Looks Like Me, Thinks Like Me? Descriptive Representation and Opinion Congruence in Brazil

Online Appendix

August 11, 2017

1 Legislator Opinion and Roll-Call Votes

As mention in Note 1 in the main text, it is worth considering how legislators' attitudes correspond to legislative activity. Many bills in Brazil never reach a floor vote, and many of those that do are approved or rejected via voice rather than roll-call vote. Our analysis focuses on two bills in the 2011–2014 legislature that can be matched to issue attitudes measured in the BLS: the 2012 Forest Code (Law 12.651/2012), which establishes conservation areas (Gatto and Power, 2016), and a 2014 law for race-based affirmative action in public sector hiring (Law 12.990/2014). In both instances, a "yes" vote corresponds to the more left-wing position. As shown in Figure 1, we find that supporters of each bill expressed more left-wing attitudes on environmentalism and race-based affirmative action, respectively. The difference is not statistically significant for the Forest Code ($p = 0.292$), but it is for the affirmative action bill ($p = 0.005$). These results suggest that legislators' preferences do indeed affect their behavior, alongside other commonly-cited factors such as party discipline.

2 Civil Society Participation by Party

In Section 3 of the main text, we note that PT identifiers rarely attend meetings of civil society organizations or the party itself, and, in a footnote, we claim that figures rarely differ significantly for the PSDB or PMDB. Table 1 reports figures for each party and type of organization. The only significant difference between the PT and the PMDB is in the percentage who never attend women's groups.

3 Public Opinion Among Underrepresented Groups

In Section 3 of the main text, we argue that sex, race, religion, and education cleave public opinion on a variety of issues, meaning that the demographic categories we examine are plausible candidates for studying the implications of descriptive representation for congruence. Table 2 shows

how mean issue attitudes differ for women, Afro-Brazilians, evangelicals, and those with no college education. The table presents coefficients from a simple linear regression of issue opinion (scaled 0–1) on an indicator for each group. For every issue except the environment, attitudes are significantly different for at least one of the demographic groups. For the environment, the difference for those without a college education is of moderate magnitude, though it falls short of statistical significance, most likely given the smaller sample size (a single survey) and the binary measure of opinion.

4   Descriptive Statistics for the Brazilian Legislative Surveys

Table 3 compares three waves of the Brazilian Legislative Surveys (BLS) to the Brazilian Congress as a whole. The BLS is an opt-in rather than random sample of legislators, but on a number of metrics, it is representative of the Congress as a whole. None of the major political parties or regions of the country is consistently over- or underrepresented. Surveyed legislators are also similar to their colleagues in terms of age, gender, and race. Evangelicals and those with no college education are somewhat under-sampled in each wave. However, since our purpose is to examine how these groups differ from their colleagues in terms of congruence, we need not worry about the combination of causal heterogeneity and unrepresentativeness on religion or education.

5   Sampling, Weights, and Demographics for Mass Surveys

The distinct mass surveys used in this analysis employ similar sampling procedures. All of them draw from the entire population of Brazilian adults and employ a multistage probability sampling procedure with quotas for selection of individuals within households. All Latinobarómetro surveys, and the 2007 and 2008 AmericasBarometer surveys, are self-weighted (i.e., nationally representative without employing weights). The 2010 Brazilian Electoral Panel Study and 2012 AmericasBarometer oversampled less populous regions of the country and undersampled more populous regions. Hence, when analyzing these surveys, we employ population weights, calculated using

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census data, to obtain nationally representative estimates. Weights are calculated as

$$w_{r,y} = \frac{P_r}{p_{r,y}}$$

where P_r is the proportion of Brazil's adult population (ages 18 and older) living in region r, and $p_{r,y}$ is the proportion of the sample from year y drawn from region r. Population weights are employed in addition to those described in Sections 13 and 14, below; multiple weights used in the same analysis are multiplied together.

Given the similar sampling procedures, the resulting samples are quite comparable to one another in terms of basic demographics. Table 4 summarizes the percentage of each sample falling into each of the demographic groups we examine, as well as the average age, average municipal population, and percentage of each sample in each region. Population weights are employed for the 2010 Brazilian Electoral Panel Study and 2012 AmericasBarometer. Aside from gradual changes attributable to demographic trends, such as an increase in the share of evangelicals and a decrease in the percentage of Brazilians without no college degree, there are no major differences across samples.

6   Overlap Among Demographic Groups

As shown in Table 5, there is some overlap among the demographic categories examined in this study, but it is not overwhelming. The strongest correlation is between sex and evangelicalism; 52% of all survey respondents are women, versus 59.4% of evangelicals. Evangelicals are also more likely to be Afro-Brazilian (56.4%) than are respondents as a whole (52%). However, none of the overlaps among demographic groups is particularly large, so it should be meaningful to analyze them separately from one another.

7 Alternative Measures of Partisanship

As discussed in Section 4 of the main text, Latinobarómetro (LB), the AmericasBarometer (AB), and the Brazilian Electoral Panel Study (BEPS) measure partisanship in different ways from one another: LB asks what party the respondent would vote for in a hypothetical election, whereas AB and BEPS ask what party he or she sympathizes with. For ideology and gay marriage, the issue areas that draw substantially from both data sources, we calculated our elite-mass difference-in-distributions measure separately using data from LB and from AB/BEPS. For ideology, we limited the analysis to the 2009 and 2013 waves of the BLS, for which we have corresponding mass survey data from both sources. Results are presented in Figure 2. Elite-mass differences in distributions are similar regardless of whether we use LB, AB/BEPS, or both. If the values for one or the other data source were substituted into Figure 2 in the main text, our substantive conclusions would not be affected.

8 Survey Question Wordings

The wording of questions used to operationalize issue attitudes for masses and elites is contained in Table 6. Questions drawn from studies by the Pew Forum on Religion & Public Life and used in the separate analysis of lifelong evangelicals versus converts are listed in Table 7. We present questions from the Churches North and South Project used in analysis of clergy influence and heterogeneity of opinion among churchgoers in Table 8.

9 Pooling Across BLS Waves

As discussed in Section 4 of the main text, most of the issue-areas we examine draw from a single BLS wave, so analysis of these issues compares the opinions of a single set of legislators to one or more contemporaneous measures of public opinion. For economic regime preference and ideology, we have valid measures from three BLS waves and mass opinion surveys from 2002–2013, and

we use all these data for our analysis. As discussed in Sections 13 and 14, we employ weights to ensure that the three BLS waves are weighted equally in the pooled analysis despite cross-wave differences in response rate and the number of mass observations paired to each BLS wave. Hence, no single wave of the BLS disproportionately influences the pooled estimates.

Given that our public opinion data for economic regime preference and ideology span more than a decade, and attitudes could be shifting over time or be unusual during a particular period, it is also worth examining estimates of congruence disaggregated by BLS wave. Figure 3 plots our pooled difference in distributions estimates alongside separate estimates for each BLS wave. Reassuringly, none of our key findings from the pooled analysis are attributable to a single unusual legislative period. In the main text, we note that evangelicals are the most congruent demographic category for economic regime preference and ideology; this is true not only for the pooled analysis, but also for two out of three BLS waves. Likewise, the PT is the least congruent party for ideology in the pooled analysis as well as in each separate BLS wave. While there is some over-time variation in terms of the spread and ordering of congruence estimates, there is no obvious, monotonic pattern of change that might suggest a pooled analysis is misleading or inappropriate.

10   Valid N for Masses and Elites

Table 9 summarizes the valid N of mass and elite respondents for each issue and demographic, partisan, or territorial group.

11   Mean Issue Attitudes of Masses and Elites

Figure 4 summarizes the difference in the mean left-right positions of masses and elites for each issue area and category of representation that we examine. This quantity has a theoretical range of -1 to 1; positive numbers indicate that elites are to the right of masses.

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12 Difference in Distributions Using the KS Statistic

In Figure 2 in the main text, we measure elite-mass congruence using the area between the cumulative distribution functions for masses and elites. Figure 5 shows that we obtain similar results using the Kolmogorov-Smirnov (KS) statistic, which gives the maximum distance between CDFs.

13 Weights for Differences in Distributions

In Section 5 of the main text, we calculate the area between the cumulative distribution functions for masses and elites as a measure of congruence for a given policy area and category of representation. Most policy areas draw from only a single wave of the BLS and several years of mass surveys that are matched to that wave. However, for ideology and economic regime preference, our data span several waves of the BLS. Response rates vary over time for particular categories of legislators in the BLS, such as evangelical Christians or members of the PT (see Table 3). The number of mass survey respondents paired to each BLS wave also varies; we have fewer that correspond to the 2005 survey of legislators, since only Latinobarḿetro, not AmericasBarometer, was conducting surveys in Brazil during that time. If we simply pooled all our data and calculated mass and elite CDFs for these policy areas, we would underweight mass or elite respondents from certain years and overweight others. This could be especially problematic if opinion is shifting over time, as unequal weighting might lead us to underestimate congruence.

To address this issue, we apply weights when calculating the difference in distributions measure for ideology and economic regime preference. Weights return the elite or mass sample to proportionality across BLS waves. For masses, weights are calculated as

$$w_{m,r,p,y} = \frac{1/\#Y_r}{P(y_{m,r,p})}$$

where m denotes masses, r indexes the category of representation, p indexes the policy area, y indexes the corresponding year of the BLS (2005, 2009, or 2013), $\#Y_r$ denotes the number of

waves of the BLS for which we have data on representation category r (2 for Afro-Brazilians; 3 for all others), and $P(y_{m,r,p})$ is the proportion of the pooled mass sample in representation category r, and for which we have a valid measure of policy attitude p, that corresponds to BLS year y. For example, of evangelical respondents for whom we have a valid measure of economic regime preference, 42% correspond to the 2009 BLS wave. Ideally, one-third would correspond to this wave. Hence, the weight applied to these observations is

$$w_{m,evang,econ,2009} = \frac{1/3}{0.42} = 0.79.$$

In addition, all difference-in-distributions analyses that draw from the 2010 BEPS and 2012 AB surveys use population weights, as described in Section 5. In those cases, the weight described above is multiplied by the population weight.

For elites, we use a similarly calculated set of weights, but the target proportionality is derived from the presence of different categories of legislators in the Congress. The elite weights are calculated as

$$w_{e,r,p,y} = \frac{P(y_{c,r})}{P(y_{e,r,p})}$$

where e denotes elites; r, p, and y are defined as above; $P(y_{e,r,p})$ is the elite-survey equivalent of the quantity defined above for masses; and $P(y_{c,r})$ is the proportion of all members of the 52nd-54th Legislatures from representation category r (separately counting repeat terms by the same legislator) that would correspond to BLS year y had they been interviewed. For example, there were 73 evangelicals in the 52nd Legislature (BLS year 2005), 34 in the 53rd (BLS year 2009), and 73 in the 54th (BLS year 2013). Thus, the ideal share of evangelicals in our elite sample corresponding to the 2013 BLS would be 73/(73+34+73), or 41%. In fact, among evangelical legislators for whom we have a valid measure of economic regime preference, 48% correspond to the 2013 BLS wave. Hence, the weight applied to these observations is

$$w_{e,evang,econ,2013} = \frac{0.41}{0.48} = 0.85.$$

14 Weights for Dyadic Regressions

For similar reasons to those described above, we apply weights to the regressions with legislator-constituent dyads. The calculation of these weights is more straightforward than for the difference in distributions. They do not vary by representation category because we analyze all categories together in a single regression. We also do not vary weights by policy area. At the mass level we simply adjust for the number of respondents paired to each BLS wave. Mass weights are calculated as

$$w_{m,y} = \frac{1/3}{P(y_m)}$$

where m denotes masses, y indexes the corresponding year of the BLS (2005, 2009, or 2013), and $P(y_m)$ is the proportion of the pooled mass sample that corresponds to BLS year y. At the elite level, we use the BLS variable PWEIGHT, which adjusts for over- or underrepresentation of particular parties within the sample. Mass and elite weights are merged into the dyadic dataset; the final weight used in the regressions is the product of the mass weight, the elite weight, and the population weights described in Section 5.

15 Simulation: Effect of Elite Sample Size on Congruence

As can be seen in Table 9, the number of legislators with valid measures on each issue varies across groups. Given our many-to-many congruence analysis, which compares the full distribution of opinions for masses and elites, elite sample size has implications for the analysis. There are always more mass respondents than elite respondents in a given category, and with small elite subsamples, it is harder to match the full distribution of mass opinion. Hence, all else equal, congruence tends to be slightly lower when elite sample sizes are smaller.

To demonstrate this effect, we conduct a simulation. For each issue area, we draw random samples of different sizes from the valid elite responses. Simulation sample sizes approximately span the range of empirical sample sizes in our analysis. For ideology and economic regime

preference, which use data from three BLS waves, one-third of each sample is drawn from each wave. For each elite sample, we calculate the level of congruence with the full mass sample for that issue. This exercise is repeated 1,000 times.

As shown in Figure 6, as elite sample size decreases, congruence levels almost always slightly decrease. Hence, evangelical legislators and elites most often demonstrate the highest level of congruence despite a measurement dynamic that tends to reduce congruence levels in small elite samples.

16   Validating the BLS Measure of Clientelism

In our dyadic regressions, we control for the degree to which legislators think that voters demand clientelism, using the CLIENTS variable in the BLS. The translated text of this survey question is as follows:

> Using a scale that goes from 1 to 5, please indicate whether you agree or disagree with the following statements... Despite clientelism being highly criticized, sometimes voters demand that legislators act this way.

In the response options, 1 is labeled "fully disagree," 3 is labeled "neither agree nor disagree," and 5 is labeled "fully agree."

This question is as close as the survey comes to measuring reliance on clientelistic linkages, but it is obviously not the same. To validate this measure, we compare mean scores by party on the BLS CLIENTS variable with those for a composite measure of clientelism (variable b15) from the Democratic Accountability and Linkages Project (DALP), in which country experts were asked to score Latin American parties on a variety of characteristics. Table 10 summarizes these scores (each rescaled from 0 to 1) for the parties covered in both datasets. The rank order of the four least clientelistic parties is the same using either data source, and both place the PT in the middle of the pack (position 6 or 7 of 11). There is somewhat greater divergence in rank ordering among the most clientelistic parties, but overall, the measures are highly correlated ($r = 0.86, p < 0.001$).

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17 Regression Results for Legislator-Constituent Dyads

In Table 11, we present weighted least squares regression results corresponding to Figure 3 in the main text. Table 12 presents coefficients from these regressions estimated without elite- or mass-level control variables; Figure 7 plots the difference in coefficient estimates (parallel to Figure 3 in the main text) for this alternative set of results, which are essentially identical to those analyzed in the main text.

18 Lifelong Evangelicals versus Evangelical Converts

In Section 5 of the main text, we discuss results related to lifelong evangelicals and evangelical converts from the Pew Forum on Religion & Public Life surveys in Brazil. Figure 8 shows levels of elite-mass congruence separately for lifelong evangelicals and converts. Differences between the two groups are small, and we find no consistent patterns; on some issues converts are more congruent, and on other issues they are less so.

19 Churches North and South Project

In Section 5 of the main text, we analyze results from the 2014 Churches North and South Project. The primary location of the project was the Brazilian city of Juiz de Fora, Minas Gerais, a medium-sized city in the Southeast region, with a religious composition essentially identical to that of the country as a whole in the 2010 census.[1] This research was supported by a Fulbright Award and a Small Research Grant from the American Political Science Association and was approved by the Institutional Review Board of the PI's home institution, by the Federal University of Juiz de Fora, and by the municipal public health ministry.

For the clergy survey, ninety-seven evangelical and Catholic clergy were interviewed in Juiz

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[1]In 2010, 65% of both the city and national population reported they were Catholic, and 22% reported they were evangelical. In Juiz de Fora, 5% identify as spiritist, and 5% as having no religion. The respective groups register 2% and 8% across the country as a whole.

de Fora. To verify the extent to which they differed from clergy in other locations, an additional 102 evangelical and Catholic clergy were interviewed in Rio de Janeiro, and 227 interviews were conducted with evangelical clergy attending a professional development conference in the city of Fortaleza, in the Northeast region.[2]

To contact Catholic priests, Juiz de Fora and Rio de Janeiro were stratified into regions based on geography and socioeconomic status. To contact evangelical clergy, interviewers relied on member lists from clergy associations and clergy contacted at association meetings. For comparison with the congregation-level study, this paper only uses data on clergy from Juiz de Fora, but results do not differ significantly for those from other regions. Despite the similarity of attitudes across clergy from various locations, it is unclear how representative they are of the broader national population of clergy, and there is no national-level sampling frame. Nonetheless, to the best of the authors' knowledge, this is the first study to examine the political attitudes and behavior of Brazilian clergy.

The congregation-level study was conducted solely in Juiz de Fora. Though a study of a single city is obviously not representative at the national level, it allows for an in-depth examination of how congregational context shapes mass attitudes, while holding constant the broader municipal context. Eight churches across the metropolitan area were selected to represent conservative and more populist religious traditions within both Catholicism and evangelicalism, as well as neighborhoods of different socioeconomic levels. The sample includes three traditional Catholic churches—one each in upper-class, working-class and poor neighborhoods—and a Charismatic Catholic church catering to the working class. In addition, it includes two traditional (i.e., "Mainline" or "historical") evangelical churches and two Pentecostal evangelical churches of upper middle-class and working-class profiles. Where possible, Catholic and evangelical churches were selected in the same neighborhoods, though several churches were large and centrally-located, drawing participants from across the city. Quantitative exit interviews were conducted with approximately fifty attendees at worship services in each church. Interviewers used gender quotas

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[2]The conference, organized by the Apostolic Discipleship Movement (Movimento do Discipulado Apostólico, MDA, http://www.visaomda.com), was a professional development seminar on a church growth strategy involving methods of discipleship and ministry in cell groups.

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and were told to approach every second person exiting the church. To assess the extent to which socialization in churches imposes constraint beyond that found in the broader population, interviews were also conducted in five neighborhood sites near the churches: four health clinics and, to capture upper-income citizens who use private health providers, a shopping mall catering to the upper-middle class.

# 20   Variance Function Regression Results

We draw on the congregation-level survey of the Churches North and South Project to conduct a variance function regression (Western and Bloome, 2009). In Tables 13 and 14, we present full results from the first and second stage models, both estimated using Ordinary Least Squares (OLS). The second stage coefficients and 95% confidence intervals are reported in Figure 5 of the main text. As explained in Section 5 of the main text, the first stage entailed regressing public opinion measures, all rescaled to run from 0 to 1, on indicators for the separate church and community sites.[3] In the first stage regression results presented in Table 13, we find that there are many differences across sites in mean attitudes, especially on gay marriage and abortion. The second stage models regress the squared residuals from the first stage regression on indicators for Catholic church and non-religious community site, with evangelical church as the excluded category. When mean squared residuals are larger in magnitude, it indicates greater site-level heterogeneity in opinion among respondents from that type of site.

Western and Bloome (2009) recommend using iterated gamma regression in the second stage of the variance function regression. For ease of interpretation, we present OLS results in the main text. In Tables 15 and 16 below, we present results from iterated gamma regression analysis. Results are similar to those obtained using OLS.

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[3]The omitted site is "Evangelical Church 1."

Figure 1: Legislative Opinion and Behavior: Roll-Call Votes and Corresponding Issue Attitudes.
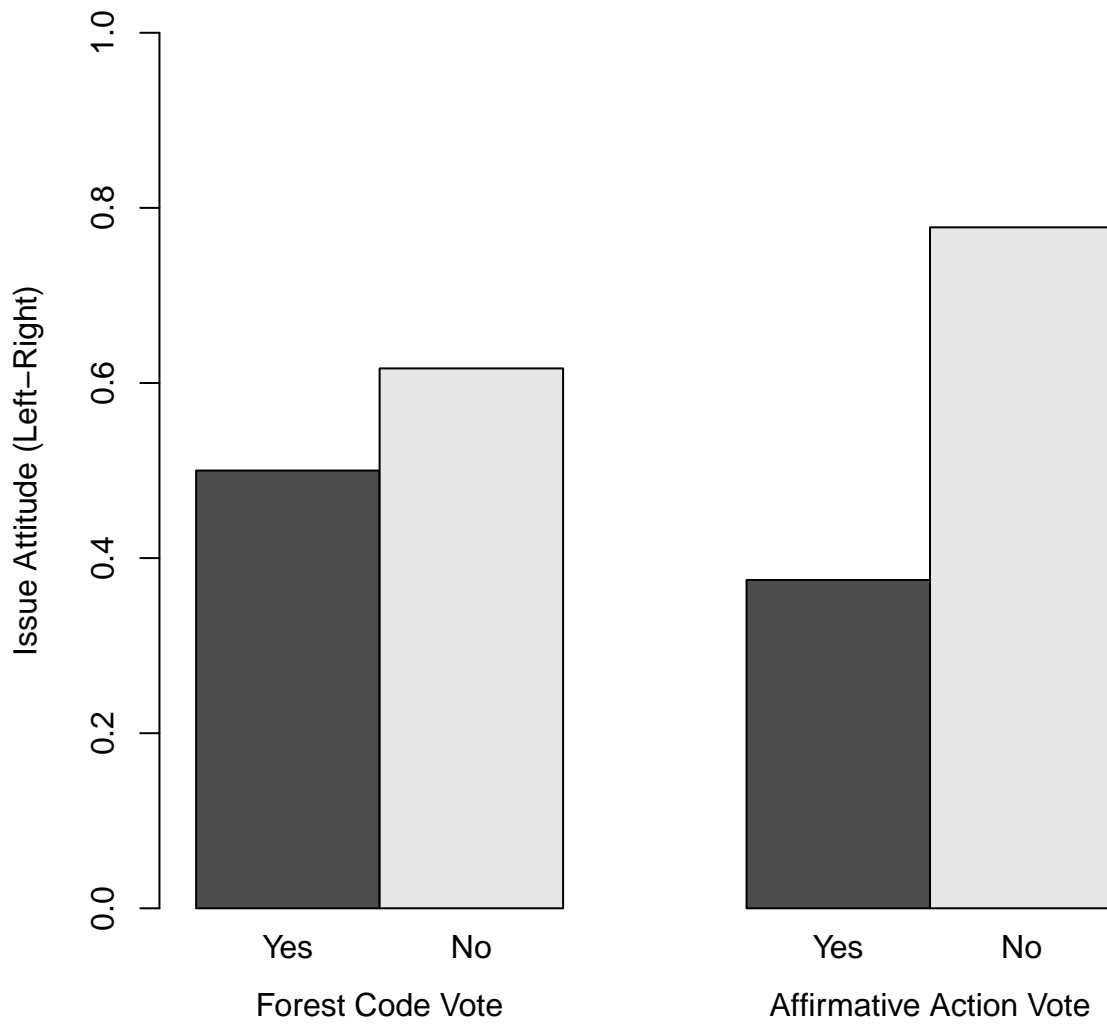
NOTE: Issue attitudes are regarding environmentalism for the Forest Code vote and
race–based quotas for the affirmative action vote. See main text for details on each bill.

Table 1: Civil Society Participation by Party Sympathy

Organization Type	Meeting Attendance Frequency			
	Once a week	1–2 times a month	1–2 times a year	Never
Community Association				
PMDB	1.5	8.0	6.2	84.3
PSDB	2.0	6.7	9.9	81.4
PT	2.2	7.2	9.5	81.2
Professional Association				
PMDB	1.5	5.7	4.8	88.0
PSDB	0.0	3.2	5.8	91.0
PT	1.5	3.0	7.0	88.5
Labor Union				
PMDB	0.0	2.7	9.5	87.8
PSDB	2.7	4.1	11.0	82.2
PT	1.2	4.3	7.7	86.7
Women's Group				
PMDB	0.0	4.6	1.0	94.4
PSDB	3.3	1.9	4.1	90.8
PT	4.0	3.6	4.5	87.9
Political Party				
PMDB	1.6	2.6	8.9	87.0
PSDB	1.1	3.7	7.7	87.5
PT	0.9	2.1	9.0	87.9

NOTE: Entries are row percentages based on the combined AmericasBarometer Brazil surveys from 2007, 2008, 2010, and 2012, except for labor unions (not asked in 2010-2012) and women's groups (not asked in 2007). Population weights are applied in 2010 and 2012.

Table 2: How Public Opinion Differs for Minority Groups

Group	Economic Regime	Ideology	Gay Marriage	Race Quotas	Class Quotas	Environ- ment	Abortion
Evangelical	-0.003	0.004	**0.17**	-0.034	-0.013	-0.002	**0.03**
	(0.006)	(0.005)	**(0.013)**	(0.018)	(0.02)	(0.032)	**(0.013)**
No College	**0.016**	**0.038**	**0.106**	**-0.259**	**-0.101**	0.052	**0.052**
	(0.007)	**(0.006)**	**(0.017)**	**(0.025)**	**(0.029)**	(0.035)	**(0.02)**
Afro-Brazilian	-0.002	**0.013**	**0.054**	**-0.105**	-0.007	0.008	0.015
	(0.006)	**(0.005)**	**(0.011)**	**(0.016)**	(0.017)	(0.025)	(0.012)
Female	**-0.014**	-0.004	**-0.055**	0.01	-0.016	-0.012	**0.029**
	(0.005)	(0.004)	**(0.011)**	(0.016)	(0.017)	(0.025)	**(0.012)**

Entries are coefficients from a simple linear regression of issue opinion (scaled 0–1) on an indicator for each group. Estimated standard errors are in parentheses. Bolded entries are statistically significant at $p < 0.05$. Population weights are applied for BEPS 2010 and AB 2012.

Table 3: BLS Surveys vs. Corresponding Legislature

	BLS 2005	52nd Leg.	BLS 2009	53rd Leg.	BLS 2013	54th Leg.
N	124	594	139	594	148	594
Demographics						
Evangelical	0.08	0.14	0.08	0.13	0.09	0.15
Female	0.09	0.09	0.1	0.1	0.12	0.1
Afro-Brazilian			0.14	0.12	0.21	0.19
No College	0.08	0.15	0.09	0.12	0.12	0.13
Average Age	54	54	55	55	57	55
Region						
South	0.18	0.14	0.12	0.14	0.15	0.14
Southeast	0.31	0.32	0.37	0.32	0.3	0.32
Northeast	0.08	0.09	0.09	0.09	0.11	0.09
North	0.14	0.14	0.13	0.14	0.14	0.14
Center-West	0.28	0.3	0.29	0.3	0.3	0.3
Party						
PT	0.21	0.17	0.17	0.16	0.13	0.17
PMDB	0.17	0.16	0.16	0.17	0.18	0.16
PSDB	0.16	0.14	0.18	0.13	0.1	0.11
DEM	0.13	0.17	0.14	0.14	0.07	0.09

NOTE: Entries are proportions, except for average age and N. Age is measured as of the year of each BLS survey. Party is measured at the time of election. Data on legislatures are from the Superior Electoral Tribunal (TSE) and correspond to election winners; they do not account for leaves of absence or replacements (*suplentes*).

Table 4: Descriptive Statistics for Mass Surveys

	LB 2002	LB 2003	LB 2004	LB 2005	LB 2006	LB 2007	AB 2007	LB 2008	AB 2008	LB 2009	LB 2010	BEPS 2010	LB 2011	AB 2012	LB 2013
Demographics															
Age	37.4	38.0	38.3	38.4	38.8	39.2	39.8	39.7	41.4	39.8	40.3	39.4	40.4	38.0	41.0
Evangelical	17.5	19.7	19.0	21.0	18.7	18.6	17.0	18.4	19.5	21.6	21.2	26.2	19.8	24.4	22.1
No College	92.8	90.8	91.2	90.9	89.0	89.3	91.1	87.6	89.5	87.5	87.4	90.2	86.2	85.7	86.0
Afro-Brazilian						48.6	53.0	48.4	46.9	51.4	50.6	57.6	47.6	56.9	47.0
Female	51.4	52.2	52.2	52.3	52.2	52.3	50.5	52.3	53.7	52.1	52.2	52.6	52.2	50.2	52.3
Municipality															
Log Population	12.2	12.2	12.2	12.2	12.2	12.3	12.1	12.3	12.0	12.3	12.0	12.6	12.4	12.2	12.3
Region															
South	15.5	15.2	16.3	16.3	15.1	15.1	15.2	15.1	15.4	15.1	15.1	14.9	17.4	14.9	16.3
Southeast	44.8	44.6	44.2	43.0	44.2	44.2	44.1	44.2	43.2	44.2	44.2	43.8	43.6	43.8	43.0
North	6.3	6.8	7.0	7.0	7.0	7.0	5.8	7.0	5.8	7.0	7.0	7.4	7.0	7.4	8.1
Northeast	26.8	26.6	25.6	26.7	26.7	26.7	27.1	26.7	27.7	26.7	26.7	26.6	25.0	26.6	25.6
Center-West	6.6	6.8	7.0	7.0	7.0	7.0	7.9	7.0	7.9	7.0	7.0	7.3	7.0	7.3	7.0

NOTE: Entries are percentages, except for Age and Log Population, which are means. LB = Latinobarómetro, AB = AmericasBarometer, BEPS = Brazilian Electoral Panel Study. Population weights are applied for BEPS 2010 and AB 2012.

Table 5: Overlap Among Demographic Categories

	Female	Afro-Brazilian	Evangelical	No College
		Percent who are:		
Respondents				
All	52.1	51.6	20.8	89.0
Female		49.9	23.9	88.5
Afro-Brazilian	50.3		23.2	92.2
Evangelical	59.9	55.8		91.1
No College	51.8	53.8	21.3	

NOTE: Data are from the pooled mass surveys (years 2002–2013) used in the main analysis. Population weights are applied for BEPS 2010 and AB 2012.

Figure 2: Opinion Congruence: Differences in Distributions Using Alternative Measures of Partisanship
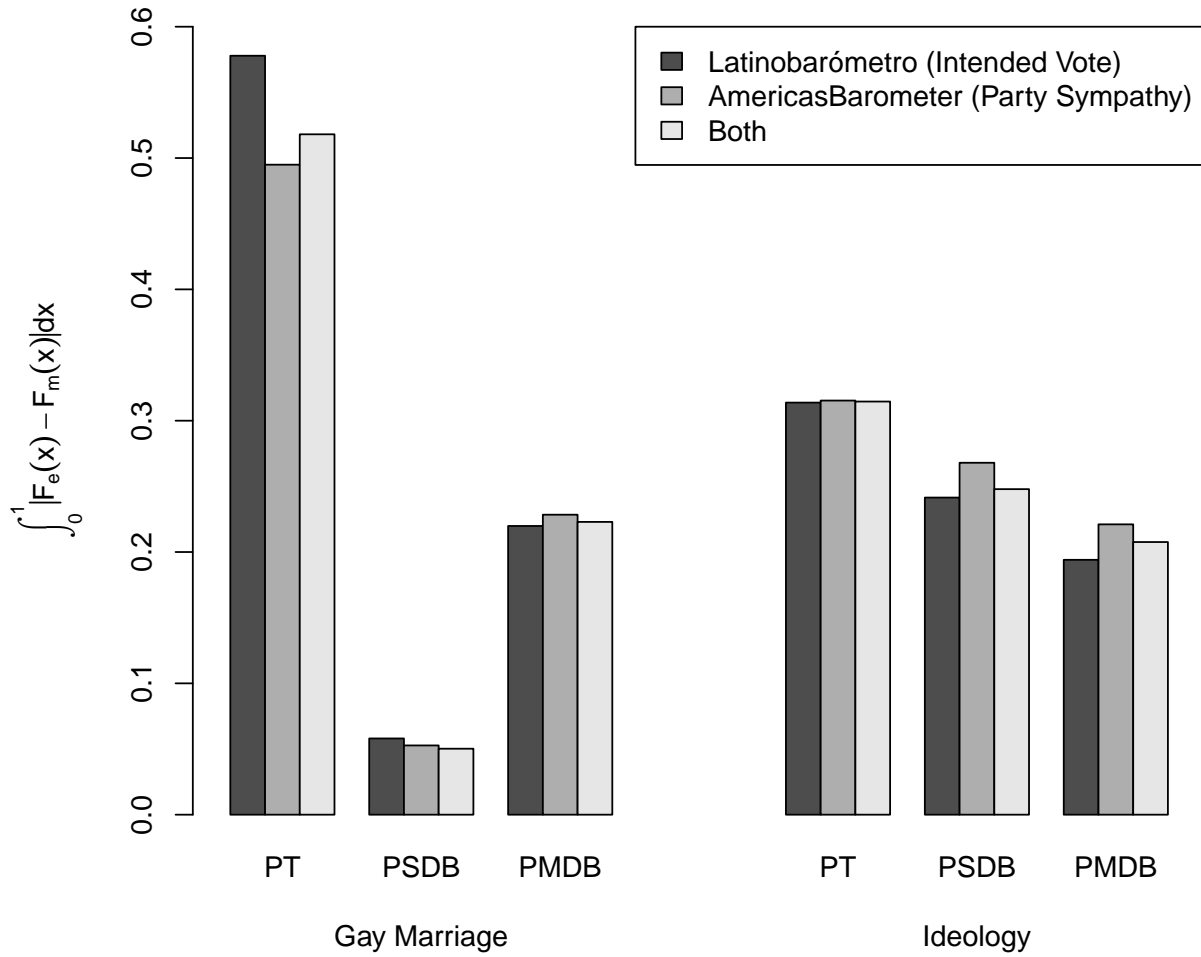
Table 6: Survey Questions Used to Measure Congruence

BLS question	Mass survey questions
BLS 2013: Homosexual couples should have the right to marry (1 = Strongly disagree, 5 = Strongly agree).	**LB 2010**: Do you strongly agree, agree, disagree, or strongly disagree with the following statements I am going to read?: Homosexual marriage. **BEPS 2010, AB 2012**: How strongly do you approve or disapprove of same-sex couples having the right to marry?
BLS 2013: Abortion should be prohibited in any circumstances (1 = Strongly disagree, 5 = Strongly agree).	**BEPS 2010**: Which of these statements best expresses your opinion? (1) Abortion should not be permitted by law in any circumstances; (2) abortion should be permitted by law in some exceptional circumstances; (3) abortion should be permitted by law, for any reason, in the early stages of pregnancy; or (4) abortion should be permitted by law, without restrictions.
BLS 2013: It is fair for public universities to reserve slots for people of African descent (1 = Strongly disagree, 5 = Strongly agree).	**BEPS 2010**: Please tell me to what extent you agree or disagree with the following statement: It is fair for public universities to reserve slots for people of African descent (Black or mixed-race people).
BLS 2013: It is fair for public universities to reserve slots for people from low-income families (1 = Strongly disagree, 5 = Strongly agree).	**BEPS 2010**: Please tell me to what extent you agree or disagree with the following statement: It is fair for public universities to reserve slots for people from low-income families.
BLS 2013: Which of these is closer to your point of view? (1) Defending the environment should be a priority, even if it causes slower economic development and fewer jobs, or (2) Economic development and job creation should be priorities even if the environment suffers some damage.	**LB 2011**: With which of the following statements do you most agree? (1) Priority should be given to the development of the economy even if it means harming the environment, or (2) Priority should be given to the protection of the environment even if it means that economic growth is slower.
BLS 2005, 2009, 2013: Now let's imagine that on this line the number 1 corresponds to "left," the number 5 to "center," and the number 10 to "right." As you can see, a person who was very left-wing would be at number 1, and one who was very right-wing would be at 10. Where would you place yourself?	**LB (all)**: In politics, we normally talk about "left" and "right." In a scale where 0 is "left" and 10 is "right," where would you place yourself? **AB (all)**: On this card there is a 1–10 scale that goes from left to right. The number one means left and 10 means right. Nowadays, when we speak of political leanings, we talk of those on the left and those on the right. In other words, some people sympathize more with the left and others with the right. According to the meaning that the terms "left" and "right" have for you, and thinking of your own political leanings, where would you place yourself on this scale? Tell me the number.

BLS 2005, 2009, 2013. In your opinion, what type of economic system is most appropriate for Brazil? (1) A predominantly market economy with the least possible participation of the State. (2) An economic system in which there is an equal distribution of responsibilities between state-owned firms and private firms. (3) An economy in which state-owned firms and the State constitute the main sector, but without eliminating the market economy. (4) An economy in which private capital is totally banished from the main sectors of the economy, with large firms becoming state-controlled.

LB: Do you strongly agree, agree, disagree, or strongly disagree with the following statements I am going to read?
–The less that government intervenes in the economy, the better it is for the country **(2002)**
–The market economy is the best for the country **(2002, 2007, 2009)**
–Private enterprise is indispensable for the development of the country **(2004, 2005, 2007, 2009, 2010, 2011)**
–The market economy is the only system with which Brazil can become a developed country **(2003, 2004, 2005, 2007, 2008, 2009, 2010, 2011, 2013)**
–The privatization of state companies has been beneficial to the country **(2002, 2003, 2005, 2007, 2009, 2010, 2011, 2013)**

LB 2006: Who do you think has to create wealth in our society, the state or private enterprises? On the same scale of 1 to 10, where 1 means that "the state has to produce wealth" and 10 that "private enterprises have to produce wealth," where would you put your opinion?

AB 2007: Now I am going to read you a series of statements, and I would like you to tell me if you strongly disagree, disagree, agree, or strongly agree. The less the government interferes in the economy, the better for the country.

**Table 7:** Survey Questions Used for Analysis of Lifelong Evangelicals versus Converts

Issue area	Mass survey questions
Economic Regime	**Pew 2006, 2014**: Please tell me whether you completely agree, mostly agree, mostly disagree or completely disagree with the following statements. Most people are better off in a free market economy, even though some people are rich and some are poor.
Ideology	**Pew 2006**: Some people talk about politics in terms of left, center and right. On a ten-point scale, with 1 indicating extreme left and 10 indicating extreme right, where would you place yourself? **Pew 2014**: *A Brazil-specific ideology question is included in the dataset, but the wording is not listed in the topline questionnaire.*
Abortion	**Pew 2006**: Please tell me whether you completely agree, mostly agree, mostly disagree or completely disagree with the following statements. The government should not interfere with a woman's ability to have an abortion. **Pew 2014**: Do you think having an abortion should be legal in all cases, legal in most cases, illegal in most cases, or illegal in all cases?
Gay Marriage	**Pew 2014**: Do you strongly favor, favor, oppose, or strongly oppose allowing gays and lesbians to marry legally?

Table 8: Survey Questions Used for Analysis of Churches (Churches North and South Project)

| **Clergy survey questions:**	**Church and community site survey questions:**
How frequently are the following topics discussed in your church? *(1 = Very rarely, 5 = Very frequently)*	*To what extent do you agree or disagree with the following proposals for laws?* *(1 = Strongly disagree, 5 = Strongly agree)*
The sin of homosexuality	Implementing legal gay marriage
The sin of abortion	Legalizing abortion
The need to take care of the environment	Implementing strong policies to protect the environment
The fight against racism and discrimination	Strengthen policies to combat racism and discrimination

Figure 3: Opinion Congruence: Differences in Distributions, Disaggregated by Legislature

Distance Between Mass and Elite Respondents
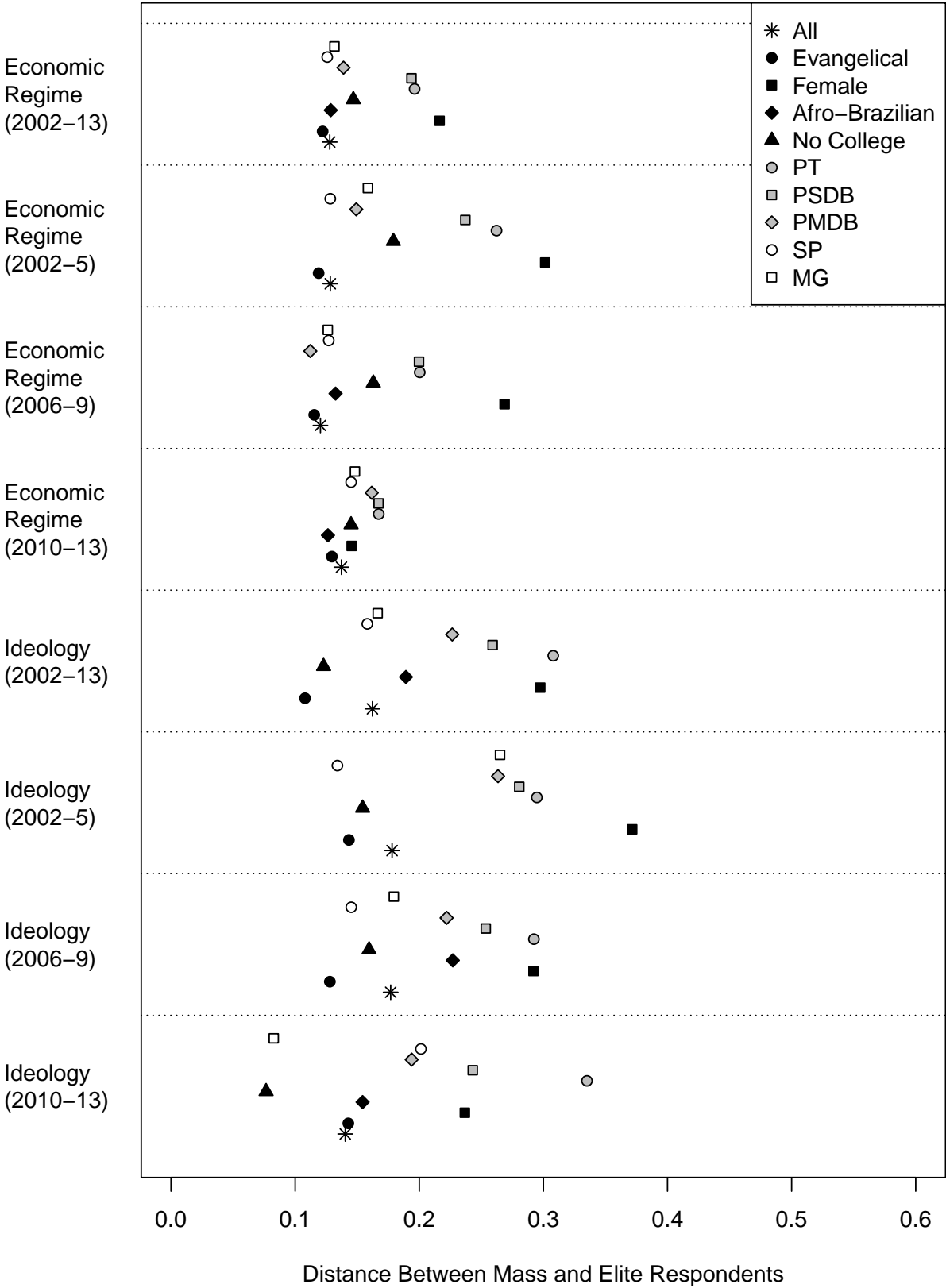
Table 9: Valid N (Unweighted) by Issue and Group

	Economic Regime	Ideology	Race Quotas	Class Quotas	Abortion	Gay Marriage	Environ- ment
Years	'02–'13	'02–'13	'10–'13	'10–'13	'10–'13	'10–'13	'11–'13
Elites							
All	394	305	143	144	144	142	140
Evangelical	30	25	13	13	13	13	13
Female	42	33	18	18	18	18	18
Afro-Brazilian	48	38	30	30	30	29	30
No College	40	33	17	17	17	17	16
Party: PT	66	51	18	18	18	18	19
Party: PSDB	57	38	15	15	15	15	11
Party: PMDB	65	56	24	26	25	25	26
State: MG	45	34	14	15	15	15	14
State: SP	46	31	17	17	17	17	17
Masses							
All	11,676	15,193	2,551	1,353	1,184	4,953	1,131
Evangelical	2,208	3,068	708	370	320	1,249	214
Female	5,772	7,536	1,321	731	643	2,540	578
Afro-Brazilian	3,338	5,483	1,487	762	663	2,813	532
No College	10,192	13,263	2,260	1,213	1,065	4,323	966
Party: PT	2,886	3,747	642	436	391	1,191	339
Party: PSDB	696	805	102	76	68	211	63
Party: PMDB	596	814	164	110	104	248	47
State: MG	1,205	1,581	183	108	91	415	128
State: SP	2,613	3,160	382	171	145	806	250

Figure 4: Opinion Congruence: Mean Differences in Elite and Mass Positions

Difference in Means (Elites − Masses)
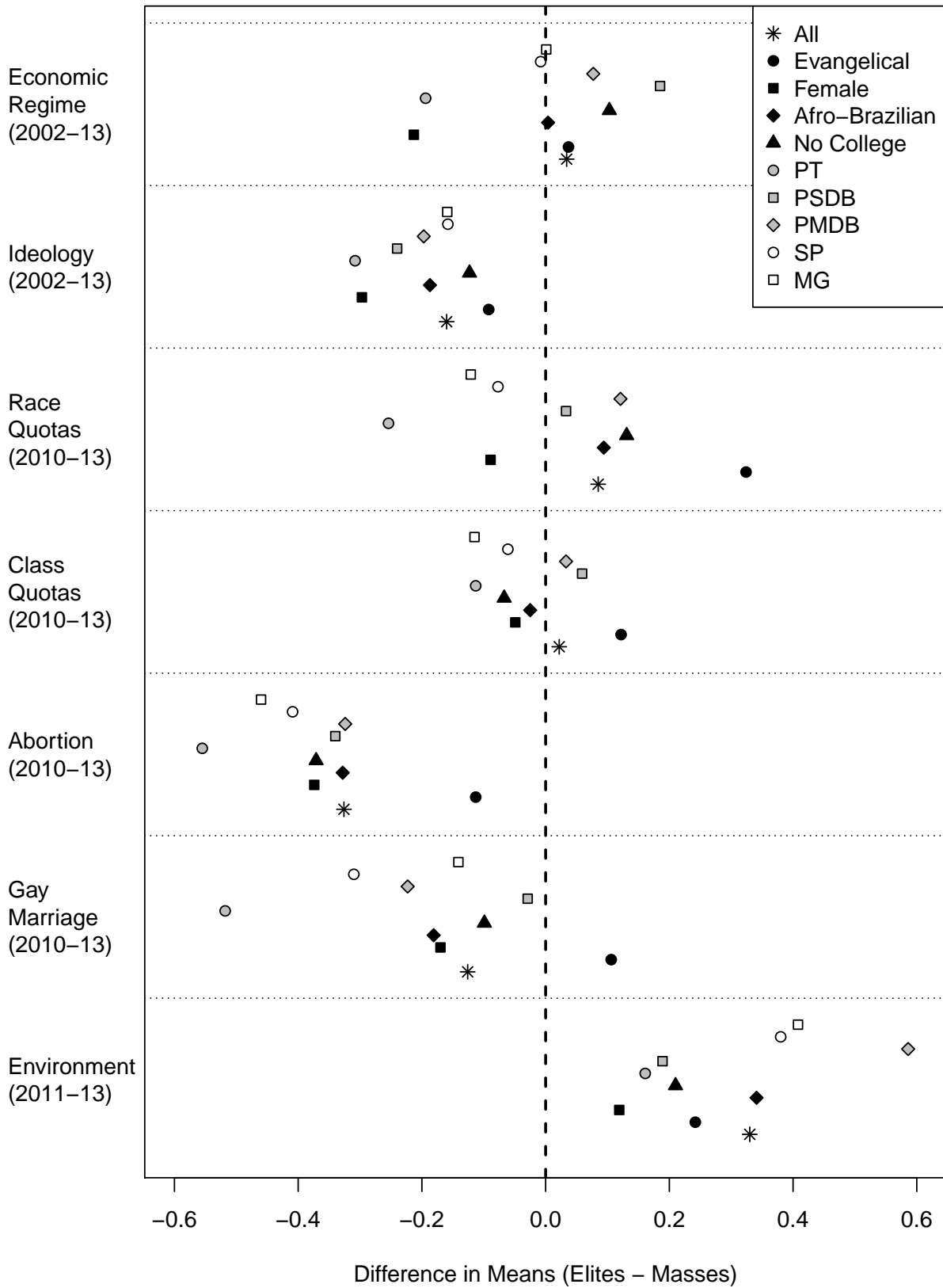
Figure 5: Opinion Congruence: Differences in Distributions using KS Statistics
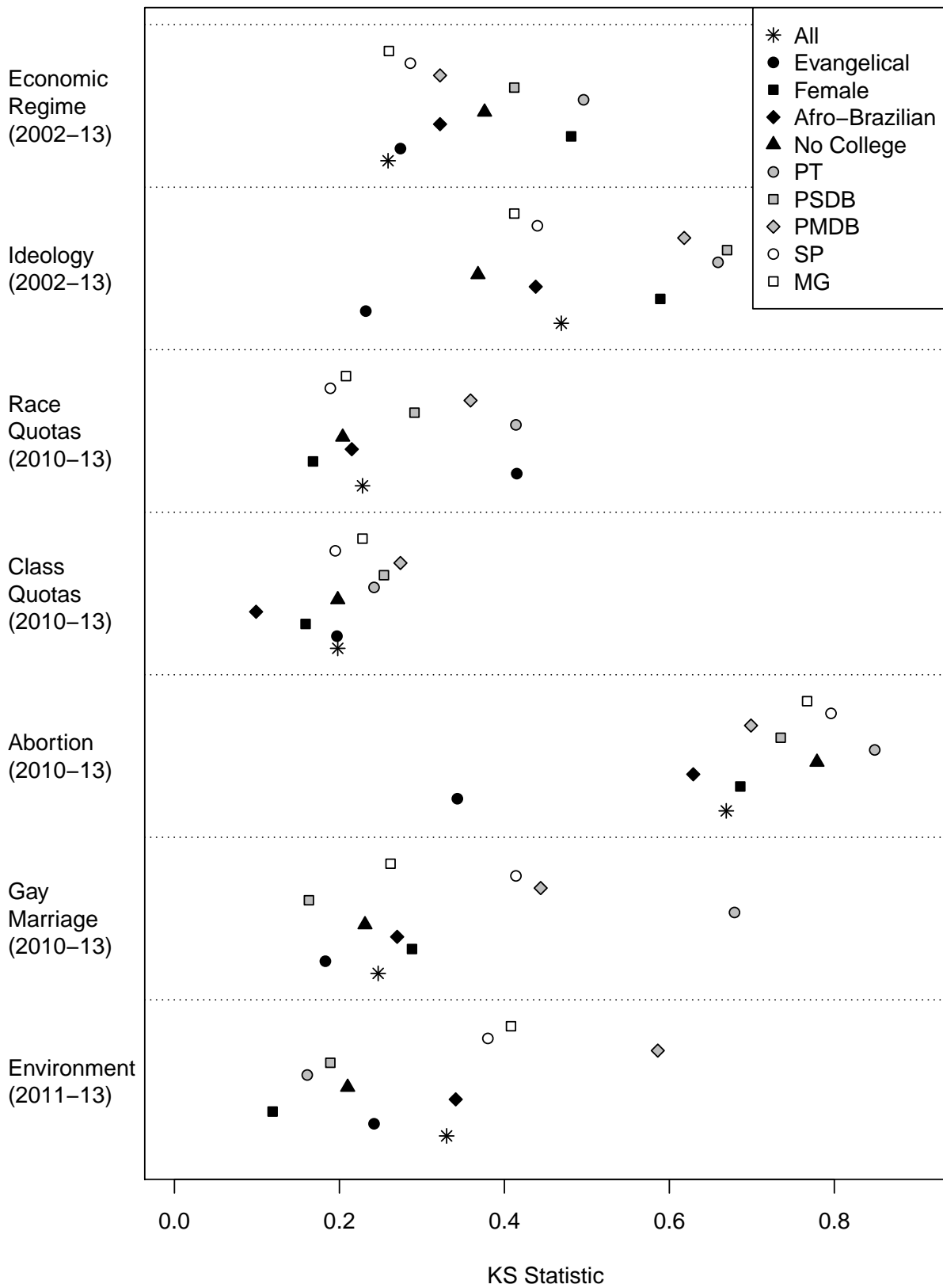
Figure 6: Elite Sample Size and Congruence: Simulation Results
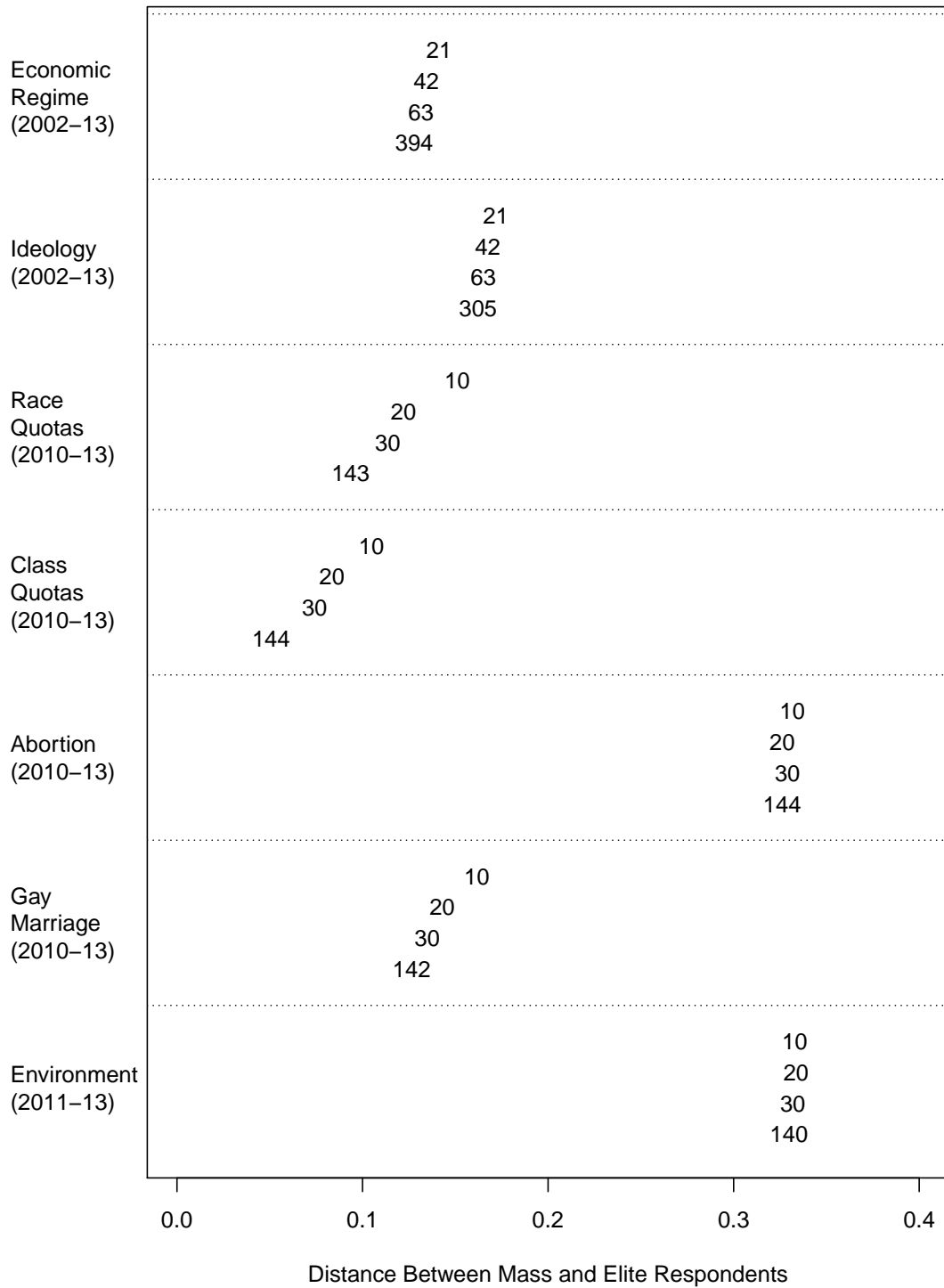
NOTE: Entries correspond to sample sizes. The largest number for each area is the full sample size; smaller numbers correspond to the N of subsamples used in the simulation.

Table 10: Measures of Clientelism: Brazilian Legislative Surveys vs. Democratic Accountability and Linkages Project

Party	BLS		DALP	
	Score	Rank	Score	Rank
PR/PL	0.732	1	0.778	5
PTB	0.708	2	0.830	3
PDT	0.662	3	0.667	6
DEM/PFL	0.659	4	0.847	2
PMDB	0.652	5	0.880	1
PT	0.632	6	0.593	7
PP	0.613	7	0.819	4
PSDB	0.572	8	0.520	8
PSB	0.534	9	0.492	9
PPS	0.404	10	0.452	10
PC do B	0.292	11	0.311	11

NOTE: Entries are party-level averages. Measures of clientelism are the variable CLIENTS from the Brazilian Legislative Surveys (BLS) and the variable b15 from the Democratic Accountability and Linkages Project (DALP). Both are rescaled from 0 (theoretical minimum) to 1 (theoretical maximum).

Table 11: Congruence: WLS Regression Results

	Econ. Reg. '07–'13	Econ. Reg. '02–'13	Ideology '07–'13	Ideology '02–'13	Race Quotas	Class Quotas	Abortion	Gay Marriage	Environment
Descriptive Rep.									
Evangelical	-0.025	-0.039	-0.032*	-0.039**	0.102*	0.094	-0.088†	-0.118***	-0.002
	(0.031)	(0.024)	(0.015)	(0.014)	(0.046)	(0.068)	(0.053)	(0.034)	(0.061)
Female	-0.002	0.039	0.03	0.061*	-0.061**	-0.062†	0.103†	0.026	-0.16**
	(0.031)	(0.034)	(0.023)	(0.028)	(0.021)	(0.034)	(0.062)	(0.017)	(0.061)
No College	-0.014	0.014	-0.022	-0.02	0.031	-0.071*	0.008	-0.012	-0.067
	(0.023)	(0.021)	(0.017)	(0.015)	(0.043)	(0.028)	(0.049)	(0.021)	(0.07)
Afro-Brazilian	0.005		0.007		-0.023	-0.033	0.011	0.035†	0.015
	(0.021)		(0.013)		(0.03)	(0.031)	(0.045)	(0.019)	(0.048)
Traditional Rep.									
Same Party	0.001	0.011	0.061***	0.047***	-0.08***	-0.079***	0.102**	0.061***	-0.04
	(0.015)	(0.011)	(0.011)	(0.009)	(0.015)	(0.018)	(0.034)	(0.013)	(0.034)
Same State	-0.007	-0.001	0.012	0.011	-0.008	-0.014	0.031†	-0.008	0.011
	(0.009)	(0.009)	(0.009)	(0.008)	(0.01)	(0.011)	(0.019)	(0.009)	(0.025)
Mass Controls									
Age	0	0	0.001***	0.001***	0	0	0*	0.001†	0
	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	(0)
News	0	0.002†	-0.001	-0.007***	0.008**	0.009†	-0.002	0.004**	0.001
	(0.001)	(0.001)	(0.001)	(0.001)	(0.003)	(0.005)	(0.003)	(0.001)	(0.002)
Log Muni. Pop.	0	0	-0.002**	-0.005***	0	-0.01***	-0.001	-0.001	0
	(0)	(0)	(0.001)	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)	(0.001)
Elite Controls									
Experience	0	0	0	-0.001	0	-0.002	0.004†	0	-0.008*
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.002)	(0.003)	(0.001)	(0.003)
Corp. Donations	-0.006	-0.003	-0.005	-0.008*	0.007	0.015†	-0.012	-0.004	0.027
	(0.006)	(0.005)	(0.005)	(0.004)	(0.008)	(0.009)	(0.015)	(0.005)	(0.018)
Clientelism	0.009	-0.001	-0.029	-0.021	-0.002	-0.031	0.003	-0.019	0.098
	(0.025)	(0.021)	(0.021)	(0.016)	(0.033)	(0.046)	(0.049)	(0.019)	(0.068)
Sample Size									
N	906,153	1,460,625	1,064,878	1,484,510	325,897	167,904	144,576	677,198	151,385
N elites	245	330	191	265	143	144	144	142	137
N masses	6,741	11,428	10,255	14,688	2,279	1,166	1,004	4,769	1,105

NOTE: Dependent variable is the absolute value of the difference in opinion for elite-mass dyads. Entries in parentheses are estimated standard errors, clustered on elite respondent and mass respondent. Intercept and fixed effects for each mass survey estimated but not reported. Observations weighted to correct for disproportionality in legislators' parties and the number of dyads per BLS wave. †$p < .1$, *$p < .05$, **$p < .01$, ***$p < .001$.

**Table 12:** Congruence: WLS Regression Results (Without Controls)

	Econ. Reg. '07–'13	Econ. Reg. '02–'13	Ideology '07–'13	Ideology '02–'13	Race Quotas	Class Quotas	Abortion	Gay Marriage	Environment
Descriptive Rep.									
Evangelical	-0.024	-0.038	-0.028*	-0.031*	0.097*	0.084	-0.091	-0.115***	-0.008
	(0.032)	(0.024)	(0.013)	(0.013)	(0.046)	(0.07)	(0.056)	(0.033)	(0.065)
Female	-0.004	0.039	0.031	0.059†	-0.064**	-0.06†	0.098	0.031†	-0.168**
	(0.03)	(0.034)	(0.024)	(0.031)	(0.02)	(0.036)	(0.061)	(0.017)	(0.065)
No College	-0.012	0.014	-0.017	-0.013	0.027	-0.075*	0.01	-0.007	-0.09
	(0.023)	(0.022)	(0.016)	(0.015)	(0.043)	(0.03)	(0.052)	(0.021)	(0.071)
Afro-Brazilian	-0.004		0.013		-0.023	-0.03	0.004	0.034†	0.016
	(0.022)		(0.013)		(0.03)	(0.032)	(0.045)	(0.019)	(0.049)
Traditional Rep.									
Same Party	-0.002	0.014	0.061***	0.053***	-0.087***	-0.076***	0.103**	0.066***	-0.057
	(0.015)	(0.011)	(0.011)	(0.009)	(0.015)	(0.018)	(0.034)	(0.014)	(0.037)
Same State	-0.007	-0.001	0.013	0.014†	-0.009	-0.022†	0.032	-0.007	0.007
	(0.009)	(0.009)	(0.008)	(0.009)	(0.01)	(0.012)	(0.02)	(0.009)	(0.028)
Sample Size									
N	930,714	1,497,844	1,103,814	1,532,846	353,639	194,112	169,776	685,150	155,680
N elites	248	333	193	267	143	144	144	142	140
N masses	6,827	11,578	10,522	15,013	2,473	1,348	1,179	4,825	1,112

NOTE: Dependent variable is the absolute value of the difference in opinion for elite-mass dyads. Entries in parentheses are estimated standard errors, clustered on elite respondent and mass respondent. Intercept and fixed effects for each mass survey estimated but not reported. Observations weighted to correct for disproportionality in legislators' parties and the number of dyads per BLS wave. †$p < .1$, *$p < .05$, **$p < .01$, ***$p < .001$.

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Figure 7: Opinion Congruence: Effect Comparisons (No Controls)

Difference in $\hat{\beta}$ (point estimates and 95% confidence intervals)
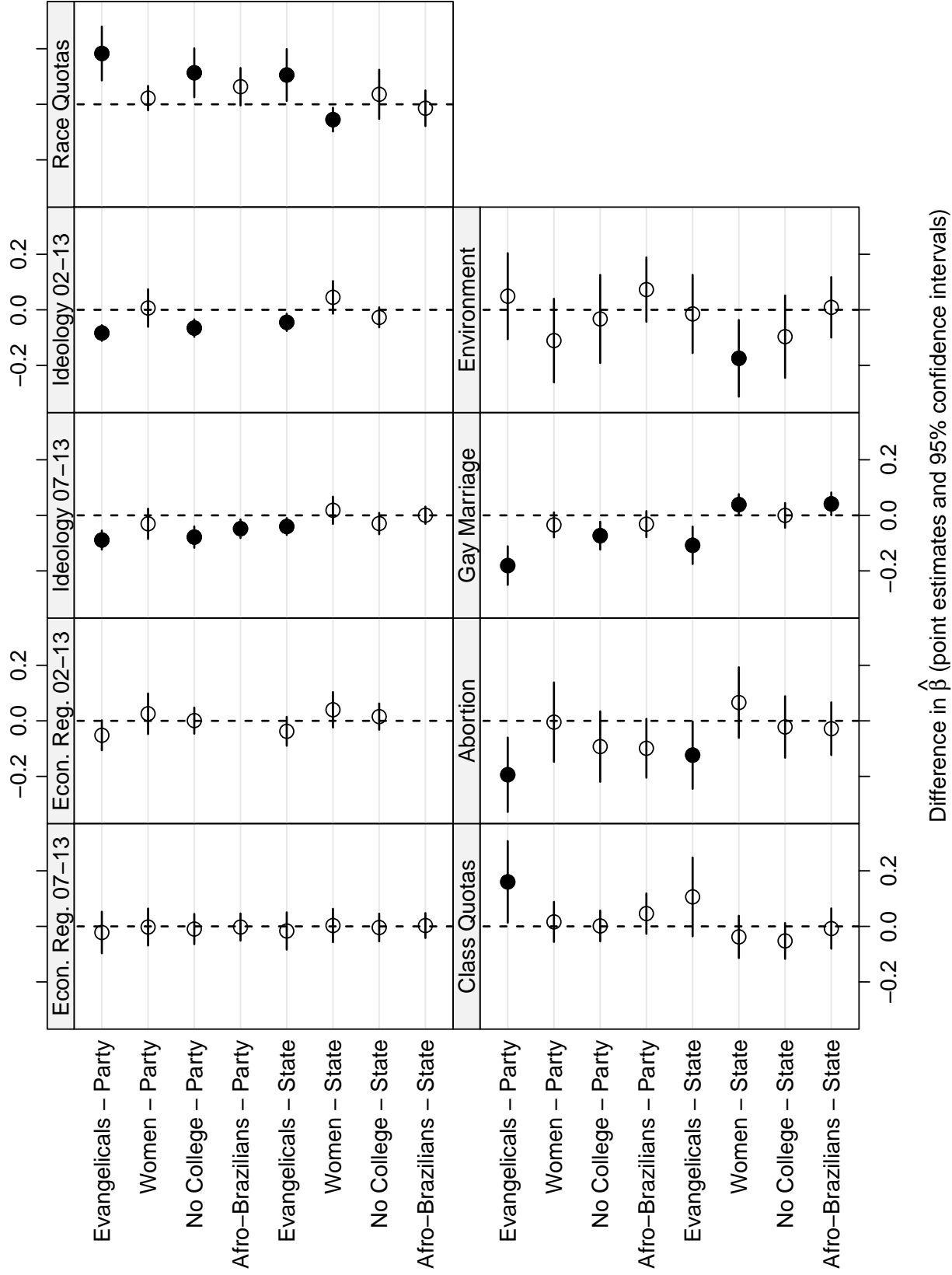
NOTE: Negative values mean that the first group is more congruent than the second. Solid dots indicate differences that are statistically significant at $p < 0.05$.

Figure 8: Opinion Congruence: Lifelong Evangelicals versus Converts. Data sources listed in the main text.
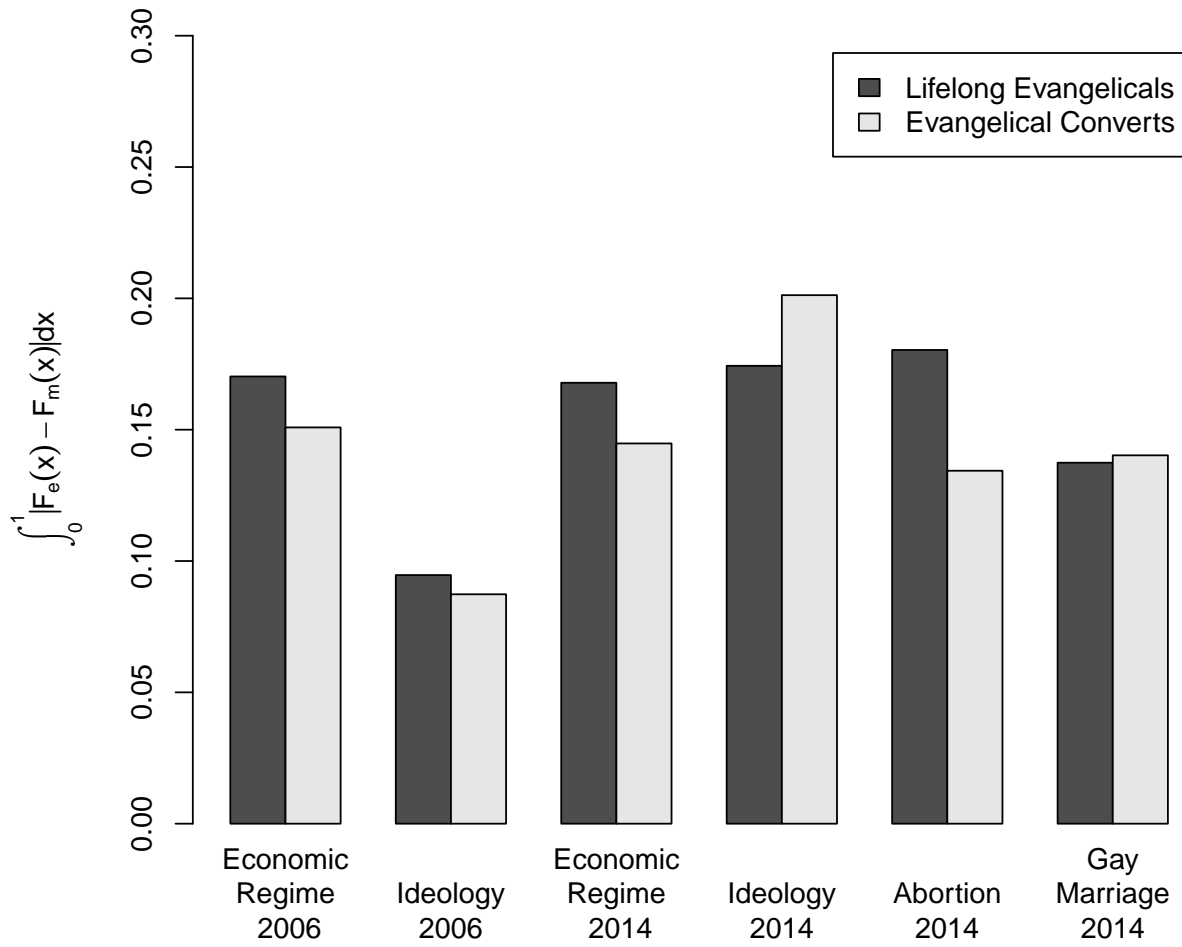
Table 13: Variance Function Regression (Ordinary Least Squares): First Stage Results

	(1) Environment	(2) Gay Marriage	(3) Abortion	(4) Racism
Catholic Church 1	0.034	0.430	0.130	0.124
	(0.036)	(0.066)	(0.055)	(0.042)
Catholic Church 2	0.035	0.200	0.008	0.151
	(0.052)	(0.098)	(0.082)	(0.062)
Catholic Church 3	0.002	0.085	-0.067	0.103
	(0.042)	(0.076)	(0.063)	(0.048)
Evangelical Church 2	0.023	0.075	-0.031	0.041
	(0.034)	(0.063)	(0.052)	(0.040)
Evangelical Church 3	-0.028	-0.010	0.124	0.079
	(0.043)	(0.081)	(0.067)	(0.051)
Evangelical Church 4	-0.001	0.080	-0.057	0.114
	(0.039)	(0.073)	(0.061)	(0.046)
Catholic Church 4	-0.021	0.275	-0.066	0.119
	(0.039)	(0.073)	(0.061)	(0.046)
Community Site 1	0.034	0.376	0.092	0.131
	(0.034)	(0.063)	(0.053)	(0.040)
Community Site 2	0.033	0.437	0.139	0.147
	(0.034)	(0.062)	(0.052)	(0.039)
Community Site 3	0.009	0.515	0.058	0.149
	(0.034)	(0.063)	(0.053)	(0.040)
Community Site 4	0.019	0.416	0.028	0.135
	(0.038)	(0.071)	(0.060)	(0.045)
Community Site 5	0.059	0.689	0.260	0.174
	(0.039)	(0.073)	(0.061)	(0.046)
Constant	0.926	0.010	0.097	0.796
	(0.028)	(0.052)	(0.043)	(0.033)
Observations	826	833	832	832

Coefficients represent results from models regressing policy attitudes on a categorical variable for site. Evangelical Church 1 is the excluded category. Standard errors in parentheses.

Table 14: Variance Function Regression (Ordinary Least Squares): Second Stage Results

	(1) Environment	(2) Gay Marriage	(3) Abortion	(4) Racism
Catholic	0.002	0.100	0.019	-0.019
	(0.015)	(0.013)	(0.016)	(0.016)
Non-Church Site	-0.015	0.139	0.064	-0.041
	(0.012)	(0.011)	(0.014)	(0.013)
Constant	0.044	0.038	0.054	0.076
	(0.010)	(0.009)	(0.011)	(0.011)
Observations	826	833	832	832

Coefficients represent results from models regressing squared residuals from first stage on a categorical variable for type of site. Evangelical church is the excluded category. Standard errors in parentheses.

Table 15: Variance Function Regression (Iterated Maximum Likelihood): First Stage Results

	(1) Environment	(2) Gay Marriage	(3) Abortion	(4) Racism
Catholic Church 1	0.034	0.430	0.130	0.124
	(0.040)	(0.051)	(0.046)	(0.049)
Catholic Church 2	0.035	0.200	0.008	0.151
	(0.058)	(0.090)	(0.071)	(0.068)
Catholic Church 3	0.002	0.085	-0.067	0.103
	(0.047)	(0.064)	(0.054)	(0.055)
Evangelical Church 2	0.023	0.075	-0.031	0.041
	(0.037)	(0.034)	(0.041)	(0.049)
Evangelical Church 3	-0.028	-0.010	0.124	0.079
	(0.047)	(0.044)	(0.052)	(0.062)
Evangelical Church 4	-0.001	0.080	-0.057	0.114
	(0.043)	(0.039)	(0.047)	(0.056)
Catholic Church 4	-0.021	0.275	-0.066	0.119
	(0.043)	(0.060)	(0.051)	(0.052)
Community Site 1	0.034	0.376	0.092	0.131
	(0.035)	(0.051)	(0.048)	(0.044)
Community Site 2	0.033	0.437	0.139	0.147
	(0.035)	(0.049)	(0.047)	(0.044)
Community Site 3	0.009	0.515	0.058	0.149
	(0.035)	(0.051)	(0.048)	(0.044)
Community Site 4	0.019	0.416	0.028	0.135
	(0.039)	(0.064)	(0.058)	(0.047)
Community Site 5	0.059	0.689	0.260	0.174
	(0.039)	(0.067)	(0.060)	(0.048)
Constant	0.926	0.010	0.097	0.796
	(0.031)	(0.028)	(0.033)	(0.040)
Observations	826	833	832	832

Coefficients represent results from models regressing policy attitudes on a categorical variable for site. Evangelical Church 1 is the excluded category. Standard errors in parentheses.

Table 16: Variance Function Regression (Iterated Maximum Likelihood): Second Stage Results

	(1) Environment	(2) Gay Marriage	(3) Abortion	(4) Racism
Catholic	0.041	1.295	0.305	-0.287
	(0.402)	(0.202)	(0.209)	(0.337)
Non-Church Site	-0.430	1.543	0.778	-0.771
	(0.333)	(0.169)	(0.174)	(0.281)
Constant	-3.128	-3.277	-2.919	-2.571
	(0.266)	(0.134)	(0.139)	(0.224)
Observations	826	833	832	832

Coefficients represent results from models regressing squared residuals from first stage on a categorical variable for type of site. Evangelical is the excluded category. Standard errors in parentheses.

References

Gatto, Malu A. C. and Timothy Power. 2016. "Postmaterialism and Political Elites: The Value Priorities of Brazilian Federal Legislators." *Journal of Politics in Latin America* 8(1):33–68.

Western, Bruce and Deirdre Bloome. 2009. "Variance Function Regressions for Studying Inequality." *Sociological Methodology* 39(1):293–326.