

The Impact of Market Size and Composition on Health Insurance Premiums

Michael Dickstein
Mark Duggan
Joseph Orsini
Pietro Tebaldi

Research Question

- Does size of coverage regions affect outcomes in the ACA marketplaces?
- Answer: When rural counties are combined with urban counties, rural markets get 0.6 to 0.8 more active insurers on average and savings in annual premiums between \$200 and \$300

Regions

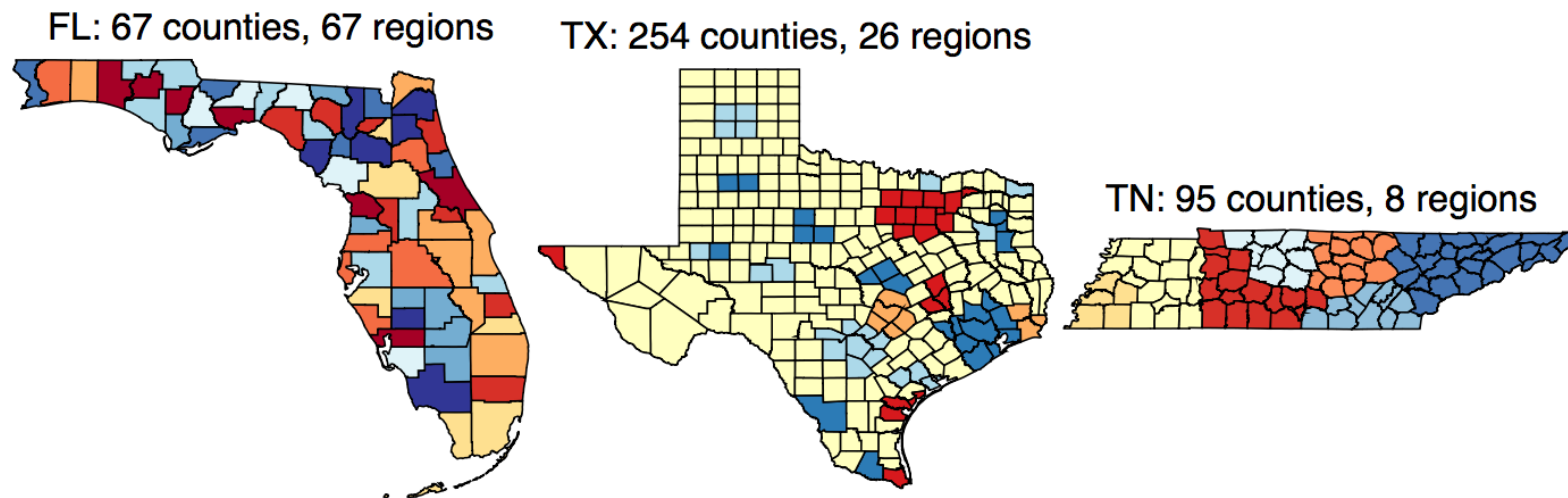


Figure 3: Three region definitions: Florida (FL), Texas (TX), and Tennessee (TN)

Things to Know

- Under the ACA states decide the coverage region
- Insurers are mandated to charge the same premium to buyers of the same age, family structure, and smoking status

Setup

1. Treatment and Control
2. Identify source of randomization
3. Check balance
4. Sensitivity analysis
5. Results

T and C

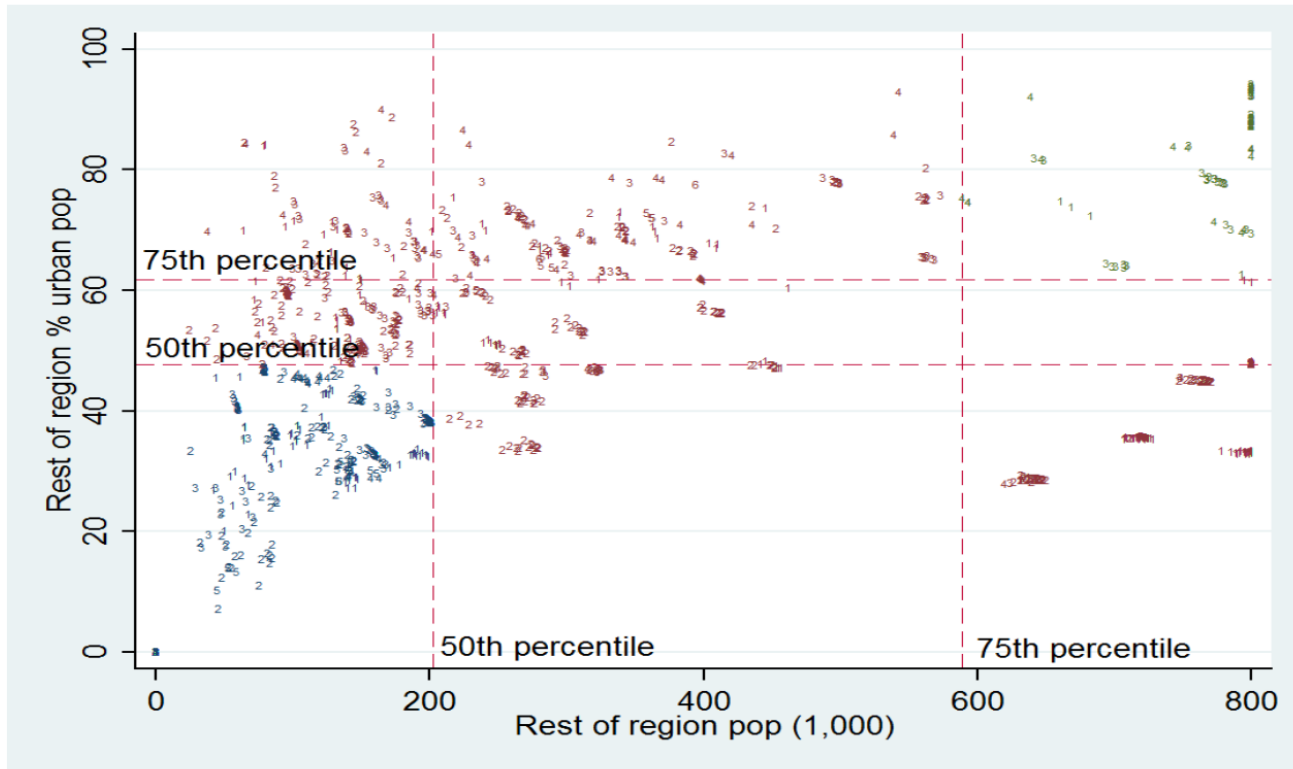


Figure 4: Plot of small and rural counties by “rest of region” population and percentage urban

Key: Blue (lower left) = control counties, Green (upper right) = treatment counties
The numbers plotted by county represent the number of insurers operating in each county.

T: Rural counties grouped into urban area

Randomization

- Imposition of the ACA

Check Balance

Table 6: Appendix: Covariate balance in treatment and control counties

All Small Counties						
	Income	Share subsidized	GAF	Share 45-64	Working in small firms	Hospitals per capita
Not bundled	38.90	0.59	0.92	0.62	13.87	0.76
Intermediate	38.46	0.58	0.92	0.60	12.77	0.74
Bundled	44.82	0.59	0.94	0.60	10.93	0.65
Restricted Sample on Distance from Large Region						
Not bundled	38.54	0.59	0.94	0.61	12.98	0.74
Bundled	44.82	0.59	0.94	0.60	10.93	0.65

Notes:

Table reports the average value of the observed covariates used as controls in the county-level analysis. There are 1,157 small counties in the main analysis and 96 counties in the restricted sample based on distance to a large region.

Sensitivity Analysis

Table 7: Appendix: Coefficient on the treatment indicator, under various definitions of “small” and “rural” used to form the treatment group

Benchmark premium regression								
Population Centile		Urban Population Centile						
		50	55	60	65	70	75	80
	50	-161.312	-185.792	-179.680	-189.173	-196.586	-203.501	-200.488
		0.087	0.054	0.060	0.052	0.045	0.037	0.041
	55	-179.225	-205.683	-195.631	-205.237	-212.835	-195.686	-219.431
		0.052	0.026	0.033	0.024	0.019	0.033	0.017
	60	-190.568	-214.097	-213.568	-167.820	-195.101	-192.552	-204.425
		0.039	0.019	0.016	0.052	0.027	0.029	0.021
	65	-227.891	-246.777	-240.759	-206.887	-200.087	-223.391	-226.976
		0.013	0.007	0.009	0.018	0.023	0.015	0.012
	70	-261.947	-257.801	-264.963	-230.945	-215.420	-233.686	-223.713
		0.006	0.008	0.007	0.014	0.020	0.014	0.016
	75	-242.470	-241.960	-250.566	-236.710	-225.814	-248.712	-237.938
		0.011	0.011	0.009	0.011	0.014	0.008	0.011
	80	-241.465	-238.049	-250.765	-231.446	-246.101	-260.640	-251.231
		0.012	0.012	0.008	0.014	0.010	0.007	0.008
Number of insurers regression								
Population Centile		Urban Population Centile						
		50	55	60	65	70	75	80
	50	0.593	0.575	0.589	0.625	0.617	0.595	0.616
		0.001	0.001	0.001	0.001	0.001	0.001	0.000
	55	0.646	0.678	0.672	0.656	0.662	0.654	0.663
		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	60	0.624	0.658	0.620	0.628	0.610	0.608	0.628
		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	65	0.666	0.730	0.704	0.616	0.674	0.703	0.718
		0.000	0.000	0.000	0.000	0.000	0.000	0.000
	70	0.686	0.668	0.653	0.624	0.677	0.667	0.689
		0.001	0.001	0.001	0.001	0.000	0.001	0.000
	75	0.668	0.636	0.636	0.590	0.640	0.619	0.636
		0.001	0.001	0.001	0.002	0.001	0.001	0.001
	80	0.657	0.641	0.635	0.559	0.628	0.597	0.638
		0.001	0.001	0.001	0.003	0.001	0.001	0.000

Results

Table 2: County-level regression estimates for the benchmark premium

Sample selection: distance	Premiums			
	None		<100 miles	
	(1)	(2)	(1)	(2)
Not grouped	-	-	-	-
Intermediate group	-78.60 (86.68)	-82.32 (86.23)		
Grouped in large, urban region	-300.7*** (108.2)	-242.5** (105.6)	-293.3*** (69.36)	-262.0*** (65.09)
Deductible	0.0120 (0.0505)	0.0156 (0.0503)	0.117 (0.157)	0.144 (0.158)
Median income (1000's)		-7.514*** (2.790)		-4.642 (3.487)
Proportion HH w/ inc 25k-100k		-67.83 (278.4)		-1514.1** (669.2)
Geographic Adj. Factor		-7171.2*** (2686.9)		-2415.3 (2316.3)
Share of 45-65 over 18-65		-956.4* (530.5)		-342.0 (709.3)
Proportion of employees in small establishments		6.916* (3.988)		-22.73 (14.02)
Number Short Term General Hositals		-15.99 (23.86)		14.63 (58.06)
Constant		12442.6*** (2598.6)		8202.0*** (2557.0)
N	1157	1157	96	96
R2	0.725	0.731	0.914	0.917

Table 3: County-level regression estimates for the number of insurer entrants

Sample selection: distance	No. of Insurers			
	None		<100 miles	
	(1)	(2)	(1)	(2)
Grouped in large, urban region	0.790*** (0.206)	0.668*** (0.210)	1.078*** (0.272)	0.956*** (0.261)
Median income (1000's)		0.0141*** (0.00483)		0.0318*** (0.0106)
Proportion HH w/ inc 25k-100k		0.750** (0.354)		0.476 (1.920)
Geographic Adj. Factor		7.608** (3.203)		14.70* (7.995)
Share of 45-65 over 18-65		0.153 (0.628)		-5.559 (4.312)
Proportion of employees in small establishments		-0.00393 (0.00618)		0.0925* (0.0494)
Number Short Term General Hositals		0.0654** (0.0305)		-0.00303 (0.224)
Constant	2.075*** (0.0877)	-6.012* (3.120)	1.780*** (0.219)	-11.26 (8.373)
N	1157	1157	96	96
R2	0.589	0.603	0.498	0.518

Table 4: Region-level regression estimates

Region level estimates	Log N insurers			Log Premium		
	(1)	(2)	(3)	(1)	(2)	(3)
Log Population	0.222*** (0.0657)	0.257*** (0.0758)	0.188** (0.0708)	-0.0226*** (0.00494)	-0.0372*** (0.00658)	-0.0294** (0.0116)
land area in 100s of square miles		-0.0887** (0.0335)	-0.0381 (0.0404)		0.0489*** (0.0103)	0.0411*** (0.0132)
Proportion Population Urban			-0.713** (0.296)			0.241** (0.113)
Urban squared			0.906*** (0.319)			-0.238* (0.129)
Deductible (100's)					-0.00187* (0.000983)	-0.00193* (0.00101)
Median income (1000's)		-0.00487* (0.00270)	-0.00541* (0.00290)		-0.000268 (0.00100)	-0.000221 (0.00100)
Proportion HH w/ inc 25k-100k		0.819 (0.986)	1.017 (0.906)		-0.210 (0.164)	-0.277 (0.172)
Geographic Adj. Factor		-0.308 (1.065)	-0.825 (0.920)		0.420 (0.418)	0.549 (0.424)
Share of 45-65 over 18-65		-0.797 (0.876)	-0.910 (0.878)		-0.0164 (0.128)	-0.00908 (0.132)
Proportion of employees in small establishments		-0.0256* (0.0149)	-0.0300** (0.0142)		-0.00526 (0.00452)	-0.00414 (0.00492)
Number Short Term General Hositals		-0.00302 (0.00217)	-0.00233 (0.00180)		-0.000795 (0.000578)	-0.000774* (0.000417)
N	398	398	398	398	398	398
R2	0.635	0.666	0.672	0.640	0.673	0.676