***		-1.06***
		(0.13)		(0.18)
Social capital index		0.29		-0.17
		(0.19)		(0.17)
State FE	Yes	Yes	Yes	Yes
Economic controls	Yes	Yes	Yes	Yes
Geographic controls	Yes	Yes	Yes	Yes
Observations	2240	2240	2102	2102
R^2	0.56	0.68	0.86	0.88

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. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

D.5 Robustness Checks for Panel Analysis

Table 26: Moral values and county-level voting patterns: Differences-in-differences estimates

	Dependent variable: GOP vote share in year x							
	Minimum number of observations in county-year:							
	1	3	5	7	9	11	13	15
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rel. imp. of communal moral values (in year x)	0.076	0.11	0.21	0.23	0.43*	0.56**	0.69**	0.69*
	(0.11)	(0.13)	(0.18)	(0.20)	(0.24)	(0.29)	(0.32)	(0.36)
County FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Election FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	4068	3566	2961	2615	2413	2281	2178	2098
R^2	0.97	0.97	0.98	0.98	0.98	0.99	0.99	0.99

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 2008, 2012, 2016. The independent variable is the relative importance of communal moral values in the corresponding year. The columns differ in the minimum number of observations per county-year that are required to be included in the sample. * $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$.

E 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.

F 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*

G Most Common Moral Words from MFD

G.1 American Presidency Project Dataset

Table 27: 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 F for a list of all MFD keywords.

G.2 U.S. Congress Dataset

Table 28: 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 F for a list of all MFD keywords.

Table 29: 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 F for a list of all MFD keywords.

Table 30: 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 F for a list of all MFD keywords.

Table 31: 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 F for a list of all MFD keywords.

H Description of Main Variables

H.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. (2016) and use the bound edition in the main analysis. Gentzkow et al. (2016) show that results for these sessions are robust to which edition they use. See Amer (1993) and Gentzkow et al. (2016) for further discussion. To prepare the speech text for analysis, I take similar steps as described in Gentzkow et al. (2016). 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 communal moral terminology. See Section 4.

Overall morality.

$$\text{Overall morality} = \frac{\text{Ave. In-group} \;+\; \text{Ave. Authority} \;+\; \text{Ave. Care} \;+\; \text{Ave. Fairness}}{\text{Total number of non-stop words}}$$

where

$$\text{Ave. } i = \text{Ave}\left[\text{Ave}_i^{\text{vices}}(\text{word freq.}),\ \text{Ave}_i^{\text{virtues}}(\text{word freq.})\right]$$

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 represents 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.

Frequency of purity / sanctity language. The number of times a candidate used purity / sanctity keywords from the MFD in a given text.

Relative frequency of right-wing vs. left-wing partisan language. Using the 20 most partisan phrases of each congressional session given in the online appendix of Gentzkow et al. (2016), I construct a measure of relative partisan language usage for each document. Specifically, the measure is constructed as

$$\text{Rel. freq. right- vs. left-wing lang.} = \frac{\#\text{right-wing} - \#\text{left-wing}}{\text{Total non-stop words}}$$

where #right-wing and #left-wing are the total number of occurrences of the most Republican and most Democratic phrases, respectively, from the two congressional sessions preceding the election year of the given document.

H.2 Demand Side Analysis

H.2.1 *Research Now* Survey

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

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. (forthcoming). 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 conservatism. 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 categories, I 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.

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.

Ethnicity. 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, in-group / 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"

Trust in mainstream media. "On a scale from 0 (not at all) to 5 (very much), how much trust do you have in mainstream media?"

Trust in politicians. "On a scale from 0 (not at all) to 5 (very much), how much do you trust politicians?"

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.

H.2.2 County-Level Analysis

Relative importance of 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.

% employed in manufacturing. Source: U.S. Census - County Business Patterns.

Geographic covariates. Computed as average within 2010 county boundaries.

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

Trade exposure to China. County-level import penetration by China, average 2001–2016. Computed as in Autor et al. (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.