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SUPPLEMENTARY ONLINE MATERIAL:

Income inequality and the growth of redistributive spending in the U.S. states: Is there a link?

Appendix 1 Bayesian posterior distributions

In this appendix, we show details regarding 28 model specifications we considered. A few observations are true for all of the following tables reported in the appendix. In every table, each row of the table represents a different predictor of welfare spending. For each of the partial coefficients of the model, two quantities are reported. The first is the median of the Markov chain Monte Carlo (MCMC) sample of the posterior distribution, which serves as a robust estimate of the effect. The second is the 90% central credible interval. There is a 90% probability that the parameter falls in this range, which was created by taking the 5^{th} and 95^{th} percentiles of the MCMC sample. Hence, there is a 95% probability that the parameter takes on any value larger than the lower value. Similarly, there is a 95% probability that the parameter takes on any value smaller than upper value. All models also include fixed effects by state (except Table 11), but these and the intercept are omitted to preserve space. All results are based on an MCMC sample of 100,000 iterations after a 10,000 burn-in. Geweke diagnostics showed no evidence of non-convergence in any case.

[TABLE 2 HERE]

In the main paper, we report the partial effect of the Gini coefficient in four models of the ratio of per capita total welfare spending out of all per capita state spending when excluding federal intergovernmental transfers in Figure 3. Table 2 reports the full results corresponding to Figure 3, including the effects of all control variables for each of these four models discussed in the paper. We report the effect in four versions of the model, each of which uses one of four versions of the Gini coefficient: the first is based on current household income, the second is based on the previous year's household income, the third uses current personal income, and the fourth uses the previous year's personal income. Table 2 makes it clear that the 90% credible intervals for the effect of each version of the Gini coefficient are strictly positive, meaning there is more than a 95% probability that a higher level of inequality results in more redistributive spending in each model, on average in a given state and holding all else equal.

Altogether, 20 model specifications are presented moving from Tables 2 to 6. As described before, every one of these five tables includes four models, each using a different specification of the Gini coefficient (current year with household income, previous year with household income, current year with personal income, and previous year with personal income). Within any one of these tables, the only feature that changes across the four models besides the measure of the Gini coefficient is how income at the 10^{th} percentile (representing income for the poorest Americans) is measured: In models where Gini is measured with household income we use house- hold income at the 10th percentile too, and in models where Gini is measured with

personal income we use personal income for the 10th percentile. In each of the five tables, we consider a different measure of redistributive spending as our dependent variable. As mentioned, Table 2 uses the ratio of per capita total welfare spending to total spending when excluding all intergovernmental transfers—this is our most preferred measure as it reflects the relative priority that the state itself puts on wealth redistribution. To evaluate robustness, though, we consider four alternative measures, described in turn.

Our first two alternative measures of redistributive spending are annual per capita total welfare expenditures and then per capita direct welfare expenditures. The difference is that the former one includes indirect welfare expenditures as well, if any, and thus can potentially be broader. These measures account for the overall size of redistributive spending in the U.S. states and are also numerators for the two ratio measures described below. Both measures are transformed into a natural log scale to establish the functional form of a log-lin model: With per capita state dollars this is a theoretically informed model specification because the larger the dependent variable of redistributive spending is, the more the dependent variable will respond to the predictors (Gujarati and Porter 2009, 173). In other words, the more dollars per capita a state spends on redistribution, the bigger the increase in spending whenever inequality rises. This is what we expect because states that are spending more are more capable of making large swings in dollar amounts allocated to redistribution.

[TABLES 3 & 4 HERE]

Tables 3 to 4 use these logged per capita welfare spending measures. Specifically, Table 3 simply uses the logged per capita amount spent on welfare programs, using both direct and indirect spending. Table 4 uses the narrower version of this measure that only considers direct welfare spending. As can be seen, the results are substantively similar to the results using our preferred definition of welfare spending. The only two occasions in these first twenty models in which the Gini coefficient's effect does not show a 95% probability is when we model one of these two logged measures as a function of the Gini coefficient computed with the previous year's personal income data. (This non-attainment of a 95% probability is seen by the 90% credible intervals that do include 0 in their range.) Even in those two models, however, the probability of a positive effect of the Gini coefficient in Table 3 is 92%, and in Table 4 it is 86%. Thus, a positive effect is still highly probable in these two cases also.

[FIGURE 4 HERE]

Additionally, Figure 4 corresponds to Tables 3 and 4, by drawing special attention to the partial effect of the Gini coefficient. Similar to a graph from the main text, for each panel of this figure the horizontal axis represents the possible values of the partial effect for the Gini coefficient on the respective measure of redistributive spending. The vertical axis represents the density of a possible coefficient. Each line therefore represents the overall posterior probability density function of a coefficient on a given outcome. Each solid black line represents the effect when current values of the household income-based Gini coefficient are included. The dashed red lines represent the estimated effects of lagged household income inequality. The dotted blue line represents the effect when we use current values of the personal income-based Gini coefficient. Lastly, the dot-dash green line represents the effect of lagged personal income inequality.

In Figure 4, a few things are apparent about the impact of each partial coefficient on the two logged measures of per capita welfare spending that we consider as outcome variables. First, across eight specifications reported in these three panels, there is very little probability density at or below zero. Hence, regardless of the specification of Gini or logged redistributive spending measure, we see a high probability of a positive relationship between income inequality and redistribution efforts. Again, the lowest probability of a positive effect is 86%, and in six specifications the probability exceeds 95%. Also, each of the current-year measures has a higher posterior mode than the corresponding lagged measure.

Turning to additional versions of our dependent variable, there are two other specifications of ratio measures for redistributive spending. As ratios, they resemble the version of the dependent variable we report in the main text of the article. Tables 5 and 6 report the results of these versions of the model. The first alternative ratio measure, reported in Table 5, is an annual ratio between per capita total public welfare expenditures and per capita total expenditures in each of the fifty U.S. states. The second ratio measure, reported in Table 6, is a narrower specification of redistributive spending, which is an annual ratio between per capita total direct public welfare expenditures and per capita total direct expenditures.

[TABLES 5 & 6 HERE]

Once again, Figure 5 corresponds to Tables 5 and 6, by illustrating the posterior density for the effect of the Gini coefficient in each of these respective models. Across eight specifications, there is little probability density at or below zero for the partial coefficient. In all eight models, the probability density that the effect is larger than zero is higher than 95%. We again see that the current values of the Gini coefficient have a stronger effect than the lagged values on the first two ratios of redistributive spending.

[FIGURE 5 HERE]

Overall, our effect is quite robust regardless of how the level of inequality is measured or how the level of redistributive spending is measured: In 18 of the 20 specifications presented in Tables 2 to 6 there is over a 95% probability that a higher level of inequality (measured with the Gini coefficient) predicts a higher level of redistributive spending. In the two exceptions, there are 86% and 92% probabilities of a positive effect. Hence, there is overwhelming evidence in favor of the Meltzer-Richard model.

Appendix 2 Robustness checks

Turning to other robustness checks, we consider eight alternative specifications for our most preferred model: Where we measure inequality with the current household Gini index and measure redistribution with the ratio of welfare spending to total spending, net federal transfers. In Tables 7 to 10, we consider four models that each adds a new control variable to the equation. Tables 11 and 12 each offer an alternative specification of our original model, first by replacing state fixed effects with annual fixed effects, and second by defining our dependent variable relative to the Gross State Product instead of the state's budget. In Tables 13 and 14, we consider two alternatives to our primary predictor of interest, income inequality.

[TABLE 7 HERE]

As a first alternative specification, in Table 7 we test an interesting side hypothesis: As a state's total level of accumulated debt increases, what effect does that have on the state's willingness to spend more money on wealth redistribution? Presumably, states in sounder fiscal health are more able to spend on redistributive programs. As Table 7 shows, the more debt a state has, the less it is willing to spend on wealth redistribution. The effect does not quite reach a 95% probability, but is fairly large nonetheless. Since many states are not permitted to carry debt anyway, we neither include this variable in our primary result nor in the set of 20 combinations of four inequality measures and seven redistribution measures. All other effects, including our primary treatment variable of Gini coefficient, remain substantively similar to the models that exclude this variable.

[TABLE 8 HERE]

As a second alternative specification, in Table 8 we consider that, perhaps, the effect of inequality changes over time. The piecewise linear model of Table 8 shows two coefficients critical to this idea: the effect of Gini, and the piecewise linear component added to this effect after 1986. Focusing on posterior medians, the main effect of Gini is 0.4506, while the piecewise linear component is 0.0405. This means that pre-1986 the effect is 0.4506, and post- 1986 the effect is 0.4506+0.0405=0.4911. Hence, the effect is positive and robust for the entire time frame, but the effect is a bit stronger in the post-1986 time frame. For simplicity, and because the effect is positive and significant throughout the time frame, we focus on the linear effect in our other models. However, this does suggest that future research may be warranted as to why the effect got stronger after 1986.[1]

[TABLE 9 HERE]

In Table 9, we consider a third alternative specification that adds a measure of state-level public opinion to see if that is a mediating variable through which inequality is working. Our best ability to handle this was to consult the American National Election Study's (ANES) question on whether the government ought to guarantee everyone a job and a good standard of living (a question on a 7-point scale, with higher values being less favorable towards government intervention). We had to interpolate some data due to the ANES being conducted only in election years and due to some states' non-inclusion in certain surveys. We would expect that a higher average level of opinion on this question would lower redistribution, as these are states that are less inclined to favor an active government role. Oddly, though, the coefficient on public opinion is wrongly signed (being positive when we expected negative). While we would not take this as a final word on whether public opinion is important on this issue—a measure that more directly asked about redistribution and required less interpolation would be ideal—for the purposes of a robustness check this is the best measure we can find that covers the span of our data. Indeed, even with public opinion in the model, the level of inequality still positively predicts welfare spending.

[1] Additionally, if we switch to OLS as a means of estimation, an F-ratio shows that this piecewise model does fit significantly better $F_{1,1458} = 28.037$ ($p < 0.0001$). Hence, we conclude that the effect does change over time.

[TABLE 10 HERE]

Fourth, as we mentioned in the main text, Bae (2015) argues that the log of income per capita is worth including as a predictor because preferences for redistribution seem to increase as income increases. In Table 10, we include this predictor, and indeed we get a robust positive effect for logged per capita income. Thus, the higher the average earnings in a state, the more the state engages in redistributive spending, on average and holding all else equal. Our primary predictor of interest, the Gini coefficient, retains its positive and robust effect with this control.

[TABLE 11 HERE]

Fifth, in Table 11, we replace our state fixed effects with annual fixed effects. The results are pretty similar overall, but a few of our findings are less robust than they are with state fixed effects. Notably, the effect of inequality is less robust in this model, as can be seen by the credible interval that includes zero. Overall, there is still a high probability of a positive effect: specifically, there is an 89% probability that the Gini coefficient has a positive effect in the model with yearly fixed effects. Other results that change slightly are that the effect of population over 65 oddly reversed sign but hovers near zero. The indicator for a gubernatorial election is not a robust but positive. Finally, there is a negative and robust effect for the 10^{th} income percentile. While these results differ somewhat, we are most interested in what happens to a particular state over time, so dummying-away all time waves is less logical than including indicators for all states. Nevertheless, even in the model that wipes-away temporal averages, we still see a high posterior probability for the effect of the Gini coefficient.

[TABLE 12 HERE]

Sixth, Table 12 considers yet another version of our dependent variable. In this case, welfare spending is divided by the Gross State Product (GSP), not state expenditures as before. The logic behind this version of the measure is that it protects against state decisions to have generally more or generally less spending in response to our predictors while welfare spending is non-responsive to predictors. We certainly prefer the models that consider the relative importance of welfare spending as an emphasis within the budget, but it certainly is worth considering whether our results hold under this alternative specification. Indeed, our primary predictor of interest, the Gini coefficient, maintains its robust positive effect in this setting. In terms of model differences the nonwhite population and government ideology are two predictors that do not show as robust of an effect under this specification. Meanwhile, change in GSP suddenly has a robust negative effect, which is a reflection of the new dependent variable: As GSP rises, the denominator of our dependent variable rises, which forces welfare spending to look smaller relative to the larger economy. Otherwise, the conclusions are unchanged, and our hypothesis holds-up in this specification of the dependent variable as well.

[TABLE 13 HERE]

Finally, we also considered alternative measures to the Gini coefficient to capture the level of inequality in a state in a given year. The Meltzer-Richard model maintains that when the

mean income is high relative to the median voter's income, then a majority of the public will favor income redistribution. Unfortunately, data are limited and it is difficult to get a measure of both the mean and the median income defined over the same domain. As a proxy, however, we gathered information on the mean tax unit income and took the ratio of that to the median household income.[2] Since tax units and households are not the same unit of analysis, there is some measurement error in this choice, but it is one of the best approximations we can construct. Table 13 reports the results of the model that replaces the Gini coefficient with this ratio. As can be seen, these results do support our hypothesis as well, and we still see a robust positive effect.

[TABLE 14 HERE]

Since the prior model's ratio measure of inequality used two different units of analysis, we tried one last measure of inequality that focuses consistently on household income. In this case, we examine the ratio of income at the 90th percentile of household income to the ratio at the 50th percentile, or median, of household income. The expectation is that the higher this ratio is, the higher the mean income is relative to the median voter's earnings. The results with this ratio in lieu of the Gini coefficient are presented in Table 14. Once again, we get a robust positive result with this measure. Overall, we prefer the Gini coefficient results because that measure characterizes the whole distribution of income over the same unit of analysis. Our two ratio measures, by contrast, are limited in that the first mixes units of analysis, and the second only examines two percentiles in the distribution. Nevertheless, all of the measures of inequality available to us–Gini coefficients for personal or household income, the ratio of the mean to the median, and the ratio of the 90^{th} percentile to the median–all support our result. Based on all these alternative specifications, there is a 95% posterior probability of a positive effect in 25 of 28 models we consider, and the posterior probability of a positive effect is still very high in the remaining three models. Hence, evidence in support of the Meltzer-Richard hypothesis is robust to measurement decisions and model specifications.

[2] The tax unit data are an update of the data from Frank (2009). Data were accessed from http://www.shsu.edu/eco_mwf/inequality.html on 27 February 2017.

Figures and tables

Table 2 Models of ratio of per capita total welfare spending to per capita total spending when excluding all federal intergovernmental transfers from 1976-2008 with four different Gini measure specifications, posterior summaries from MCMC.

	Current Household Gini		Lag Household Gini		Current Personal Gini		Lag Personal Gini	
Predictor	Median	90% CI	Median	90% CI	Median	90% CI	Median	90% CI
Gini coefficient	0.5019	[0.4142: 0.5898]	0.3959	[0.3131: 0.4790]	0.2127	[0.1343: 0.2914]	0.1175	[0.0422: 0.1931]
Change in GSP	0.0002	[-0.0001: 0.0005]	0.0001	[-0.0002: 0.0004]	0.0001	[-0.0002: 0.0005]	0.0001	[-0.0002: 0.0004]
Unemployment	-0.0034	[-0.0044:-0.0024]	-0.0035	[-0.0045:-0.0024]	-0.0039	[-0.0049:-0.0028]	-0.0037	[-0.0047:-0.0026]
Log population	0.2164	[0.1959: 0.2370]	0.2185	[0.1978: 0.2393]	0.2244	[0.2031: 0.2457]	0.2301	[0.2087: 0.2514]
Pop. over 65	0.9327	[0.6968: 1.1669]	0.9321	[0.6907: 1.1718]	1.5193	[1.2887: 1.7476]	1.4611	[1.2268: 1.6928]
Nonwhite pop.	-0.1692	[-0.2225:-0.1160]	-0.1532	[-0.2068:-0.0997]	-0.1133	[-0.1665:-0.0603]	-0.1051	[-0.1584:-0.0519]
Gubernatorial elec.	0.0008	[-0.0027: 0.0043]	-0.0001	[-0.0036: 0.0034]	0.0001	[-0.0034: 0.0037]	-0.0001	[-0.0037: 0.0035]
Government ideology	0.0002	[0.0001: 0.0003]	0.0001	[0.0000: 0.0003]	0.0001	[-0.0000: 0.0002]	0.0001	[-0.0000: 0.0002]
Party competition	0.0279	[0.0082: 0.0477]	0.0293	[0.0093: 0.0492]	0.0370	[0.0168: 0.0571]	0.0371	[0.0168: 0.0573]
10p income ($1000s)	0.0025	[-0.0007: 0.0057]	-0.0024	[-0.0054: 0.0006]	-0.0436	[-0.0792:-0.0080]	-0.0528	[-0.0882:-0.0173]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 3 Models of logged per capita total welfare spending from 1976-2008 with four different Gini measure specifications, posterior summaries from MCMC.

	Current Household Gini		Lag Household Gini		Current Personal Gini		Lag Personal Gini	
Predictor	Median	90% CI	Median	90% CI	Median	90% CI	Median	90% CI
Gini coefficient	7.7975	[7.0046: 8.5927]	6.3911	[5.6330: 7.1516]	1.8238	[1.0738: 2.5759]	0.6274	[-0.0926: 1.3496]
Change in GSP	-0.0095	[-0.0123: -0.0068]	-0.0115	[-0.0144: -0.0087]	-0.0090	[-0.0120: -0.0060]	-0.0090	[-0.0121: -0.0059]
Unemployment	-0.0592	[-0.0686: -0.0498]	-0.0598	[-0.0694: -0.0502]	-0.0671	[-0.0771: -0.0570]	-0.0646	[-0.0746: -0.0545]
Log population	1.7337	[1.5478: 1.9199]	1.7565	[1.5665: 1.9469]	1.9142	[1.7106: 2.1177]	1.9852	[1.7811: 2.1891]
Pop. over 65	27.2361	[25.1015:29.3555]	27.0080	[24.7980:29.2029]	34.0309	[31.8270:36.2119]	33.1717	[30.9323:35.3871]
Nonwhite pop.	2.0652	[1.5828: 2.5470]	2.2787	[1.7883: 2.7685]	3.0795	[2.5716: 3.5866]	3.1613	[2.6514: 3.6698]
Gubernatorial elec.	0.0175	[-0.0140: 0.0489]	0.0030	[-0.0291: 0.0351]	0.0065	[-0.0274: 0.0404]	0.0048	[-0.0293: 0.0388]
Government ideology	-0.0005	[-0.0014: 0.0005]	-0.0008	[-0.0018: 0.0001]	-0.0019	[-0.0029: -0.0009]	-0.0020	[-0.0030: -0.0009]
Party competition	0.3590	[0.1799: 0.5379]	0.3755	[0.1927: 0.5581]	0.4820	[0.2894: 0.6745]	0.4828	[0.2893: 0.6763]
10p income ($1000s)	0.0974	[0.0688: 0.1260]	0.0215	[-0.0061: 0.0491]	-0.2159	[-0.5556: 0.1240]	-0.3179	[-0.6567: 0.0213]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 4 Models of logged per capita direct welfare spending from 1976-2008 with four different Gini measure specifications, posterior summaries from MCMC.

	Current Household Gini		Lag Household Gini		Current Personal Gini		Lag Personal Gini	
Predictor	Median	90% CI	Median	90% CI	Median	90% CI	Median	90% CI
Gini coefficient	8.3277	[7.4638: 9.1941]	6.6971	[5.8699: 7.5270]	1.7429	[0.9275: 2.5606]	0.5313	[-0.2508: 1.3158]
Change in GSP	-0.0096	[-0.0126: -0.0066]	-0.0117	[-0.0148: -0.0086]	-0.0091	[-0.0124: -0.0058]	-0.0090	[-0.0124: -0.0056]
Unemployment	-0.0648	[-0.0750: -0.0545]	-0.0655	[-0.0759: -0.0550]	-0.0730	[-0.0839: -0.0621]	-0.0705	[-0.0814: -0.0596]
Log population	1.3793	[1.1768: 1.5821]	1.4089	[1.2015: 1.6165]	1.5853	[1.3639: 1.8066]	1.6572	[1.4355: 1.8787]
Pop. over 65	27.8679	[25.5422:30.1769]	27.7410	[25.3294:30.1360]	34.8894	[32.4931:37.2608]	34.0037	[31.5712:36.4102]
Nonwhite pop.	3.1336	[2.6080: 3.6586]	3.3804	[2.8453: 3.9149]	4.2233	[3.6710: 4.7746]	4.3034	[3.7496: 4.8558]
Gubernatorial elec.	0.0153	[-0.0190: 0.0496]	-0.0001	[-0.0352: 0.0349]	0.0034	[-0.0334: 0.0403]	0.0018	[-0.0352: 0.0388]
Government ideology	-0.0007	[-0.0017: 0.0004]	-0.0011	[-0.0021: 0.0000]	-0.0022	[-0.0033: -0.0010]	-0.0022	[-0.0033: -0.0011]
Party competition	0.3290	[0.1339: 0.5240]	0.3487	[0.1492: 0.5479]	0.4613	[0.2518: 0.6706]	0.4620	[0.2518: 0.6722]
10p income ($1000s)	0.1061	[0.0749: 0.1373]	0.0246	[-0.0054: 0.0548]	-0.3033	[-0.6727: 0.0663]	-0.4050	[-0.7731: -0.0366]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 5 Models of ratio of per capita total welfare spending to per capita total spending from 1976-2008 with four different Gini measure specifications, posterior summaries from MCMC.

	Current Household Gini		Lag Household Gini		Current Personal Gini		Lag Personal Gini	
Predictor	Median	90% CI	Median	90% CI	Median	90% CI	Median	90% CI
Gini coefficient	0.4283	[0.3589: 0.4979]	0.3349	[0.2692: 0.4008]	0.1745	[0.1121: 0.2371]	0.0915	[0.0315: 0.1517]
Change in GSP	0.0001	[-0.0002: 0.0003]	-0.0000	[-0.0003: 0.0002]	0.0000	[-0.0002: 0.0003]	0.0000	[-0.0002: 0.0003]
Unemployment	-0.0024	[-0.0032:-0.0015]	-0.0024	[-0.0032:-0.0016]	-0.0028	[-0.0036:-0.0019]	-0.0026	[-0.0034:-0.0017]
Log population	0.1431	[0.1269: 0.1594]	0.1450	[0.1286: 0.1615]	0.1504	[0.1334: 0.1673]	0.1553	[0.1383: 0.1723]
Pop. over 65	0.7613	[0.5744: 0.9468]	0.7635	[0.5719: 0.9537]	1.2647	[1.0812: 1.4463]	1.2122	[1.0257: 1.3968]
Nonwhite pop.	-0.0686	[-0.1108:-0.0264]	-0.0545	[-0.0970:-0.0121]	-0.0205	[-0.0628: 0.0218]	-0.0135	[-0.0560: 0.0288]
Gubernatorial elec.	0.0007	[-0.0020: 0.0035]	-0.0001	[-0.0028: 0.0027]	0.0001	[-0.0027: 0.0030]	-0.0001	[-0.0029: 0.0028]
Government ideology	0.0001	[0.0000: 0.0002]	0.0001	[-0.0000: 0.0002]	0.0000	[-0.0000: 0.0001]	0.0000	[-0.0001: 0.0001]
Party competition	0.0234	[0.0078: 0.0391]	0.0246	[0.0088: 0.0404]	0.0312	[0.0151: 0.0472]	0.0313	[0.0151: 0.0474]
10p income ($1000s)	0.0018	[-0.0007: 0.0043]	-0.0024	[-0.0048: 0.0000]	-0.0361	[-0.0644:-0.0078]	-0.0439	[-0.0722:-0.0157]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 6 Models of ratio of per capita direct public welfare spending to per capita total direct spending from 1976-2008 with four different Gini measure specifications, posterior summaries from MCMC.

	Current Household Gini		Lag Household Gini		Current Personal Gini		Lag Personal Gini	
Predictor	Median	90% CI	Median	90% CI	Median	90% CI	Median	90% CI
Gini coefficient	0.5286	[0.4409: 0.6165]	0.4115	[0.3286: 0.4948]	0.1882	[0.1093: 0.2672]	0.1001	[0.0245: 0.1759]
Change in GSP	0.0002	[-0.0001: 0.0005]	0.0000	[-0.0003: 0.0004]	0.0001	[-0.0002: 0.0004]	0.0001	[-0.0002: 0.0004]
Unemployment	-0.0043	[-0.0053:-0.0032]	-0.0043	[-0.0054:-0.0033]	-0.0048	[-0.0058:-0.0037]	-0.0046	[-0.0056:-0.0035]
Log population	0.1613	[0.1408: 0.1819]	0.1637	[0.1429: 0.1846]	0.1718	[0.1504: 0.1932]	0.1771	[0.1556: 0.1985]
Pop. over 65	1.0008	[0.7647: 1.2351]	1.0051	[0.7632: 1.2453]	1.5809	[1.3492: 1.8102]	1.5258	[1.2906: 1.7584]
Nonwhite pop.	-0.0255	[-0.0788: 0.0278]	-0.0078	[-0.0615: 0.0458]	0.0352	[-0.0182: 0.0885]	0.0426	[-0.0110: 0.0960]
Gubernatorial elec.	0.0003	[-0.0031: 0.0038]	-0.0006	[-0.0042: 0.0029]	-0.0004	[-0.0040: 0.0031]	-0.0006	[-0.0042: 0.0030]
Government ideology	0.0001	[0.0000: 0.0002]	0.0001	[-0.0000: 0.0002]	0.0000	[-0.0001: 0.0002]	0.0000	[-0.0001: 0.0001]
Party competition	0.0296	[0.0097: 0.0493]	0.0310	[0.0110: 0.0510]	0.0391	[0.0188: 0.0593]	0.0392	[0.0189: 0.0595]
10p income ($1000s)	0.0030	[-0.0002: 0.0062]	-0.0022	[-0.0052: 0.0008]	-0.0512	[-0.0869:-0.0154]	-0.0595	[-0.0951:-0.0239]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 7 Model of ratio of per capita total welfare spending to per capita total spending excluding federal transfers with the logarithm of total state debt as a predictor.

Predictor	Median	[90% CI]
Gini coefficient	0.5168	[0.4279: 0.6061]
Change in GSP	0.0001	[-0.0002: 0.0004]
Unemployment	-0.0035	[-0.0046: -0.0025]
Log population	0.2207	[0.1997: 0.2417]
Pop. over 65	0.9926	[0.7489: 1.2358]
Nonwhite pop.	-0.1572	[-0.2120: -0.1025]
Gubernatorial elec.	0.0009	[-0.0026: 0.0044]
Government ideology	0.0002	[0.0001: 0.0003]
Party competition	0.0314	[0.0114: 0.0515]
10p income ($1000s)	0.0028	[-0.0004: 0.0059]
Log Total State Debt	-0.0038	[-0.0078: 0.0003]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 8 Model of ratio of per capita total welfare spending to per capita total spending excluding federal transfers from 1976-2008 allowing a time switch at 1986.

Predictor	Median	[90% CI]
Gini coefficient	0.4506	[0.3625: 0.5391]
Gini after 1986	0.0405	[0.0278: 0.0531]
Change in GSP	0.0004	[0.0001: 0.0007]
Unemployment	-0.0023	[-0.0034: -0.0012]
Log population	0.2138	[0.1934: 0.2341]
Pop. over 65	0.4542	[0.1777: 0.7295]
Nonwhite pop.	-0.1974	[-0.2509: -0.1443]
Gubernatorial elec.	0.0000	[-0.0034: 0.0035]
Government ideology	0.0002	[0.0001: 0.0003]
Party competition	0.0213	[0.0016: 0.0409]
10p income ($1000s)	0.0020	[-0.0011: 0.0052]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 9 Model of ratio of per capita total welfare spending to per capita total spending excluding federal transfers from 1976-2008 including a measure of public opinion.

Predictor	Median	[90% CI]
Gini coefficient	0.5036	[0.4159: 0.5910]
Change in GSP	0.0002	[-0.0001: 0.0005]
Unemployment	-0.0033	[-0.0043: -0.0023]
Log population	0.2167	[0.1962: 0.2371]
Pop. over 65	0.9500	[0.7136: 1.1863]
Nonwhite pop.	-0.1646	[-0.2182: -0.1113]
Gubernatorial elec.	0.0009	[-0.0026: 0.0043]
Government ideology	0.0002	[0.0001: 0.0003]
Party competition	0.0285	[0.0087: 0.0483]
10p income ($1000s)	0.0027	[-0.0005: 0.0059]
Public opinion	0.0037	[-0.0009: 0.0083]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 10 Model of ratio of per capita total welfare spending to per capita total spending excluding federal transfers from 1976-2008 including logged per capita income.

Predictor	Median	[90% CI]
Gini coefficient	0.1742	[0.0853: 0.2636]
Change in GSP	0.0007	[0.0004: 0.0010]
Unemployment	-0.0002	[-0.0013: 0.0008]
Log population	0.1727	[0.1531: 0.1924]
Pop. over 65	-0.3010	[-0.5584:-0.0442]
Nonwhite pop.	-0.3310	[-0.3837:-0.2784]
Gubernatorial elec.	0.0000	[-0.0032: 0.0032]
Government ideology	0.0003	[0.0002: 0.0004]
Party competition	0.0116	[-0.0068: 0.0301]
10p income ($1000s)	-0.0042	[-0.0073:-0.0012]
Log per capita income	0.0696	[0.0620: 0.0772]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 11 Model of ratio of per capita total welfare spending to per capita total spending excluding federal transfers from 1976-2008 with year fixed effects.

Predictor	Median	[90% CI]
Gini coefficient	0.0852	[-0.0288: 0.2001]
Change in GSP	-0.0001	[-0.0006: 0.0005]
Unemployment	-0.0018	[-0.0034: -0.0002]
Log population	0.0439	[0.0416: 0.0463]
Pop. over 65	-0.0287	[-0.1702: 0.1125]
Nonwhite pop.	-0.1463	[-0.1646: -0.1280]
Gubernatorial elec.	0.0068	[0.0009: 0.0127]
Government ideology	0.0006	[0.0005: 0.0007]
Party competition	0.0498	[0.0296: 0.0701]
10p income ($1000s)	-0.0101	[-0.0136: -0.0066]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by year included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 12 Model of ratio of total welfare spending to gross state product from 1976-2008.

Predictor	Median	[90% CI]
Gini coefficient	0.0680	[0.0556: 0.0804]
Change in GSP	-0.0001	[-0.0002: -0.0001]
Unemployment	-0.0002	[-0.0003: -0.0001]
Log population	0.0115	[0.0086: 0.0144]
Pop. over 65	0.2298	[0.1963: 0.2630]
Nonwhite pop.	-0.0071	[-0.0147: 0.0004]
Gubernatorial elec.	0.0001	[-0.0004: 0.0006]
Government ideology	0.0000	[-0.0000: 0.0000]
Party competition	0.0051	[0.0023: 0.0079]
10p income ($1000s)	0.0001	[-0.0003: 0.0006]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 13 Model of ratio of per capita total welfare spending to per capita total spending excluding federal transfers from 1976-2008 with ratio of mean to median income as inequality measure.

Predictor	Median	[90% CI]
Ratio of mean to median	0.0223	[0.0139: 0.0308]
Change in GSP	0.0002	[-0.0001: 0.0006]
Unemployment	-0.0033	[-0.0044:-0.0022]
Log population	0.2377	[0.2169: 0.2585]
Pop. over 65	1.1385	[0.8990: 1.3769]
Nonwhite pop.	-0.1323	[-0.1870:-0.0776]
Gubernatorial elec.	-0.0000	[-0.0036: 0.0035]
Government ideology	0.0001	[-0.0000: 0.0002]
Party competition	0.0321	[0.0118: 0.0523]
10p income ($1000s)	-0.0019	[-0.0050: 0.0012]

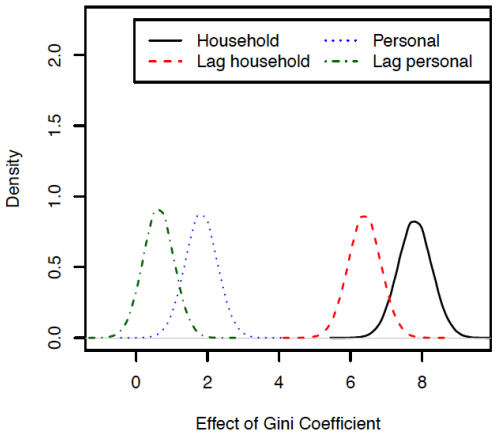
Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Table 14 Model of ratio of per capita total welfare spending to per capita total spending excluding federal transfers from 1976-2008 with patio of 90p to 50p income as inequality measure.

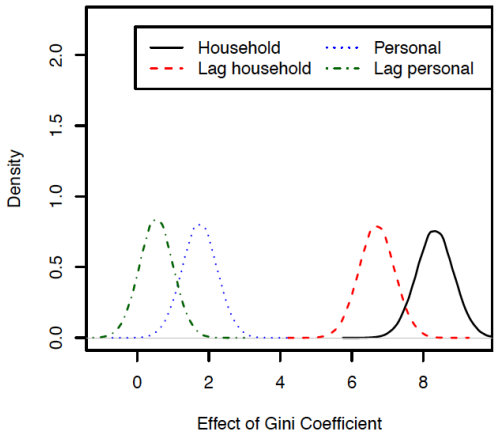
Predictor	Median	[90% CI]
Ratio of 90p to 50p	0.0351	[0.0251: 0.0452]
Change in GSP	0.0003	[-0.0000: 0.0006]
Unemployment	-0.0039	[-0.0049: -0.0028]
Log population	0.2324	[0.2118: 0.2531]
Pop. over 65	1.0388	[0.7961: 1.2798]
Nonwhite pop.	-0.1375	[-0.1915: -0.0835]
Gubernatorial elec.	0.0004	[-0.0032: 0.0039]
Government ideology	0.0001	[0.0000: 0.0002]
Party competition	0.0288	[0.0086: 0.0490]
10p income ($1000s)	-0.0018	[-0.0049: 0.0013]

Notes: Data consist of 50 states over 32 years, for 1600 state-years. Intercept and fixed effects by state included but not reported. Based on MCMC sample of 100,000 iterations (after a 10,000 iteration burn-in.) Geweke diagnostics showed no evidence of non-convergence in any specification. Estimates computed in MCMCpack version 1.3-3 in R 3.2.4.

Figure 4 Posterior density plots for the effect of the Gini coefficient on redistributive spending. Each panel represents a different logged measure of redistributive spending, and each line within the panel represents one of four different measures of the Gini coefficient.



(a) Log per capita total welfare



(b) Log per capita direct welfare

Figure 5 Posterior density plots for the effect of the Gini coefficient on redistributive spending. Each panel represents a different ratio measure of redistributive spending, and each line within the panel represents one of four different measures of the Gini coefficient.