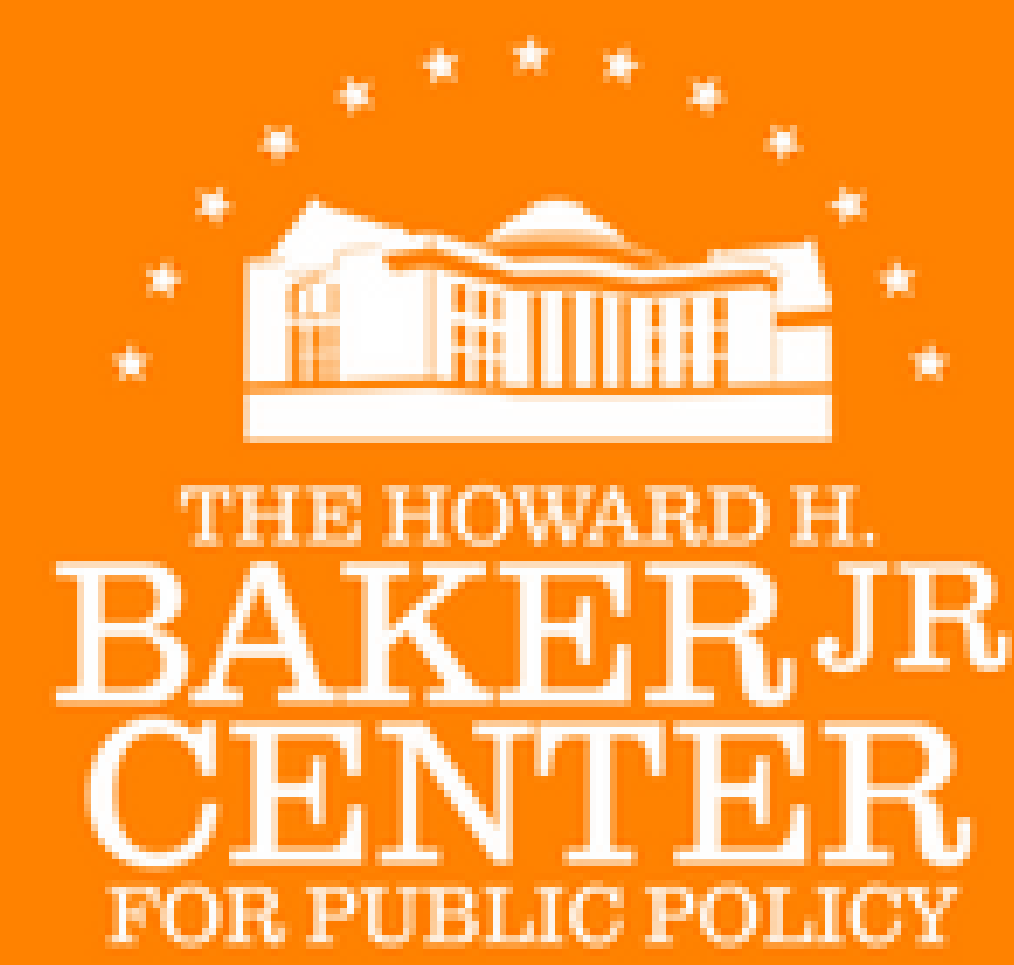




The Pricing Impact of the Decreasing Competitiveness of the Health Insurance Market

LAUREN PATTERSON
DR. MATT HARRIS, FACULTY ADVISOR



ABSTRACT

The Affordable Care Act created the national insurance exchanges of qualified health plans to encourage a higher insured rate, larger risk pools, and lower prices for quality health coverage. Consolidation of insurers can have opposing effects. The insurers' risk pools will grow, allowing insurers to better hedge for risk. However, consolidation decreases the prevalence on competition in the market, and past research shows that insurer consolidation decreases market competition and increases prices.

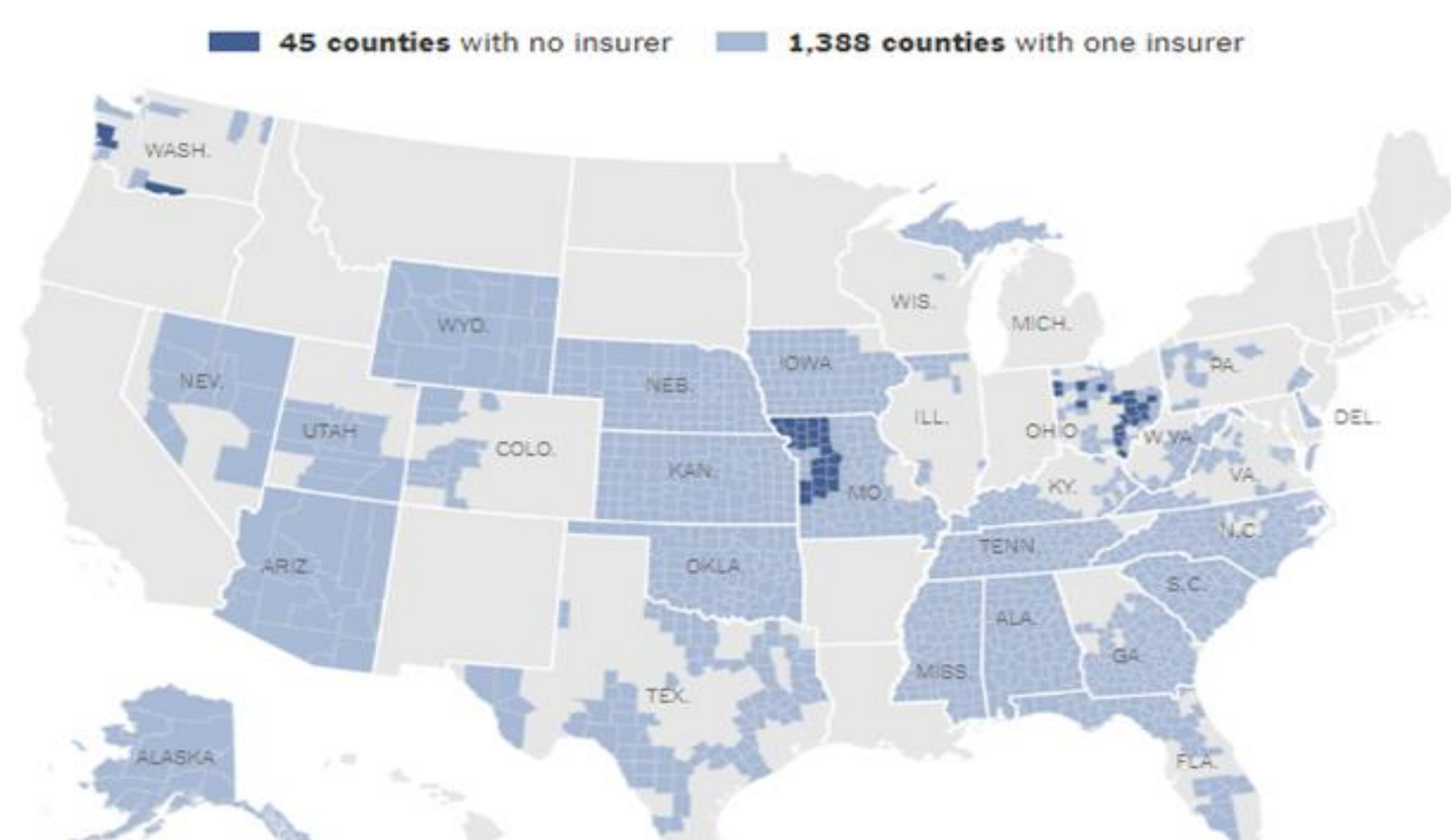
I examine how the number of plans offered in a set market, pricing components, and county health variables impact monthly premium pricing of plans sold on the individual market as well as how effective the exchanges are at keeping insurance prices low. Based on my findings, I conclude that the top three influential variables on premium price are the presence of a maximum out of pocket, the rate of excess drinking, and the unemployment rate. I also conclude that more plans in a market is associated with lower premium prices.

INTRODUCTION

For the insurance year of plan 2018, there were 45 counties that were at risk of being bare counties., and nearly three million people in 1,388 potentially had only one insurance provider to pick from in the individual market.

Recent analysis shows that insurers are choosing to exit the ACA marketplace to sell exclusively in markets where customers are ineligible to use government subsidies (Abelson & Park, 2017).

Number of Insurers in Each U.S. County for the 2018 Enrollment Period



Sources: Kaiser Family Foundation; New York Times compilation of company announcements. [Note: The map does not include plans offered outside the Obamacare marketplaces. Most Americans get coverage through work or the government.

RESEARCH OBJECTIVES

- Review the policy background of the health insurance market in the United States
- Estimate the variables used by insurers to determine a successful model at predicting prices
- Identify the impact of the number of offered plans on monthly premium prices for silver plans for a couple aged 40 of 49 years old with 2 children

METHODS

- Analyzed existing research on how insurers use market power, what their incentives are, and to what degree the market is concentrated
- Ran an ordinary least squares linear regression model with a large dummy variable data set clustered at the rating area level

Variable Summary Statistics after Collapsing by Year and State/Rating Area Code

| Variable | Obs | Mean | Std. Deviation | Min | Max |
|---|-------|-----------|----------------|-----------|-----------|
| Year | 1,574 | 2015.529 | 1.120279 | 2014 | 2017 |
| State & Rating Code | 1,574 | 29239.52 | 16238.6 | 1001 | 56003 |
| Premium for a Couple with Two Children | 1,574 | 1065.101 | 233.4612 | 667.6839 | 2805 |
| Standard Medical Deductible for Family Coverage | 1,574 | 4827.259 | 3355.609 | 0 | 11466.67 |
| Standard Drug Deductible for Family Coverage | 1,574 | 106.3178 | 209.4872 | 0 | 1892.308 |
| Maximum Medical Out of Pocket | 1,574 | 5383.781 | 5738.32 | 0 | 13200 |
| No Medical Maximum Out of Pocket | 1,574 | 0.5347937 | 0.4931459 | 0 | 1 |
| Standard Coinsurance for Specialist | 1,574 | 0.0602586 | 0.055988 | 0 | 0.5 |
| Standard Copay for Specialist | 1,574 | 41.11192 | 16.68245 | 0 | 90.90909 |
| Coinsurance for Preferred Brand Drugs | 1,574 | 0.0522229 | 0.0702993 | 0 | 0.5 |
| Copay for Preferred Brand Drugs | 1,574 | 37.58551 | 13.30909 | 0 | 75 |
| Plan Type | 1,574 | 2.490265 | 0.9987405 | 1 | 4 |
| Poor or Fair Health Ranking | 1,574 | 0.1707542 | 0.045699 | 0.0496364 | 0.358 |
| Adult Smoking Percentage | 1,574 | 0.1912582 | 0.0418934 | 0 | 0.3368333 |
| Adult Smoking Percentage | 1,574 | 0.3136473 | 0.0405381 | 0.137 | 0.443 |
| Excess Drinking Percentage | 1,574 | 0.1509352 | 0.0477459 | 0 | 0.2916667 |
| Unemployment Rate | 1,574 | 0.0703139 | 0.021485 | 0.022 | 0.1855 |
| Violent Crime Rate | 1,574 | 333.8504 | 200.5911 | 33.832 | 1411.36 |
| Expected Death from Cancer (4yr lag) | 1,538 | 223.7848 | 40.22412 | 138.8 | 880.1 |
| Expected Death from Heart Disease (4yr lag) | 1,574 | 564.8825 | 426.5581 | 31 | 1569 |

RESULTS

In sum, 63.49% of the variation in premium prices can be explained by the independent variables included in the model.

With 111,920 observations, I had many variables return as significant, which was expected. However, the key variables that had the largest magnitude of influence on premium price were No Maximum Out of Pocket, Excess Drinking, and Unemployment.

The key variable of interest, Number of Plans per County has a negative relationship with Premium Price, in that a increase in plans by one is associated with a decrease in premium price by \$5.87 per month, all else held equal.

| Premium for a Couple with Two Children | Coefficient | Robust Standard Error | t | P> t | [95% Confidence Interval: Lower] | [95% Confidence Interval: Upper] |
|--|---------------------------|-----------------------|-------|-------|----------------------------------|----------------------------------|
| Standard Medical Deductible for Family Coverage*** | -0.0103785 | 0.0016156 | -6.42 | 0.000 | -0.0135544 | -0.0072027 |
| Standard Drug Deductible for Family Coverage | 0.0108734 | 0.0071955 | 1.51 | 0.132 | -0.0032716 | 0.0250185 |
| Maximum Medical Out of Pocket*** | 0.0077878 | 0.0016816 | 4.63 | 0.000 | 0.0044821 | 0.0110935 |
| No Medical Maximum Out of Pocket*** | -95.39059 | 26.98154 | -3.54 | 0.000 | -148.4312 | -42.35 |
| Standard Coinsurance for Specialist*** | -56.17826 | 25.91322 | -2.17 | 0.031 | -107.1187 | -5.237799 |
| Standard Copay for Specialist*** | -0.3420862 | 0.1343143 | -2.55 | 0.011 | -0.6061227 | -0.0780498 |
| Coinsurance for Preferred Brand Drugs*** | -87.04254 | 27.70667 | -3.14 | 0.002 | -141.5086 | -32.5785 |
| Copay for Preferred Brand Drugs*** | -0.5312958 | 0.2245461 | -2.37 | 0.018 | -0.9727106 | -0.0898809 |
| Poor or Fair Health Ranking | -64.94158 | 39.86789 | -1.63 | 0.104 | -143.3143 | 13.43109 |
| Adult Smoking Percentage | 24.93233 | 37.57938 | 0.66 | 0.507 | -48.94158 | 98.80624 |
| Adult Smoking Percentage | -38.53517 | 42.89077 | -0.9 | 0.369 | -122.8503 | 45.77993 |
| Excess Drinking Percentage*** | 115.0666 | 46.65867 | 2.47 | 0.014 | 23.34458 | 206.7887 |
| Unemployment Rate*** | 635.0739 | 140.019 | 4.54 | 0.000 | 359.8231 | 910.3246 |
| Violent Crime Rate*** | -0.0140955 | 0.0049489 | -2.85 | 0.005 | -0.0238241 | -0.004367 |
| Expected Death from Cancer (4yr lag)*** | -31.21708 | 7.656698 | -4.08 | 0.000 | -46.26869 | -16.16546 |
| Expected Death from Heart Disease (4yr lag)*** | 47.53561 | 11.24139 | 4.23 | 0.000 | 25.43717 | 69.63404 |
| Number of Plans per County*** | -5.847086 | 1.019895 | -5.73 | 0.000 | -7.852006 | -3.842167 |
| Number of Firms per County*** | 12.1039 | 3.909157 | 3.1 | 0.002 | 4.419235 | 19.78855 |
| Plan Type (compared to EPO) | | | | | | |
| HMO | 15.19036 | 16.35773 | 0.93 | 0.354 | -16.96582 | 47.34654 |
| POS*** | 86.12926 | 22.26516 | 3.87 | 0.000 | 42.3602 | 129.8983 |
| PPO*** | 104.8418 | 21.00296 | 4.99 | 0.000 | 63.55401 | 146.1297 |
| Year (compared to 2014) | | | | | | |
| 2015*** | 85.60972 | 10.88647 | 7.86 | 0.000 | 64.20898 | 107.0105 |
| 2016*** | 401.7421 | 22.46419 | 17.88 | 0.000 | 357.5817 | 445.9024 |
| 2017*** | 533.0488 | 23.83698 | 22.36 | 0.000 | 486.1898 | 579.9077 |
| _cons | -197.3441 | 283.6978 | -0.7 | 0.487 | -755.04 | 360.3518 |
| State/Rating Area Code | absorbed (408 categories) | | | | | |

SOURCES

Aaron, H., Fiedler, M., Ginsburg, P., Adler, L., & Rivlin, A. (2017). *Turmoil in the individual insurance market — Where it came from and how to fix it*. The New England Journal of Medicine, 377(4), 314-315.

Dafny, L. The Commonwealth Fund (2015, November 20). *Evaluating the impact of health insurance industry consolidation: learning from experience*. Retrieved from <http://www.commonwealthfund.org/publications/issue-briefs/2015/nov/evaluating-insurance-industry-consolidation>.

Park, H. & Carlsen, A. (2017, June 9). *For the first time, 45 counties could have no insurer in the Obamacare marketplaces*. Retrieved from <https://www.nytimes.com/interactive/2017/06/09/us/counties-with-one-or-no-obamacare-insurer.html>.

U.S. Centers for Medicare and Medicaid Services (2017). *QHP Landscape SHOP Medical Market*. Retrieved from <https://data.healthcare.gov/dataset/QHP-Landscape-SHOP-Market-Medical/ss3e-3mza>.