

BUSINESS REVIEW

FEDERAL RESERVE BANK OF PHILADELPHIA

Capacity and Inflation
What is Brewing?
The Good Earth Athirst

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1964

Capacity and Inflation

Will business soon run into bottlenecks that will force prices up? More and more observers, fearful of inflation, are asking this question as they see output rising month after month.

The broad question of whether the country is in fact heading for inflation is impossible to answer with any certainty at this point, of course, and we don't propose to attempt an answer here. But it may be possible to draw some inferences about one aspect of the problem—the relationship between capacity and prices.

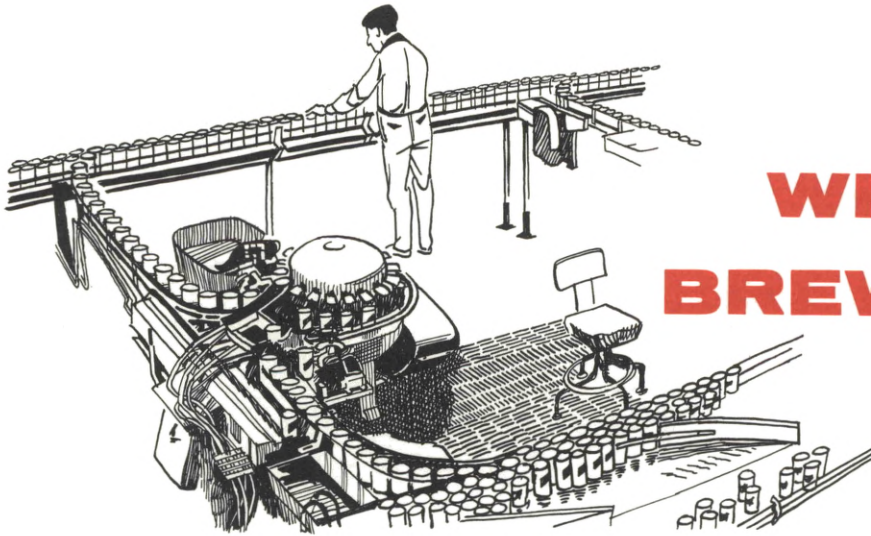
Experience during the postwar period indicates that as manufacturing approaches full use of capacity, prices rise. Common sense would suggest such a generalization and the statistics, even after making allowances for the difficulties of measuring capacity, seem to bear it out. What has tended to happen in the past is that prices have risen fairly gradually as output has moved from, say, 70 to 80 to 85 per cent of capacity. When it has reached 90 per cent and beyond, prices have risen much more rapidly. The first prices to move, and the ones that have moved most sharply, are those for more sensitive commodities and raw materials; others have followed, spreading the rise throughout the price structure.

This happened most strikingly after the 1949 recession. Between the last quarter of 1949 and the second quarter of 1950 (at the time of the Korean outbreak), output increased from 76 to 86 per cent of capacity; wholesale industrial prices rose 2 per cent. But in the next three quarters output advanced to 93 per cent of capacity and prices rose by 15 per cent. Essentially the same thing happened to a lesser

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WHAT IS BREWING?

Nobody knows when beer was “invented.” Some historians say man made a beverage of fermented grain and water before he discovered fire. We know for sure that beer existed 6,000 years ago and that it was commonplace in ancient Egyptian, Greek and Roman civilizations.

Beer made the dark ages a little lighter and refreshed many a knight in armor after a hot summer day’s joust. The Magna Carta mentioned beer and so did Charlemagne—often. King Henry VIII was reputed to have consumed a gallon of ale for breakfast every day. Christopher Columbus used part of the Queen’s jewelry to buy beer for his voyages to the New World. Over a century later, the Mayflower chose to land at Plymouth Rock because, as a passenger said, “Our victuals were much spent—especially our beere.”

During the eighteenth century, Philadelphia became “pre-eminent” in the Colonial brewing industry. A number of commercial breweries

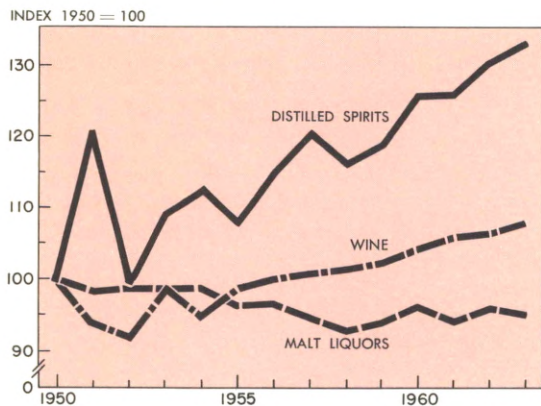
were in operation and their famous product was shipped to many parts of the hemisphere. By the time of the Revolution, beer was a universal drink in America, just as it had been in countless other cultures for at least 60 centuries.

In the 1840s, a wave of immigrants from Germany introduced lager beer to America. It was an event of profound importance to the modern brewing industry. Lager was lighter in body, color and alcoholic content than other beers of the day. Americans took to its sparkle and taste almost immediately. New breweries were established to produce lager and it made more than one city famous.

Brewing prospered in America throughout the last half of the nineteenth century. Per capita consumption of beer and ale rose to an all-time high of over 21 gallons in 1911. After prohibition, the beer wagon began to roll with over 700 newly opened breweries aboard. When the soldiers and sailors returned from World War II they apparently went on a well-deserved spree.

THE DIFFERENCE IN DRINKING

Consumption per capita (20 years and over).



Sales of beer and other alcoholic beverages soared in 1946 and 1947.

Then brewing encountered serious difficulties. As one analyst put it, "the industry was running hard just to stand still." A look at the record confirms that, until recently, brewing in America had been standing still while competitive industries made important strides.

A lack of sparkle

Per capita consumption of beer and ale in the United States has trended down since 1950. Even when people below beer drinking age are excluded from the calculation, per capita consumption is just about stable, except for a jump in the last two years. In comparison, per adult consumption of wines increased 8 per cent and distilled spirits 33 per cent.

Although the number of beer drinkers has grown somewhat since 1950, the percentage of the adult population that drinks beer has remained virtually constant. So has the percentage of adult women that drink beer.

Dollar sales of beer and ale increased about 40 per cent over the last 14 years, while sales

of all consumer goods and services increased more than 90 per cent.

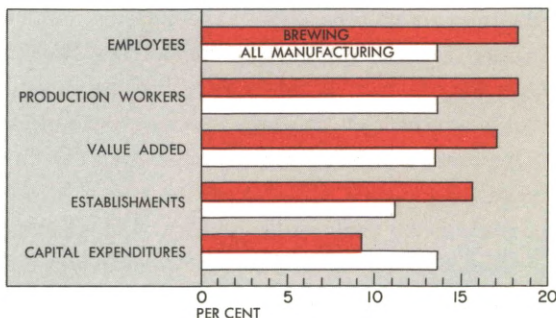
The state of the brewing industry and its success in solving its problems rates more than intramural notice, whether one approves of alcoholic beverages or not. With total yearly sales approaching the \$6 billion mark, it ranks as one of America's 20 largest manufacturing industries. Raising grain and hops, turning them into a beverage and getting it to the customer creates jobs for more than a million people.

Brewing is of particular importance in the Third Federal Reserve District states. New Jersey and Pennsylvania together account for 18 per cent of the industry's employees and for 17 of its value added by manufacture. For all manufacturing industries, the two-state figures are 14 per cent and 13 per cent. Pennsylvania ranks second in the nation in the number of breweries and sixth in output. New Jersey holds down the tenth spot in number of breweries and is fourth in output.

Local breweries face many of the same problems as breweries across the nation do—in fact, the difficulties seem to be aggravated here. The Pennsylvania production index has slipped below the national in the last decade. Solutions to

HOW LOCAL BREWING COMPARES

Pennsylvania and New Jersey as percent of United States—1958.



brewing's problems, therefore, might have a particular impact on the Third District economy.

In this article, we take a look at American brewing and probe some of its problems, policies and potentials. The main conclusion: brewers have begun facing their problems with positive action. But that's giving away our story. Come wander with us through this major American industry. We'll start with the product itself.

Who can tell the difference

Connoisseurs will be horrified at this statement, but it is likely that a sizable majority of the American consuming public has difficulty distinguishing one brand of the pervasive lager beer from another. Many manufacturers, in an effort to satisfy what they regard as a homogenized public taste, turn out similar "light, smooth, dry" products. *Newsweek* magazine emphasizes this point when it reports the following statements from typical consumers. "After two swallows they all taste the same." "Beer is beer to me. So I buy whatever's cheap." Our national practice of drinking beer colder and faster than Europeans do, further reduces whatever ability we might have to discriminate among brews.

In other words, American brewers seem to sell what the economist might call a "poorly differentiated product." When this happens in an industry, competition tends to be keen. Indeed, *Printer's Ink* magazine describes competition in brewing as "savage" and "cannibalistic."

A common way firms meet keen competition is to try to distinguish their product—attempt to make it as different as possible from all others. But brewers encountered the century-old belief that Americans will drink nothing but "light, smooth, dry" lager beer and, during much of the postwar period, they hesitated to change the tried-and-true recipe. Instead, they sought to

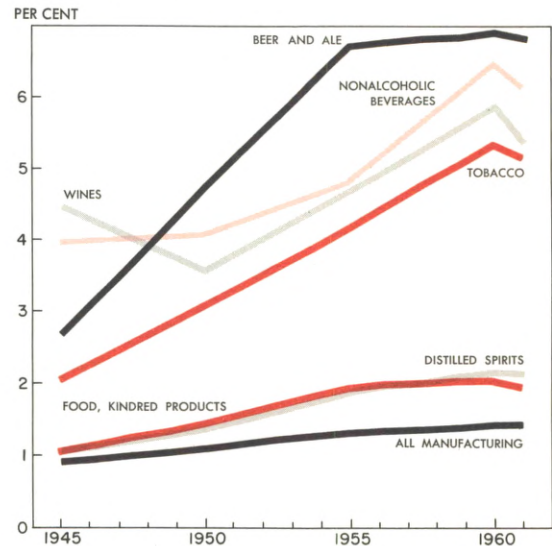
differentiate their products in other ways. Packaging was one method. First came cans, next was one-way bottles, then six-packs and 12-packs, then 7-ounce and 16-ounce bottles. Recently, brewers have adopted flip-top cans and flop-top bottles, and now you can even get a small aluminum keg that fits into your refrigerator. (Unlike beer in cans and bottles, keg beer is not pasteurized but kept under refrigeration and, therefore, is supposed to taste better.)

Enter the ad man

Madison Avenue has a record of success in helping to give individuality to hard-to-identify products such as aspirin, gasoline, flour, corn flakes and others.

THE MAKING OF BRAND NAMES

Advertising as a percent of sales.



As you might expect, brewers are heavy advertisers. Their ad budgets run to about 7 per cent of sales, which is higher than the figures for soft drinks, whiskey, and wines. The average for all manufacturing industries is only 1.4 per

cent. Furthermore, brewers' advertising outlays have increased faster than those of their competitors during the postwar period.

There is more brand identity and loyalty than there used to be, of course, but advertising has not been so effective with beer as with many other products during the last decade. There are several reasons, according to those experienced in the field.

Television Magazine claims the problem with beer advertising is "sameness." It continues, "Put a different brand name on one brewer's commercial and few viewers would know the difference." *Printer's Ink* magazine says, "A number of tried-and-true themes are used over and over again." Pierre Martineau of the *Chicago Tribune* feels that beer advertising has ". . . locked itself into a rigid, limiting stereotype. . . ." In other words, some believe that advertising has not enjoyed great success in differentiating beer because too many of the ads themselves are undifferentiated.

The fun obsession

This situation came about quite understandably. Beer has long suffered from an inferiority complex. Brewers believed, with justification, that the public has an image of beer as a low-status, workingman's beverage, mostly for fat, sweaty men to drink in the summertime.

Brewer after brewer set out to show that beer really was a high-class beverage that belonged anywhere. Thus a parade of young patrician couples began marching through the mass media having carefree fun and delicately drinking beer. They were shown, glass in hand, lolling before fireplaces in ski lodges, relaxing on the decks of cup-defending sloops and frolicking about on sandy strands.

The "beverage of moderation" theme also was

responsible for a lot of sameness. Moreover, some critics are convinced that moderation is not an effective sales appeal. It is true that about 30 per cent of those who do not drink beer disapprove of alcohol but it is doubtful if advertising can convert many of them to customers.

For such reasons, the industry is beginning to wonder if it has received full value from the billions of dollars spent for advertising since 1946. Perhaps brewers didn't know so much about their customers as they might. But this, like so much else in brewing's marketing strategy, has changed in the last few years.

The guzzler

A good bit of research has been done in recent years, and the American beer drinker has come into better focus. Take a look at this composite picture based on a study made for the American Can Company and on other recent reports.

The typical beer drinker is young, male, married and lives in an urban area. He is neither poor nor rich with a yearly income of between \$5,000 and \$10,000.

He drinks almost twice as much beer at home as in bars or restaurants. He drinks three times as much as his wife does—if she happens to be the one woman in three who drinks it at all. She buys 40 per cent of all beer used in their home, however.

The typical beer drinker consumes a rather large quantity each week. He has it on about five different occasions and he "guzzles" two-and-one-half bottles, or cans, each time. Heavy beer drinkers, defined as the 47 per cent of all drinkers who take more than two cans every day, account for 78 per cent of all beer consumed.

Our subject has about a quarter of his daily intake with meals and a quarter before the

early evening hours. He drinks only slightly more on weekends than on weekdays. Hot weather makes a big difference for he downs almost 50 per cent more in the summer than in the winter.

What Mr. Typical might tell us

You'll never meet our typical beer drinker and his wife for they are creatures of averages and estimates. Nevertheless, the industry is beginning to listen to the story they tell.

Mr. Typical seems to be saying that, to him, beer is not a status drink to be poured daintily down the side of a conical glass in a ski lodge, or on a 50-foot sloop. Beer is simply a cold, bubbly beverage with a somewhat sharp tang. Beer is good for slaking thirst, good for washing down food and good to have alongside while watching television. Beer itself may be a beverage of moderation but the average drinker's six quarts a week is not exactly moderate.

Recently, brewing has begun to react to such information with a noticeable decrease in the "young patricians" type of advertising, which apparently had difficulty in convincing Mr. Typical that beer goes better with canapes than pretzels. The ads now are pushing a positive, beer *is* theme: beer is refreshing, beer is cooling, beer is good for quenching thirst, etc.

Variety you can taste

After several decades of attempting to differentiate their products with fancy packages and heavy advertising, brewers now have started to produce and promote a wider range of products. A number of firms have made arrangements to import foreign beers which have always offered a variety of taste and sight sensations. Imports still account for only 1 per cent of the total American consumption, but the total is climbing fast.

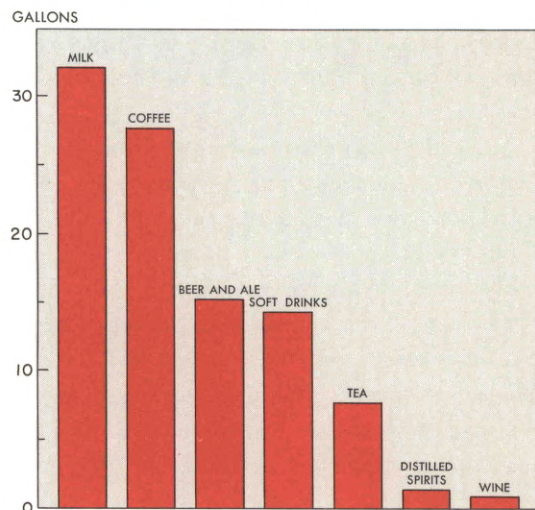
At least one American company is backing ale with a major advertising campaign this year. Others are producing the old English favorites, porter and stout, which are dark in color, somewhat bitter, and less carbonated than American brews. Bock, a zesty dark beer, is likely to get a zesty promotion when its traditional selling season arrives next Spring.

Malt liquor is the "really big" new item. It is flatter and sweeter than lager and it has a higher alcoholic content. It tastes a little like a mixture of beer and ginger ale and not all beer drinkers are going to like it. Nevertheless, it's distinctive, and more than one brewer is introducing it with an expensive promotional campaign.

Still in the pre-drawing stage are improved low-calorie beer, which failed in an earlier trial, and non-alcoholic beer. Brewers have intensified their research efforts and more new products and modifications of old ones can be expected before long.

WHERE THIRST HAS GONE

Per person consumption—1963.



The American public now is getting a real choice of malt beverages. The industry has high hopes that the 20 per cent of the adult population which avoids beer because it doesn't like the taste will find something appealing in the new range of flavors, colors and carbonations.

The hand that rocks the cradle now cradles "on the rocks"

Back when this century was young, the man of the house would light his after-dinner cigar and stroll down to the corner saloon for an evening of song, story and "suds." His lady would stay at home and read Louisa May Alcott or crochet an antimacassar. Then came universal suffrage and the flapper and Mother began to join Father at the neighborhood speakeasy.

Since World War II, women have taken to alcoholic beverages in ever-increasing numbers. But they seem to prefer mixed cocktails, cordials and today's lighter liquors to malt drinks. Only one-third of all women over 21 drink any beer and distaff drinkers account for less than one-sixth of all beer consumed. These figures have been virtually unchanged for fifteen years, at least. You could say the ladies are a great "untapped" market for brewers and a serious campaign to convert more women to beer can be expected.

One of the main reasons women drink so little beer is because they think it is fattening. This impression goes back to the stereotype picture of the corpulent German braumaster with a hearty smile on his red face and a heavy stein in his hand. Beer is made of yeast and grain and, like bread, will add weight if taken in sufficient quantities. But beer does not contain an unusually high number of calories. One 12-ounce bottle typically carries about 140 calories—or less than a martini, or an 8-ounce glass

of milk, and roughly the same as an equal amount of orange juice or cola drink.

Don't be surprised to see a campaign to sell beer to women as a not-so-fattening drink. The use of beer in cooking also may be emphasized. The experts look for more beer ads in the women's magazines and on daytime television.

An amber river

Beer is made by grinding barley, malt and other grains, adding water and cooking the mixture in large copper kettles. Hops, an herb, are added towards the end of the cooking process. A sweet liquid called wort is drawn off and fermented in tubs for seven to 12 days. A second fermentation in refrigerated vats lasts between two and six weeks. Finally, the beer is filtered and packaged.

It is a delicate process, for small variations in ingredients, timing and temperature can ruin oceans of unborn beer. For many centuries, brewing has been a highly skilled art and secret formulas have been passed from father to son. The industry has been proud of its long tradition and many brewers boast of the fact that they make beer "the same way our founder, Herr Flügelhorn, did 150 years ago."

With all due respect for tradition, any manufacturing process 150 years old is likely to cause problems. How do you find old-time brauermeisters in today's labor market, for example? As a result, brewing is abandoning time-honored methods and adopting modern machinery.

The first fully automated brewery has just opened. Old-time tubs and vats have been eliminated and the ingredients flow continuously through "a maze of stainless steel pipes, coils and tanks." A computer replaces Herr Flügelhorn at the controls. This automated brewery is

supposed to cost less to build and to operate than competing installations. Production is said to be more flexible and quality is easier to control.

Stepped-up research is making other important breakthroughs. A super-fine filter has been developed to strain out the microscopic yeast enzymes and prevent further fermentation. This eliminates the need for pasteurization, without which brewers hope bottled and canned beer will taste as if it came right out of an oaken keg.

“Instant,” or concentrated, beer is now possible. A new process takes much of the water out of beer, reducing its volume by 75 per cent. The resulting concentrate can be stored cheaply and in less space, which means that brewers might be able to operate automated plants for longer runs at peak efficiency. Shippers don’t have to lug all that water around and this, if it results in lower prices, could open up vast new markets both at home and abroad. When the “beer syrup” nears Mr. Typical’s neighborhood it can be reconstituted by replacing the water and fizz and then it is packaged for his wife to pick up at the market. This raises the possibility someday of a “franchised-bottler” system, such as exists in soft drinks. Present regulations would have to be changed to make it possible, however.

The use of beer concentrate may affect the structure of the brewing industry which, as you shall see, already has undergone sweeping changes.

Chain brewing

In nineteenth century Philadelphia the brewer’s open wagon, stacked with kegs, and pulled by snorting Percherons, was a common sight on Market and Chestnut Streets. The typical brewery served several dozen neighboring saloons and found this business sufficient to

turn a nice profit. The only advertising media necessary were words from the lips over which the product flowed.

At the beginning of the twentieth century some 43 breweries were operating in Philadelphia. As in the nation, the number fluctuated around an all-time high until prohibition. After the “noble experiment” ended, and particularly after World War II, the number of brewing firms declined sharply. Today there are only about 150 independent breweries in the nation and just two in Philadelphia.

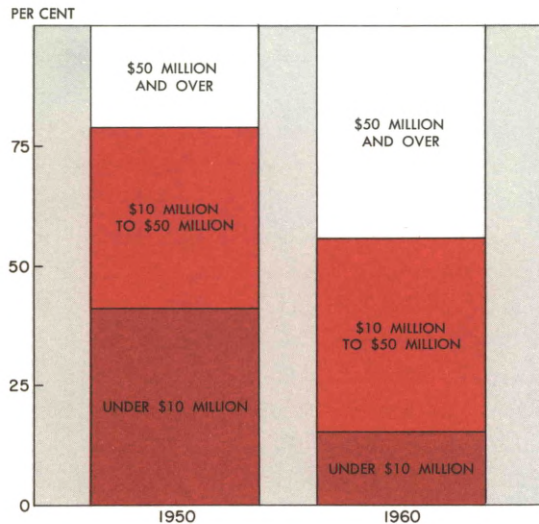
“Savage” competition was one reason for this sharp decline in numbers. Many of the less efficient operations drained their vats and closed forever and others disappeared via the merger route. The most important factor was the shift to home consumption. Before prohibition about 80 per cent of all beer used was sold from kegs in taprooms and other public places. Now 80 per cent is sold in cans and bottles, mostly for drinking at home. This change in consumption patterns turned beer into what the *Wall Street Journal* calls “a mass-produced, widely distributed and mass-marketed product.” The small brewer was left waiting for the man with growler in hand, the man who was no more.

Seeking to cash in on the economies of scale, many of the leading brewers bought or built facilities in major market areas and thereby achieved something resembling national distribution. Others extended their sales network over many states to blanket large geographical regions. As a result, the larger firms garnered an increasing share of the market. In 1950 brewers with total assets of \$50 million and over accounted for about 20 per cent of the industry’s sales; ten years later their share was 44 per cent.

Although brewing is much more concentrated

THE BIG GROW BIGGER

Percent of industry sales accounted for by brewers with assets of:



than it used to be it is not considered such when compared to other industries. In seven out of ten United States industries, the four largest firms account for a greater percentage of output than they do in brewing. This helps explain the competition that exists in the industry and why this competition is strongly oriented to prices as well as to packaging and advertising. A wave of price cutting has recently swept brewing and the index for beer has lagged below the over-all cost of living index for almost a decade.

It's just speculation, but the new beer concentrate, if it proves feasible and popular, could affect the concentration of the industry. Since

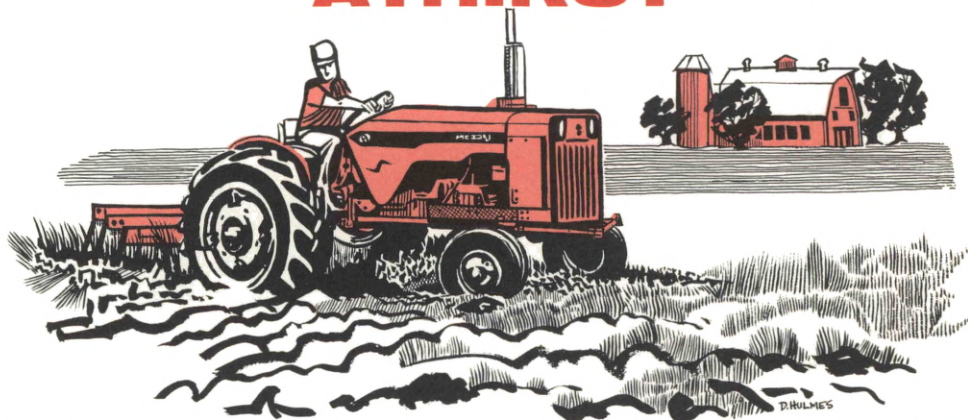
the largest firms already have chains of breweries across the nation, the concentrate "may be too late" to mean a major saving in shipping costs. Nevertheless, it could enable these breweries to export a larger part of their production. For the local or regional firm, "instant" beer could be a stepping-stone to the national market where only the giants now tread. These medium-sized firms, with access to new markets, might have to expand to compete effectively in productive capacity, efficient distribution, packaging innovations and advertising. The very small brewery, already in serious trouble, may find the going even rougher.

Conclusion

As you can see, brewing is in a state of sweeping and pervasive change. No longer content with time-honored concepts of production, product lines, packaging, distribution and marketing, it is adopting new ideas in all these fields.

For years the industry tended to explain away its problems by citing the low birth rates of the 1930s which meant fewer young adults to drink beer in the 1950s. "Ah, but just wait until the 'war babies' come of age," spokesmen used to proclaim. "They'll mean prosperity the likes of which we've never seen before." In the last few years, however, brewing has started taking more positive steps to widen its market by convincing a larger percentage of the adult population to drink beer—moderately, of course.

THE GOOD EARTH ATHIRST



The Philadelphia Federal Reserve District is a highly industrialized area, but 40 per cent of its 37,000 square miles is in farms—dairy farms, feeder-cattle farms, poultry farms, vegetable farms, fruit farms and, most of all, diversified farms that produce a variety of agricultural products.

Among the region's 80,000 farms are some of the best on earth; but no farm, howsoever good, can prosper without water. This year the good earth was athirst with a serious shortage of rainfall and few farms escaped the climatic adversity.

Fields were parched in the Atlantic Coastal Plain of South Jersey and Delaware, in the rich rolling countryside of the Piedmont, in the Great Valley that arches northeastward from Bedford to Scranton, in the Allegheny Plateau, and in the Northeast Dairy Region. The long-delayed rain in the closing days of September came too late. The drought throughout most of the growing season left its mark on crop yields, on quality of the harvest, on the flow of farm income, and on agricultural balance sheets.

The damage varied from one locality to another, depending upon local patterns of precipitation, types of local agriculture, and prevailing ways of coping with the moisture deficiency. Unfortunately, 1964 is the third consecutive year of inadequate rainfall.

Parched crops

Corn and hay crops, so important to the region, suffered considerably. Meadows were lush and green in the spring. The first cutting of grass was good; the second cutting was also good in some areas; just so-so, in others. But the third cutting, in most places, was so poor that it hardly justified the effort of harvesting. Early season adequacy of moisture also helped the winter wheat crop, but not all spring wheat escaped the drought.

Corn likewise got off to a good start but deteriorated progressively as the dry summer lengthened. On cruising through the countryside late in the summer, we observed numerous stands of stunted corn, probably late planting, whose yellowed and shrunken leaves foretold a

poor harvest. In all too many fields, stalks were short and corn for grain was below average. Numerous corn cribs and silos are not being filled to capacity this year.

Lack of moisture had similarly adverse effects upon other field crops such as rye, oats, and soybeans. In some areas, soybeans dropped their blooms, resulting in fewer pods. Parched pastures afforded poor grazing, and forage crops produced disappointing yields.

With respect to vegetable crops, experience was much the same—reduced yields and inferior quality except for early harvested varieties. Vegetable growers equipped for irrigation obtained good yields but at considerable cost of pumping water. Growers without irrigation, however, had disappointing yields. Potato yields were generally below average but blueberries, cranberries, and peppers did right well.

Fruit growers, for the most part, were fortunate and have few complaints. The peach crop was large and of good quality. The apple crop was also of good yield, though some growers report inadequate sizing, resulting in an abundance of small apples. The irrigated apple orchards in Adams and Franklin counties, of course, could cope with the drought. Cherry growers had a large crop.

Livestock

District farmers are predominantly livestock producers. Last year, for example, Pennsylvania, New Jersey, and Delaware farmers cashed in \$795 million from the sale of livestock and livestock products in contrast with only \$371 million cash sales of field crops. Of course, crops and livestock are closely interdependent; when one suffers so does the other.

No livestock in the district died of thirst despite the low rainfall and receding water

tables; nevertheless, livestock farmers suffered real hardships. Third District agriculture is a feed-deficit area; its feeder cattle, dairy cows, and poultry consume far more feed than the region grows—which requires feed imports from the West. When drought strikes here, costs rise because our farmers must buy more from the Western granaries. This year's shortage of pasture, fodder, and cattle grains required farmers to draw on home-grown feed normally stored for winter consumption, and they had to buy cattle feed much earlier than usual. Long before next year's crops become available, local farmers will have made huge outlays for purchased feed.

In the emergency, buying and fattening beef cattle for market, which is normally big business in Lancaster and other nearby counties, are being curtailed. Herd expansion has stopped, at least for the time, because it is too costly under present circumstances.

Dairy farmers, seeking to ward off mounting bills for purchased feed, are culling their herds. By keeping only their heaviest producers of milk of high quality and disposing of inferior cows, the dairy farmers are improving efficiency of operations.

Nevertheless, many farmers are in trouble, are running out of money and are forced to borrow. Banks and other lending agencies eagerly accommodate operators of well-run farms, but borrowed money adds to the cost of farming.

Production costs

Costs of production generally have been rising. Some of the increases, as already observed, are directly attributable to the drought—such as the need for more irrigation and larger outlays in interest on borrowed money for feed purchases.

Conventional costs of farm operation are also on the increase. The trend of wages for hired labor is ever upward, especially in this district where so many of the farmers must compete in a labor market strongly influenced by job opportunities in manufacturing industries and other nonagricultural pursuits. Numerous farm respondents with whom we communicated throughout the district also report rising taxes.

Market and prices

Businessmen are often heard to complain about the vicious squeeze between costs and prices. In that respect, farmers are no different from other businessmen; but unlike some other businessmen, farmers operate in highly competitive markets where they have little or no opportunity to command prices they would like to receive. Thus far this year, however, farmers of this region have encountered reasonably satisfactory market and price situations, with some exceptions.

Dairy farmers, as a class, have at least had the satisfaction of reasonably stable prices for milk. Of course some of the milk-check money went into higher feed outlay.

Beef-cattle feeders also had their troubles. Feeder cattle bought last fall and fattened for sale early in 1964 brought prices which left the farmers little or no return for their labors. Feeders who bought cattle this spring and fattened them for September markets fared better.

Varied experiences were encountered by poultrymen, depending upon whether their flocks were broilers or layers. Broiler people encountered extremely rough going from the fall of 1963 until the late summer of this year. Production was so great and prices so low that very few producers made any money, and many

of them suffered heavy losses. Anyone who is familiar with the broiler business knows how difficult it is to make a profit on 15- to 16-cent broilers. Recently, markets have improved; but very soon broiler producers will encounter the competition of holiday turkeys, in addition to the normal competition with red meat.

Poultrymen who feed chickens for the production of eggs are also in a highly competitive race, but for the most part they did better than the broiler men. Prices of eggs were somewhat disappointing last spring and through much of the summer, but subsequently prices have risen. Egg production in the district continues to meet heavy competition from the South.

Fruits and vegetables as a class commanded good prices. Fruits sold on the fresh market, especially the packaged fruits, brought satisfactory returns. Peach growers did very well, and so did many of the apple growers. Tomatoes for the fresh market commanded good prices, as did most other vegetables; but canhouse tomatoes were sold at prices which some of the growers said were not high enough to offset the light yield and the extra cost of irrigation. Not all harvests have yet moved off the farms, so their prices are still to be determined. Among these are potatoes and tobacco. In Lancaster County, cigar tobacco is a big money crop but prices for the 1963 crop were disappointing, which resulted in curtailed acreage planted this year. The price of this year's late crop, however, is bound to be affected adversely because of early frost damage.

Capital expenditures

The drought has definitely caused a setback in capital expenditures, and such expenditures as are being made are seldom for purposes of expansion. Numerous farmers, however, are

continuing to make capital outlays for modernization. Pressed by rising wage rates and other cost increases, dairy farmers are installing labor-saving equipment. Both dairymen and beef cattle men are spending money to modernize their barns, to build silos, and to improve their herds. Poultrymen are replacing old-fashioned chicken houses with modern layer houses with automated equipment for watering and feeding the birds and for collecting the eggs. Apple growers are installing production lines for polishing, grading, and packaging. In almost every field of specialized agriculture, modernization takes the form of mechanized and automated equipment. Most of the mechanization and modernization is done with borrowed money, but only after careful economy studies to assure a reduction in operating costs. In

that respect, farming is like any other business.

Financial status

The third consecutive year of drought has impaired the financial status of farmers. The more prosperous farmers have had to dip deeper into their reserves, and others are back in debt as they were at the beginning of the year; and all too many will wind up 1964 with a larger debt carryover than a year ago.

Farm land values continue to rise, though at a somewhat diminishing rate, except for farms in the orbits of suburban expansion. There is no great activity in farm real-estate transactions among farmers but there is an abiding demand for additional acreage on the part of some farmers who want to expand for increased efficiency of operations.

(Continued from Page 2)

extent after the 1954 recession. Following the 1958 recession, capacity utilization and prices both rose but output never did reach the 90 per cent level and there was no upward explosion of prices.

This is simply a bare-bones description of a postwar phenomenon—not an explanation of how it came about. There were many, many complex forces at work: increasing wage pres-

ures, shrinking profit margins, leveling or declining productivity, etc. But the fact that this relationship has prevailed in the past has raised a question whether it will prevail soon again. And the question is particularly pertinent because manufacturing output is now somewhere around 88 per cent of capacity.

If 90 per cent is indeed the critical point to watch, what is the possibility that output will

reach this level during the coming year? This will depend on two things: how much business spending on plant and equipment increases capacity, and how fast business expands output. Without attempting to predict either, it is possible, by making some assumptions, to get an approximate fix on the rate of utilization of capacity that might prevail.

Consider the following combinations of possibilities which relate increases in capacity (across the top) with increases in output (down the side) to arrive at the rate of utilization of capacity (in each box) by the end of 1965. If output and capacity rise at about the same pace, the rate of utilization will stay about the same—88 per cent. If capacity rises faster than output, the utilization rate will decline; if it rises not so fast, the utilization rate will increase.

	If capacity rises at an annual rate of—						
	3%	4%	5%	6%	7%	8%	
If production rises at an annual rate of—	3%	88%	87%	85%	84%	83%	82%
4%	89	88	87	86	84	83	
5%	90	89	88	87	86	84	
6%	92	91	89	88	87	86	
7%	93	92	90	89	88	87	
8%	94	93	92	90	89	88	

What is a reasonable assumption? The reader can take his choice, depending on his business forecast for the coming year. It might help to point out, however, that output has risen so far this year at the very favorable annual rate of 8 per cent; capacity has been increasing during the past year or so at an annual rate of about 5 to 6 per cent. If these conditions continue through 1965, the rate of utilization of capacity will rise from around 88 per cent to around 91 per cent. In this case, if history repeats, there could be severe pressure on prices.

But suppose the National Association of Busi-

ness Economists is correct in forecasting an increase in 1965 output of only 3 per cent. Then the rate of utilization might very well decline. Or suppose *Fortune* magazine is correct in estimating the addition to capacity to be around a 7 per cent annual rate. This, combined even with 1964's rapid pace of output, would raise the rate of utilization relatively little.

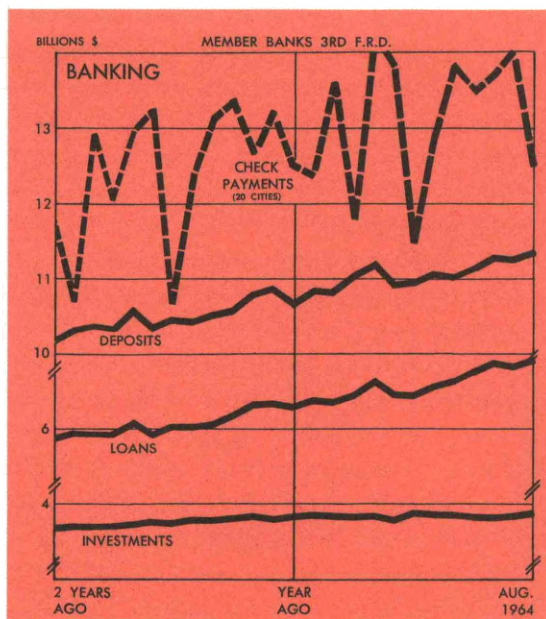
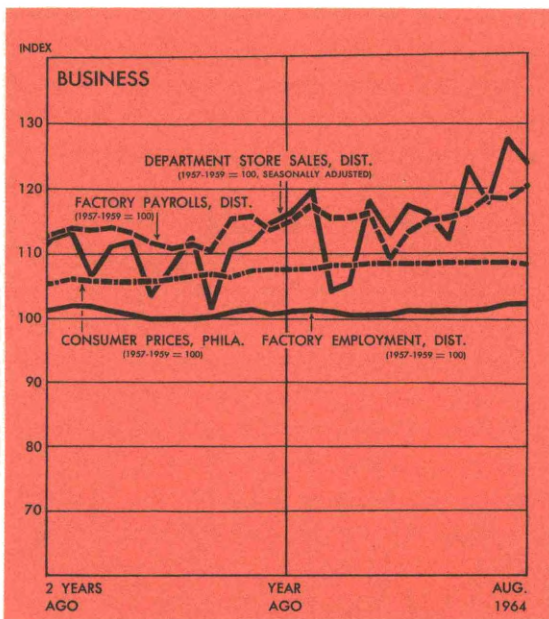
In short, given the large volume of capital expenditures, and given the difficulties of maintaining the current high rate of increase in output throughout 1965, it is possible that capacity will not be put to the strains which some now foresee. If so, price pressures would not be so severe as some now fear.

This is not to say that some bottlenecks may not appear—in fact may not already be with us. Nor does it mean to suggest that some prices may not rise—indeed industrial raw materials prices have been increasing for about a year. But it does suggest that the pervasive and at times explosive increases that occurred in 1950 and 1955–1956 may not be in the cards.

Increases in prices of raw materials always precede a general rise in prices; but a general rise in prices does not always follow an increase in raw materials prices. The fact is that, although sensitive prices have been moving upward, they have advanced less than in any other expansionary phase during the postwar period. And another fact is that, contrary to earlier experience, the over-all level of wholesale industrial prices has actually declined in the current expansionary phase of the business cycle as manufacturing output has moved up from about 78 to 88 per cent of capacity.

Things seem to be enough different to cause serious question whether history will repeat.

FOR THE RECORD...



SUMMARY

	Third Federal Reserve District			United States		
	Per cent change			Per cent change		
	Aug. 1964 from		8 mos. 1964 from year ago	Aug. 1964 from		8 mos. 1964 from year ago
	mo. ago	year ago		mo. ago	year ago	
MANUFACTURING						
Production .....	.....	.....	+ 3	+ 7	+ 6	
Electric power consumed	+ 1	+ 5	+ 7	.....	.....
Man-hours, total*	+ 1	+ 1	- 1	.....	.....
Employment, total	+ 1	+ 1	+ 1	.....	.....
Wage income*	+ 2	+ 5	+ 3	.....	.....
CONSTRUCTION**	-13	+ 5	+14	-18	- 7	+ 6
COAL PRODUCTION	+44	+ 4	+ 5	+48	+ 1	+ 1
TRADE***						
Department store sales	- 3	+ 6	+ 8	.....	.....
Department store stocks .....	.....	.....	.....	.....	.....
BANKING						
(All member banks)						
Deposits	+ 1	+ 6	+ 5	+ 1	+ 8	+ 7
Loans	+ 1	+10	+ 9	0	+13	+13
Investments	+ 1	+ 2	+ 2	+ 1	+ 1	0
U.S. Govt. securities	+ 1	- 3	- 5	+ 1	- 5	- 8
Other	+ 2	+12	+17	+ 2	+10	+14
Check payments	-11†	0†	+ 5†	-12	+ 8	+11
PRICES						
Wholesale .....	.....	.....	.....	0	0	0
Consumer	0†	+ 1†	+ 2†	0	+ 1	+ 1

*Production workers only.
 **Value of contracts.
 ***Adjusted for seasonal variation.

†20 Cities
 ‡Philadelphia

LOCAL CHANGES

	Factory*				Department Store†		Check Payments	
	Employment		Payrolls		Sales		Check Payments	
	Per cent change Aug. 1964 from		Per cent change Aug. 1964 from		Per cent change Aug. 1964 from		Per cent change Aug. 1964 from	
	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago	mo. ago	year ago
Lehigh Valley	+ 2	+ 2	+ 1	+ 8	.....	.....	- 4	- 2
Harrisburg	+ 1	+ 1	+ 4	+ 9	.....	.....	- 4	-15
Lancaster	+ 1	+ 1	+ 2	+ 6	- 4	+ 2	- 7	+13
Philadelphia	+ 3	- 1	+ 2	+ 3	- 5	+ 9	- 9	- 1
Reading	+ 1	+ 0	+ 3	+ 6	- 7	+ 2	- 4	+ 3
Scranton	+ 1	+ 1	+ 3	+ 7	- 6	0	- 3	+10
Trenton	+ 1	+ 1	+ 3	+ 6	- 3	+ 8	-45	-18
Wilkes-Barre	+ 1	+ 1	+ 3	+ 7	+ 2	+ 3	- 5	+ 8
Wilmington	- 2	+ 1	- 8	+10	+ 3	- 3	-12	- 1
York	+ 1	+ 3	+ 1	+11	+ 5	+10	- 4	+41

*Not restricted to corporate limits of cities but covers areas of one or more counties.
 †Adjusted for seasonal variation.