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"The Role of Advertising in the Evolution of the U.S. Brewing Industry, 1950-2008"

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Abstract:

The most striking feature in U.S. brewing has been the continued rise in industry concentration. Since the end of Prohibition in 1933, the number of macro or mass-producing beer companies declined dramatically, and the survivors gained considerable market share. There were 350 mass-producers in 1950 and only about 20 today. Survivors include Anheuser-Busch, the recently combined Coors-Miller, and Pabst: companies that produce large quantities of relatively light lager beer. In the last several decades, there has been a proliferation of new micro or specialty brewers: firms that brew craft or European style beer, ale, porter, and stout. Although the number of domestic specialty brewers rose dramatically, from 1 firm in 1965 to 1,501 in 2008, their total share of domestic sales was only about 4.5 percent in 2008.[1] The gain in share of the leading mass-producers had the dominant effect on industry concentration.

Changes in brewing concentration, measured by the Herfindahl-Hirschman index (*HHI*), are documented in Tremblay et al. (2005) and illustrate the impressive rise in concentration over time, with its steepest ascent from the mid 1960s through 1991.[2] Rising concentration in brewing is not unique to the U.S. From 1964 to 1990, Gourvish (1994) estimates that the five-firm concentration ratio in brewing rose by 67 percent in the U.K., 115 percent in Germany, and 136 percent in the U.S. By 1990, concentration was relatively high in the U.S. at 92 percent, compared to 70 percent in the U.K. and 28 percent in Germany. Adams (2006) argues that concentration continues to rise in Germany due to technological change but remains below that of the U.S. due to differences in consumer preferences and institutions, such as television advertising restrictions and consumer acceptance of tied houses, which favor smaller brewers in Germany.[3]

[1] Craft brewer statistics derive from the Brewers Association at www.brewersassociation.org.
[2] See Tremblay and Tremblay, *The U.S. Brewing Industry: Date and Economic Analysis*, MIT Press, 2005 for a more complete discussion of concentration, profits, the "beer wars", firm strategy, and the microbrewery movement in the U.S. brewing industry.
[3] Muller and Schwalbach (1980) find that the four-firm concentration ratio also grew substantially in Belgium, France, Germany, and the U.K. from 1960 to 1975. A notable

There has been continued debate over the main causes of rising concentration in U.S. brewing.[4] One hypothesis is that technological change increased plant and multi-plant scale economies, which caused firm-level minimum efficient scale (*MES*) to increase relative to market demand. This increased the market share needed to reach *MES* and eventually led to higher levels of concentration.

Another explanation for rising concentration in brewing is escalating advertising spending. According to Porter (1976), the diffusion of television in the 1950s and 1960s gave a marketing advantage to large national producers. In accord with Doraszelski and Markovich (2007), once one or more firms gain a strategic advantage through a string of successful advertising campaigns, winners gain share at the expense of losers, and concentration increases. This was especially important in brewing, because it enabled successful advertisers to grow and reach *MES*. Resulting increases in advertising can also increase concentration by increasing sunk costs or entry barriers (Sutton, 1991).

Advertising has been strategically important in brewing. There has been considerable variation in advertising over time, but there is no apparent simple causal relationship between advertising and concentration. Several possible reasons exist. First, forces other than advertising undoubtedly caused concentration to rise, such as increases in *MES* as proposed above. Second, even though advertising spending raises sunk costs and induces marginal firms to exit the industry, the exit process may take several years in brewing (Tremblay and Tremblay, 2005). Given continued shocks to technology and lags involved with firm exit, industry concentration appears to be in a constant state of disequilibrium, with actual concentration adjusting slowly to its new long-run equilibrium level. Third, concentration levels may affect the degree of advertising competition (Greer, 1971). The relationship between advertising and concentration may become more apparent once these factors are taken into account.

Despite the pronounced increase in concentration in brewing, market power and industry profits do not appear to have risen as predicted by many static models of oligopoly. Data on price-cost margins (*PCM*) reveals no simple relationship between concentration and profitability. *PCM* was generally well below average during the 1970s and 1980s, a period of intense price and advertising competition that has come to be called the “beer wars.”[5] This period is aptly described in *Newsweek* (September 4, 1978, 60): “After generations of stuffy, family-dominated management, when brewers competed against each other with camaraderie and forbearance, they are now frankly at war. Marketing and advertising, not the art of brewing, are the weapons.”

In this study, we provide an overview of the changes in industry concentration, advertising, and profits from 1950-2008. We also investigate the primary forces that have

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exception is Japan, where the four-firm concentration ratio was over 98 percent for 1975-2004 (Japan Fair Trade Commission, www.jftc.go.jp/katudo/ruiseki/ruisekidate.html).

[4] For a review of this literature, see Tremblay and Tremblay (2005, Chapter 3).

[5] Price wars intensified with the 1970 purchase of Miller Brewing Company by Philip Morris Tobacco and the market extension to the national level by Coors in the 1980s. The stated goal of Philip Morris was to move Miller from the seventh largest brewer to number one by 1980. It succeeded in moving Miller to number two by the late 1970s through increased advertising, quintupling its brewing capacity, and introducing the successful Miller Lite brand in 1975. Miller has maintained that position since. To reach *MES*, Coors began a new advertising campaign and a national distribution network in the 1980s and has sold beer in every state since 1991 (Tremblay and Tremblay, 2005).

shaped industry concentration, advertising, and profits in brewing, with particular emphasis on the advertising of the industry leaders: Anheuser-Busch, MillerCoors, and Pabst. In essence, this is an update of the work by Iwasaki et al., "Brewing Wars of Attrition for Profit (and Concentration)," *Review of Industrial Organization*, 33, 2008, 263-279, which focused on industry change through 2002.