

Supplement to:

Wiertz, Dingeman, and Chaeyoon Lim. 2021. “The Rise of the Nones across the United States, 1973 to 2018: State-Level Trends of Religious Affiliation and Participation in the General Social Survey.” *Sociological Science* 8: 429-454.

Table S1 Sample sizes for each GSS survey wave

Year	Sample size	Number of states	Number of observations per state		
			10th pctile	median	90th pctile
1973	1504	33	15	30	89
1974	1484	33	15	30	90
1975	1490	33	15	35	91
1976	1499	33	14	37	97
1977	1530	33	15	30	88
1978	1532	34	13	35	96
1980	1468	34	14	33	88
1982	1506	33	12	39	92
1983	1599	36	15	34	89
1984	1473	40	15	33	71
1985	1534	40	13	27	73
1986	1470	40	13	29	77
1987	1466	40	13	27	74
1988	1481	40	12	32	75
1989	1537	40	13	34	68
1990	1372	40	10	27	66
1991	1517	39	13	32	70
1993	1606	36	12	35	84
1994	2992	39	18	54	149
1996	2904	38	24	59	145
1998	2832	38	19	50	135
2000	2817	38	22	49	142
2002	2765	38	18	54	146
2004	2812	39	18	50	183
2006	4510	40	23	81	274
2008	2023	40	11	36	115
2010	2044	40	12	34	122
2012	1974	41	15	34	84
2014	2538	41	20	46	110
2016	2867	41	22	56	133
2018	2348	41	19	42	104

Notes: The “Sample size” column records the number of respondents per survey wave, the “Number of states” column the number of states in which interviews were conducted, and the remaining columns the median, 10<sup>th</sup> percentile, and 90<sup>th</sup> percentile for the number of respondents per state (rounded to the nearest integer).

Table S2 Descriptive statistics for all variables included in the analysis

Variable		Percentage / Mean (SD)
<b>Religious tradition</b>	Religious none	12.3
	Evangelical Protestant	24.8
	Mainline Protestant	19.2
	Black Protestant	8.0
	Catholic	24.4
	Other	7.2
	DK/NA/unclassifiable	4.2
<b>Frequency of religious service attendance</b>	Weekly	32.3
	Occasional	41.3
	Never	25.6
	DK/NA	0.8
<b>Strength of religious identification</b>	Strong	36.6
	Moderate	48.0
	None	12.5
	DK/NA	3.0
<b>Sex</b>	Female	55.9
	Male	44.1
<b>Race</b>	White	76.9
	Black	12.8
	Hispanic	7.4
	Other	2.8
<b>Age</b>	18-29	20.6
	30-44	30.9
	45-64	30.5
	65+	18.1
<b>Education</b>	No high school degree	20.4
	High school degree	51.5
	Some college	5.8
	College degree	22.4
<b>Region</b>	Northeast	19.2
	Midwest	25.5
	South	35.3
	West	20.0
<b>Congregational density (per 1,000 people)</b>	Evangelical Protestant	0.55 (0.35)
	Mainline Protestant	0.34 (0.21)
	Black Protestant	0.06 (0.06)
	Catholic	0.08 (0.05)
	Other	0.09 (0.13)
<b>Republican vote share (%)</b>		48.7 (8.5)
<b>Year</b>		1995.7 (13.1)

Notes: For categorical variables we report relative frequencies (in percent), for continuous variables we report means (with standard deviations in parentheses). All statistics are based on our main sample of analysis (N = 62,147). “DK” stands for “don’t know” and “NA” for “no answer”.

Table S3 *Multilevel logistic regressions for religious affiliations*

		None	Evangelical	Mainline	Black Protestant	Catholic
<b>Race * Sex</b>	White male	base	base	base	base	base
	Black male	-0.29 ** 0.06	-1.53 ** 0.06	-1.55 ** 0.09	5.91 ** 0.12	-1.29 ** 0.07
	Hispanic male	-0.69 ** 0.07	-1.00 ** 0.07	-1.70 ** 0.14	1.03 ** 0.29	1.77 ** 0.05
	Other male	-0.16 0.09	-0.47 ** 0.10	-1.12 ** 0.15	1.78 ** 0.31	-0.05 0.09
	White female	-0.56 ** 0.03	0.15 ** 0.02	0.16 ** 0.02	-0.01 0.15	0.05 * 0.02
	Black female	-0.94 ** 0.06	-1.28 ** 0.05	-1.45 ** 0.07	6.17 ** 0.12	-1.62 ** 0.06
	Hispanic female	-1.23 ** 0.07	-0.71 ** 0.06	-1.75 ** 0.13	1.60 ** 0.22	1.79 ** 0.05
	Other female	-0.40 ** 0.09	-0.27 ** 0.09	-0.72 ** 0.12	1.82 ** 0.29	0.10 0.08
<b>Age</b>	18-29	base	base	base	base	base
	30-44	-0.44 ** 0.03	0.18 ** 0.03	0.25 ** 0.03	0.12 0.06	-0.02 0.03
	45-64	-0.99 ** 0.04	0.17 ** 0.03	0.65 ** 0.03	0.41 ** 0.06	-0.02 0.03
	65+	-1.53 ** 0.05	<0.01 0.03	1.10 ** 0.04	0.57 ** 0.08	-0.03 0.03
<b>Education</b>	No HS degree	base	base	base	base	base
	HS degree	-0.23 ** 0.04	-0.28 ** 0.03	0.63 ** 0.03	-0.16 ** 0.06	0.02 0.03
	Some college	-0.22 ** 0.06	-0.37 ** 0.05	0.70 ** 0.06	-0.33 ** 0.10	0.08 0.05
	College degree	-0.01 0.04	-0.87 ** 0.03	1.02 ** 0.04	-0.57 ** 0.08	-0.09 ** 0.03
<b>Region</b>	Northeast	base	base	base	base	base
	Midwest	-0.11 0.14	0.40 ** 0.15	0.36 * 0.17	0.34 ** 0.10	-0.73 ** 0.24
	South	-0.41 * 0.17	0.77 ** 0.17	0.18 0.15	0.47 ** 0.10	-1.21 ** 0.26
	West	0.39 ** 0.15	0.29 0.15	0.03 0.17	0.06 0.12	-1.14 ** 0.24
<b>Number of congregations per 1,000 people</b>	Evangelical	-0.42 ** 0.15	1.00 ** 0.15			
	Mainline	0.17 0.24		0.98 ** 0.24		
	Black Protestant				3.79 ** 0.53	
	Catholic	-1.96 * 0.79				2.05 1.13
	Other	-0.35 0.23				
<b>Time</b>	(Year - 1990)/10	0.46 ** 0.03	0.07 * 0.03	-0.27 ** 0.02	-0.33 ** 0.02	-0.01 0.03
<b>Intercept</b>		-0.78 ** 0.15	-1.99 ** 0.13	-2.92 ** 0.16	-6.13 ** 0.15	-0.78 ** 0.24
SD state-specific intercept		0.270	0.391	0.378	0.140	0.603
SD state-specific time slope		0.076	0.126	0.098	0.060	0.190
SD year-specific intercept		0.129	0.104	0.046	0.019	0.063
Number of observations		62,147	62,147	62,147	62,147	62,147

Notes: We report log odds coefficients with standard errors displayed in small font (\*\* p<0.01, \* p<0.05).

“Other” congregations include Black Protestant congregations as well as any non-Protestant and non-Catholic congregations. We report the estimated standard deviation for each random effect. “HS” stands for high school.

The year variable is centered around 1990 and divided by 10, such that one unit corresponds to one decade.

*Table S4* Multilevel logistic regressions for frequency of religious service attendance and strength of identification

		Weekly attendance	No attendance	Strong identification
<b>Race * Sex</b>	White male	base	base	base
	Black male	0.24 ** 0.04	-0.63 ** 0.05	0.58 ** 0.04
	Hispanic male	0.43 ** 0.06	-0.74 ** 0.06	0.25 ** 0.06
	Other male	0.25 ** 0.08	-0.26 ** 0.08	0.26 ** 0.08
	White female	0.45 ** 0.02	-0.38 ** 0.02	0.51 ** 0.02
	Black female	0.88 ** 0.03	-1.26 ** 0.05	1.09 ** 0.03
	Hispanic female	0.92 ** 0.05	-1.11 ** 0.05	0.53 ** 0.05
	Other female	0.61 ** 0.07	-0.50 ** 0.08	0.65 ** 0.07
<b>Age</b>	18-29	base	base	base
	30-44	0.40 ** 0.03	-0.14 ** 0.03	0.30 ** 0.03
	45-64	0.74 ** 0.03	-0.33 ** 0.03	0.64 ** 0.03
	65+	1.28 ** 0.03	-0.53 ** 0.03	1.06 ** 0.03
<b>Education</b>	No HS degree	base	base	base
	HS degree	0.31 ** 0.02	-0.46 ** 0.03	0.14 ** 0.02
	Some college	0.46 ** 0.04	-0.71 ** 0.05	0.25 ** 0.04
	College degree	0.60 ** 0.03	-0.80 ** 0.03	0.35 ** 0.03
<b>Region</b>	Northeast	base	base	base
	Midwest	0.22 ** 0.08	-0.28 ** 0.10	0.15 * 0.07
	South	0.24 ** 0.09	-0.39 ** 0.13	0.20 * 0.09
	West	-0.20 * 0.09	0.26 * 0.11	-0.23 ** 0.09
<b>Number of congregations per 1,000 people</b>	Evangelical	0.41 ** 0.10	-0.30 * 0.12	0.27 ** 0.08
	Mainline	-0.19 0.14	0.22 0.19	-0.14 0.13
	Catholic	0.45 0.49	-1.56 * 0.63	0.50 0.44
	Other	0.88 ** 0.14	-0.61 ** 0.16	0.82 ** 0.13
<b>Republican vote share</b>		0.04 * 0.02	-0.01 0.03	0.04 * 0.02
<b>Time</b>	(Year - 1990)/10	-0.21 ** 0.02	0.29 ** 0.02	-0.12 ** 0.02
<b>Intercept</b>		-2.31 ** 0.10	0.20 ** 0.12	-1.83 ** 0.09
	SD state-specific intercept	0.174	0.222	0.140
	SD state-specific time slope	0.049	0.062	0.048
	SD year-specific intercept	0.039	0.106	0.066
	Number of observations	62,147	62,147	60,662

Notes: We report log odds coefficients with standard errors displayed in small font (\*\*  $p < 0.01$ , \*  $p < 0.05$ ). “Other” congregations include Black Protestant congregations as well as any non-Protestant and non-Catholic congregations. We report the estimated standard deviation for each random effect. “HS” stands for high school. The year variable is centered around 1990 and divided by 10, such that one unit corresponds to one decade. The Republican vote share variable is centered around 50 percent and divided by 10, such that one unit corresponds to 10 percentage points.

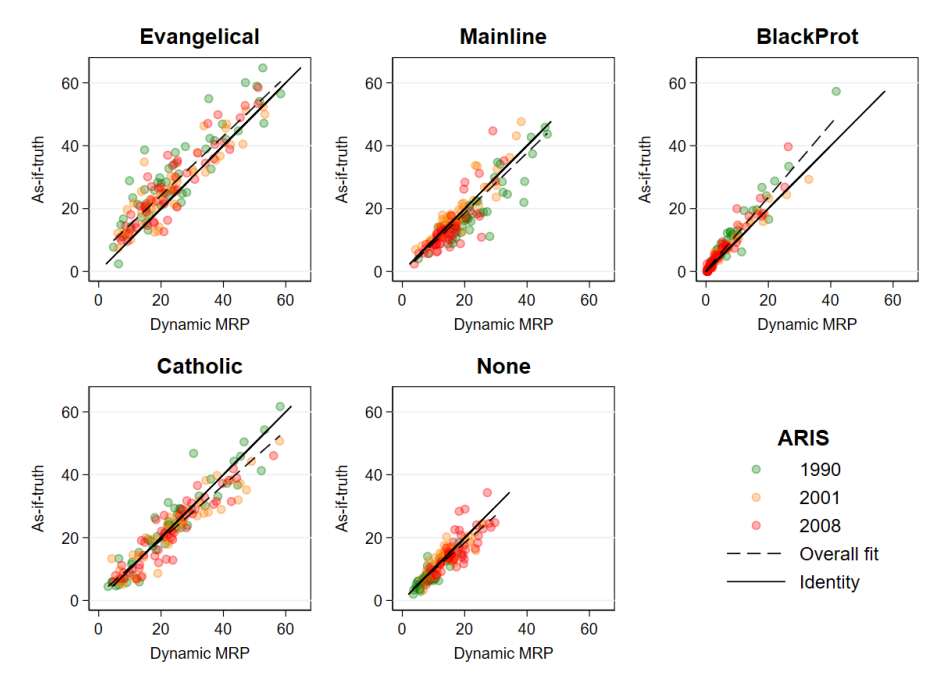


Figure S1 Comparisons of GSS-based Dynamic MRP estimates to ARIS estimates

Notes: Dynamic MRP estimates are plotted along the horizontal axis; ARIS estimates are plotted along the vertical axis. All estimates are reported in percentages. The dashed lines depict the best-fitting lines (across all years); the solid lines capture scenarios in which the Dynamic MRP and ARIS estimates are the same.

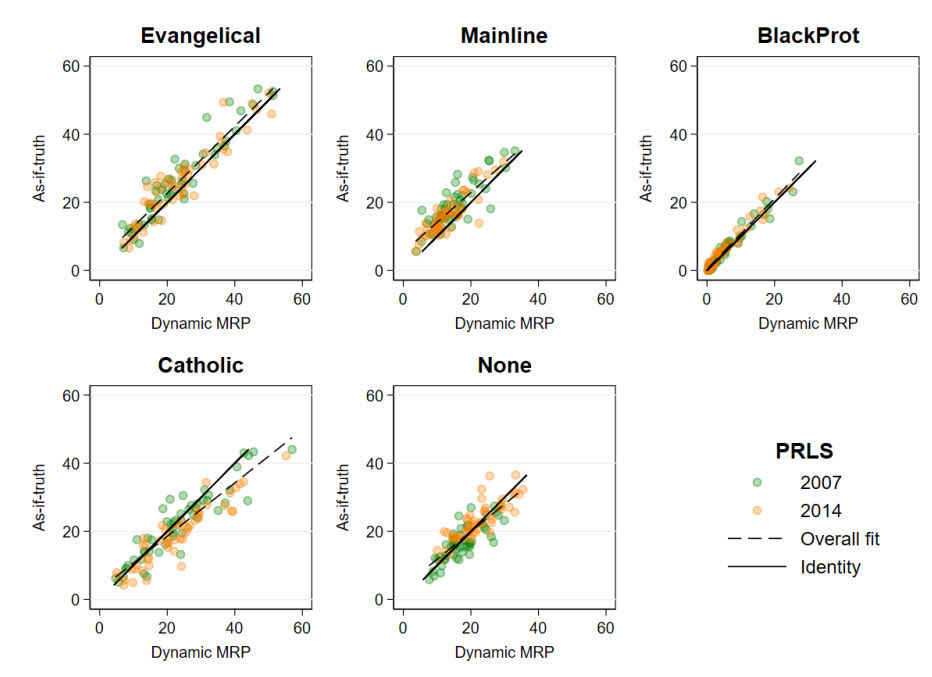


Figure S2 Comparisons of GSS-based Dynamic MRP estimates to PRLS estimates (part 1)

Notes: Dynamic MRP estimates are plotted along the horizontal axis; PRLS estimates are plotted along the vertical axis. All estimates are reported in percentages. The dashed lines depict the best-fitting lines (across both years); the solid lines capture scenarios in which the Dynamic MRP and PRLS estimates are the same.

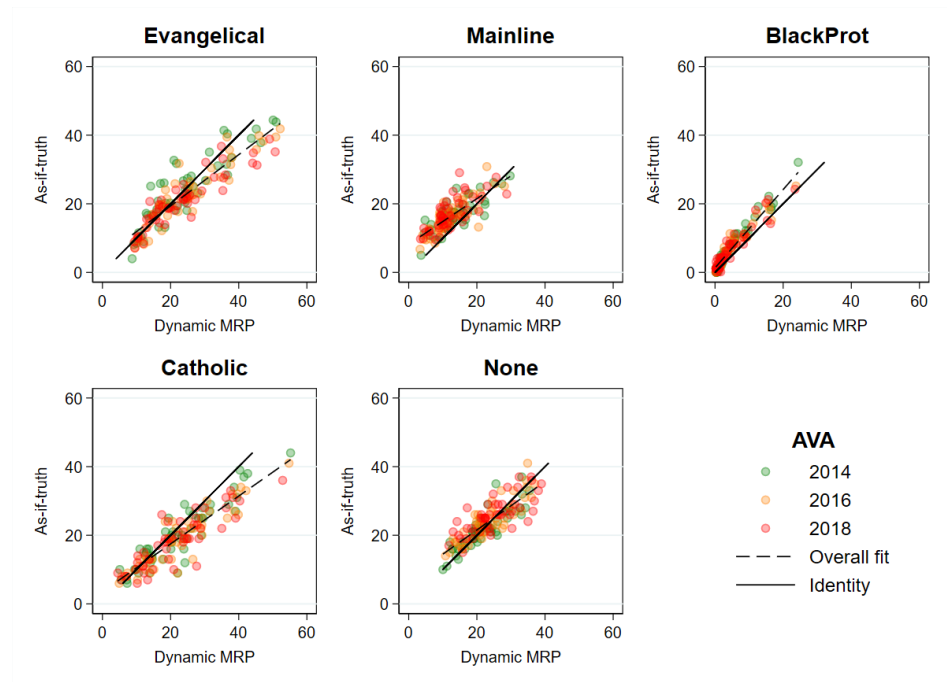


Figure S3 Comparisons of GSS-based Dynamic MRP estimates to AVA estimates

Notes: Dynamic MRP estimates are plotted along the horizontal axis; AVA estimates are plotted along the vertical axis. All estimates are reported in percentages. The dashed lines depict the best-fitting lines (across all years); the solid lines capture scenarios in which the Dynamic MRP and AVA estimates are the same.



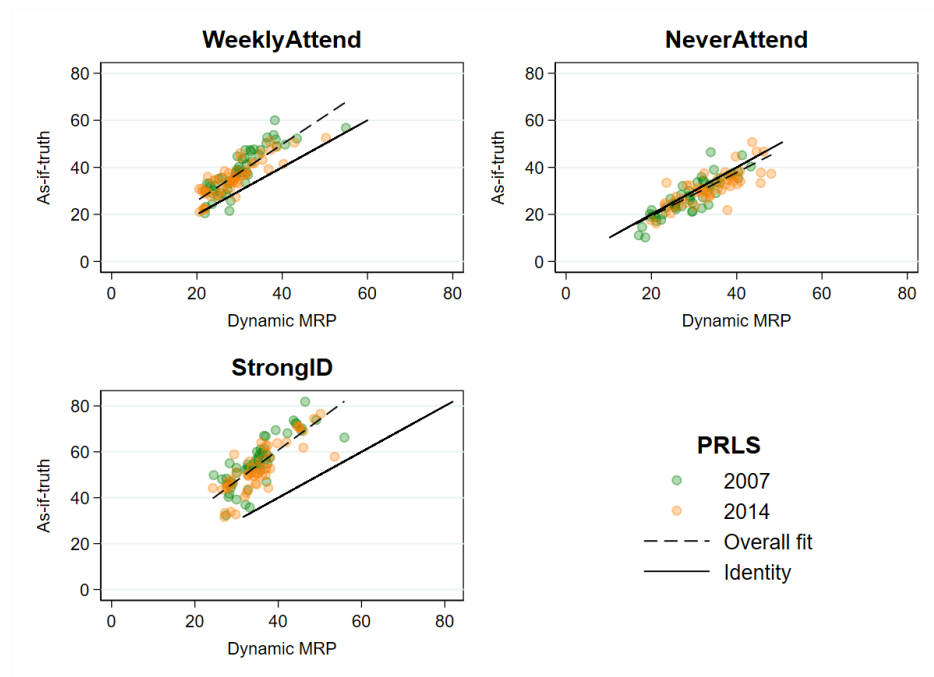


Figure S4 Comparisons of GSS-based Dynamic MRP estimates to PRLS estimates (part 2)

Notes: Dynamic MRP estimates are plotted along the horizontal axis; PRLS estimates are plotted along the vertical axis. All estimates are reported in percentages. The dashed lines depict the best-fitting lines (across both years); the solid lines capture scenarios in which the Dynamic MRP and PRLS estimates are the same.

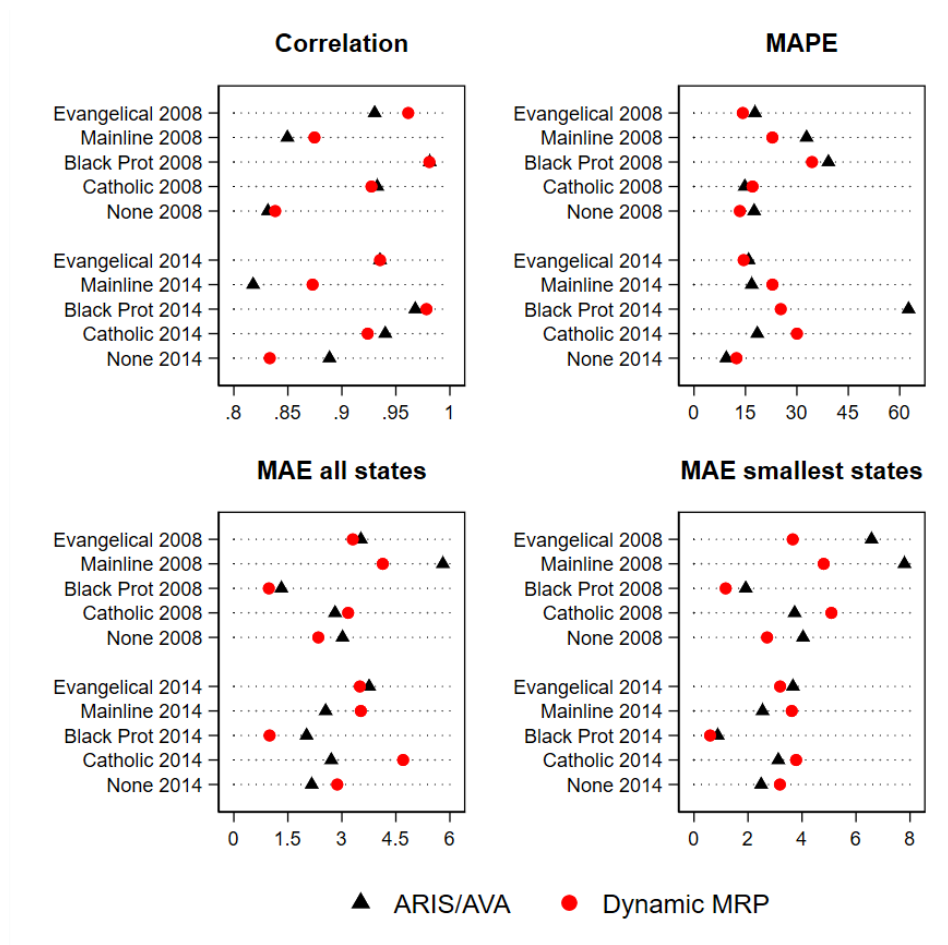


Figure S5 Comparisons of ARIS, AVA, and Dynamic MRP estimates to PRLS estimates

Notes: For 2008, we compare the Dynamic MRP and ARIS 2008 estimates to the 2007 PRLS estimates. For 2014, we compare the Dynamic MRP and AVA 2014 estimates to the 2014 PRLS estimates. The bottom-right panel considers the 10 smallest states by population size other than Alaska, Hawaii, and the District of Columbia, which have been ignored to ensure consistent samples over time.

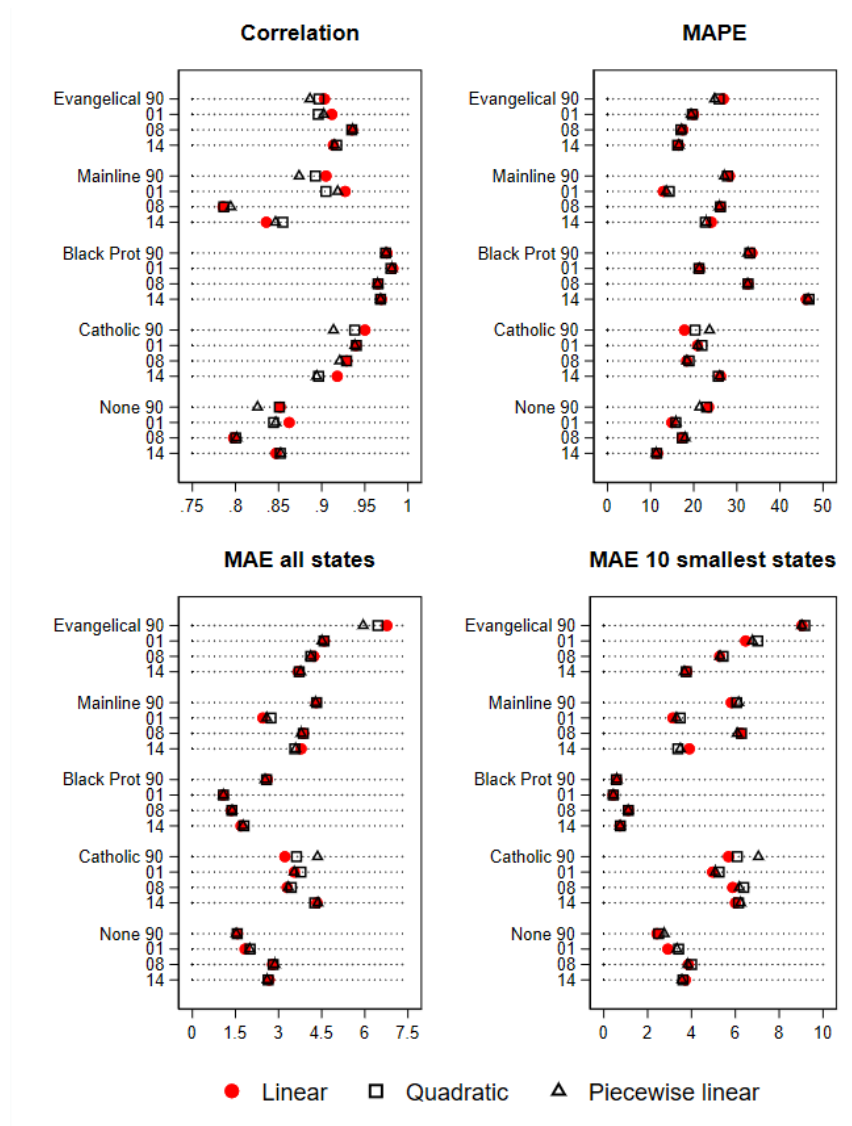


Figure S6 Comparisons of GSS-based Dynamic MRP estimates to external benchmarks, comparing estimates based on different time trend specifications

Notes: The reported statistics for each year are based on estimates for all 50 states and the District of Columbia. The linear and quadratic time variables take 1990 as zero-point and the piecewise linear trends are estimated with 1990 as hinge, such that separate linear trends are estimated for the pre-1990 and post-1990 periods. The bottom-right panel considers the 10 smallest states by population size other than Alaska, Hawaii, and the District of Columbia, which have been ignored to ensure consistent samples over time.

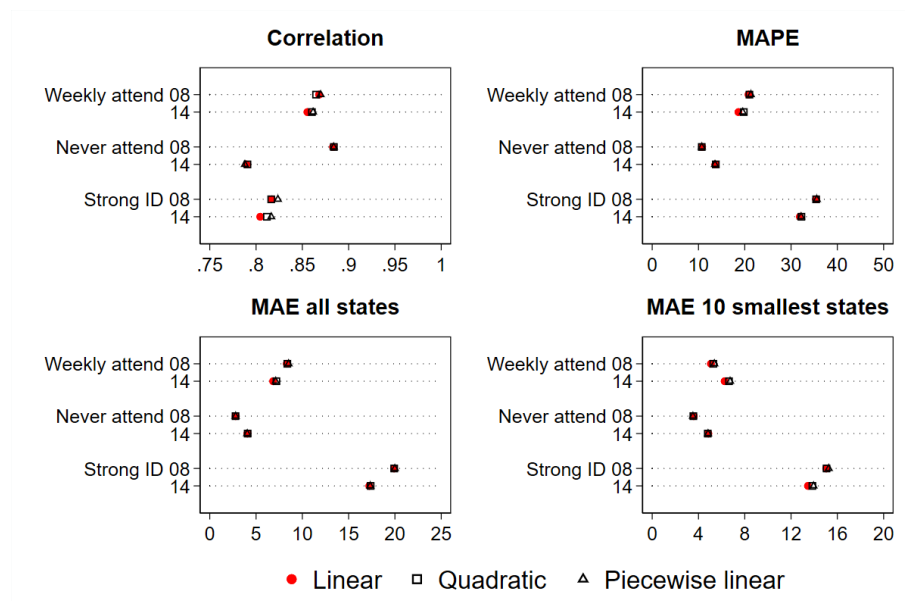


Figure S7 Comparisons of GSS-based Dynamic MRP estimates to external benchmarks, comparing estimates based on different time trend specifications

Notes: The reported statistics for each year are based on estimates for all 50 states and the District of Columbia. The linear and quadratic time variables take 1990 as zero-point and the piecewise linear trends are estimated with 1990 as hinge, such that separate linear trends are estimated for the pre-1990 and post-1990 periods. The bottom-right panel considers the 10 smallest states by population size other than Alaska, Hawaii, and the District of Columbia, which have been ignored to ensure consistent samples over time.

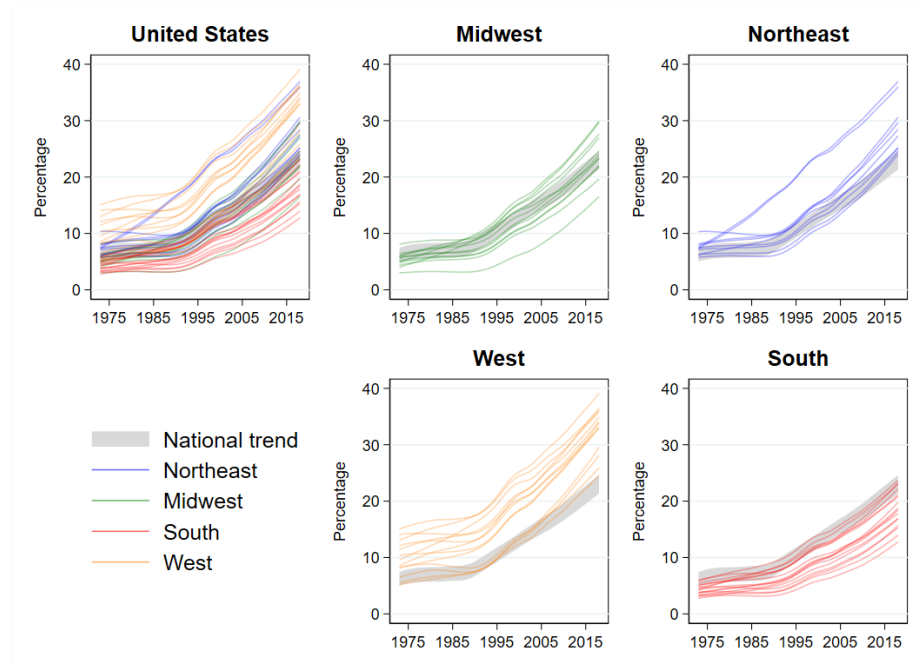


Figure S8 Trends in the share of religious nones based on Dynamic MRP, 1973-2018:  
*Piecewise linear time trend specification*

Notes: The state-level trends have been smoothed using locally weighted regressions with a bandwidth of 0.2. The national trend has been smoothed using a locally weighted regression with a bandwidth of 0.4 and is plotted using the 95 percentage confidence intervals around this smoothed trend.

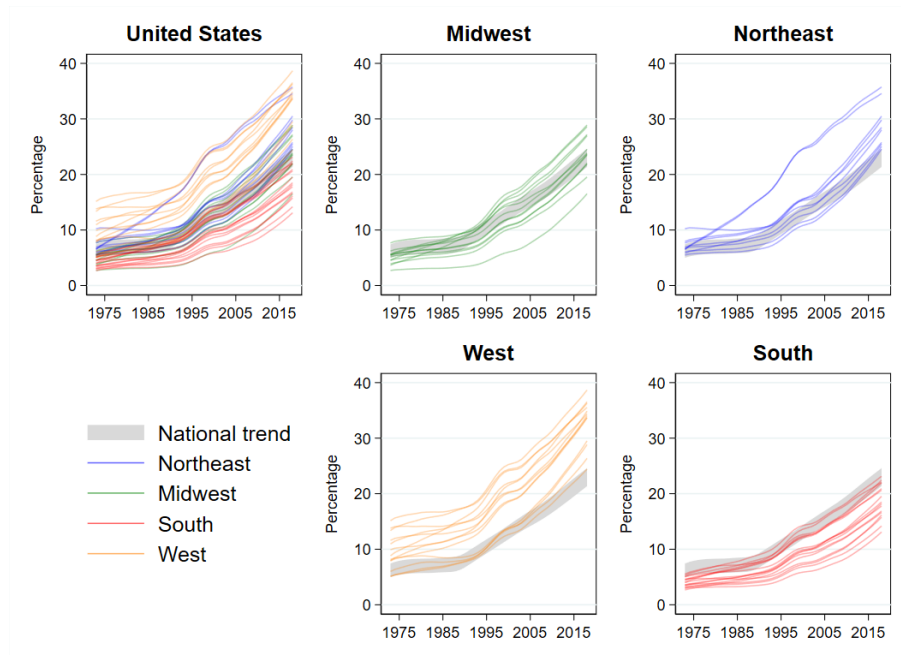


Figure S9 Trends in the share of religious nones based on Dynamic MRP, 1973-2018:  
Quadratic time trend specification

Notes: The state-level trends have been smoothed using locally weighted regressions with a bandwidth of 0.2. The national trend has been smoothed using a locally weighted regression with a bandwidth of 0.4 and is plotted using the 95 percentage confidence intervals around this smoothed trend.