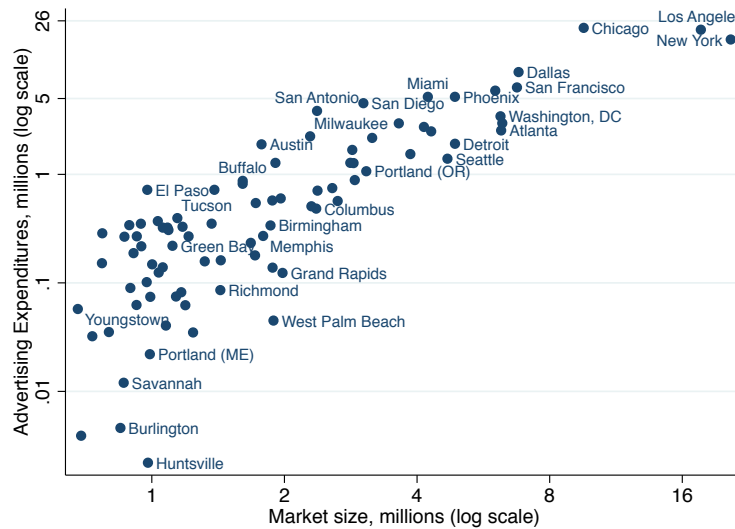


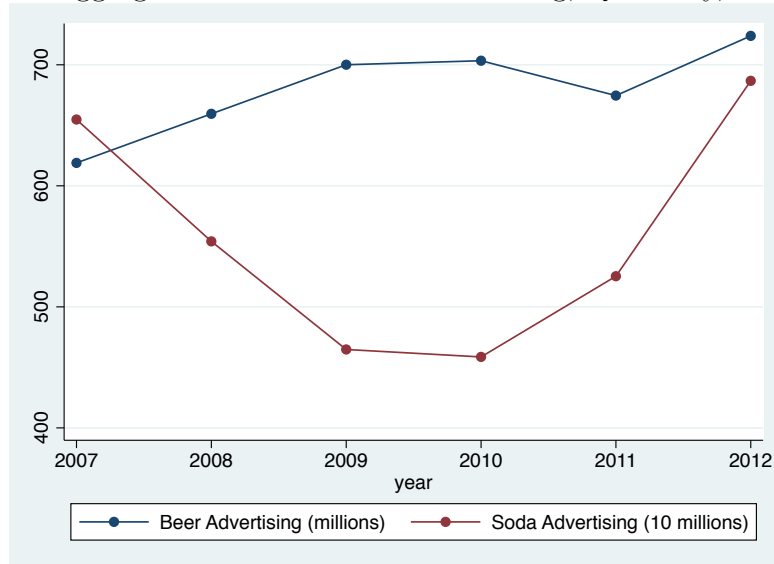
A Online Appendix for Chandra and Weinberg, “How Does Advertising Depend on Competition? Evidence from U.S. Brewing”, *Management Science*, Forthcoming

Figure 5: Scatter Plot of Market sizes and Advertising Expenditures, 2008



Notes: Market sizes are based on Nielsen media markets. Advertising Expenditures are from Kantar, representing aggregate local advertising across all beer brands in 2008. Each city corresponds to an agglomeration of counties that comprises a region in the Nielsen scanner data. Population figures for these counties is derived from the U.S. census.

Figure 6: Aggregate Soda and Beer Advertising, Quarterly, 2007–2012



Notes: Advertising Expenditures are from Kantar, and represent aggregate advertising, across all manufacturers, in national media for beer and soda.

Table 11: OLS Estimates of Advertising on Concentration: Annual Data

	(1)	(2)	(3)
HHI	1.06 (1.79)	1.06 (1.91)	3.69** (1.70)
Firm*Market Effects	No	Yes	Yes
Firm*Date Effects	No	Yes	No
Census Region*Time Trend	No	No	Yes
R ²	0.436	0.835	0.829
Obs	3045	3045	3045

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Columns 1 and 4 also contain uninteracted firm, date and market fixed-effects. Column 3 also contains date fixed-effects. Standard errors clustered by market are in parentheses.

Table 12: Effect of Merger on Market Concentration (First-Stage): Annual Data

	(1)	(2)	(3)
<i>sim</i> Δ <i>HHI</i> * <i>Post</i>	1.18*** (0.26)	1.18*** (0.28)	1.12*** (0.18)
Firm*Market Effects	No	Yes	Yes
Firm*Date Effects	No	Yes	No
Census Region*Time Trend	No	No	Yes
R ²	0.834	0.834	0.845
Obs	3045	3045	3045

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Columns 1 and 4 also contain uninteracted firm, date and market fixed-effects. Column 3 also contains date fixed-effects. Standard errors clustered by market are in parentheses.

Table 13: Effect of Merger on Advertising (Reduced-Form): Annual Data

	(1)	(2)	(3)
<i>sim</i> Δ <i>HHI</i> * <i>Post</i>	36.79** (16.81)	36.79** (17.98)	46.53** (22.67)
Firm*Market Effects	No	Yes	Yes
Firm*Date Effects	No	Yes	No
Census Region*Time Trend	No	No	Yes
R ²	0.437	0.835	0.829
Obs	3045	3045	3045

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Columns 1 and 4 also contain uninteracted firm, date and market fixed-effects. Column 3 also contains date fixed-effects. Standard errors clustered by market are in parentheses.

Table 14: Effect of Concentration on Advertising (IV): Annual Data

	(1)	(2)	(3)
HHI	31.12** (15.64)	31.12** (15.31)	41.65** (19.10)
Firm*Market Effects	No	Yes	Yes
Firm*Date Effects	No	Yes	No
Census Region*Time Trend	No	No	Yes
Obs	3045	3045	3045

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Column 1 also contains uninteracted firm, date and market fixed-effects. Column 3 also contains date fixed-effects. Standard errors clustered by market are in parentheses.

Table 15: Effect of Merger on Advertising (Reduced-Form): Three-Period Model

	Monthly		Pre/Post	
	(1)	(2)	(3)	(4)
$sim\Delta HHI * Announce$	2.06 (14.74)	2.06 (14.88)	2.18 (15.25)	2.18 (18.14)
$sim\Delta HHI * Post$	28.55* (14.45)	28.55* (14.58)	29.00* (15.02)	29.00 (17.87)
Firm*Market Effects	No	Yes	No	Yes
Firm*Date Effects	No	Yes	No	Yes
R ²	0.357	0.586	0.498	0.920
Obs	36540	36540	1305	1305

Notes: * $p < 0.1$, ** $p < 0.05$. Columns 1 and 3 also contain uninteracted firm, date and market fixed-effects. Standard errors clustered by market are in parentheses.

Table 16: Regressions of Per-Capita Television Advertising

	OLS	Reduced-form	IV
HHI	0.94 (1.40)		24.42** (12.01)
<i>sim</i> Δ HHI * <i>Post</i>		22.62** (10.06)	
R^2	0.514	0.514	0.352
Obs	36540	36540	36540

Notes: * $p < 0.1$, ** $p < 0.05$. Standard errors clustered by market are in parentheses. Regressions include firm*market and year*month fixed-effects.

Table 17: Lagged values of HHI

	(1)	(2)	(3)	(4)
HHI _t	2.34 (1.50)			
HHI _{t-1}		2.06 (1.45)		
HHI _{t-3}			0.93 (1.60)	
HHI _{t-6}				-0.69 (1.69)
R^2	0.566	0.569	0.572	0.573
Obs	36540	36105	35235	33930

Notes: * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered by market are in parentheses. Regressions include firm*market and year*month fixed-effects.

Table 18: Predicted and Actual Changes in HHI: Outliers

City	Change in HHI		
	Predicted	Actual 2007–09	Actual 2007–10
St Louis	67	-122	-146
Milwaukee	297	233	167
Knoxville	299	119	-1
Charleston	331	134	127
Lexington	351	151	86
Paducah	576	933	772
Spokane	591	1082	1006

Notes: The Table compares predicted and actual changes in HHI for a selection of outlier cities. HHI is measured on a 10,000 point scale.