

The rise of packaged beer and the reordering of the US brewing industry

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Introduction

In April 1933 Congress amended the Volstead Act to allow for 3.2% beer. Eight months later, in December, Congress and the states ratified the 21st Amendment, officially repealing Prohibition. From repeal until World War II, the brewing industry struggled to regain its pre-Prohibition fortunes.

Some authors¹ have viewed Prohibition as nothing more than a temporary cessation imposed by the government: once beer was relegalized, the same forces that drove pre-Prohibition industry developments took control once again. Though demand is ostensibly a factor in their story, they concentrate largely on producers and production. The national shippers, capitalizing on their greater productive and distributive efficiencies, were better positioned to respond to changing consumer demand.² Smaller, less efficient firms were less able to meet these new preferences and, over time, were forced to exit the industry.

This essay challenges the presumption that the restructuring of the brewing industry was a natural reflection of market forces and that it was a simple extrapolation of trends present before Prohibition: we argue instead that it was a consequence of a new regulatory system and new consumer preferences, both of which were shaped by the brewing industry.

The post repeal brewing industry is noticeably different from pre-Prohibition market. For example, while forward integration was a key aspect of the pre-Prohibition brewing industry, federal legislation prohibited breweries from owning retail outlets following repeal.

Similarly, pre-Prohibition discussions on the role of immigrants and the battle between ale and lager are by the 1930s yesterday's news. We shift our attention, then, to the increasing importance of packaged beer, and the implications this had for advertising, marketing, product standardization, and the shaping of consumer tastes. It was only after Prohibition that the shippers realized their goal of creating new preferences that favored their product over the draught beer of local breweries.

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After reviewing how the industry structure changed during these years, we turn our attention to why packaged beer rose to prominence and the role this played in the evolution of the post-repeal market for beer.

Industry structure

Prohibition meant the end of many small breweries that had been profitable, and

that, taken together, had posed a formidable challenge to the large shipping breweries.

The shippers, who had much greater investments, were not as inclined to walk away from brewing.³ After repeal, therefore, they reopened for business in a radically new environment, one in which their former rivals were absent, or at least underrepresented. From this

Year	Number of breweries	Number of barrels with-drawn (millions)	Average barrelage per brewery	Largest firm production (millions of barrels)	Per capita consumption (gallons)
1910	1,568	59.5	37,946	1.5	20.1
1915	1,345	59.8	44,461	1.1	18.7
1934	756	37.7	49,867	1.1	7.9
1935	766	45.2	59,008	1.1	10.3
1936	739	51.8	70,095	1.3	11.8
1937	754	58.7	77,851	1.8	13.3
1938	700	56.3	80,429	2.1	12.9
1939	672	53.8	80,059	2.3	12.3
1940	684	54.9	80,263	2.5	12.5

Table 1. US brewing industry data: 1910-40.

Source. Cochran, T. (1948) Pabst Brewing Company: The History of an American Business. New York: New York University Press; Krebs, R. and Orthwein, P. (1953) Making Friends is our Business: 100 Years of Anheuser-Busch. St. Louis, MO: Anheuser-Busch, Inc.; and Brewers Almanac, (1956). A barrel consists of thirty one gallons of beer.

favorable starting point, they continued to consolidate their position. Several hundred locally oriented breweries did reopen, but were unable to regain their pre-Prohibition competitive edge, and they quickly exited the market. From 1935 to 1940, the number of breweries fell by 10%.

Annual industry output, after struggling in 1934 and 1935, began to approach the levels reached in the 1910s. Yet, these total increases are somewhat misleading, as the population of the US had risen from 92 to 98 million in the 1910s to 125 to 130 million in the 1930s.⁴ This translates directly into the dramatically lower per capita consumption levels reported in column six.

The largest firms grew even larger in the years following repeal, quickly surpassing their pre-Prohibition annual production levels. The post-repeal industry leaders, Anheuser-Busch and Pabst, doubled their annual production levels from 1935 to 1940.

To take for granted the growing importance of the leading shippers during this period is to ignore their momentous reversal of pre-Prohibition trends. While medium-sized breweries dominated the industry output in the years leading up to Prohibition, the shippers regained in the 1930s the dynamism they manifested from the 1870s to the 1890s. Table 2 shows the fortunes of the shippers in relation to the industry as a whole. From 1877 to 1895, Anheuser-Busch and Pabst, the two most prominent shippers, grew much faster than the industry, and their successes helped pull the industry along. This picture changed during the years 1895 to 1915, when the *industry* grew much faster during this period than the shippers.⁵ With the repeal of Prohibition, the tides changed again: from 1934 to 1940, the brewing industry grew very slowly, while Anheuser-Busch and Pabst enjoyed tremendous increases in their annual sales.

Period	Anheuser-Busch	Pabst	Industry
1877-95	1,106%	685%	248%
1895-1914	58%	-23%	78%
1934-40	173%	173%	26%

Table 2. Percentage change in output shipping breweries: 1877-1940.

Source. Cochran, T. (1948) Pabst Brewing Company: The History of an American Business. New York: New York University Press; Krebs, R. and Orthwein, P. (1953) Making Friends is our Business: 100 Years of Anheuser-Busch. St. Louis, MO: Anheuser-Busch, Inc; ; and Brewers Almanac, (1956).

From 1938-1940, three of the top ten producers were large local firms (Schafer, Ruppert and Liebman) that concentrated on the New York market. Nonetheless, national and regional shippers increasingly dominated the market. Many of these firms came to exemplify the Chandlerian modern business enterprise, which adeptly integrated mass production and mass distribution.

It was during this period that several of the leading shippers began to coordinate

production in discrete facilities. McGahan⁶ coinvents on Falstaff's decision to open a branch in Omaha, to complement its base in St. Louis, and Cochran discusses the steps that Pabst personnel began to take in 1933 to ensure uniformity of product between its Milwaukee and Peoria plants.⁷ Bull, Friedrich, and Gottschalk confirm that Duquesne brewed beer in three Pennsylvania cities beginning in 1933.⁸

Brewery	Plant location	1938 (bls)	1939 (bls)	1940 (bls)
Anheuser-Busch	St Louis, MO	2,087,000	2,306,000	2,468,000
Pabst Brewing	Milwaukee, WI	1,640,000	1,650,000	1,730,000
	Peoria Heights, IL			
Jos. Schlitz	Milwaukee, WI	1,620,000	1,651,083	1,570,000
F & M Schafer	Brooklyn, NY	1,025,000	1,305,000	1,390,200
P Ballantine	Newark, NJ	1,120,000	1,289,425	1,322,346
Jacob Ruppert	New York, NY	1,417,000	1,325,350	1,228,400
Falstaff Brewing	St Louis, MO	622,000	622,004	684,537
	New Orleans, LA			
	Omaha, NB			
Duquesne Brewing	Pittsburgh, PA	625,000	680,000	690,000
	Carnegie, PA			
	McKees Rock, PA			
Theo. Hamm Brewing	St Paul, MN	750,000	780,000	694,200
Liebman Breweries	Brooklyn, NY	625,000	632,558	670,198

Table 3. Leading brewery output levels: 1938-1940.

Source. Fein, E. (1942) 'The 25 Leading Brewers in the United States Produce 41.5% of the Nation's Total Beer Output,' Brewers Digest, 17 (October):35, p.35.

We believe this is the key difference between the pre- and post-Prohibition brewing periods: so many breweries of the 1900s-1910s were gone, and the smaller ones that did open were no longer dominant. Filling this void were larger and larger regional and national shipping breweries.⁹ While several factors contributed to the successes of the shipping breweries over this period, we focus on the important role played in how beer was packaged and sold.

The triumph of packaged beer

Prior to Prohibition, draught beer accounted for over 75% of beer sales in the US. Today, packaged beer-bottled and canned-accounts for over 90% of all sales. While draught beer accounted for three quarters of total production in the US in 1934, the first full year of brewing after the repeal of Prohibition in 1933, this represented its post-repeal high: draught's share of the market fell to 48% in 1940, 28% in 1950, 19% in 1960, 14% in 1970 and by 2000, it has fallen to approximately 10%. Several factors contributed to this rapid rewriting of how breweries dispensed beer in the US. Some authors attribute the rise of packaged beer in the 1930s to such technological innovations as the beer can, and to changing consumer preferences for beer.¹⁰ In addition, we focus on the deliberate steps taken by shippers to expand packaged beer. Far from merely accepting the dictates of the market, shippers worked to shape legislation that favored

packaged over draught beer, and they promoted packaged beer extensively with advertising and marketing campaigns.¹¹ This raises the question of motive.

Before delving into this complex issue, a point of clarification is needed. After 1935, packaged beer came to mean both canned and bottled beer. The introduction of the beer can in 1935 was one of the key technological developments in the 1930s, but it is not correct to argue that this development fulfilled a pent-up consumer desire for canned beer. The same technological advances were available to brewers in countries, but packaged beer had taken hold in distinct brewing cultures at time times. For example, in 1939 only 20% of the beer in England was packaged, all of it in bottles.¹² Indeed, British brewers refrained from canning their beer until the seventies.¹³ As late as 1968, over 90% of Britain's packaged beer was sold in bottles.¹⁴

The Canadian experience was different from that in both the US and the UK. As early as 1917, packaged beer outsold draught beer in Canada by a margin of 58% to 42%. Yet, the next two years, draught beer outsold packaged beer. Since 1920, packaged beer has accounted for more than 50% of the market, but, in contrast to the United States, packaged sales did not garner an increasing share of the market. After reaching 71% of the market in 1929, packaged beer fell to 55% in 1939. From the 1910s

through the 1940s, there was a great deal of annual fluctuation in the Canadian beer market, and draught beer increased its market share several times. In the US, packaged beer steadily increased its share of the market each year; it did not evidence the ups and downs of the Canadian industry. One possible explanation for the variable Canadian experience is the size of its industry. Until the early 1940s, annual production was under three million barrels a year, barely larger than the top producing brewery in the UK and the US.¹⁵ A limited national market might have been subject to greater vicissitudes than were the much larger industries in England and the US.¹⁶

Clearly, there must have been reasons why the American and Canadian beer markets became dominated by packaged beer, and why the British market did not. The next step is to examine why packaged beer replaced draught beer in America.

Motives behind the rise in packaged beer

We need to better understand why packaged beer rose to prominence, and what the implications were. Stack¹⁷ discussed five reasons shippers promoted bottled beer in the pre-Prohibition period: 1) it offered higher profit rates; 2) it facilitated efforts to build brand loyalty; 3) it provided the opportunity to target the middle-class consumer who could afford the higher prices of bottled beer, and were

often reluctant to drink in saloons; 4) it allowed for a decrease in the reliance on saloons; 5) it was easier to sell in dry areas. There were two additional factors that drove breweries, especially the shippers, to promote packaged beer sales in the post-repeal years: 6) packaging offered greater flexibility in how and where beer was consumed; and 7) it provided for greater consistency of products.

Let us examine these factors one at a time:

1) *Bottled beer yielded considerably higher profit rates for the shippers in the pre-Prohibition period, a trend which continued in the 1930s.* Packaged beer cost more to produce, commanded a higher retail price, and generated greater profits. In 1935, the cost of 12 ounces of beer was five cents on tap, 10 to 15 cents in a bottle, and 15 cents in a can.¹⁸ In 1933, Anheuser-Busch's draught beer was \$16/bl, compared to almost \$31/bl for its bottled beer.^{19,20} A 1934 trade journal article estimated that keg beer returned a profit rate of \$1.08/barrel, while packaged beer had a profit rate of \$2.70/barrel - a positive differential of 150%.²¹ The higher cost (and presumably the higher profit margin) of packaged beer has been a fixture for the brewing industry for the decades following repeal. Despite its higher production costs and retail price, packaged beer has grown steadily since the 1930s.

2) *Packaged beer contributed to the efforts of breweries - especially the ship-*

pers - to establish brand loyalty. In 1933, Anheuser-Busch took out a series of advertisements which proclaimed that 'BUDWEISER IS BACK, King of Bottled Beers'.²² Such advertisements indicate the importance Anheuser-Busch placed on its packaged beer. It was not just the King of Beer, but the King of Bottled Beer. Fogarty discusses the importance of packaged beer to the ascendancy of large brewers:

The rise of packaged beer was also the way that large brewers achieved dominance in the beer industry because, far more than draught, the packaged form is susceptible to mechanized production and brand name advertising.²³

A 1935 trade journal article makes a similar point:

The advantages of increased bottle beer consumption and of an increased number of bottle beer users is at once apparent. For the individual brewery, it means putting a trademarked, packaged item in the home—a procedure that over a period of time give stability, builds good will value into the brewery trade name, and creates a steady, year around volume such as draught beer sales never can attain. For the brewery industry as a whole, it means the definite association of beer with respectability and a more widespread appreciation of its virtues among people who wield tremendous political power.²⁴

This passage succinctly summaries the benefits accruing from packaging and

branding. The relationship between packaging, brand name construction, and advertising is, I feel, one of the integral developments in the history of the American brewing industry.²⁵

3) *Increased packaged sales afforded brewers the opportunity to target middle-class consumers who could afford the higher prices of bottled beer, and who were often reluctant to drink in bars.* In the midst of the great depression of the 1930s, per capita consumption of beer was far below its pre-Prohibition levels. Yet, the largest shipping brewers saw their overall sales, and especially their sales of packaged beer, continue to increase. By 1939, packaged beer accounted for over half of Anheuser-Busch's sales.²⁶ For Falstaff, the other great St Louis shipping brewery, packaged beer contributed over 80% of its output in 1939 and 1940.²⁷

In addition, the brewing industry reopened to a new social culture, one far less tolerant of the excesses believed to have been characteristic of on-premise drinking. This view, promoted by temperance groups and shrewdly supported by shipping brewers, put traditional retail outlets like saloons at a disadvantage, and gave an additional boost to new outlets and to packaged beer. The importance of culture cannot be ignored. England's radically different experience with on-premise drinking reflects a distinct social attitude towards on-premise drinking. England too had its temperance movement, and while it did not achieve

the national successes of their American counterparts, it did succeed in imposing many regulations on the brewing industry. It did not, however, end the long-standing British preference for on-premise draught beer consumption.²⁸

Finally, packaged beers helped breweries begin to target more effectively a key group: women. Women were important as both potential consumers and as the buyers of packaged beer for their husbands. Mittelman notes that breweries, aware of how women were drinking in speakeasies during Prohibition, realized that after repeal that they would have to target both men and women. Modern Brewer, a trade journal, introduced two female sale representatives and a female technical editor.²⁹ Steps such as these were reflected the growing importance of women in the beer industry overall, but especially for the quickly emerging home consumption market facilitated by packaged beer.

4) *Packaged beer allowed brewers, especially the shippers, to decrease their reliance on on-premise retail outlets such as bars and saloons, the dominant preProhibition retail outlet.* This, in turn, depended equally on the changed regulatory environment, which eased the obtaining of retail licenses. The relaxation in licensing meant that with the enormous growth in retail outlets handling beer, the amount of beer per outlet was much lower. Packaged beer was better positioned for this new environment: grocery stores, hotels, and restaurants were

equipped to handle small amounts of packaged beer, rather than large, bulky kegs of draught beer.

5) *Packaged beer was easier to distribute and sell in dry areas.* Though all states eventually allowed the sale of alcohol, local officials were given the option to declare their counties 'dry' or 'wet' after repeal. In dry counties, it was the *production and selling* of beer, not its possession or consumption, that was illegal. Consequently, many retail outlets specializing in packaged beer set up on the borders of dry counties. Draught beer, available only in bars, lacked the flexibility of packaged beer.

6) *Packaging offered greater flexibility in how and where beer was consumed.* For many years, beer bottles required a deposit, an inconvenience that offset some of the advantages packaging offered. With the introduction of the disposable beer can, consumers were given greater flexibility.³⁰ In response to the popularity of the one-way (non-returnable) beer can, bottle manufacturers began to investigate oneway bottles. Shortly after the can's introduction in 1935, Owens-Illinois, a leading producer of beer bottles, introduced the 'Stubby,' a lightweight non-returnable beer bottle.³¹ By the mid 1930s, there were three containers for beer: one-way beer cans, one-way beer bottles, and returnable beer bottles.³²

7) *Packaged beer gave brewers the security of greater consistency.* Product

consistency is quite distinct from product quality, a topic discussed in more detail below. Consistency means that both brewer and consumer are confident that beer will taste, look, and smell the same. Packaged beer, pasteurized and filtered, is subject to much less variation than draught beer, which is somewhat fragile and requires more attention by the retailer in order to reach its potential. Packaging gave shippers an important advantage in their efforts to expand sales on the basis of brand names.

Non-industry factors supporting the rise of canned packaged beer

In addition to industry motivations, there were the efforts taken by the packaging manufacturers themselves. There had been little demand for kegs during Prohibition, and this industry went into a general hibernation. In contrast, the packagers had banner years during Prohibition. The burgeoning demand for soft drinks provided bottlers an enormous market, and they looked forward to the relegalization of beer. During Prohibition, the leading shipping brewers sold nonalcoholic bottled and canned products, so the partnerships were well established.³³

The potential market for beer bottlers and canners was immense. Per capita consumption of beer greatly exceeded that of soft drinks during the 1930s, though the gap narrowed considerably during the period from repeal to World War II.³⁴

Both bottlers and canners sought to win the beer market. Bottlers had the initial advantage: many of the technical problems of bottling beer had been worked on for several decades leading up to Prohibition. Nevertheless, the leading can manufacturers, building on relationships established during Prohibition, set about to make reliable canned beer. Their product reached the market in 1935; by 1941, it accounted for 14% of the rapidly growing packaged beer market.³⁵

While there was much competition between bottlers and canners, both stood to gain from market changes that favored packaged over draught sales. Manufacturers of bottles and cans were alternately allies and foes. They both gained from changes in the regulatory system which favored off-premise packaged consumption and from the growing appreciation leading breweries showed for branded, packaged goods. Yet, their successes in these fronts inevitably implied that they would increasingly face each other for ultimate control of the beer market. The leading canners and bottlers realized this, and they embarked on aggressive advertising campaigns aimed at both brewers and consumers. Trade journals of the 1930s are full of articles penned by representatives of the canners or bottlers. They were not content to let natural market forces determine who would dominate the lucrative business of supplying beer containers. A 1938 *Brewers Digest* article captures the tenor of the efforts:

Tremendous advertising and sales promotion campaigns conducted by the American Can Company and the Continental Can Company are certain to result in a large increase in canned beer sales for breweries which have adopted the can as a standard beer container ... Certainly there will be more and more pressure applied to the brewery refusing to consider the use of cans.³⁶

The leading can manufacturers were not content to passively wait for consumers to change their exogenous preferences for packaged beer; they undertook wide-spread advertising and marketing campaigns to heighten both the demand for cans by both the consumer and producer.

This was not a one-step campaign. A self-published history of canned beer by the American Can Company asserts,

During the period 1935 through 1940 the beer can trademarked 'Keglined' was supported by the largest advertising and sales promotion support ever put behind any kind of container.³⁷

These passages indicate that the large packagers advertised their products heavily, both to the public and to brewers. There were numerous brewing trade journal articles by the publicity departments of these packaging firms that extolled the virtues of their product, while denigrating the offerings of their competitors.³⁸ The net effect of these efforts was to heighten consumer awareness of, and desire for, packaged beer. These steps reinforced the actions taken by the shipping brewers

to expand the market for packaged beer. Another important change in American tastes was a growing preference for drinks served very cold, a development facilitated by the rapid rise in home refrigeration.

England, which embrace refrigerators much later than the US, proceeded down a very different path concerning consumer preferences for cold and packaged drinks.³⁹

Year	US homes	UK homes
1925	1.0%	<1%
1930	12.8%	<1%
1933	24.7%	<1%
1934	29.3%	<1%
1935	34.2%	<1%
1936	41.1%	<1%
1937	49.4%	<1%
1938	51.7%	<1%
1939	56.0%	<1%
1940	63.0%	<1%
1940	72.0%	<1%

Table 5. Percentage of US and UK homes with refrigerators (these data are only for households wired for electricity).

Source. Bowden, S. and Offer, A. (1994) 'Household appliances and the use of time: the United States and Britain since the 1920s,' Economic History Review. 48, p.745.

America's mass-produced packaged beer arose in a general environment of mass-produced, packaged, branded

goods. The shipping breweries reestablished their dominance in the industry in part because of their ability to shape the regulatory system in favor of branded, packaged beer sold in nontraditional outlets. Aggressive and expensive advertising and marketing campaigns were central to this process.

The development of mass advertising in the brewing industry

O'Neil states that the entire alcohol industry

ranked third among all industries in the total amount spent on newspaper advertising in 1939, and sixth in expenditures for advertising in the four media of newspapers, magazines, farm journals, and chain radio.⁴⁰

From 1933-39, the brewing industry spent \$130,000,000 on advertising.⁴¹ Using the figure of \$130 million, advertising expenditures as a percentage of sales is between 4 to 6%. From 1933-39, the brewing industry sold 314,735,000 barrels of beer. If advertising expenditures were \$130 million, then the ratio of advertising to total sales depends on the average price of beer. At an average of \$9.30 per barrel, advertising accounted for 4.4% of the sales revenue; if we use a lower average price per barrel, then the importance of advertising rises; for example, if the price is \$8.00 per barrel, then advertising rises to 5.2% of the total sales.⁴² Overall advertising was, one might say, rather plump during these years.

This is not to suggest, however, that all breweries advertised at the same rate. There were notable variances in the degree to which different types of breweries advertised. A 1940 article in *Brewers Digest* argues:

Advertising's value to the brewer is perhaps sufficiently indicated by the fact that the three shipping brewers, who have the longest records as advertisers, also have the largest sales, with Anheuser-Busch in the lead. Following these three come another three who have done some attractive advertising since repeal-Ruppert, Ballantine and Schaefer.⁴³

In a self-published company report, an Anheuser-Busch official wrote about the problems the brewery encountered following repeal. One of the concerns regarded changing consumer preferences for sweeter beverages, and whether Anheuser-Busch should modify its brewing recipe: ultimately, it decided not to alter its formula. Instead,

The company initiated a major advertising campaign. Busch challenged consumers to a 'five day test.' He predicted that after five days of drinking Budweiser the consumer would not drink a sweet beer again. The advertising campaign was successful and established a trend for future consumer appeals.⁴⁴

The smallest breweries spent much less, both absolutely and as a percentage of their total production costs, than did the mid-sized and large firms. Advertising

	Small Breweries (under 1000,000 brls)	Medium Breweries (100-300,000 brls)	Large Breweries (over 3000,000 brls)
Advertising costs per barrel	\$0.68	\$1.03	\$0.98
Advertising costs/ total barrel	7%	15%	15%

Table 6. Brewery advertising cost data, 1940.

Source. Beach, A. (1942) 'The Small Brewer. How He Fits Into The War Effort,' *Brewers' Digest* 17 (April) p.27.

expenditures by the largest breweries were twice the level of the smallest firms. As an editor for *Brewers' Digest* said in a 1940 article:

During the years since repeal there has been a steady improvement in the advertising done in behalf of beer. However, this improvement has largely been among the brewers who could afford expert advertising men. Many a small brewer [does] not have a very good understanding of the importance of advertising to their business.⁴⁵

Not all breweries were equally positioned to take full advantage of the opportunities advertising and branding offered.

These data clearly show that larger breweries took fuller advantage of advertising than did smaller breweries. The inability (or choice, in some instances) of small breweries to match the shippers was a leading cause of their disappearance from the industry:

The little brewer must compete in his market with medium-sized and large brewers. His sales effort must at least equal that of his competition-and so must his advertising, if his product is to be chosen in preference to that of other brewers.⁴⁶

Small breweries, it appears elected to compete on price and product quality, rather than on images of the product constructed through advertising. The shippers, as time has shown, adopted the more successful strategy.

The enormous sums of money the brewing industry spent on advertising were complemented by expenditures underwritten by related companies, such as the bottlers and canners. From 1935 to 1937, American Can Company spent \$1 million dollars year on promotional campaigns.⁴⁷ Retailers also ran many advertisements in daily newspapers. Prominent retailers such as grocery stores, pharmacies, and liquor stores had regular ads in newspapers touting their beer selections and

prices. These ads contained statements like 'Blatz beer, mild mellow and satisfying' and 'Pabst beer, rich and invigorating'.⁴⁸ Retailers, whose principal objective was to increase sales at their specific stores, contributed to greater brand awareness of packaged beer, especially of shippers such as Blatz, Pabst, and Anheuser-Busch.⁴⁹ Thus, the true dollar value of beer-related advertising exceeds the official \$130 million figure spent directly by the beer industry.

This raises the question of why advertising for beer was this extensive.

First, most regulators were much more concerned about spirits than beer: whereas spirits producers 'voluntarily' refrained from advertising on radio and television, breweries were never precluded from any important media. While a few states imposed some restrictions on beer advertisements, it does not appear that any of the leading beer-producing or beer-consuming states imposed prohibitions on advertising.⁵⁰ So, breweries viewed advertising as a way to provide a competitive advantage over distillers, but they had to tread carefully in this area. According to Mittelman, the first administrator of the Federal Alcohol Administration (FAA), WS Alexander, wanted beer and spirits to be regulated in the same way and brewers worried that this would include advertising. Ultimately, however,

legislators and officials usually saw beer as less alcoholic than distilled spirits ... [so]

brewers did not have to make all of the hard choices that distillers did. They retained access to all media outlets, which ultimately gave them a huge competitive edge over distillers, and did more to differentiate them from the other branches of the liquor industry than anything else.⁵¹

Second, the changed industry structure of the post-repeal period, in which breweries worked increasingly through wholesalers to distribute their beer required new strategies. In an environment in which there were now over 150,000 retailers (in contrast to the 10,000-20,000 in the 1910s), breweries saw advertising as crucial to support their packaged products in the burgeoning number of retail outlets.

Finally, breweries and their allies were very confident in the potential of advertising. One reason they aggressively advertised was because of the successes enjoyed by Coca-Cola, their increasingly successful soft-drink competitor. From the 1910s to the 1930s, Coca-Cola transformed itself into a national firm with global aspirations. Integral to its achievements were its intensive advertising and marketing campaigns.⁵² These efforts propelled Coca-Cola to steadily rising levels of sales and profits.

Coca-Cola increased its annual spending on advertising by 74% between 1930 and 1939, and it was rewarded with increases in its sales and net profits of 119% and 115% respectively. Breweries were well aware of how Coca-Cola had utilized

Year	Sales (millions)	Net profit (millions)	Advertising expenditure (millions)
1930	\$41.3	\$13.5	\$4.6
1931	\$40.3	\$14.0	\$4.9
1932	\$33.6	\$10.7	\$5.0
1933	\$32.3	\$10.8	\$4.4
1934	\$39.8	\$14.3	\$4.9
1935	\$45.5	\$15.8	\$5.4
1936	\$58.0	\$20.4	\$5.7
1937	\$70.4	\$24.7	\$7.0
1938	\$78.1	\$25.6	\$7.1
1939	\$90.5	\$29.0	\$8.0

Table 7. Coca-Cola summary data, 1930-39.

Source. Tedlow, R. (1990) *New and Improved: The Story of Mass Marketing in America*. New York: Basic Books, pp.85-6.

advertising to fuel its growth in the 1910s and 1920s, and they saw in the 1930s how it was continuing to build upon this effective strategy. Shipping breweries in particular realized that by following Coca-Cola's lead, they could reasonably expect to see similar improvements in their sales and profits figures. All of these companies understood that, at the firm level, these strategies could be successful, even during a depression.

The goal of advertising by a brewery is not to increase revenue or sales for the *industry*, but for itself. Brewers were well

aware of the distinction between generic advertising and the marketing of specific brands. As Schenker argued in a 1941 trade journal article, 'Advertising, to be effective for the brewer who foots the bill, must lay aside the altruistic job of selling beer and sell a specific brand of beer'.⁵³ The goal Schenker set for brewers was to develop 'a true product story which sets that brand of beer apart from other beers'.⁵⁴ Anheuser-Busch, Pabst, Schlitz, and other shippers increased their sales at the expense of local breweries. Table 2 documented how much faster the leading national shippers grew from 1934-40

than did the industry as a whole. We see an even steeper increase if we look at their sales of packaged beer alone.

Through these advertising campaigns, they were able to induce many consumers to switch from draught beer to the more expensive branded-and-packaged beer in a time that was, to say the least, lean. The effectiveness of the shippers's advertising campaigns impugns the standard neoclassical view that the rise of trademarks and branding was a rational response by the marketplace to the changes wrought by industrialization:

In the late nineteenth and early twentieth centuries, changes in industrial structures altered the role of the trade mark dramatically and made it for the first time in history a particularly valuable intangible asset for the producers and a reducer of transaction costs to the consumer ... The trademark informed the consumer about the product; it differentiated the product from alternatives.⁵⁵

Advertising and branding are natural manifestations of a changed industrial structure in which consumers no longer know firsthand the producers of their products. Brands offer them the assurance of getting what they got the last time.

A counter perspective sees these tactics as tools that helped bring about the new industrial structure: they are *contributors* to, not simply *effects of*, the changing environment. Larger firms trying to compete in distant markets utilized

advertising and branding to heighten consumer demand for their products. The view of trademark as information does not adequately explain the enormous expenditures made by companies through their marketing and advertising campaigns. Casson rejects the interpretation of the trademark as a natural and good process. Responding to claims that 'Rational consumers cannot be misled by branding' he retorts 'This view of human nature is not, however, shared by those responsible for the actual marketing of products'.⁵⁶ Trademarks, while effective, are not necessarily beneficial. Firms invest in branding not out of an altruistic desire to impart unbiased information, but to sway consumers in their purchases.

The triumph of the shippers

In preparing for repeal, shippers were anxious to prevent the re-emergence of the local breweries that had outperformed them in the decades immediately prior to Prohibition. Stack shows that in the years leading up to Prohibition, local breweries effectively used tied houses to impede the ability of shippers to expand into other markets.⁵⁷ Thus, after repeal, the shippers wished to prevent the return of the tied house, and they set about to encourage a market for beer that extended beyond on-premise consumption of draught beer. This led to the promotion of packaged beer for off-premise consumption, a move that necessitated a new type of product. Shippers needed a beer

to withstand the rigors of transportation, a less important attribute when most beer was brewed locally for immediate consumption. They needed to extend the shelf life of packaged beer that might sit, sequentially, on the shelves of the wholesaler, the retailer, and the consumer. In addition, they wanted to standardize their draught and packaged beer, so that it would taste the same batch after batch.

Finally, shippers wanted to de-emphasize traditional beer attributes so they could differentiate their product through advertising and branding campaigns.⁵⁸ These aggressive campaigns helped them to compete not on the basis of the quality of their beer, but on images they constructed of it. Shippers sought to convince consumers that their standardized, light, pilsner-style beer was the way beer should be.

But, firms cannot always shape the market as they would like. Why, then, were the shippers able to introduce many of these dubious changes, especially when they did not necessarily improve product quality or consumer welfare? It may be useful to review some of the factors which contributed greatly to the shippers' efforts to reshape the post-repeal market. First, by the end of Prohibition many beer drinkers had forgotten what traditional beer tasted like. Most consumers in 1933 had gone nearly sixteen years without access to unregulated beer. For those who lived in dry states or counties prior to national Prohibition, it had been an even longer stretch. In addition, a generation

of potential beer drinkers had come of age without access to traditional beer. Given all this, it is difficult to imagine what it meant to be a rational, informed consumer. Shippers, then, had a unique opportunity for trying to construct a taste for specific beer attributes that they were well positioned to deliver.

Second, there was a growing consumer preference for packaged goods, and packaged beer benefited directly from this trend. Some canned foods had become popular by the early 1900s, and per capita consumption increased steadily over the next several decades.

The demand for canned foods rose steadily from 1920 to 1940. Per capita consumption of canned vegetables rose by 50% between 1920 to 1940, while canned juice consumption rose by over 1,000% from 1931 to 1940. Many technical improvements in canning came during the 1920s, and breweries were able to capitalize on these developments when they began canning beer in 1935.

Third, the rise in packaged goods paralleled the spread of home refrigeration, which allowed consumers to store packaged items after they had been opened. It also contributed to a unique American preference for serving drinks 'ice cold.' In an era when consumers were less informed of what beer had been and could be, the stage was set for breweries to construct a demand for a new style of product, allegiances to which would be won not on the basis of quality but

Year	Canned fruit	Canned juices*	Canned vegetables	Canned soup	Canned fish	Canned meat
1920	9.3	.58	18.2	1.9	n.a.	0.7
1921	8.1	.33	16.7	2.0	2.2	0.9
1922	7.4	.16	16.9	3.1	3.2	1.0
1923	8.9	.29	21.2	4.0	2.9	1.1
1924	8.8	.12	22.7	3.2	3.2	1.2
1925	10.9	.16	25.3	2.5	3.2	1.3
1926	11.8	.17	25.7	2.7	3.4	1.4
1927	12.4	.32	22.1	3.0	3.8	1.5
1928	12.4	.13	22.6	3.4	3.8	1.6
1929	12.1	.32	25.5	3.9	3.9	1.7
1930	12.7	.5	27.8	3.1	3.3	1.7
1931	10.7	1.0	24.4	2.3	3.2	1.6
1932	10.1	1.5	20.6	2.2	3.3	1.7
1933	11.6	1.6	20.9	2.0	3.8	1.9
1934	12.3	1.6	21.9	3.2	4.2	2.1
1935	13.2	3.6	24.2	3.6	4.7	2.3
1936	16.5	4.8	24.9	4.2	5.8	2.7
1937	13.3	7.4	26.0	5.0	4.2	2.9
1938	15.2	7.4	27.8	5.4	4.8	2.7
1939	15.7	8.4	28.8	6.3	4.6	3.5
1940	18.7	10.0	31.0	6.7	4.1	4.3

Table 8. Per capita consumption of canned goods (pounds), 1920-40.

Source. National Canners Association (1954) The Canning Industry. Washington DC: self published pamphlet, p.9.

**The per capita data in this table are taken from a report issued by the National Canners Association, while the per capita canned fruit juice data in Chapter Four are taken from the Historical Statistics of the United States. Although the general upward increase is similar, the specific levels in each year differ. I have used these two sources to ensure consistency with the additional data in these two tables that are taken from these two separate sources.*

through advertising and marketing campaigns. Dr Robert Wahl, the director of a brewing institute in Chicago, viewed the fashion of serving beer very cold in America as an outgrowth of the poor quality of post-repeal beer and the socially (and technically) constructed 'preference' for cold beverages:

No matter how scientifically the master brewer operates and selects the finished materials, including highest grade hops for their flavor giving qualities and delicacy of bitter principle, ice cold beer cannot give off this delicious flavor, because flavors are not volatilized at such low temperatures. It is also dead to the taste.⁵⁹

Drinking beer at cold temperatures, he argues, reflects a lack of understanding by American consumers. This worked to the advantage of the shippers who were not trying to compete on the basis of beer's 'delicious flavors.'

Fourth, advances in packaging, branding, and refrigeration contributed to the growing importance of product standardization. America during these years was becoming the land of mass production, and the home of mass consumption. Shipping breweries had led the way in trying to transform brewing from an art into a science, and they stood to reap great benefits. One manifestation of this process is in the changing position of brewmasters in the company hierarchy. The brewmaster's position in major breweries came to trail both the accountants and the chemists.⁶⁰ This process, very

little commented on, can be interpreted as the triumph of standardization of brewing over the craft of brewing.

Cochran provides an example of how this process unfolded at Pabst. In discussing Pabst's pre-Prohibition brewmasters, he highlights the training—often in Germany—these early brewmasters received. These were, Cochran makes clear, amongst the most important brewery employees.⁶¹ Preprohibition brewmasters had great latitude in changing the product, in modifying it along lines they felt were necessary. In contrast, the post-repeal Pabst hierarchy had the brewmasters at the several plants reporting the vice-president of production

who regulated the formulae for the beer. To ensure uniformity, the same grains, malt, hops, and type of water were used at all plants, while the local brewmaster ... had to see that instructions were carried out.⁶²

Brewmasters saw their positions change from employees whose training prepared them for introducing product innovations to employees who simply followed the orders of others higher in the company organization: the goal now was stability, consistency, and uniformity, measures better planned by chemists than traditional brewmasters. This discussion can be related back to Chandler's ideas regarding changing organizational structure. In brewing, new organizational forms effected new power relations within the firm, and this in turn altered the nature of the product. The new position of the brew-

master and the increased emphasis on stability and uniformity were direct consequences of shipping breweries seeking greater 'throughput.'

A new type of consumer was coming of age during these crucial years, one who increasingly valued packaged and standardized goods. This is not to suggest, however, that all standardized, mass produced-mass distributed goods were of high quality. Many were not. For example, Hess and Hess, state in their history of American food that canned 'Cambell's soups have done more to debase the cooking of Americans - and their palates - than any other single factor'.⁶³ The consumption of canned soups may have increased by over 300% from 1920 to 1940, but this was not the triumph of a superior product, but the result of an effective campaign to persuade consumers to substitute a heavily advertised, branded (and more expensive) product for a less fashionable homemade version.

Brewing experts of this period frequently decried the quality of packaged beer. The following comments from Emil March, an editor at *Brewers Digest*, were typical.

The brewmaster's pride in his draught beer does not always extend equally to his bottled and canned beer. This is due mainly to the fact that the draught beer is frequently superior in quality to the packaged beer.

Bottled beer has been shown in many instances to undergo certain changes during the process of pasteurization that affect its taste, flavor, and foam.⁶⁴

However, March acknowledged the realization of draught beer's full potential required

constant care and supervision by the brewer from the time the barrel leaves the brewery until the beer is served the customer.-Not infrequently, a product of high quality, shipped out by the brewery in perfect condition, draws complaints instead of praise simply because through improper handling and careless dispensing its quality was adversely affected or even destroyed.⁶⁵

Packaged beer might be inferior, but it is a more consistent product. In an era when breweries no longer controlled retail outlets-- when retail outlets with no prior experience in selling beer were growing in importance-- the preferences of course was for pasteurized, filtered, packaged beer.⁶⁶

The shipping breweries emerged triumphant in the years following repeal, but this was not the natural consequence of freely interacting market forces. By aligning themselves with powerful forces prior to and immediately after repeal, the shippers were able to reshape the entire brewing industry.⁶⁷ They were so effective in these efforts, that in some respects the brewing industry before and after Prohibition was so different as to verge upon being non-comparable.

The shippers helped rewrite the rules governing the brewing industry, and these rules, not surprisingly, supported their efforts. Perhaps the most important

difference in the post-repeal market was the strict separation of breweries from retail operations. Local breweries had used their control of saloons to impede the ability of shippers to penetrate distant markets.⁶⁸ After repeal, a new layer of wholesalers grew up to separate retailers and producers. As it turned out, it became easier for wholesalers to deal with a smaller number of large national shippers than a larger number of local firms.

As the saloon disappeared from the memory of American beer drinkers, the distribution of beer quickly moved from keg to packaged. The shippers were a leading force behind this movement as well, and their efforts were reinforced by broader social and economic developments. The spread of refrigeration and the growing popularity of a range of packaged goods and drinks contributed to the growing popularity of bottled and canned beer, beer that the shippers were in the best position to provide.

The improving fortunes of the shippers came at the expense of local breweries. Prior to Prohibition, local firms had proven to be quite effective competitors, and the leading national shippers had seen their overall share of the American beer market stagnate during the 1900s and 1910s. After repeal, shippers reasserted themselves as the driving force in the industry. To further cement the gains that had been made possible by the new regulatory system and evolving consumer preferences for packaged

beer, the shippers also invested in substantial advertising campaigns. These campaigns signaled to all that the shippers were clearly bent on dominating the post-repeal industry, and were not about to let the local breweries reassert themselves.

The shippers deliberately set out to shape the rules under which they operated, and to promote the specific types of beer that they were best positioned to supply; and, the shippers were not associated with either a better or cheaper product. While shippers may have been able to supply packaged beer more efficiently than local firms, this begs the question of where the demand for packaged beer came from. We showed earlier that keg beer was much cheaper for both shipping and local breweries to produce, so it is not immediately obvious that consumers benefited from packaged beer supplied by shippers rather than keg beer provided by local breweries. A more difficult question to resolve regards product quality. We argue here that local brewers often produced high quality beer; in contrast, many of the steps taken by the shippers, such as packaging and pasteurization, resulted in a lower quality beer, especially compared to locally produced, locally consumed draught beer.⁶⁹ The extensive advertising and marketing campaigns undertaken by the shippers come, in this light, to be viewed as innovative techniques to promote a product that may be more expensive than locally produced beer and of lower quality. To the extent that these campaigns were

effective, we must credit the shippers for what they accomplished, but we must also question whether this result was 'good.'

References

1. Baron, S. (1962) *Brewed In America: A History of Beer and Ale in the United States*. Boston: Little, Brown, and Co; and McGahan, A. (1991) 'The Emergence of the National Brewing Oligopoly: Competition in the American Market, 1933-58,' *Business History Review*. 65.

2. The brewing industry has historically been divided into two broad groups: those which produced for local consumption and those which shipped large percentages of their beer. Some breweries shipped their beer regionally, while a select group including Anheuser Busch, Pabst, Schiltz, and Blatz, shipped much of their production to national markets. See Stack, M. (2000) 'Local and Regional Breweries in America's Brewing Industry, 1865 to 1920,' *Business History Review*. 74, pp.435-63 for more discussion on this topic.

3. The major shippers may have been taken aback by the loss suffered by Lemp, one of the leading pre-Prohibition shipping breweries. Lemp was sold at auction in 1922 at a loss of 90% on the investment, Baron, S. (1962) op. cit. p.315.

4. *Brewers' Almanac* (1956), p.10.

5. Stack, M. (2000) op. cit.

6. McGahan, A. (1991) op. cit. ' pp.239-42.

7. Cochran, T. (1948) *Pabst Brewing Company: The History of an American Business*. New York: New York University Press, pp.378-380.

8. Bull, D., Friedrich, M. and Gottschalk, R. (1984) *American Breweries*. Trumbull, CT: Bullworks, pp.252, 265, 283.

9. One of the frustrations of this study has been the lack of primary, firm-level data. Cochran published his study of Pabst in 1948, but Pabst officials today do not know what has become of the records he reviewed. Plavchan wrote his dissertation of Anheuser-Busch in 1969, but he was not given access to many of the financial records. Anheuser-Busch officials declined requests to allow me to review company records. None of the other breweries listed in Table .3 still operate as independent firms, and none have been the subject of business histories.

10. McGahan, A. (1991) op. cit. pp.248, 253-54.

11. LaForge, R.G. (1987) 'Misplaced Priorities: A History of Federal Alcohol Regulation and Public Health Policy', PhD dissertation, Baltimore: Johns Hopkins University, devotes chapters 3 and 4 of his dissertation to a detailed discussion of the development and construction of the post-Prohibition regulatory environment. Fie discusses a number of steps brewers, especially the large shipping brewers took to shape the emerging constellation of federal and state laws governing beer production and retailing. Fogarty, D. (1985) 'From saloon to supermarket: packaged beer and the reshaping of the US brewing industry,' *Contemporary Drug Problems*. (Winter), pp.541-591 asserts that brewers 'worked with legislators and state alcohol administrators to influence the meaning of control policies and how they were implemented. In practice, they converted what were nominally policies to control access to alcohol and favor temperance into a system that maintained beer

prices, eliminated politically embarrassing forms of competition for on-premise Outlets, and encouraged the sale of beer through respectable grocery store outlets' Fogarty, D. (1985) op. cit. p.547. Pennock, E. and Kerr, K.A. (2005) 'In the Shadow of Prohibition: American. Domestic Alcohol Policy Since 1933,' *Business History*. 47 (July), pp.383-400, in their discussion of Joseph Choate, the first head of the Federal Alcohol Control Administration, assert his 'idea of promoting temperance was to promote the consumption of beer and wine at the expense of spirits' Pennock, E. and Kerr, K.A. (2005) op. cit. p.387. Mittelman, A. (2008) *Brewing Battles.- A History of American Beer*. New York: Agora Publishing dedicates chapter 5 of her book to the internecine struggles between shipping and non-shipping breweries following the repeal of Prohibition, highlighting the steps shipping breweries took to promote their competitive goals. Together, these authors paint a picture of a market in which brewers sought to differentiate themselves from distillers and in which large shipping breweries set out to shape the regulatory environmental along lines from which they would best benefit.

12. Gourvish, T.R. and Wilson, R.G. (1994) *The British Brewing Industry: 1830-1980*. Cambridge: Cambridge University Press, pp.340-41.

13. *ibid.* p.547.

14. *ibid.*

15. Brewers Association of Canada (1965) *Brewing In Canada*. Montreal: Ronalds-Federated. p.134.

16. Unfortunately, though the US brewing industry has been relatively understudied compared to Britain's, there has been even

less research regarding Canada's brewing industry. Apart from a brief historical study published by the Canadian Brewers Association in 1965, I did not find any other works on the Canadian industry. This is frustrating, since Canada provides an interesting comparison to the United States for several reasons. Both countries enacted prohibition legislation, supported large waves of immigration, saw packaged beer replace draught beer, and saw the rise of national shippers who came to dominate the market.

17. Stack, M. (1998) 'Liquid Bread: An Examination of the American Brewing Industry, 1865-1940.' Unpublished PhD dissertation, University of Notre Dame.

18. 'Canned Beer Declared Failure,' (1933) *Brewers Technical Review*. 10 (March): 10 1, p.101; Cochran, T. (1948) op. cit. p.390.

19. Plavchan, R. (1969) *A History of Anheuser-Busch, 1852-1933*. New York. Research Company of America, p.220.

20. While packaged beer was undoubtedly more costly, and more profitable, than draught beer, estimates of this differential vary widely. Ullman, in a 1934 comparative cost analysis, states that the average price of keg beer was \$12.75, while the average cost of bottled beer was \$16.25, Ullman, J. (1934) 'Comparative Cost Analysis for Breweries,' *Brewers Technical Review*, 9 (October), p.313.

21. *ibid.*

22. Krebs, R. and Orthwein, P. (1953) *Making Friends is our Business: 100 Years of Anheuser-Busch*. St. Louis, MO: Anheuser-Busch, Inc; p.172.

23. Fogarty, D. (1985) op. cit. p.547.

24. Parry, T. (1935) 'Bottled Beer - Why and How It Should Be Sold,' *Brewery Age*. 3

(August) p.31.

25. This relationship builds on earlier connections that the large shipping breweries set to develop during the pre-Prohibition period. Shippers were very concerned with product consistency (luring this period and they developed marketing campaigns to highlight their ability to brew consistent tasting beers.

According to Stack, M. (2010) op. cit. p.55 'A 1900 ad in *Harper's Magazine* begins "Schlitz Never Varies" and Anheuser-Busch echoed this claim in a 1914 flyer, averring that its brewing processes enabled them to brew "exactly the same brew" over and over. Blatz began several of their ads from the 1910s with the heading "Always The Same Good Old Blatz" Standardization was very important for branding, and since the shippers were seeking to build national brands, they emphasized the consistency of their beer.'

26. This is taken from Anheuser-Busch's web page, <http://www.budweiser.com/quality/index.html>. A 1941 industry report states that in 1939, Anheuser-Busch sales were divided 55% draught, 45% packaged, New York. Research Company of America (1941) *A National Survey of the Brewing Industry*. Self published, p.100.

27. *ibid*.

28. See Gutzke, D. (1989) *Protecting The Pub: Brewers and Publicans against Temperance*. Woodbridge, Suffolk: The Boydell Press; and Gourvish, T.R. and Wilson, R.G. (1994) op. cit.

29. Mittelman, A. (2008) op. cit. p.111.

30. Whether this was good for the environment is to be doubted. The canning industry was well aware that consumers were simply throwing away beverage cans, and trade association publications encouraged

consumers and retailers not to pollute (National Canners Association (1954) *The Canning Industry*. Washington DC: self-published pamphlet.

31. See 'Stubby - The Answer to the Beer Can!' (1935) *Brewers Technical Review*. 10 (August) pp.275-76; and 'Stubby Marches On!' (1935) *Brewers Technical Review*. 10 (November) p.392.

32. This is markedly different from the soft drink industry. Though there were a few attempts to can soft drinks in the 1930s, these were quickly abandoned. Canned soft drinks did not make a permanent appearance until the 1950s (Riley, J. (1958) *A History of the American Soft Drink Industry*. Washington D.C: American Bottlers of Carbonated Beverages, pp.153-54). The two most important firms, Coca-Cola and Pepsi, did not begin selling their drinks in cans until 1960 (Muris, T., Scheffinan, D. and Spiller, P. (1993) *Strategy, Structure, and Antitrust in the Carbonated Soft-Drink Industry*. Westport, CT: Quorum Books, p.41). In addition, soft drink makers did not introduce non-returnable bottles until the early 1950s; Coca-Cola and Pepsi did not use them until 1961.

33. Though many fruits and vegetables were widely canned by the 1920s, this was not the case for beverages. Fruit juices were just beginning to be canned in the 1920s, and they did not reach wide popularity until the late 1930s and 1940s (National Canners Association (1954) *The Canning industry*. Washington D.C.: self-published pamphlet, p.9). The first product to be widely canned by any beverage firms was malt syrup by former breweries during Prohibition. Though not a drink, the successful canning of malt syrup provided breweries important connections to the can industry, and it provided them with an

example of how their products could be successfully canned.

34. Although per capita consumption of soda increased by over 300% from 1934 to 1940, it was still lower than beer consumption in 1940.

Per Capita Consumption (Gallons)

	<u>Beer</u>	<u>Soft Drinks</u>
1934	7.9	2.0
1935	10.3	2.3
1936	11.8	3.4
1937	13.3	4.2
1938	12.9	4.7
1939	12.3	5.5
1940	12.5	6.3

(Table Constructed from *Brewers Almanac* (1956) p.10, and Shih, K.C and Shih, C.Y. (1958) *American Brewing Industry and the Beer Market*. Brookfield, Wisconsin: W.A.: Kroeger Co., p.46.

35. American Can Company (1969) *A History of Packaged Beer and Its Market in the United States*. Self-published pamphlet, p.14

36. 'Vigorous Sales Promotion Increases Canned Beer Sales.' (1938) *Brewers Digest*. 13 (July):p.43.

37. American Can Company (1969) op. cit. p.7-8.

38. See for example 'Stubby Marches On!' (1935) op. cit. an article written by the publicity department of the Owens-Illinois Glass Company, a top manufacturer of beer bottles and 'Notes on Beer in Cans' by the publicity department of the Continental Can Company, one of the two major can companies, (1935) *Brewers Technical*

Review. November, p.393.

39. These data are only for households that are wired for electricity. It is unclear if there were differences in the rates at which US and British homes were wired.

40. O'Neill, J. (1940) 'Federal Activity in Alcoholic Beverage Control,' *Law and Contemporary Problems*. 7, pp.570-599. These data combine beer and spirits.

41. 'Large Brewers Boost Share of U.S. Beer Business,' (1940) *Brewers Digest*. 15 (July), p.55. McGahan, A. (1995) 'Cooperation In Prices and Capacities: Trade Associations in Brewing After Repeal,' *Journal of Law and Economics*. 38, pp.521-59, states the industry spent \$100 million on advertising from 1933-41. Trade journal reports for both the brewing and advertising industries suggest that this estimate is too low.

42. In her 1995 article, McGahan estimated the average price per barrel to be \$8.01 in 1935, \$7.39 in 1937, and \$9.52 in 1939 (ibid. p.529).

43. 'Beer Becomes a Regular Business,' (1940) *Brewers Digest*. 15 (January) p.57. The other two leading shipping breweries were Pabst and Schlitz, both of Milwaukee.

44. Derdak, T. (ed.) (1988) *International Directory of Company Histories*. Chicago: St. James Press.

45. Beach, A. (1940) 'How To Make Advertising Pay Dividends!' *Brewers' Digest*. 15 (October), p.39.

46. Beach, A. (1942) 'The Small Brewer. How He Fits Into The War Effort,' *Brewers' Digest*. 17 (April) p.27.

47. 'Vigorous Sales Promotion Increases Canned Beer Sales,' (1938) *Brewers' Digest*, 13 (July). p.43. While there are no

comparable estimates for leading bottlers, it must be emphasized that canned beer was less than 10% of the packaged beer market in the 1930s. This suggests that the leading bottlers were also spending significant sums of money on their own advertising campaigns in support of bottled beer.

48. These phrases were taken from Crown Drugstore ads in the *Kansas City Star*, 27 May 1938. A review of the two Kansas City daily newspapers—the *Kansas City Star* and the *Kansas City Journal-Post* shows regular retail advertisements of beer.

49. It does not appear that wholesalers actively advertised beer. They may have devoted their resources to lobbying state and government officials, one of the dominant activities of the beer wholesalers trade association today.

50. In a sense, it did not really matter what low consuming states did, as they accounted for such a low percentage of the production and consumption of beer. In 1940, the 18 lowest consuming states accounted for only 5.1% of national beer consumption (calculated from data taken from *Brewers' Almanac* (1956) 52). These low consuming states did represent potential markets, but the brewing industry had grown to great heights in the pre-Prohibition era by concentrating on a select number of states. Thus, even if there were some restrictions in some low consuming beer states, they probably did not impede the brewing industry.

51. Mittelman, A. (2008) op. cit. pp.116-227.

52. Tedlow, R. (1990) *New and Improved: The Story of Mass Marketing in America*. New York: Basic Books, pp.47-68.

53. Schenker, B. (1941) 'Beer Buyer or

Brand Buyer,' *Brewers' Digest*. 16 (April), p.23.

54. *ibid*.

55. Wilkins, M. (1994) 'When and why brands names in food and drink,' in Jones, G. and Morgan, N. (eds.) *Adding Value: Brands and Marketing in Food and Drink*. London: Routledge, p.18.

56. Casson, M. (1994) 'Brands: Economic Ideology and consumer society,' in Jones, G. and Morgan, N. (eds.) *Adding Value: Brands and Marketing in Food and Drink*. London: Routledge, pp.41-2.

57. Stack, M. (2000) op. cit.

58. Choi, D. and Stack, M. (2005) 'The all-American beer: A case of inferior standard (taste) prevailing?' *Business Horizons*. 48, pp.79-86 detail how breweries the large breweries systematically began using less malt and hops in their beers during these years. This contributed to lighter beers that came to be differentiated not on the basis of inherent product characteristics but through increasingly sophisticated advertising campaigns.

59. Wahl, R. (1933b) 'A Tavern Conversation: Recommendations to Overcome Certain Prejudices Against Beer,' *Brewery Age*, 1 (November), p.23.

60. Lisher, M. (1997) 'Capture The Past-The Rebirth Of Pre-Prohibition Lager,' *Zymurgy*, 20, p.23.

61. Cochran, T. (1948) op. cit. pp.114-15, 191-92.

62. *ibid*. p.378.

63. Hess, J. and Hess, K. (1977) *The Taste of America*. New York: Viking, p.154.

64. March, E. (1941) 'Increasing Beer Consumption through proper dispensing equipment,' *Brewers Digest*. 16 (January),

p.24

65. *ibid.*

66. This is not to suggest that packaged beer could not be improperly handled, but that it was no as fragile as draught beer. Wahl summarized how both bottled and draught beer should be handled after it left the brewery, Wahl, R. (1933a) 'Ice Cold Beer,' *Brewery Age*, 1 (June), pp.16-17.

A potentially important lobby for draught beer, the industry which made the equipment for dispensing beer from kegs, wrote a series of educational articles in the brewing trade journals in an effort to heighten awareness of the potential problems in poorly handled beer (see, e.g., deRoulet, J. (1941) 'Draught Beer Sales Clinics: How to Eliminate the Cause of Falling Draught Beer Sales,' *Brewers Digest*. 16 (July), pp.24-25.

These articles, many of which did not appear until the late 1930s and early 1940s came to late to stem the advance of packaged beer.

67. Stack, M. and Gartland, M. (2005) 'The Repeal of Prohibition and the Resurgence of the National Breweries,' *Journal of Management History*. 33 (3), pp.420-432 detail how John D Rockefeller and Pierre DuPont both ultimately developed ideas regarding a post-repeal regulatory system

that paralleled the system the large shipping brewers ultimately favored. In fact, DuPont corresponded with August Busch regarding the construction and features of a post-regulatory system for the brewing industry.

68. Stack, M. (2000) 'Local and Regional Breweries in America's Brewing Industry, 1865 to 1920,' *Business History Review*, 74, pp.435-63 illustrates how local breweries effectively used tied houses to impede the development of shipping brewers during the years leading up to Prohibition. While LaForge, R.G. (1987) *op. cit.* claims that both shipping and local brewers were equally in favor of ending the tied houses of the pre-Prohibition era (pp.158-63), the stronger evidence and the most compelling rationales come from statements by the shipping breweries. Stack, M. and Gartland, M. (2005) *op. cit.* p.423 quote from a 1923 pamphlet in which August Busch argued that 'the objectionable saloon' should be eliminated, that hotels and restaurants should sell only bottled beer, and that a strict separation of manufacturing and retailing would end the policy of tied houses.

69. For further discussion of this topic, see Choi, D. and Stack, M. (2005) *op. cit.* p.40.