

Changing Health Insurance Market Concentration: Are Mergers Anticompetitive?

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Introduction

- Uninsured rates have risen.
- Is this partly a response to industry concentration?
- We employ audited, state-level data and stock market returns to estimate the impact of mergers on industry competitiveness.

Market Competitiveness

Structure

AMA

Bain

Engberg, et al

Baumol, et al

Samuelson/
Zeckhauser

Conduct

Dafny

Dafny, et al

Feldman/ Wholey

Bates/ Santerre

Performance

Pauly, et al

Pauly/Percy

Demsetz

Measuring Concentration

Concentration Ratio

Total market share of top n firms in market

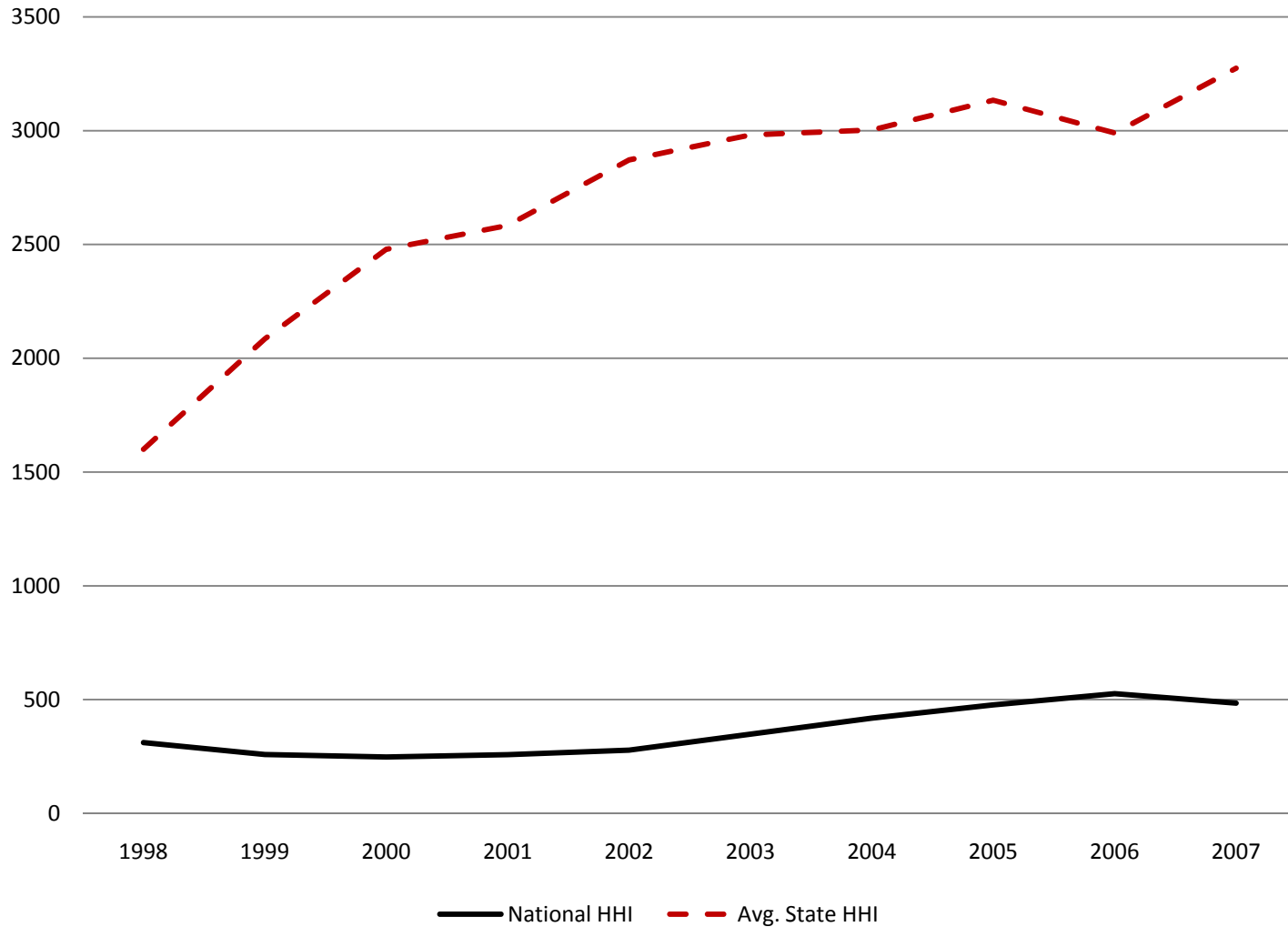
Underweights impact of competitive fringe

Herfindahl-Hirschman Index

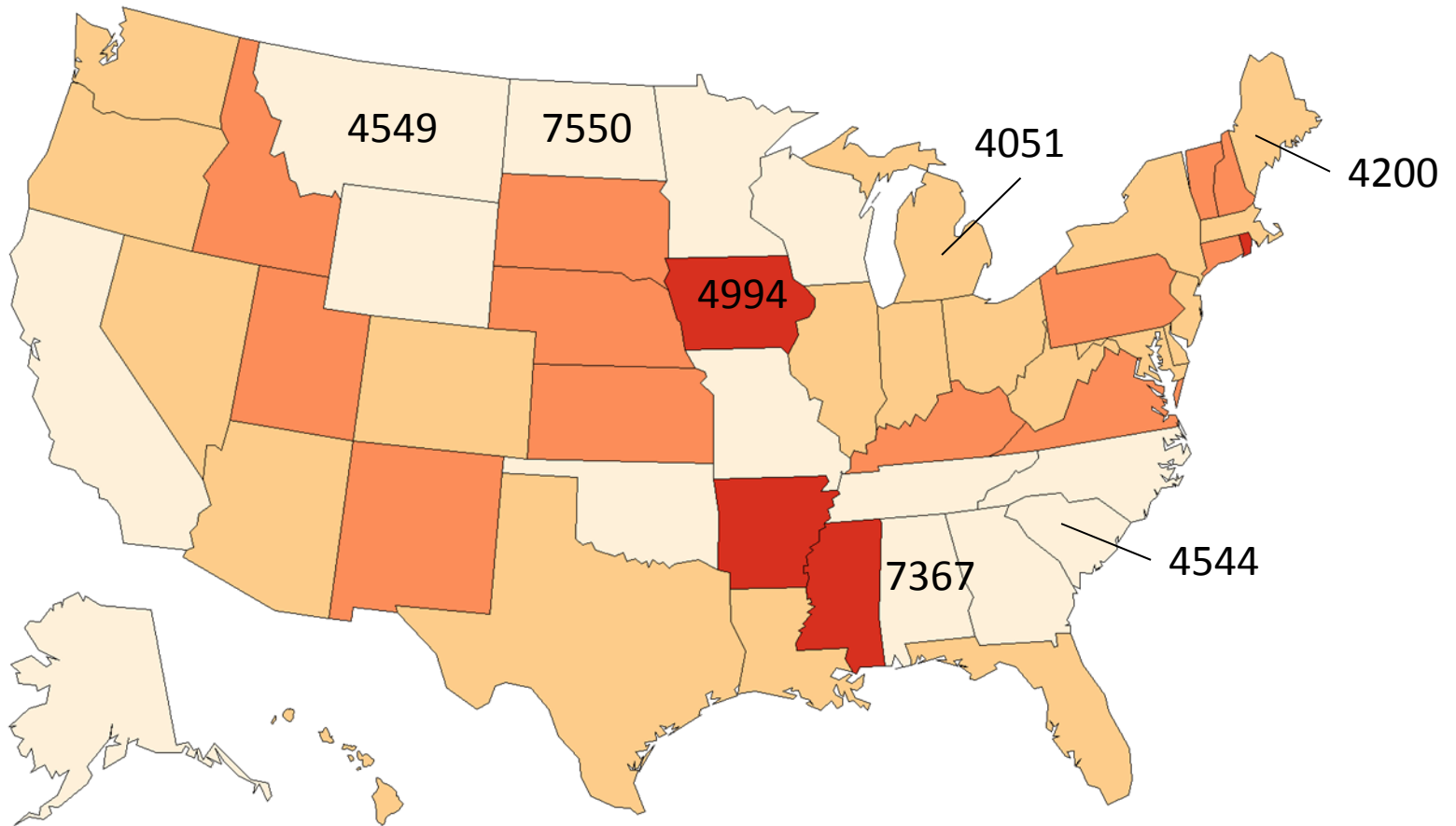
Sum of squared market shares of all firms in market

Accounts for all market participants

Health Insurer Market Concentration



Health Insurance Market Concentration -- 1998



HHI: Low Moderate High Extreme

Measuring Conduct

Monopoly

Discriminatory pricing

Deadweight loss

Price-cost analysis

Actual costs are difficult to determine from accounting data

Monopsony

Reduces output

May drive less efficient producers out of business

Measurement requires estimate of supply elasticity

Measuring Performance

Accounting Returns

Do not account
for risk

May be
confounded with
other factors

Stock Market Returns (Long Run)

Account for risk

Only recognize
differences from
expected returns

Stock Market Returns (Short Run)

Account for risk

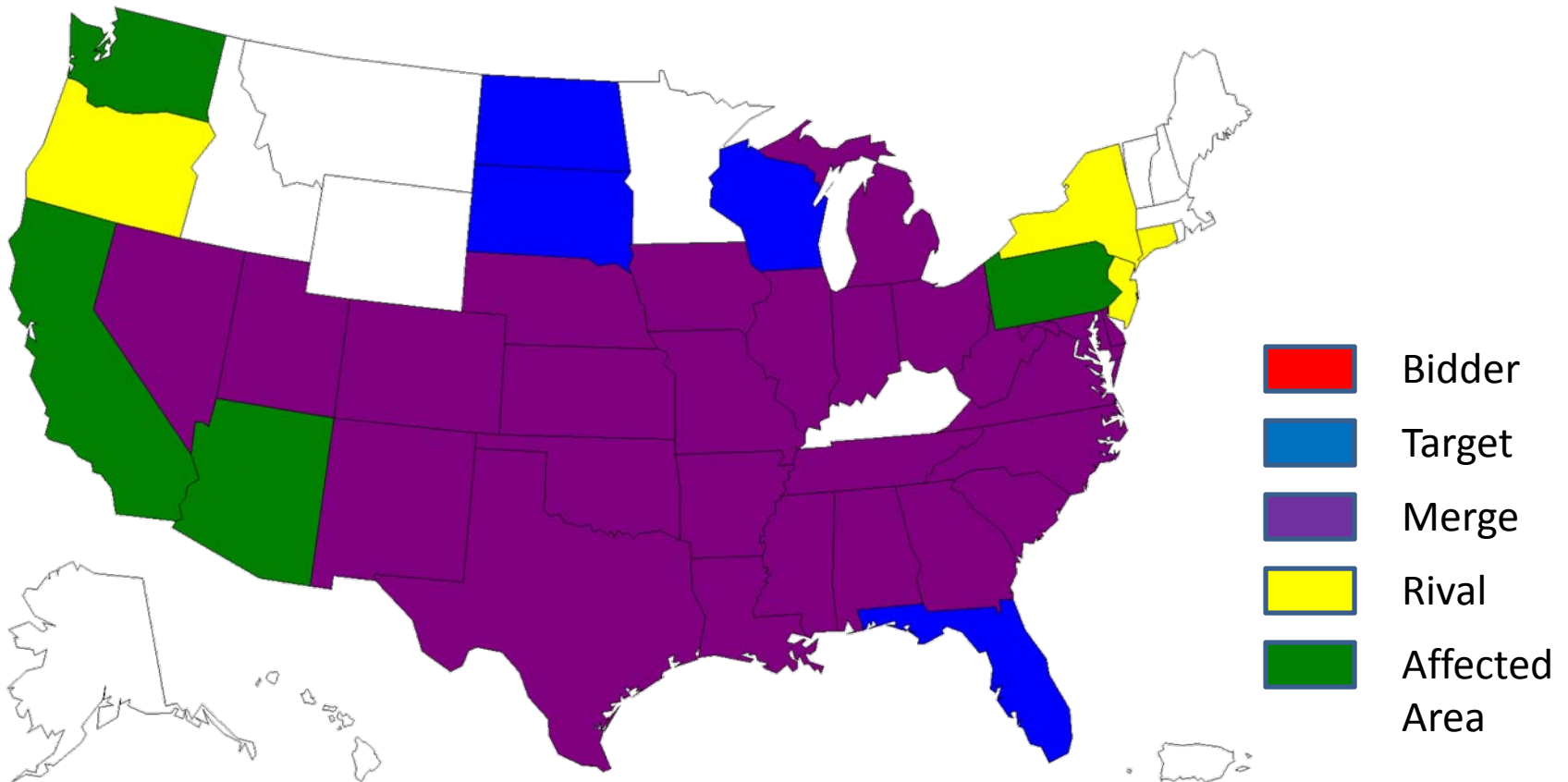
Only recognize
expected returns
from events

New Perspectives on SCP Relationship: Rivals

Hypothesis 1: Announcements of horizontal mergers in the health insurance industry result in positive abnormal returns for rival firms.

Hypothesis 2: Rival abnormal returns increase in response to greater pre-merger concentration and greater changes in market concentration if the merger results in the newly-combined firm attaining market power.

Rival Definition



Example: PacifiCare acquires American Medical Security, \$2.7 trillion in combined health premium, Rival is Health Net

Rival Abnormal Returns

$$r_{jt} = \beta_{0j} + \beta_{1j}r_{mt} + \gamma_j d_t + \varepsilon_{jt} \quad (1)$$

r_{jt} = Daily rival return

r_{mt} = Daily market return

d_t = Indicator = 1 on event day

Rival Abnormal Returns

	Equal Weighted Portfolios	Rival Presence Weighted Portfolios
N	42	42
(-20,10) CAAR	-1.21%	-1.42%
Z-Score	-1.110	-0.924
Prop. Negative	59.52	54.76
(-3,3) CAAR	-0.61%	-0.55%
Z-Score	-0.779	-0.299
Prop. Negative	54.76	61.9*
(-1,0) CAAR	0.1%	0.23%
Z-Score	0.895	1.679**
Prop. Negative	42.86	47.62

Rival Returns and Concentration

$$\gamma_j = \alpha_0 + \alpha_1 HHI_j + \alpha_2 dHHI_j + \varepsilon_j$$

γ_j = Rival-specific results from first stage

HHI_j = Pre-merger HHI in rival's merger-affected market

$dHHI_j$ = Merger-induced change in rival's HHI

Concentration Relationship

	(-20,10)	(-3,3)	(-1,0)
Intercept	-0.15943 (-2.02)**	-0.11575 (-2.35)***	-0.0833 (-2.64)***
ln(HHI)	0.000098 (0.01)	0.00841 (1.09)	0.0082 (1.67)*
dHHI	0.542715 (1.67)*	1.1615 (6.12)***	1.2693 (6.49)***
Merger fixed effects	Included	Included	Included
Adj. R-square	0.2402	0.2694	0.33
F statistic	7.23	8.28	9.15
(p-value)	(<0.0001)	(<0.0001)	(<0.0001)

Concentration Relationship

	(-20,10)	(-3,3)	(-1,0)
Intercept	-0.1377 (-1.24)	-0.0086 (-0.15)	-0.043 (-1.11)***
ln(HHI)	-0.0017 (-0.09)	-0.0103 (-0.97)	0.0012 (0.017)
dHHI	-0.2098 (-0.37)	0.7446 (2.16)**	1.1037 (5.44)***
Merger fixed effects	Included	Included	Included
Rival fixed effects	Included	Included	Included
Adj. R-square	0.277	0.3206	0.326
F statistic	6.37	15.41	10.37
(p-value)	(<0.0001)	(<0.0001)	(<0.0001)

Concentration Relationship

	Model 1	Model 4	Model 6	Model 7
Intercept	-0.2529 (-3.29)***	-0.2512 (-3.23)***	-0.2632 (-3.09)***	-0.2598 (-2.84)***
ln(HHI)	0.015 (1.88)*	0.0151 (1.9)*	0.152 (1.9)*	0.0152 (1.9)*
dHHI	0.9827 (4.3)***	0.9957 (4.25)***	1.000 (4.33)***	1.003 (4.29)***
ln(Impact)	0.007 (3.13)***	0.0069 (3.08)***	0.0067 (2.76)***	0.0068 (2.76)***
HCON		-0.0022 (-0.23)		-0.0013 (-0.12)
ln(Large)			0.0014 (0.26)	0.0062 (0.17)
Merger fixed effects	Included	Included	Included	Included
Rival fixed effects	Included	Included	Included	Included
Adj. R-square	0.3393	0.338	0.3381	0.3367
F	140.1 (<.0001)	9.22 (<.0001)	140.19 (<.0001)	138.4 (<.0001)

Simulating Merger Effects

		HHI			
		1000	1800	2500	3500
dHHI	50	-0.0076	0.0014	0.0064	0.0115
	100	-0.0025	0.0064	0.0114	0.0165
	200	0.0075	0.0164	0.0214	0.0265
	300	0.0175	0.0265	0.0314	0.0366

Conclusion

- Rival investors look favorably upon mergers where concentration increases
- *Expected* conduct and performance may be anti-competitive and decrease social welfare
- These concentration effects are less pronounced at the national level
- Mergers among large carriers may merit regulatory intervention