

```
[1] "C:/Users/User/Documents/R/R-4.1.2/library"
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y Poverty  
Infant Mort  
White  
Crime  
Doctors

x const  
Infant Mort  
White  
Crime  
Doctors

y Poverty

AboveMedian Traf Deaths  
University  
Unemployed  
Income  
Population

BelowMedian Traf Deaths  
University  
Unemployed  
Income  
Population

Center: [Checked: Mean, Unchecked: Median]

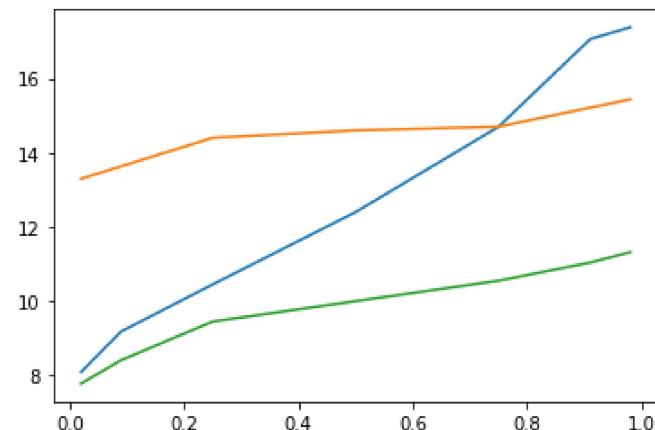
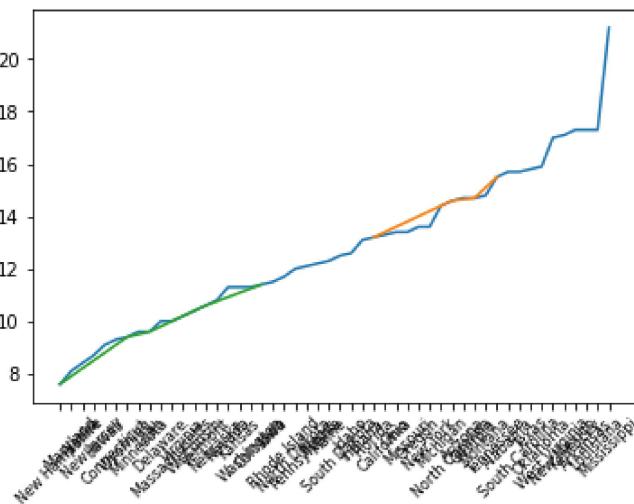
all group

	Poverty	const	Infant Mort	White	Crime	Doctors	\
count	50.000000	50.0	50.000000	50.00000	50.000000	50.000000	
mean	12.732000	1.0	6.830000	81.96200	407.48000	260.276000	
std	2.939002	0.0	1.338786	11.97458	183.633868	64.363415	
min	7.600000	1.0	4.700000	29.70000	118.000000	168.800000	
25%	10.450000	1.0	5.725000	76.15000	278.250000	218.425000	
50%	12.400000	1.0	6.850000	84.55000	345.500000	249.050000	
75%	14.700000	1.0	7.750000	89.85000	520.000000	274.800000	
max	21.200000	1.0	10.600000	96.40000	788.000000	469.000000	

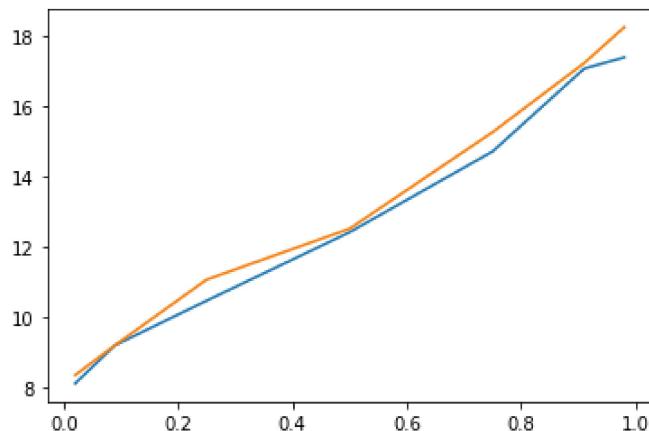
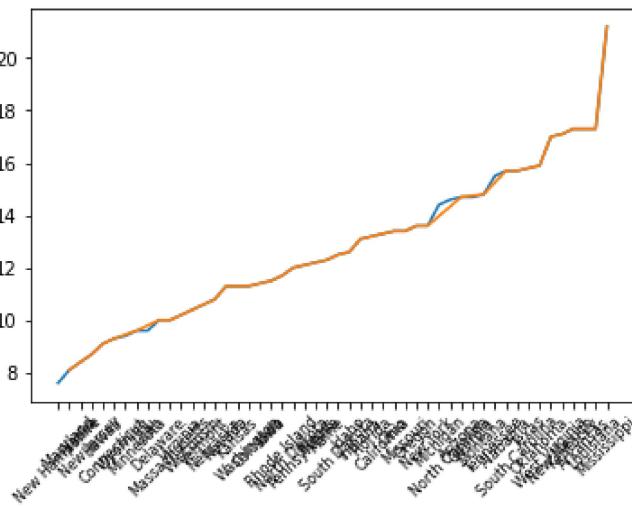
	Traf Deaths	University	Unemployed	Income	Population
count	50.00000	50.000000	50.000000	50.000000	5.000000e+01
mean	1.40440	26.940000	5.270000	51985.100000	6.016154e+06
std	0.38654	4.761152	1.253933	8592.657934	6.663772e+06
min	0.76000	17.100000	3.000000	37790.000000	5.232260e+05
25%	1.14000	24.025000	4.400000	46161.250000	1.779632e+06
50%	1.37500	26.200000	5.300000	50173.000000	4.313980e+06

75% 1.62000 29.825000 6.275000 56903.000000 6.490796e+06  
max 2.45000 38.100000 8.400000 70545.000000 3.618591e+07

all mapped with in and out group



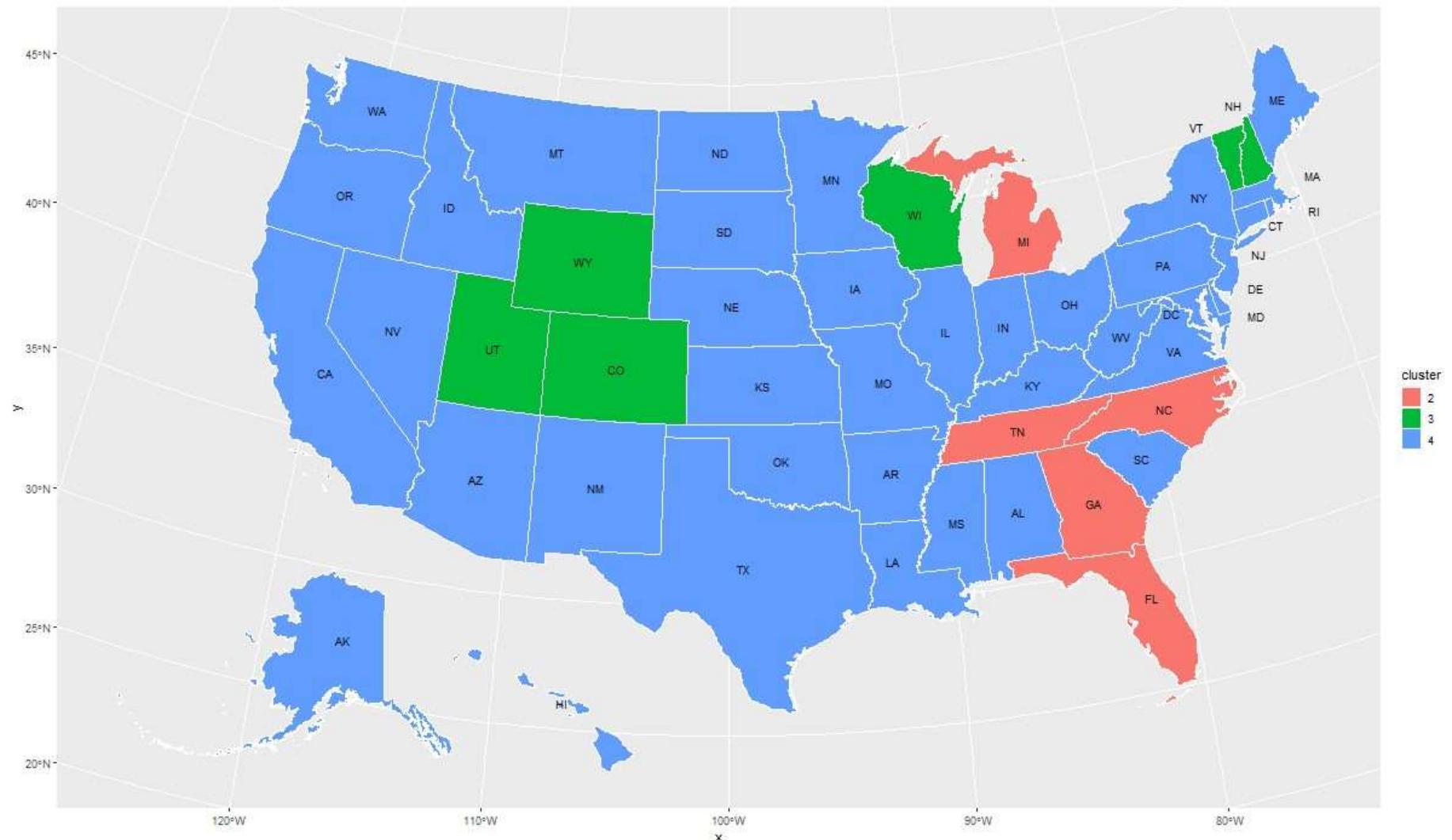
all mapped against neither group

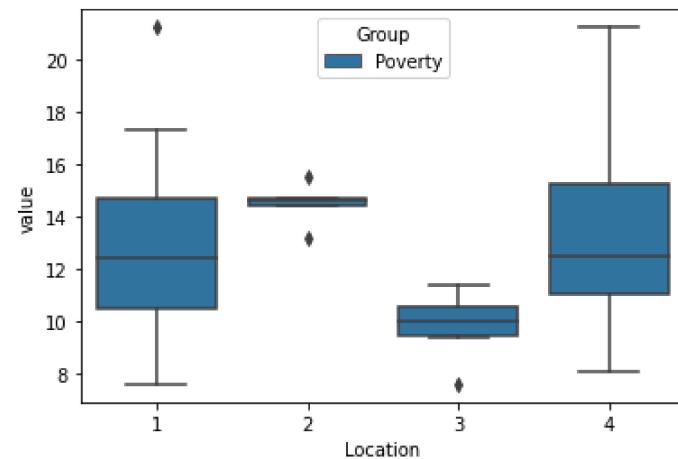


R[write to console]: old-style crs object detected; please recreate object with a recent sf::st\_crs()

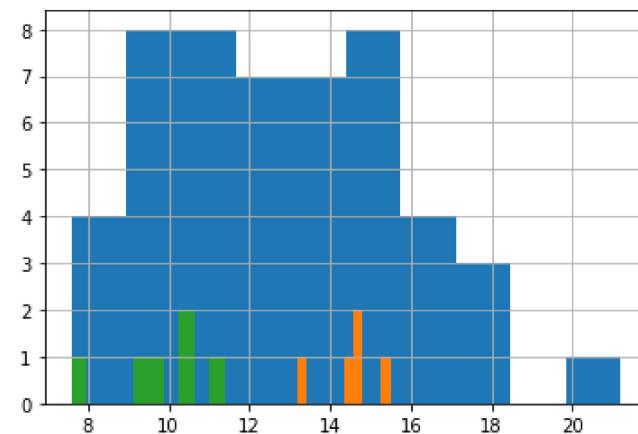
```
[1] "C:\\Users\\User\\Documents\\wiki\\wiki\\dev\\R\\clusterMap.png"
```

R[write to console]: old-style crs object detected; please recreate object with a recent sf::st\_crs()

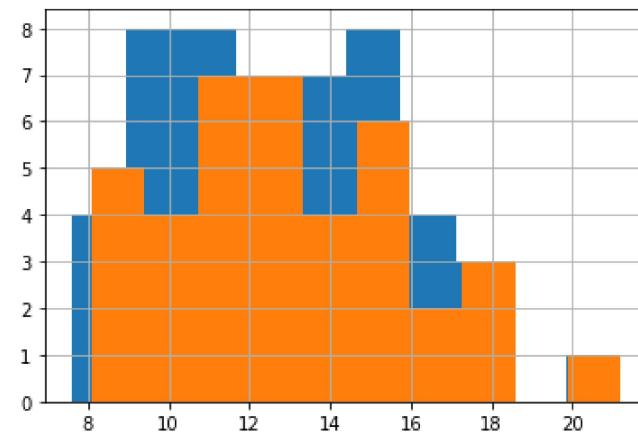




all mapped with in and out group



all mapped against neither group



in group

0.0028310170602545677

f/variance test: (0.0795347795433797, 1.9764922436279146)

	Poverty	const	Infant Mort	White	Crime	Doctors	Traf Deaths	University	Unemployed	Income	Population
<b>count</b>	5.000000	5.0	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000	5.000000e+00
<b>mean</b>	14.480000	1.0	7.920000	76.140000	594.20000	246.660000	1.476000	25.400000	6.700000	47478.600000	1.061211e+07
<b>std</b>	0.828855	0.0	0.576194	6.661681	134.04365	17.421481	0.258998	1.717556	0.953939	2672.404966	4.532375e+06
<b>min</b>	13.200000	1.0	7.300000	65.400000	466.00000	217.400000	1.040000	22.900000	6.200000	43614.000000	6.172788e+06
<b>25%</b>	14.400000	1.0	7.400000	73.900000	493.00000	247.900000	1.460000	24.700000	6.200000	46549.000000	9.047856e+06
<b>50%</b>	14.600000	1.0	8.100000	79.800000	536.00000	250.200000	1.560000	25.800000	6.300000	47778.000000	9.526642e+06
<b>75%</b>	14.700000	1.0	8.100000	80.400000	723.00000	254.200000	1.620000	26.100000	6.400000	48591.000000	1.005114e+07
<b>max</b>	15.500000	1.0	8.700000	81.200000	753.00000	263.600000	1.700000	27.500000	8.400000	50861.000000	1.826210e+07

Poverty	const	Infant Mort	White	Crime	Doctors	Traf Deaths	University	Unemployed	Income	Population
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States											
<b>Florida</b>	13.2	1.0	7.3	79.8	723	247.9	1.56	25.8	6.2	47778	18262096
<b>Michigan</b>	14.4	1.0	7.4	81.2	536	250.2	1.04	24.7	8.4	48591	10051145
<b>North Carolina</b>	14.6	1.0	8.1	73.9	466	254.2	1.62	26.1	6.3	46549	9047856
<b>Georgia</b>	14.7	1.0	8.1	65.4	493	217.4	1.46	27.5	6.2	50861	9526642
<b>Tennessee</b>	15.5	1.0	8.7	80.4	753	263.6	1.70	22.9	6.4	43614	6172788

out group

0.0005001231398252702

f/variance test: (0.19897201519925553, 1.9227516416903894)

	Poverty	const	Infant Mort	White	Crime	Doctors	Traf Deaths	University	Unemployed	Income	Population
<b>count</b>	6.000000	6.0	6.000000	6.000000	6.000000	6.000000	6.000000	6.000000	6.000000	6.000000	6.000000e+00
<b>mean</b>	9.833333	1.0	5.966667	93.016667	229.000000	259.983333	1.156667	29.900000	4.116667	55793.666667	2.593634e+06
<b>std</b>	1.310979	0.0	0.680196	2.842827	86.752522	65.665163	0.260205	4.622986	0.783369	4452.777994	2.186184e+06
<b>min</b>	7.600000	1.0	5.100000	89.700000	124.000000	184.400000	0.860000	23.600000	3.100000	52094.000000	5.232260e+05
<b>25%</b>	9.450000	1.0	5.550000	90.500000	161.500000	220.850000	0.997500	26.550000	3.500000	52379.750000	7.944525e+05
<b>50%</b>	10.000000	1.0	5.900000	93.400000	237.000000	259.400000	1.125000	30.600000	4.250000	54920.000000	1.989702e+06
<b>75%</b>	10.550000	1.0	6.325000	95.100000	278.000000	271.100000	1.237500	33.000000	4.775000	56903.000000	4.293649e+06
<b>max</b>	11.400000	1.0	7.000000	96.400000	348.000000	373.700000	1.600000	35.600000	4.900000	63731.000000	5.601508e+06

	Poverty	const	Infant Mort	White	Crime	Doctors	Traf Deaths	University	Unemployed	Income	Population
States											
New Hampshire	7.6	1.0	6.1	95.5	137	274.9	0.96	33.3	3.8	63731	1316496
Wyoming	9.4	1.0	7.0	93.9	239	184.4	1.60	23.6	3.1	53207	523226
Utah	9.6	1.0	5.1	92.9	235	208.1	1.11	29.1	3.4	56633	2662908
Wisconsin	10.4	1.0	6.4	89.7	291	259.1	1.27	25.7	4.7	52094	5601508
Vermont	10.6	1.0	5.5	96.4	124	373.7	0.86	32.1	4.8	52104	620438
Colorado	11.4	1.0	5.7	89.7	348	259.7	1.14	35.6	4.9	56993	4837229

neither group

0.36416062410252825

f/variance test: (1.0489381703205023, 0.866213715817532)

	Poverty	const	Infant Mort	White	Crime	Doctors	Traf Deaths	University	Unemployed	Income	Population
count	39.000000	39.0	39.000000	39.000000	39.000000	39.000000	39.000000	39.000000	39.000000	39.000000	3.900000e+01
mean	12.953846	1.0	6.823077	81.007692	411.000000	262.066667	1.433333	26.682051	5.264103	51976.923077	5.953471e+06
std	3.010057	0.0	1.393304	12.428731	175.986842	68.664644	0.406780	4.933978	1.171254	9321.135007	7.059468e+06
min	8.100000	1.0	4.700000	29.700000	118.000000	168.800000	0.760000	17.100000	3.000000	37790.000000	6.375340e+05
25%	11.050000	1.0	5.700000	75.150000	288.000000	218.650000	1.185000	23.850000	4.400000	45155.000000	1.790520e+06
50%	12.500000	1.0	6.800000	84.300000	343.000000	245.400000	1.380000	26.300000	5.300000	50043.000000	3.730833e+06
75%	15.250000	1.0	7.700000	88.850000	517.000000	279.300000	1.655000	29.750000	6.250000	57638.500000	6.412202e+06
max	21.200000	1.0	10.600000	96.400000	788.000000	469.000000	2.450000	38.100000	7.800000	70545.000000	3.618591e+07

	Poverty	const	Infant Mort	White	Crime	Doctors	Traf Deaths	University	Unemployed	Income	Population
States											
Maryland	8.1	1.0	8.0	63.4	642	421.4	1.09	35.2	4.4	70545	5627211
Alaska	8.4	1.0	6.9	70.6	661	228.5	1.63	27.3	6.7	68460	679893
New Jersey	8.7	1.0	5.5	76.0	329	316.3	0.95	34.4	5.5	70378	8630810
Hawaii	9.1	1.0	5.6	29.7	273	317.0	1.33	29.1	3.9	67214	1269796
Connecticut	9.3	1.0	6.2	84.3	256	376.4	0.86	35.6	5.7	68595	3488084
Minnesota	9.6	1.0	5.2	89.0	289	293.2	0.88	31.5	5.4	57288	5191267
Delaware	10.0	1.0	8.3	74.3	689	250.9	1.23	27.5	4.8	57989	865314

	Poverty	const	Infant Mort	White	Crime	Doctors	Traf Deaths	University	Unemployed	Income	Population
States											
<b>Massachusetts</b>	10.0	1.0	4.8	86.2	432	469.0	0.76	38.1	5.3	65401	6499672
<b>Virginia</b>	10.2	1.0	7.1	73.0	270	274.5	1.25	33.7	4.0	61233	7705466
<b>Nebraska</b>	10.8	1.0	5.6	91.4	302	245.4	1.32	27.1	3.3	49693	1768745
<b>Nevada</b>	11.3	1.0	6.4	80.9	751	187.8	1.68	21.9	6.7	56361	2564816
<b>Kansas</b>	11.3	1.0	7.1	88.7	453	222.5	1.38	29.6	4.4	50177	2773740
<b>Washington</b>	11.3	1.0	4.7	84.3	333	270.0	1.00	30.7	5.3	58078	6464167
<b>Iowa</b>	11.5	1.0	5.1	94.2	295	189.3	1.42	24.3	4.1	48980	2979867
<b>Rhode Island</b>	11.7	1.0	6.1	88.5	227	375.5	0.80	30.0	7.8	55701	1059706
<b>North Dakota</b>	12.0	1.0	5.8	91.4	142	244.4	1.42	26.9	3.2	45685	637534
<b>Pennsylvania</b>	12.1	1.0	7.6	85.4	417	305.3	1.37	26.3	5.4	50713	12517701
<b>Illinois</b>	12.2	1.0	7.3	79.1	533	280.2	1.16	29.9	6.5	56235	12775864
<b>Maine</b>	12.3	1.0	6.3	96.4	118	278.4	1.22	25.4	5.4	46581	1315749
<b>South Dakota</b>	12.5	1.0	6.9	88.2	169	219.1	1.62	25.1	3.0	46032	795521
<b>Idaho</b>	12.6	1.0	6.8	94.6	239	168.8	1.60	24.0	4.9	47576	1498390
<b>Indiana</b>	13.1	1.0	8.0	88.0	334	216.9	1.26	22.9	5.9	47966	6344771
<b>California</b>	13.3	1.0	5.0	76.6	523	268.7	1.21	29.6	7.2	61021	36185908
<b>Ohio</b>	13.4	1.0	7.8	84.8	343	266.7	1.14	24.1	6.5	47988	11518989
<b>Missouri</b>	13.4	1.0	7.4	85.0	505	246.0	1.43	25.0	6.1	46867	5905750
<b>Oregon</b>	13.6	1.0	5.5	90.1	288	274.5	1.31	28.1	6.4	50169	3730833
<b>New York</b>	13.6	1.0	5.6	73.4	414	395.9	0.97	31.9	5.4	56033	19419540
<b>Arizona</b>	14.7	1.0	6.4	86.5	483	209.7	1.69	25.1	5.5	50958	6360238
<b>Montana</b>	14.8	1.0	5.8	90.5	288	220.6	2.45	27.1	4.5	43654	957123
<b>Alabama</b>	15.7	1.0	9.0	71.0	448	218.2	1.81	22.0	5.0	42666	4634063
<b>South Carolina</b>	15.7	1.0	8.4	68.7	788	229.8	2.09	23.7	6.9	44625	4417059
<b>Texas</b>	15.8	1.0	6.2	82.4	511	214.2	1.38	25.3	4.9	50043	23824518
<b>Oklahoma</b>	15.9	1.0	8.0	78.1	500	173.5	1.58	22.2	3.8	42822	3608759
<b>West Virginia</b>	17.0	1.0	7.4	94.5	275	232.1	2.10	17.1	4.3	37989	1812295

States	Poverty	const	Infant Mort	White	Crime	Doctors	Traf Deaths	University	Unemployed	Income	Population
<b>New Mexico</b>	17.1	1.0	5.8	84.0	664	243.6	1.54	24.7	4.2	43508	1966357
<b>Kentucky</b>	17.3	1.0	7.5	89.9	295	232.3	1.80	19.7	6.4	41538	4254513
<b>Arkansas</b>	17.3	1.0	8.5	80.8	529	203.4	1.96	18.8	5.1	38815	2841595
<b>Louisiana</b>	17.3	1.0	9.9	64.8	730	262.7	2.17	20.3	4.6	43733	4373448
<b>Mississippi</b>	21.2	1.0	10.6	60.6	291	177.9	2.04	19.4	6.9	37790	2920312

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<function __main__.derive_xnames(y)>
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