Online Appendix 1: Construction of Congressional District Variable from County-Level Data

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The constituent variables in Table 1 are all congressional district estimates from the ACS. The constituent variables in Table 2 and Table 3 are all constructed from county-level data. There are three primary steps needed to transform these county-level data into the district-level variables (Ladewig 2005, 2006).

Step 1: Compile and Construct Annual County Level Data

Median Household Income: The U.S. Census's SAIPE has annual estimates for Median Household Income for 1993, 1995, and since 1997 (see https://www.census.gov/programs-surveys/saipe/data/datasets.html). The data for 1994 and 1996 were linearly interpolated.

Aggregate Personal Income: The U.S. Bureau of Economic Analysis calculates Aggregate Personal Income by county since 1969 (see https://apps.bea.gov/regional/downloadzip.cfm). One issue with these data, however, is that census areas in Alaska, Hawaii, and Virginia are combined in a manner that does not allow for these data to be accurately merged with the rest of the data. As such, these states are dropped in the analyses. Over the time frame of this study, this produces a dataset of 421 congressional districts per Congress.

Housing Units: The number of households (occupied dwellings) per county is not available except for the Census years and through the ACS. As such, I use the number of housing units (dwellings) per county, which is available for a longer time frame: in 1990 and since 2000 (see https://www.census.gov/programs-surveys/popest/data/data-sets.html). The missing years are linearly interpolated. The use of housing units, instead of households, make the estimates more conservative as there cannot be more households than housing units; and, unless there is 100% occupancy across an entire county, always less.

Unemployment: County-level annual data on the number of persons in the labor force and the number of persons unemployed are provided by the Bureau of Labor Statistics (see http://www.bls.gov/lau/#tables).

Demographics: The U.S. Census has, since 1970, county-level population estimates based on age, gender, race, and ethnicity (see https://www.census.gov/programs-surveys/popest/data/data-sets.html).

Step 2: Aggregation from county level data by year and by congressional district.

There are three parts to this step. The first part is to aggregate across time. The county-level variables are aggregated for the two years that represent the bulk of each Congress. For example, the 103rd Congress consists of data from 1993 and 1994. Median household income, however, cannot be simply aggregate for the two years or, later, across counties because each value typically represents a different population size. To accommodate

both of these difficulties, the annual median household data are first weighted by the annual number of housing units in its county.

The second part is to code each county for its congressional district weight, which is the population proportion of the county that resides in each congressional district. The population weights for 1990s redistricting cycle can be found in the U.S. Census' *Congressional districts of the 103rd Congress of the United States*. The population weights since for the 2000s and 2010s redistricting cycles are available at the Missouri Census Data Center (see: http://mcdc.missouri.edu/applications/geocorr2014.html). All of the county-level variables are then weighted by their congressional district weight.

The third part is to aggregate the weighted two-year aggregated county-level variables into their congressional districts (CDs) for each Congress.

Step 3: Create the congressional-level variables used in the study.

Median Housing Unit Income: The housing-unit weighted CD value for total median household income is divided by the total number of housing units in the CD. This produces a weighted average median housing unit income for each CD. Admittedly, this is not a true median value, but it is as close as possible for this time series.

Inflation Adjusted Median Income: Annual median housing unit income estimates weighted with the Bureau of Labor Statistics' CPI Inflation Adjuster. see: https://data.bls.gov/cgi-bin/cpicalc.pl.

Mean Housing Unit Income: The CD value for aggregate personal income is divided by the total number of housing units in the CD. This produces a mean housing unit income for each CD.

Income Inequality: Ratio: The Mean Housing Unit Income is divided by the Median Housing Unit Income.

Income Inequality: Percent Difference: The difference between the Mean Housing Unit Income and the Median Housing Unit Income is divided by the sum of the Mean Housing Unit Income and the Median Housing Unit Income.

Percent White: The weighted CD value for the total non-Hispanic white population in each CD is divided by the total population of the CD.

Unemployment Rate: The weighted CD value for total number of unemployed persons between the ages of 25 and 64 is divided by the weighted CD value for the total number of persons in the labor force between the ages of 25 and 64.

Online Appendix 2: Comparisons of the ACS and the Constructed Variables

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This Appendix is meant to provide more comparisons in order to demonstrate:

1. The new measures of *Income Inequality: Ratio* and *Income Inequality: Percent Difference* are sufficiently similar to the much more recognized *Gini Index*.
2. The process of constructing congressional district variables from the county-level data produces variables sufficiently similar to the ACS's congressional district estimates.

National Level

Since 1975, the U.S. Census has national annual measures of the mean household income, the median household income, and the Gini index based on household. (See: https://www.census.gov/data/tables/time-series/demo/income-poverty/historical-income-households.html). Using these data, I calculated the Income Inequality: Ratio and the Income Inequality: Percent Different variables. The correlations among the three measures are extremely high.

Table 2.1: National Comparisons of the Measures of Income Inequality: Gini, Income Inequality: Ratio, and Income Inequality: Percent Difference

```
. corr Gini Ratio Percent_Difference
(obs=44)

             |     Gini    Ratio Percen~e
-------------+---------------------------
        Gini |   1.0000
       Ratio |   0.9976   1.0000
Percent_Di~e |   0.9977   0.9997   1.0000
```

District Level

Using the ACS data on the Gini coefficient (see: www.factfinder.census.gov variable B19083), the median household income, and the mean household income for all congressional districts, which is the source data for Table 2.1, I created the Income Inequality: Ratio and Income Inequality: Percent Difference variables. The correlations among the three measures remain extremely high.

Table 2.2: District Comparisons of the Measures of Income Inequality from the ACS: Gini, Income Inequality: Ratio, and Income Inequality: Percent Difference

```
. corr gini_mean_CD Income_Inequality_Ratio_CD Income_Inequality_PD_CD
(obs=2,610)

             | gini_m~D Inc~o_CD Inc~D_CD
-------------+---------------------------
gini_mean_CD |   1.0000
Income_~o_CD |   0.9613   1.0000
Income_~D_CD |   0.9682   0.9970   1.0000
```

As the county-level data are aggregated into congressional districts, there is not surprisingly some slippage. The correlations between the constructed income inequality measures derived from the ACS and those derived from the county-level data are, nonetheless, still strong.

Table 2.3: District Comparisons of the Income Inequality: Ratio from the County-Level Process and the ACS

```
. corr Income_Inequality_Ratio_CTY Income_Inequality_Ratio_CD
(obs=2,526)

             | In~o_CTY Inc~o_CD
-------------+------------------
Income~o_CTY |   1.0000
Income_~o_CD |   0.6073   1.0000
```

Table 2.4: District Comparisons of the Income Inequality: Percent Difference from the County-Level Process and the ACS

```
. corr Income_Inequality_PD_CTY Income_Inequality_PD_CD
(obs=2,526)

             | In~D_CTY Inc~D_CD
-------------+------------------
Income~D_CTY |   1.0000
Income_~D_CD |   0.5810   1.0000
```

The median housing unit income, constructed from the county-level data, displays a similar range, skew, and distribution as the ACS's median household income that is displayed in Figure 2 and Figure 3 in the text.

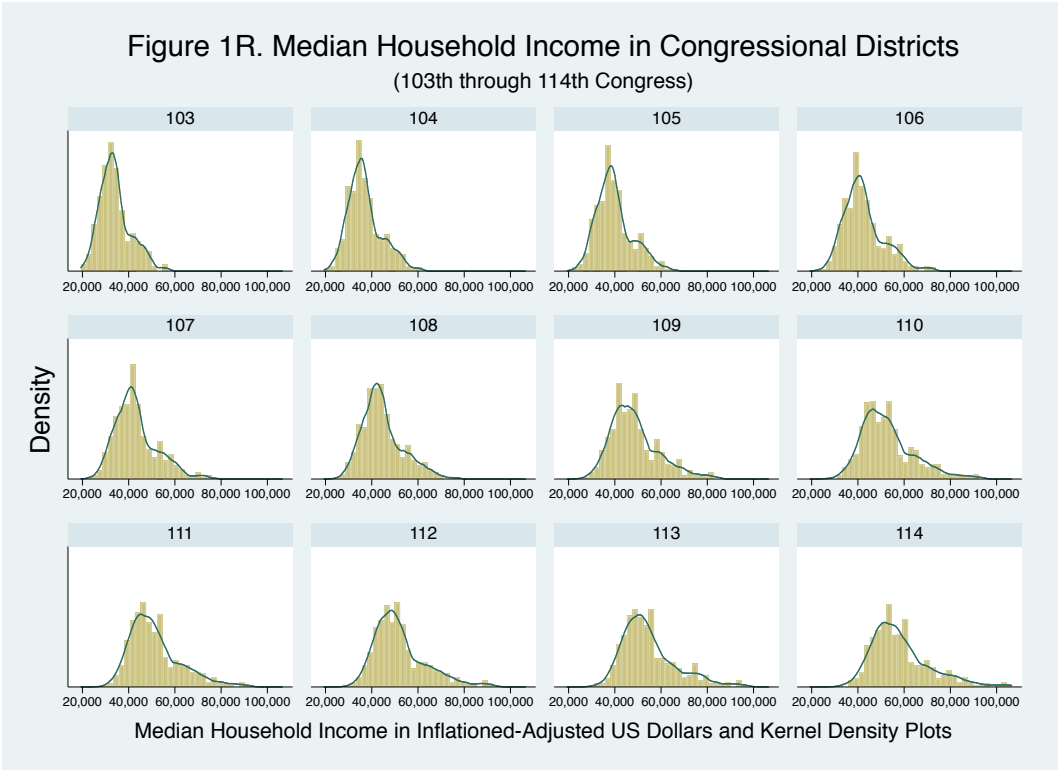


Figure 1R. Median Household Income in Congressional Districts
(103th through 114th Congress)
103
104
105
106
107
108
109
110
111
112
113
114
Density
20,000 40,000 60,000 80,000 100,000
Median Household Income in Inflationed-Adjusted US Dollars and Kernel Density Plots

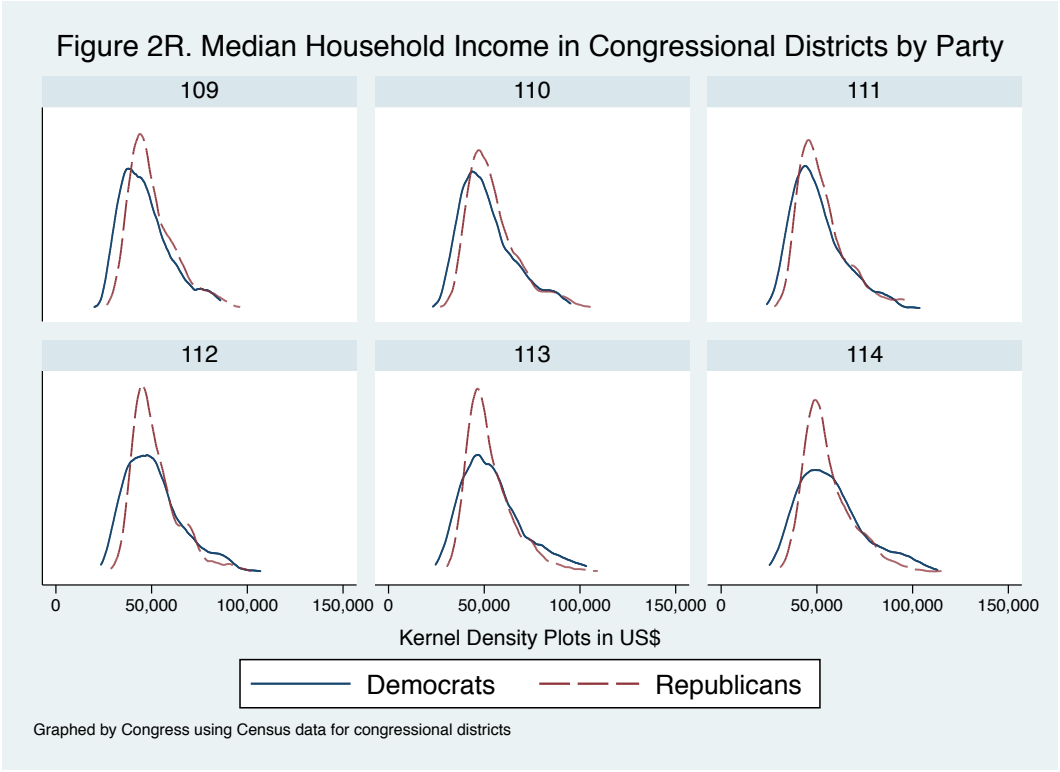
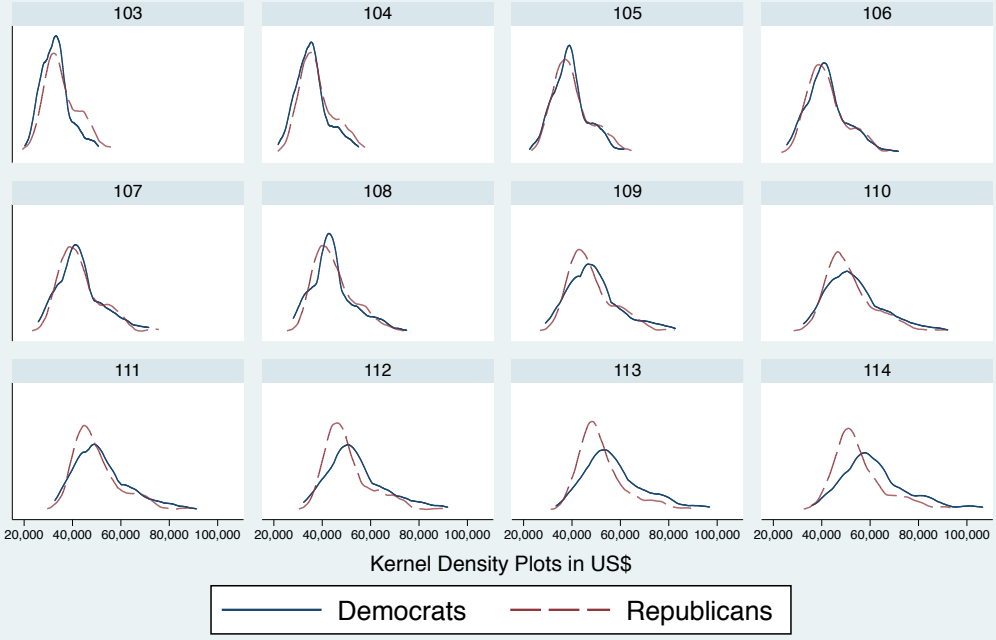


Figure 2R. Median Household Income in Congressional Districts by Party
109
110
111
112
113
114
0 50,000 100,000 150,000
Kernel Density Plots in US$
Democrats
Republicans
Graphed by Congress using Census data for congressional districts

Figure 3R. Median Household Income in Congressional Districts by Party



Graphed by Congress using Census county data aggregated into congressional districts

Table 2.5: District Comparisons of the Median Incomes from the County-Level Process and the ACS

Congress	Variable	n	Mean	Standard Deviation	Minimum	Maximum	Skew
103	Constructed	421	34,080	6,704	19,308	56,622	0.732
	ACS	–					
104	Constructed	421	36,957	7,238	21,642	60,791	0.748
	ACS	–					
105	Constructed	421	39,687	7,715	22,471	65,213	0.698
	ACS	–					
106	Constructed	421	42,424	8,578	23,316	71,677	0.827
	ACS	–					
107	Constructed	421	43,085	9,071	23,298	75,691	0.855
	ACS	–					
108	Constructed	421	44,597	8,803	25,403	76,148	0.816
	ACS	–					
109	Constructed	421	48,542	10,312	26,778	82,754	0.900
	ACS	421	48,473	12,566	20,053	89,815	0.904
110	Constructed	421	52,821	11,259	28,441	92,110	0.956
	ACS	421	52,680	13,547	23,102	98,410	0.949
111	Constructed	421	51,410	11,043	29,596	91,257	1.047
	ACS	421	51,279	13,181	23,860	95,622	0.987
112	Constructed	421	52,141	11,132	30,378	91,853	1.097
	ACS	421	51,503	13,216	23,504	96,364	0.972
113	Constructed	421	54,706	11,635	31,261	96,854	1.086
	ACS	421	53,456	13,893	24,558	103,367	1.056
114	Constructed	421	58,455	12,738	32,579	106,534	1.097
	ACS	421	56,472	14,858	25,238	112,981	1.024

Figure 1R, with the longer time frame than Figure 2 in the text, clearly shows some of the dramatic income changes that have occurred within and across congressional districts since the early 1990s. During the 2000s (the 107th through the 111th Congresses), there was a sharp increase in the maximum medians, in particular, and thus the skew of the distributions. The numeric comparison in Table 5R point to the same conclusion.[1] It also documents that the median housing unit income variable constructed from the county-level data is remarkably similar, especially given the construction process and the use of housing units instead of households, to the ACS's estimates of the median household income.

For further reference Figure 2R provides the congress-by-congress kernel density plots for that aggregate data by political party displayed in Figure 3. And, Figure 3R

[1] The ACS's observations for Alaska, Hawaii, and Virginia are not included in order for a direct comparison with the constructed values, which needed to omit these states due to merging issues.

provides the congress-by-congress kernel density plots by political party for the data in Figure 1R.

Still, all of these provide reasons why scholars were beginning to be concerned about sorting among congressional districts. But, as these figures also show, the distribution is still unimodal. It would be exceedingly difficult to achieve the increasing national levels of income inequality from a distribution that is still basically "normal".

This is further supported by all three measures—both constructed and the ACS's, which indicate that mean income inequality is rising over this time period. As discussed in the theoretical section of the text, if district-level inequality is rising along with the national-level inequality, then it is most logical that the districts have a heterogenous mix of relatively poor and relatively affluent households—or, as denoted in the text, they are relatively "similar" with the national distribution. If the congressional districts were sufficient sorted, the district-level and the national-level trends would be inversely related.

Figure 4R displays the median district level for all of the measures of income inequality for each Congress. And, Table 2.6 tabulates the means, standard deviations, minimums, and maximums for all of the measures of income inequality for each Congress. Although the Gini Coefficient seems to be less sensitive than the other two measures, all generally increase over this time frame—just like the national measure of the Gini Coefficient.

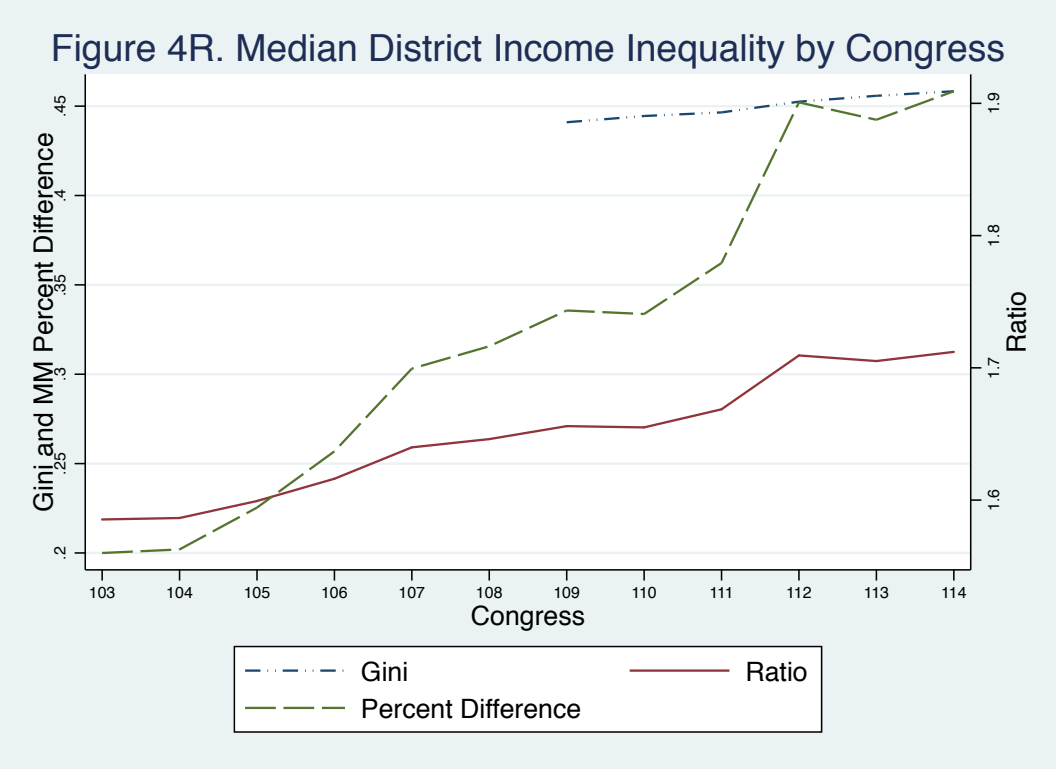


Table 2.6: District Comparisons of the Three Measures of Income Inequality: Constructed and ACS's

Congress	Variable	n	Mean	Standard Deviation	Minimum	Maximum
109	II: Gini (ACS)	421	0.445	0.032	0.365	0.590
110	II: Gini (ACS)	421	0.449	0.033	0.372	0.606
111	II: Gini (ACS)	421	0.451	0.031	0.382	0.601
112	II: Gini (ACS)	421	0.457	0.031	0.382	0.593
113	II: Gini (ACS)	421	0.459	0.031	0.386	0.591
114	II: Gini (ACS)	421	0.461	0.030	0.383	0.587
109	II: Percent (ACS)	421	0.134	0.032	0.069	0.300
110	II: Percent (ACS)	421	0.139	0.034	0.075	0.330
111	II: Percent (ACS)	421	0.140	0.032	0.080	0.316
112	II: Percent (ACS)	421	0.146	0.032	0.073	0.293
113	II: Percent (ACS)	421	0.147	0.031	0.074	0.291
114	II: Percent (ACS)	421	0.149	0.031	0.076	0.284
103	II: Percent (Constructed)	421	0.227	0.075	-0.212	0.640
104	II: Percent (Constructed)	421	0.228	0.069	-0.115	0.540
105	II: Percent (Constructed)	421	0.241	0.065	0.010	0.554
106	II: Percent (Constructed)	421	0.254	0.064	0.083	0.580
107	II: Percent (Constructed)	421	0.274	0.065	0.097	0.606
108	II: Percent (Constructed)	421	0.279	0.067	0.071	0.581
109	II: Percent (Constructed)	421	0.281	0.062	0.063	0.549
110	II: Percent (Constructed)	421	0.279	0.062	0.069	0.549
111	II: Percent (Constructed)	421	0.288	0.057	0.102	0.543
112	II: Percent (Constructed)	421	0.322	0.063	0.123	0.580
113	II: Percent (Constructed)	421	0.322	0.064	0.138	0.571
114	II: Percent (Constructed)	421	0.325	0.064	0.143	0.573
109	II: Ratio (ACS)	421	1.314	0.093	1.149	1.859
110	II: Ratio (ACS)	421	1.326	0.098	1.163	1.984
111	II: Ratio (ACS)	421	1.329	0.093	1.174	1.925
112	II: Ratio (ACS)	421	1.345	0.095	1.158	1.827
113	II: Ratio (ACS)	421	1.348	0.091	1.161	1.820
114	II: Ratio (ACS)	421	1.354	0.090	1.165	1.794
103	II: Ratio (Constructed)	421	1.619	0.349	0.651	4.562
104	II: Ratio (Constructed)	421	1.617	0.279	0.794	3.351
105	II: Ratio (Constructed)	421	1.655	0.263	1.020	3.481
106	II: Ratio (Constructed)	421	1.702	0.272	1.182	3.762
107	II: Ratio (Constructed)	421	1.781	0.297	1.214	4.081
108	II: Ratio (Constructed)	421	1.802	0.296	1.154	3.772
109	II: Ratio (Constructed)	421	1.802	0.261	1.134	3.434
110	II: Ratio (Constructed)	421	1.796	0.264	1.148	3.434
111	II: Ratio (Constructed)	421	1.829	0.249	1.228	3.376
112	II: Ratio (Constructed)	421	1.978	0.307	1.281	3.764
113	II: Ratio (Constructed)	421	1.980	0.311	1.321	3.660
114	II: Ratio (Constructed)	421	1.990	0.309	1.333	3.685

Income and Income Inequality Decompositions

The following are the results from temporal decomposition analyses conducted on district-level income and income inequality. The only explanatory variable is time, that is Congress, and they are grouped by party.

Table 2.7, for example, should be interpreted as follows.

Under the section titled Models (Groups), two regressions are estimated of Income Inequality: Gini on Congress. For both Democrats (Group 1) and Republicans (Groups 2), the increase in Income Inequality: Gini over time is statistically significant; the rate of the increase has been slightly steeper for Democrats than for Republicans; the Adjusted R-squares for both are quite low.

Under the section titled Differential, the predicted estimates are provided for Income Inequality: Gini for the Democrats and the Republicans as well as the difference between them. The predicted estimate for Income Inequality: Gini for the Democrats is slightly higher than it is for the Republicans; this partisan inequality gap – as small as it is – is statistically significant.

Under the section titled Decomposition, the analysis is divided into three components: Endowments, Coefficients, and Interaction. The Endowments component represents the mean change in Income Inequality: Gini in Republicans districts if the Republicans had the same characteristics (i.e., independent variables) as the Democrats. The only characteristic included in these analyses, however, is time (e.g., Congress). Specifically, about 5% of the partisan inequality gap is a function of time, but it is diminishing over time. The Coefficients component represents the change in Republican's Income Inequality: Gini when applying the Democrat's coefficients to the Republican characteristics. The Interaction component represents the simultaneous effect of difference in Endowments and Coefficients.

All of the analyses report, in general, similar results. All of the income and inequality variables are increasing over time, and they are statistically significant, but they estimate that the partisan income inequality gaps are quite small. These provide further confirmation that the trends in the congressional districts should be deemed as "similar" to those found in the nation as a whole.

Table 2.7: Decomposition: Income Inequality (GINI) by Congressional District (109th -114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	0.0042***	0.0031***
	(0.0006)	(0.0004)
Constant	-0.0112	0.1021**
	(0.0674)	(0.0453)
Adj R-sqd	0.04	0.04
Observations	1,241	1,284
	Differential	
Prediction	0.4603***	0.4473***
	(0.0010)	(0.0007)
Difference	0.0130***	
	(0.0013)	
	Decomposition	
Endowments	-0.0006**	
	(0.0002)	
Coefficients	0.0138***	
	(0.0012)	
Interaction	-0.0002	
	(0.0002)	
Observations	2,525	

Note: Standard Errors in parentheses. *** p<0.01, ** p<0.05

Table 2.8: Decomposition: Income Inequality (Percent) by Congressional District (109th -114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	0.0105***	0.0067***

	(0.0018)		(0.0012)
Constant	0.1774		0.5715***
	(0 .2023)		(0.1351)
Adj R-sqd	0.03		0.02
Observations	1,241		1,284
		Differential	
Prediction	1.3510***		1.3219***
	(0.0031)		(0.0021)
Difference		0.0290***	
		(0.0037)	
		Decomposition	
Endowments		-0.0012**	
		(0.0005)	
Coefficients		0.0310***	
		(0.0037)	
Interaction		-0.0007	
		(0.0005)	
Observations		2,525	

Note: Standard Errors in parentheses. *** p<0.01, ** p<0.05

Table 2.9: Decomposition: Income Inequality (Ratio) by Congressional District (103rd-114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	0.0406***	0.0326***
	(0.0020)	(0.0013)
Constant	-2.5312***	-1.8128***
	(0.2067)	(0.1394)
Adj R-sqd	0.1538	0.2014
Observations	2,494	2,551
	Differential	
Prediction	1.8709***	1.7238***
	(0.0071)	(0.0050)
Difference	0.1471***	
	(0.0087)	
	Decomposition	
Endowments	-0.0068**	
	(0.0032)	
Coefficients	0.1556***	
	(0.0080)	
Interaction	-0.0017	
	(0.0009)	
Observations	5,045	

Note: Standard Errors in parantheses. *** p<0.01, ** p<0.05

Table 2.10: Decomposition: Income Inequality (Percent) by Congressional District (109th -114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	.0038***	.0026***
	(0.0006)	(0.0004)
Constant	-0.2759***	-0.1485***
	(0.0686)	(0.0475)
Adj R-sqd	0.03	0.03
Observations	1,241	1,284
	Differential	
Prediction	0.1476***	0.1378***
	(0.0010)	(0.0008)
Difference	0.0099***	
	(0.0013)	
	Decomposition	
Endowments	-0.0005**	
	(0.0002)	
Coefficients	0.0105***	
	(0.0013)	
Interaction	-0.0002	
	(0.0002)	
Observations	2,525	

Note: Standard Errors in parentheses. *** p<0.01, ** p<0.05

Table 2.11: Decomposition: Income Inequality (Percent) by Congressional District (103rd-114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	.0100***	.0090***
	(0.0004)	(0.0003)
Constant	-0.7865***	-0.7172***
	(0.0445)	(0.0337)
Adj R-sqd	0.19	0.24
Observations	2,494	2,551
	Differential	
Prediction	0.2938***	0.2601***
	(0.0016)	(0 .0012)
Difference	0.0337***	
	(0.0020)	
	Decomposition	
Endowments	-0.0019**	
	(0.0009)	
Coefficients	0.0358***	
	(0.0018)	
Interaction	-0.0002	
	(0.0001)	
Observations	5,045	

Note: Standard Errors in parentheses. *** p<0.01, ** p<0.05

Table 2.12: Decomposition: Median Household Income by Congressional District (109th-114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	1,734.33***	728.35***
	(248.81)	(200.65)
Constant	-14,1559.60***	-28,332.98
	(27,723.19)	(22,393.49)
Adj R-sqd	0.04	0.01
Observations	1,241	1,284
	Differential	
Prediction	51,659.60***	52,943.91***
	(421.55)	(352.05)
Difference	-1,284.31**	
	(549.22)	
	Decomposition	
Endowments	-132.42**	
	(61.42)	
Coefficients	-969.00	
	(546.02)	
Interaction	-182.89**	
	(89.64)	
Observations	2,525	

Note: Standard Errors in parantheses. *** p<0.01, ** p<0.05

Table 2.13: Decomposition: Median Household Income by Congressional District (103rd-114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	2,484.60***	1,683.92***
	(59.97)	53.3639
Constant	-629,899***	-136,682.50***
	(6,503.63)	(5,798.62)
Adj R-sqd	0.41	0.28
Observations	2,494	2,551
	Differential	
Prediction	46,976.07***	46,202.33***
	268.5545	217.4215
Difference	773.74**	
	(345.53)	
	Decomposition	
Endowments	-352.05**	
	(164.04)	
Coefficients	1,293.18***	
	(282.61)	
Interaction	-167.40**	
	(79.61)	
Observations	5,045	

Note: Standard Errors in parantheses. *** p<0.01, ** p<0.05

Table 2.14: Decomposition: Mean Household Income by Congressional District (109th -114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	2,876.51***	1,294.52***
	(350.83)	(266.47)
Constant	-25,0742.40***	-74,580.90**
	(39,089.90)	(29,739.58)
Adj R-sqd	0.05	0.02
Observations	1,241	1,284
	Differential	
Prediction	69,725.66***	69,874.92***
	(598.67)	(469.42)
Difference	-149.26	
	(760.76)	
	Decomposition	
Endowments	-235.35**	
	(100.30)	
Coefficients	373.69	
	(752.57)	
Interaction	-287.61**	
	(133.92)	
Observations	2,525	

Note: Standard Errors in parentheses. *** p<0.01, ** p<0.05

Table 2.15: Decomposition: Mean Household Income by Congressional District (103rd-114th Congress)

	Models (Groups)	
	Democrats (1)	**Republicans (2)**
Congress	6,634.96***	4,406.95***
	(156.86)	(120.10)
Constant	-629,899***	-398,044.20***
	(17,011.84)	(13,050.70)
Adj R-sqd	0.42	0.35
Observations	2,494	2,551
	Differential	
Prediction	89,315.47***	80,580.73***
	(708.50)	(512.97)
Difference	8,734.74***	
	(874.70)	
	Decomposition	
Endowments	-921.34**	
	(429.05)	
Coefficients	10,121.89***	
	(699.11)	
Interaction	-465.80**	
	(220.44)	
Observations	5,045	

Note: Standard Errors in parentheses. *** p<0.01, ** p<0.05

Income Inequality Examples

This simple example is useful in observing the similarities and differences among the three measures of income inequality.

Table 2.16. Hypothetical Comparisons of the Income Inequality Measures

Household #	HH Incomes in $	HH Incomes in $	HH Incomes in $	HH Incomes in $	HH Incomes in $	HH Incomes in $	HH Incomes in $
1	1	1	1	1	1	1	1
2	1	1	1	1	1	1	1
3	1	1	1	1	1	1	1
4	1	1	1	1	1	1	1
5	1	1	1	1	1	1	1
6	1	1	1	1	1	1	1
7	2	2	2	2	2	2	2
8	3	3	3	3	3	3	3
9		10	100	1,000	10,000	100,000	1,000,000
Total Income	11	21	111	1,011	10,011	100,011	1,000,011
Mean	1.4	2.3	12.3	112.3	1,112.3	11,112.3	111,112.3
Median	1.0	1.0	1.0	1.0	1.0	1.0	1.0
II: Ratio	1.4	2.3	12.3	112	1,112	11,112	111,112
II: Percent	0.15789	0.40000	0.85000	0.98235	0.99820	0.99982	0.99998
II: Gini	0.21591	0.46561	0.80881	0.88010	0.88800	0.88880	0.88888

Across the seven scenarios, the first eight household income do not change. And, in the first scenario, these eight household have a small degree of income inequality among them. As such, the three inequality measures (label here as II: Ratio, II: Percent, and II: Gini) are relatively small.

In the next six scenarios, a ninth household is added, each with a higher and higher income. Accordingly, all three measures of income inequality also rise. A couple details to note:

1. In absolute terms, the median income does not change; but, it does become relatively poorer in comparison to the mean income. This emphasizes the social dynamic to income inequality: it may not just be

about the median, but how the median relates to the rest of the distribution.

2. Both the II: Percent and the II: Gini have an upper bound: II: Percent at 1 and the II: Gini at (n-1)/n. But, in either case, as income inequality becomes extremely high, the relative change in both measures become quite small. The II: Ratio, on the other hand, does not have an upper bound, thus the measure is proportionate to the extremity of the inequality.

Unemployment Rate and Percent White

The other constituent-based variables, the unemployment rate and the percent white, in Table 2 and Table 3 were constructed using the same general process as the income and income equality variables. The underlying data, however, was generally easier to use. The following two Tables report the correlations between the county-level-based variables and the ACS's variables. These correlations are quite high and should offer further confidence in the process.

Table 2.17: District Comparisons of Unemployment Rate: Ratio from the County-Level Process and the ACS

```
. corr unemployment_rate_CTY unemployment_rate_25_64_mean_CD
(obs=2,525)

             | unempl~Y unempl~D
-------------+------------------
unemployme~Y |   1.0000
unemployme~D |   0.8312   1.0000
```

Table 2.18: District Comparisons of Unemployment Rate: Ratio from the County-Level Process and the ACS

```
. corr white_nonhisp_perc_CTY white_nonhisp_perc_CD
(obs=2,525)

             | white_~Y white_~D
-------------+------------------
white_nonh~Y |   1.0000
white_nonh~D |   0.9145   1.0000
```

Online Appendix 3: Robustness Analyses

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Table 3.1: Ideological Conservativism and Lagged Income Inequality

	(1)	(2)	(3)
Fixed-Effects: Coefficients	II: GINI	II: Ratio	II: Percent
Lagged Income Inequality#	-0.427***	-0.072***	-0.390***
	(0.101)	(0.010)	(0.045)
Median Income#	0.018	0.017	0.020
	(0.025)	(0.022)	(0.022)
Unemployment Rate#	-0.266	0.088	0.029
	(0.165)	(0.163)	(0.166)
Percent White#	0.144***	0.071***	0.052***
	(0.017)	(0.016)	(0.017)
MC: Republican	0.797***	0.792***	0.791***
	(0.011)	(0.006)	(0.006)
MC: Age	-0.001***	-0.002***	-0.002***
	(0.000)	(0.000)	(0.000)
MC: Seniority	-0.004***	-0.003***	-0.003***
	(0.001)	(0.001)	(0.001)
MC: Retire	-0.024*	0.009	0.008
	(0.013)	(0.010)	(0.010)
Majority in House (in party)	0.002	-0.003	-0.003
	(0.009)	(0.007)	(0.007)
Majority in Senate (in party)	0.010	-0.008	-0.009
	(0.009)	(0.005)	(0.005)
President's Party (in party)	-0.002	-0.005	-0.005
	(0.010)	(0.005)	(0.005)
Constant	-0.137**	-0.176***	-0.181***
	(0.067)	(0.047)	(0.045)
Random-Effects: Variance Components			
The South (constant)	0.002	0.002	0.002
	(0.002)	(0.002)	(0.002)
	[0.0003 - 0.0161]	[0.0002 - 0.0139]	[0.0002 - 0.0137]
Congress (constant)	0.000	0.001	0.001
	(0.000)	(0.000)	(0.000)
	[0.0000 - 0.0010]	[0.0003 - 0.0014]	[0.0004 - 0.0018]
Number of MCs	1,790	3,884	3,884
Number of Congresses	5	11	11
Number of Geographic Groups	2	2	2
Wald X^2	18277.99***	33142.73***	33325.76***

Fixed Effects: Coefficients and standard errors in parentheses.
Random Effects: Variance estimates, standard errors in parentheses, and 95% confidence intervals in brackets.

Note: Variables denoted with a # are estimates from the Census's ACS in Model (1), and are estimates constructed from county level Census data in Model (2) and (3). The income inequality variable is lagged one Congress.
*** p<0.01, ** p<0.05

Table 3.2: Ideological Conservativism and Income Inequality (Gini) by Redistricting Cycle

	(1)	(2)	(3)
Fixed-Effects: Coefficients	1990s	2000s	2010s
II: GINI		-0.506***	-0.347**
		(0.108)	(0.158)
Median Income		0.013	0.001
		(0.027)	(0.036)
Unemployment Rate		-0.094	-0.402
		(0.170)	(0.278)
Percent White		0.156***	0.143***
		(0.018)	(0.027)
MC: Republican		0.767***	0.796***
		(0.010)	(0.012)
MC: Age		-0.001***	-0.001
		(0.000)	(0.001)
MC: Seniority		-0.005***	-0.005***
		(0.001)	(0.001)
MC: Retire		-0.024	-0.016
		(0.016)	(0.019)
Majority in House (in party)		0.010	
		(0.009)	
Majority in Senate (in party)		-0.016	0.003
		(0.013)	(0.009)
President's Party (in party)		0.005	
		(0.009)	
Constant		-0.101	-0.162*
		(0.069)	(0.095)
Random-Effects: Variance Components			
The South (constant)		0.002	0.002
		(0.002)	(0.003)
		[0.0003 - 0.0164]	[0.0003 - 0.0184]
Congress (constant)		0.000	0.000
		(0.000)	(0.000)
		[0.0000 - 0.0016]	[0.0000 - 0.1520]
Number of MCs		1,738	869
Number of Congresses		4	2
Number of Geographic Groups		2	2
Wald X^2		16089.10***	8951.95***

Fixed Effects: Coefficients and standard errors in parentheses.
Random Effects: Variance estimates, standard errors in parentheses, and 95% confidence intervals in brackets.

Note: Due to collinearity, Stata dropped Majority in House (in party) and President's Party (in party) in Model (3).
*** p<0.01, ** p<0.05, * p<0.1

Table 3.3: Ideological Conservativism and Income Inequality (Ratio) by Redistricting Cycle

	(1)	(2)	(3)
Fixed-Effects: Coefficients	1990s	2000s	2010s
II: Ratio	-0.100***	-0.072***	-0.031
	(0.014)	(0.014)	(0.020)
Median Income	-0.083**	0.048*	0.051
	(0.034)	(0.028)	(0.047)
Unemployment Rate	-0.095	0.247	-0.684*
	(0.214)	(0.173)	(0.395)
Percent White	0.071***	0.079***	0.086**
	(0.024)	(0.021)	(0.036)
MC: Republican	0.739***	0.786***	0.823***
	(0.009)	(0.009)	(0.011)
MC: Age	-0.002***	-0.001***	-0.001
	(0.000)	(0.000)	(0.001)
MC: Seniority	-0.002**	-0.004***	-0.005***
	(0.001)	(0.001)	(0.001)
MC: Retire	0.040***	-0.019	-0.006
	(0.015)	(0.015)	(0.020)
Majority in House (in party)	0.019*	0.013	
	(0.010)	(0.010)	
Majority in Senate (in party)	0.001	-0.018	0.002
	(0.008)	(0.013)	(0.009)
President's Party (in party)		0.005	
		(0.010)	
Constant	-0.083	-0.200***	-0.250***
	(0.057)	(0.056)	(0.087)
Random-Effects: Variance Components			
The South (constant)	0.001	0.002	0.002
	(0.001)	(0.002)	(0.002)
	[0.0002 - 0.0095]	[0.0003 - 0.0143]	[0.0002 - 0.0168]
Congress (constant)	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
	[0.0000 - 0.0637]	[0.0000 - 0.0011]	[0.0000 - 0.0046]
Number of MCs	2,093	2,102	841
Number of Congresses	5	5	4
Number of Geographic Groups	2	2	2
Wald X^2	14684.50***	18705.65***	8415.65***

Fixed Effects: Coefficients and standard errors in parentheses.
Random Effects: Variance estimates, standard errors in parentheses, and 95% confidence intervals in brackets.

Note: Due to collinearity, Stata dropped President's Party (in party) in Model (1) as well as Majority in House (in party) and President's Party (in party) in Model (3).

*** p<0.01, ** p<0.05, * p<0.1

Table 3.4: Ideological Conservativism and Income Inequality (Percent) by Redistricting Cycle

	(1)	(2)	(3)
Fixed-Effects: Coefficients	1990s	2000s	2010s
II: Percent	-0.534***	-0.379***	-0.190*
	(0.066)	(0.062)	(0.099)
Median Income	-0.066*	0.047*	0.051
	(0.034)	(0.028)	(0.047)
Unemployment Rate	-0.080	0.153	-0.739*
	(0.223)	(0.182)	(0.399)
Percent White	0.041	0.063***	0.075**
	(0.026)	(0.021)	(0.036)
MC: Republican	0.736***	0.786***	0.823***
	(0.009)	(0.009)	(0.011)
MC: Age	-0.002***	-0.001***	-0.001
	(0.000)	(0.000)	(0.001)
MC: Seniority	-0.002**	-0.004***	-0.005***
	(0.001)	(0.001)	(0.001)
MC: Retire	0.040***	-0.020	-0.007
	(0.014)	(0.015)	(0.020)
Majority in House (in party)	0.020**	0.013	
	(0.010)	(0.010)	
Majority in Senate (in party)	0.000	-0.019	0.002
	(0.008)	(0.013)	(0.009)
President's Party (in party)		0.004	
		(0.010)	
Constant	-0.107**	-0.202***	-0.239***
	(0.053)	(0.053)	(0.083)
Random-Effects: Variance Components			
The South (constant)	0.001	0.002	0.002
	(0.001)	(0.002)	(0.002)
	[0.0002 - 0.0093]	[0.0002 - 0.0140]	[0.0002 - 0.0167]
Congress (constant)	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)
	[0.0000 - 0.0012]	[0.0000 - 0.0013]	[0.0000 - 0.0044]
Number of MCs	2,093	2,102	841
Number of Congresses	5	5	4
Number of Geographic Groups	2	2	2
Wald X^2	14758.41***	18796.74***	8432.17***

Fixed Effects: Coefficients and standard errors in parentheses.
Random Effects: Variance estimates, standard errors in parentheses, and 95% confidence intervals in brackets.

Note: Due to collinearity, Stata dropped President's Party (in party) in Model (1) as well as Majority in House (in party) and President's Party (in party) in Model (3).

*** p<0.01, ** p<0.05, * p<0.1