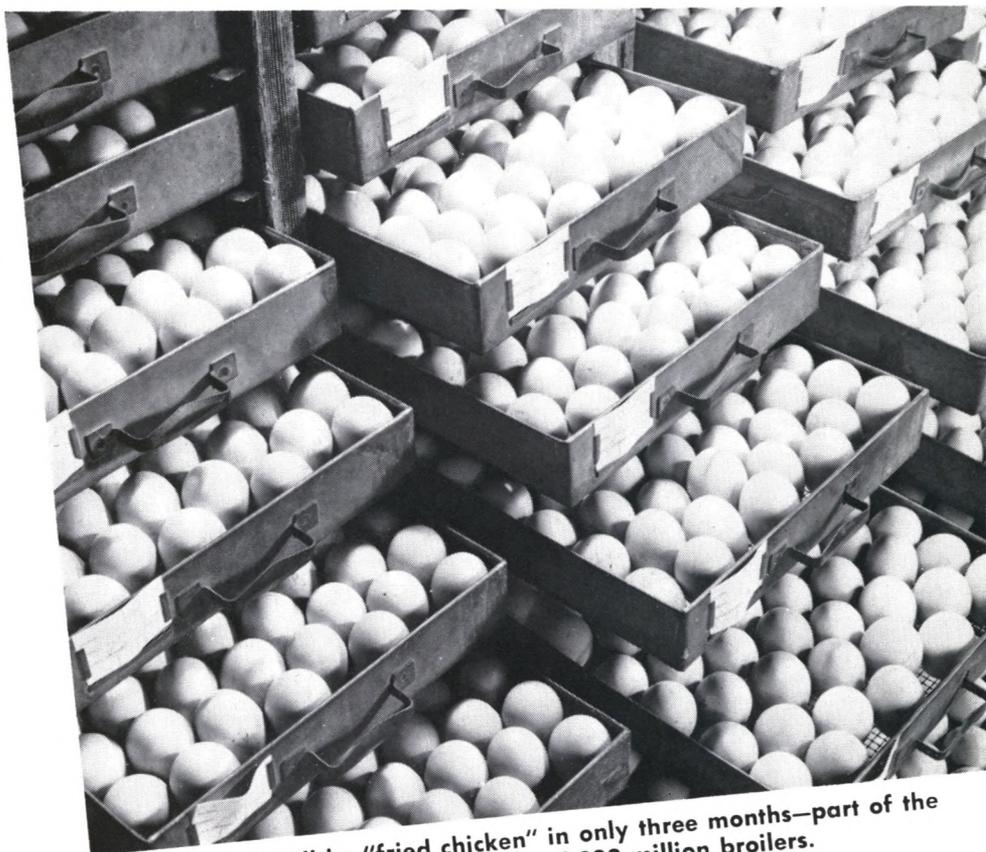


MONTHLY REVIEW



These eggs will be "fried chicken" in only three months—part of the District's annual output of 330 million broilers.

FEDERAL RESERVE BANK OF RICHMOND

MAY 1960

BROILERS . . .

production boom benefits consumers

Not long ago, broilers—those delicious young chickens—were an expensive treat served mainly on special occasions. Now, broilers are one of our best food buys, enjoyed regularly by millions of people. During 1959, 1.7 billion broilers were consumed in the United States. This is about 50 times the number sold in 1934, and the price was lower than it was in that depression year. Everyone who likes to eat chicken has benefited from this reduction in price and increase in output of broilers. The related circumstances and developments responsible for the growth of the industry provide a fascinating story.

RESEARCH CUTS COSTS As with many developments in farming, research efforts of both agricultural experiment stations and the industry have been a major factor behind the expansion of production. Discovery of ways to achieve greater feeding efficiency has led to great reductions in costs of production and eventually to the decline in price to consumers. Back in 1950, an average grower used twelve pounds of feed and took twelve weeks to grow a three-pound broiler. Nowadays, an average grower raises the same size broiler in nine weeks with only seven pounds of feed. These remarkable improvements were made possible by the breeding of superior strains of chickens, the discovery of high-energy broiler rations, and the use of effective antibiotics and medicinals to control disease.

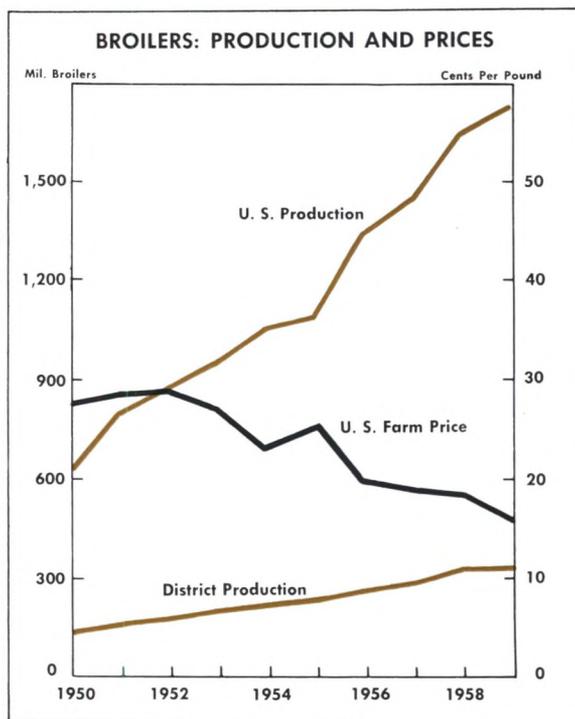
Since feed costs comprised about three-fourths of the total cost of growing a broiler in 1950, the lower feed requirements have had a big impact. The 1950 grower had to receive a price of at least 25 cents per pound in order to operate profitably, whereas during the first few months of 1960, most growers made satisfactory profits at prices of 17 to 18 cents. In addition, the shorter length of time required to grow a batch of broilers has enabled producers to grow more birds per year with the same plant capacity. Unit labor costs have also been reduced by such developments as automatic feeders and waterers and bulk handling of feed.

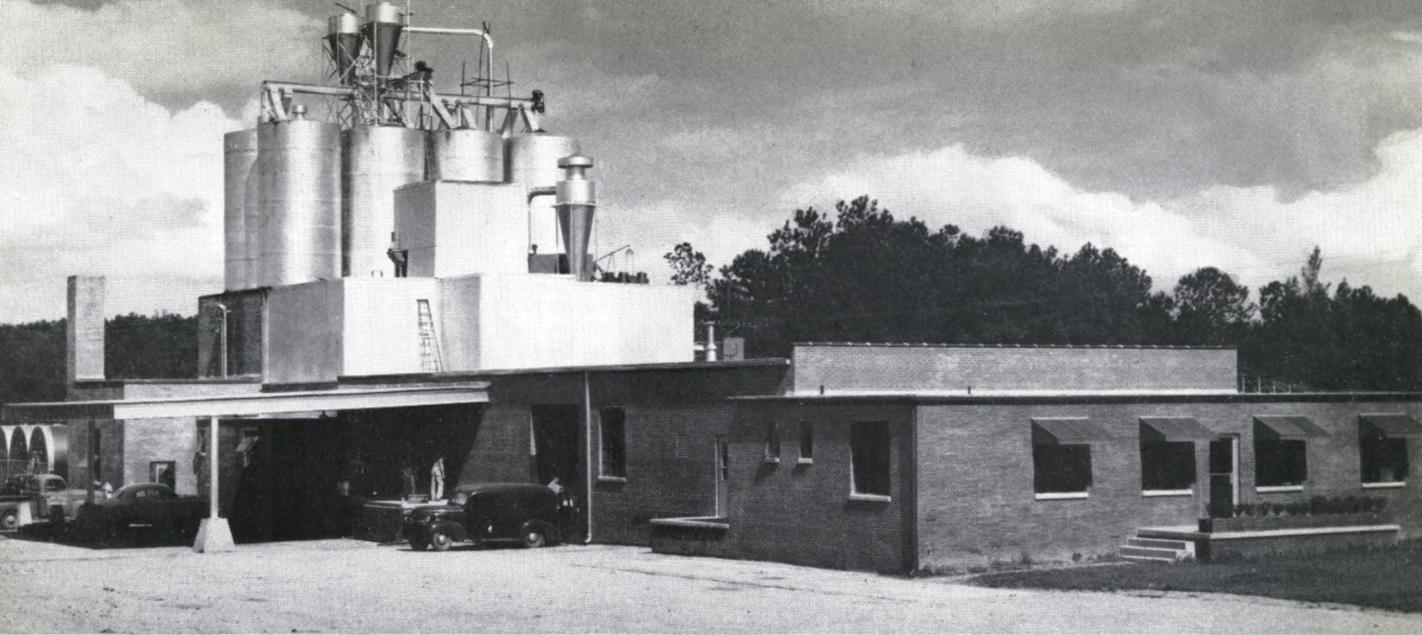
REGIONAL COMPETITION Another source of reduction in unit costs has been the shift of the location of production to the southern states. In the

warmer climate housing and heating costs are lower, and labor and feed costs are also somewhat lower than in the Northeast. The reduced production and processing costs more than offset the increased cost of shipping the finished product to the centers of population.

The adoption of new technology and the shift of production to low-cost regions has been rapid, partly because of the relative ease with which a farmer has been able to enter the industry or expand his production. Entry of new growers has been facilitated by relatively low capital requirements, a situation which results mainly from the use of contracts to finance current production expenses. The contractor, usually a feed dealer or broiler processing plant, provides the grower with chicks, feed, and other supplies, and supervises the production and marketing. The grower provides the labor, broiler house, and other facilities. His capital requirements are much reduced, and total production may be increased more easily.

CONSUMERS SHIFT TO BROILERS As costs were reduced because of new technology, growers seized the profit opportunities in expanded production,





Feed mills such as this one in Virginia often attain a steady feed market by having farmers grow broilers for them on contract.

and new growers were induced to enter the industry. The increased production tended to depress the price, but a remarkable aspect of consumer demand for broilers soon became evident. On the basis of preliminary studies of the postwar period, it appears that when the price would drop by, say 10%, housewives would buy not merely 10% more broilers, but actually about 30% more.

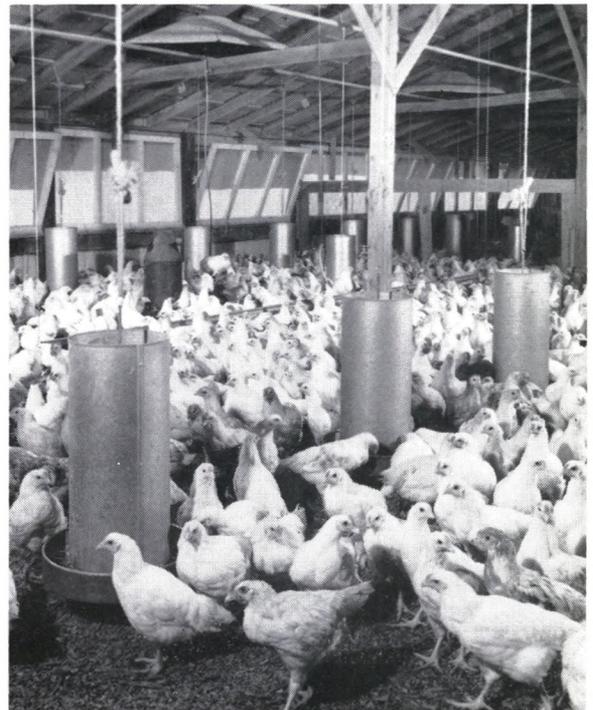
This behavior of consumers is somewhat surprising in that the natural limits to the amount of food people can eat would result in only about a

2½% increase in quantity of all food consumed if prices of all foods were to drop by 10%. As broiler prices were reduced, however, people apparently were eager to substitute broilers for other foods. Viewed from the standpoint of broiler producers, consumer demand was such that production could be expanded by 30% before the market price would drop by 10%. Combined with cost reductions and ease of entry, this elastic nature of demand was a basic circumstance which allowed the industry to expand rapidly.

District hatcheries produce 10 million broiler chicks weekly.



A census would now find 60 million broilers in the District.





Several thousand broilers are dressed in this plant each hour.

OVERPRODUCTION Unfortunately, the expansion of production, so beneficial to consumer interests, has been punctuated by periods of distress among broiler producers. In 1947, 1954, 1956, and most recently during almost all of last year, so many broilers were produced that the market price fell below the cost of production of the average grower.

In the broiler industry as in many other lines, the coordination of supply to future consumer demand is complicated by the fact that total production is determined by the sum of production decisions made independently by thousands of growers and contractors scattered over the entire nation. In an ideal compromise between consumer and producer interests, these independent production decisions would add up to just the number of broilers that consumers would want to buy at a price equal to the average grower's cost of production plus a normal return on his labor, management, and capital investment. The chances of attaining this balanced position for very long periods of time are not very great. Usually, the production total has been such that the price fluctuates around the ideal point. When the price was above this point, growers made good profits and some decided to expand production. In periods when the price was below this point, parts of the industry incurred losses, and expansion was

discouraged enough so that eventually supply again balanced demand at a price at which producers could operate profitably.

The problem of balancing supply and demand has been further complicated by changes in consumer demand. Increases in personal incomes have contributed to greater consumption of broilers. During 1959, however, it appears that falling prices for pork and beef caused people to buy more of these meats and fewer broilers than they would otherwise have bought.

DEMAND IS SEASONAL An additional problem superimposed on these uncertainties is the change in consumer demand which occurs seasonally. The summer months are traditionally the time when people want to eat more broilers. It has been estimated that at a constant price consumers would buy 40% more broilers in the summer than in the winter. The productive capacity of the industry has necessarily been geared to the demands of the profitable summer months when consumers want more broilers and are willing to pay a higher price to get them. If the full capacity were to be used during the winter, the market price would be depressed far below the cost of production.

Obviously, some growers have had to reduce their production during the fall and winter. However, the thousands of independent decisions have rarely resulted in a sufficiently reduced total sup-

Industry-sponsored promotions have increased broiler sales.



ply. More often than not, winter production has been unprofitable for producers.

BROILER CONTRACTS CHANGE Past periods of low prices have resulted in significant changes in the contract arrangements under which more than 90% of the nation's broilers are produced. Prior to 1954, the most common type of contract was a profit-sharing plan which gave the grower 75% to 90% of the net receipts after he had paid the contractor for the chicks, feed, and supplies at retail price. During the period of low broiler prices in 1954, however, growers found that there was often nothing left over to pay them for their labor and to give them a return on their investment in houses and equipment.

Growers were thus attracted by guaranteed-fee contracts which feed dealers began to offer in increasing numbers. A typical contract of this sort guaranteed the grower a payment of 4 cents per broiler produced, plus one-half of receipts remaining after costs and the fee had been paid. Schemes to encourage the grower to attain high feed efficiency were soon added to many of these plans. The guarantee to the grower was then based on a sliding scale with highest fees paid to the grower who used the least feed to produce a broiler of a given size.

Since the guaranteed-fee plans insured some return to the grower regardless of the market price at which the broilers were sold, much of the market risk was transferred to the contractors. This latter group experienced losses during 1959, and the form of some recent broiler contracts shows signs of a return of more market risk to the growers. One current example is a sliding guaranteed-fee based on market price at time of sale. Another form arranges for interest-free loans from contractor to grower, with money provided as the grower incurs his production expenses and paid back at marketing time.

The extensive use of contracts in broiler production has led the industry to wonder if the contract form of operation has been a cause of periodic overproduction. Although it is fairly certain that use of contracts has facilitated both the regional shifts and expansion of production, it is not the factor primarily responsible for these events. The profit motive is necessarily still the basic force behind producer decisions. No farmer begins to grow broilers with the expectation of monetary loss just because contracts are readily available. Each enters only if he expects to make a profit after estimating his costs and the future market

price. When too many enter, however, some incur losses because market prices turn out to be lower than they had anticipated.

The total volume of contracts offered to growers tends to be maintained because of the short production period and the competition among contractors. Broiler contractors, who are usually feed dealers, obtain their lines of credit from feed manufacturers with ample financial resources. Even if a manufacturer should extend no credit except for the 30-day period usually allowed for payment, the dealer could finance a substantial contracting operation. This stems from the fact that a broiler eats about 70% of its total feed consumption in the last 30 days before it is sold and the feed account settled. In addition, competition among both feed manufacturers and the many feed dealers seems to keep each individual company from cutting its contracting operations by very much during temporary periods of poor prices if it wants to maintain or expand its broiler feed business.

FUTURE DEVELOPMENTS It is sometimes argued that if production decisions were centered in fewer hands, better supply adjustments could probably be attained. It has thus been suggested that the future might find a few large feed manufacturers or supermarket chains in control of production, or that government marketing orders might be adopted to prevent undue expansion. Although these possibilities appear remote at present, it is worthwhile to consider the stake of the consumer and the nation in such developments. Historically, acquisition of supply control has tended to result in protection of the investment of producers already in the industry. If this were to slow down the rate of adoption of improved technology or the shift to low-cost areas, people would end up eating fewer broilers and paying more per pound for them.

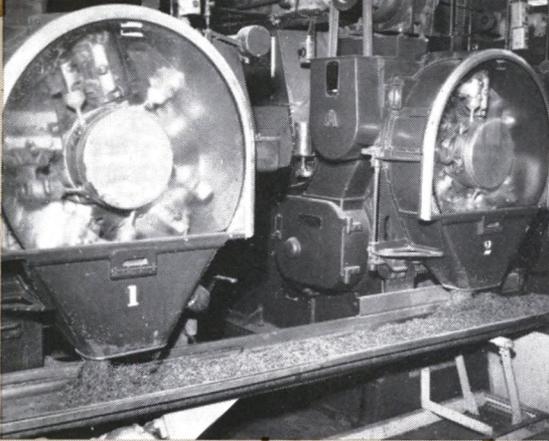
Consumers thus have a vital interest in efforts to increase producer understanding of such items as the nature of consumer demand and regional differences in cost. In addition, current reports on how many broilers are being grown and forecasts of future demand may help producers adjust production and prevent prolonged periods of distress prices. Broilers may then remain a competitive industry in which producer actions based on the profit motive continue to result also in maximum benefits to consumers.

920,000 Cigarettes Per Minute

. . . twenty-four hours a day, seven days a week for fifty-two weeks! This is the average rate at which the nation's 58 million smokers will light up cigarettes if this year's expected consumption of 485 billion is realized. To meet this huge demand for the enjoyment afforded by smoking the cured leaf of genus *Nicotiana*, the nation's cigarette industry needs no more than 35,000 to 40,000 production workers. These employees tend highly specialized machines which blend, shred and condition the tobacco, convey it to the amazing cigarette-making machines, wrap the finished cigarettes in perfect packs of twenty, and carry them through the final stages of packing for shipment. Inspection and control measures to assure uniform high quality are taken at every stage. Many of the control mechanisms are in constant automatic operation and make the adjustments necessary to keep the product within specified tolerances without hindrance to the process. The actual making of the cigarettes is a continuous, high-speed operation in which a steady stream of exactly the right amount of the tobacco blend drops from a hopper onto a moving belt. The paper is drawn in a continuous strip from a spool below. With no loss of forward motion the tobacco moves onto the moving strip of cigarette paper which is immediately formed around the tobacco and glued to make a continuous cigarette rod. The rod is cut in the proper lengths as it moves past a finely adjusted, self-sharpening knife. As many as 1,250 cuts are made each minute through the rapidly moving cigarette rod. Small conveyor belts carry the finished cigarettes across a tray from which an attendant picks up a double handful, gives them a quick visual inspection, and places them in containers for transfer to the packing machines. Filter cigarettes are produced with the aid of an additional mechanism which automatically aligns the cigarettes as they come from the cutting knife, one at each end of a double-length filter. The filter and the ends of the adjoining cigarettes are wrapped with adhesive-coated paper. The double-length filter with a cigarette at each end is then cut in the center producing two "filter tips" ready for packaging.

The Fifth District's share: factories—40%, employees—72%, output—81%.

Whirling blades shred the tobacco leaves.



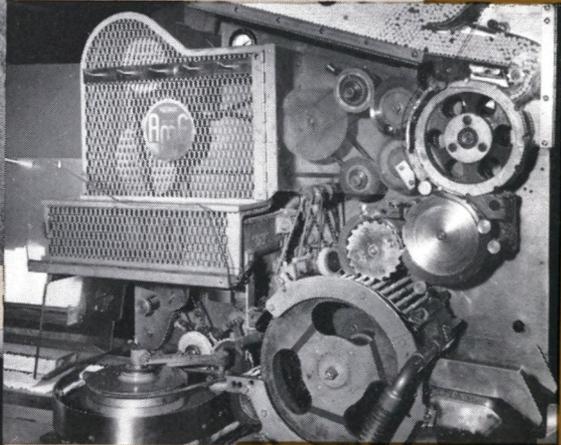
Twenty cigarettes per second flow from this machine.



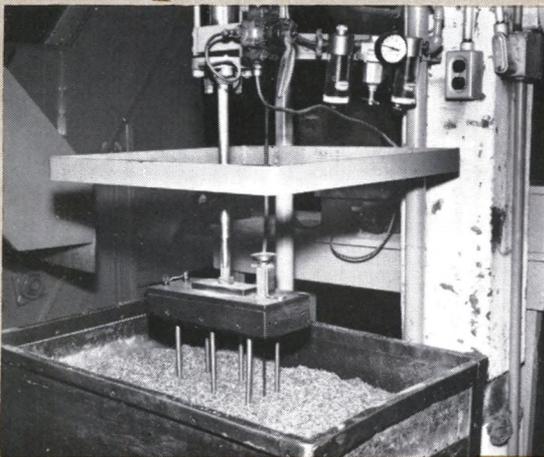
Tobacco heaped on conveyors moves to final blending.



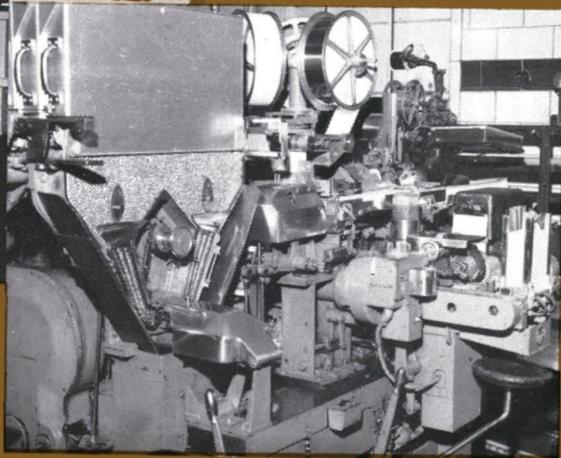
Filters are attached as cigarettes go through machine.

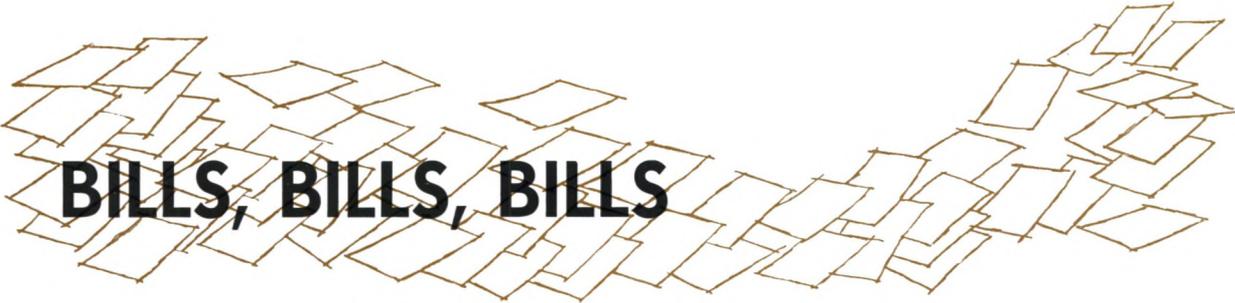


Moisture in tobacco is measured electrically.



This machine assembles 125 packs a minute.





BILLS, BILLS, BILLS

Early in 1960 the public was suddenly eager to get bills—not medical bills, tax bills, or any of the bills that ordinarily weigh down mailboxes and budgets, but United States Treasury bills. Individuals were even known to have begun the day over coffee with a glance at the morning paper to check the rates on Treasury bills as well as stock market quotations.

ATTRACTIVE RETURNS AVAILABLE It was the relatively high rate of return available on Treasury bills that led the public in increasing numbers to 33 Liberty Street in New York City, the address of the Federal Reserve Bank of New York. Once a week, generally on Monday, orders for new bills can be placed up until 1:30 P.M. at any Federal Reserve Bank or branch. Last January the New York Fed for the first time stationed a receptionist in its vaulted stone lobby to direct small investors to Window 31. There they stood in line to place their bids for one or two thousand dollars of bills along with messengers carrying sealed bids from banks, Government securities dealers, and other large investors for \$50 million or more of bills.

To participate in the Treasury bill market the public had to learn many things which were common knowledge to the professionals customarily represented at Window 31. Many learned for the first time precisely what a Treasury bill is, as well as where and how to buy them.

WHAT ARE BILLS? A Treasury bill, the shortest form of marketable debt the Treasury offers in its borrowing programs, is the promise of the United States Government to pay a stated sum without interest on some specified date in the future. The fact that no interest is promised does not mean that a Treasury bill yields no return to the investor. The return the purchaser of a bill receives is the difference between what he pays for it and

the face amount of the bill which he receives as promised when it matures. The purchase price is always less than the face amount of the bill. In technical language, Treasury bills are bought at a discount from their face value and the amount of the discount is the actual dollar and cents return on the investment.

Treasury bills were first sold in this country in December 1929, about forty years after they were introduced in England. Their short maturities make them attractive to banks and others having funds available for temporary investment. Because new issues of bills are sold in an auction at a price determined by the bidding in the auction, use of them relieves the Treasury of the difficult task of setting interest rates, as it must do on new certificates, notes, and bonds. Conditions can change very rapidly and make the selected interest rate inappropriate.

Treasury bills come in six denominations, ranging from \$1,000 to \$1,000,000. In the regular weekly bill auctions two separate maturities are offered—91-day bills and 182-day bills. From time to time the Treasury issues special bills of longer maturities. In April 1959 the Treasury initiated a series of special one-year bills. It planned to have four issues outstanding, which would mature quarterly and be replaced with new one-year issues. In addition to the regular and special bills, the Treasury also offers tax anticipation bills. They differ from those described above in being designed to attract corporate funds accumulated in preparation for the mid-March, June, September, and December tax dates. The Treasury will accept them in payment for taxes.

When investors purchase new bills at auction they must accept the maturity or maturities the Treasury is offering in the auction. If investors buy bills already outstanding, however, they have

a wide choice since the passing of time steadily reduces the maturity of all outstanding issues. In mid-April, for example, there were thirty-one bill issues outstanding with maturities ranging from one day to 360 days. These securities totaled \$37.1 billion and consisted of \$4 billion of June tax anticipation bills, \$7.5 billion of special bills, and \$25.6 billion of regular bills.

HOW ARE NEW BILLS SOLD? Each week, generally on Thursday, the Treasury invites "tenders" for a specified total of bills to be auctioned on the following Monday. The bids must be presented at a Federal Reserve Bank or branch by 1:30 P.M. New York time on the following Monday. Although tenders are made at all Federal Reserve Banks, most of them are presented at Window 31 of the New York Federal Reserve Bank, which is readily accessible to the major buyers. All Government securities dealers maintain active trading offices in New York, and the large money market banks there often submit bids for their customers as well as for themselves.

Subscribers bid for the amount of bills they want, entering either a competitive or a non-competitive bid. If they bid competitively they specify the amount of bills they will take at a given price, which they state, and which is less than the face

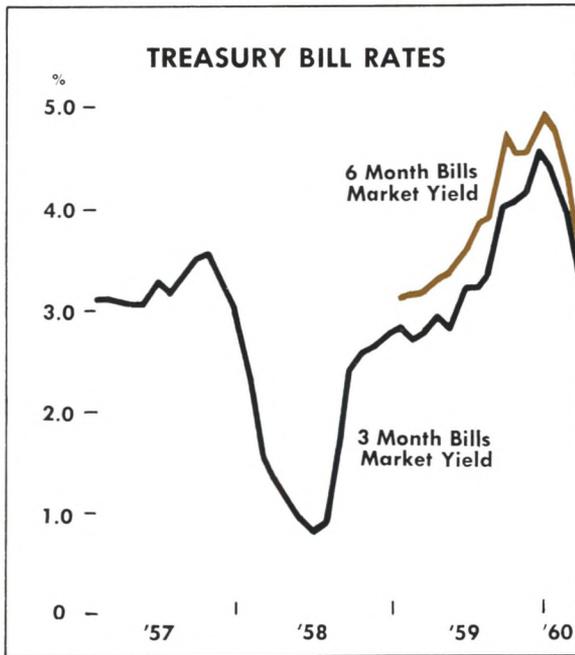
value of the bills. Subscribers may enter more than one bid, indicating the additional amounts they are willing to buy at successively lower prices. The price stated in a competitive bid is always the lowest one the subscriber thinks will win him the amount of bills he desires. Competitive bids are entered only by subscribers, such as Government securities dealers and money market banks which have close contacts with the money market. Small country banks, individuals, and other small investors who are not in close touch with the market may enter noncompetitive bids for not more than \$200,000 of 91-day bills or \$100,000 of 182-day bills and be awarded the full amount of the bid at the average price of the accepted competitive bids.

When the Treasury receives the subscription data from the Federal Reserve Banks and branches, it allots the noncompetitive bids in full, and then allocates the remainder of the total offering to the competitive bidders offering the highest prices. It next computes the average issuing price, which noncompetitive bidders must pay on their allotments. By the morning after the auction the bidders know how many bills they have been awarded.

Last month in the auction on Monday, April 11, the Treasury offered \$1.1 billion of 91-day bills

Most competitive bill tenders are presented at Window 31 of the New York Fed within the fifteen minutes before the window closes.





Six month or 182-day bills were introduced in December 1958.

as part of a \$1.6 billion offering which included 182-day bills. On Tuesday, April 12, the Treasury announced the results of the bidding. Subscribers applied for \$1,746 million of the 91-day bills. Of the \$1.1 billion allotted, \$226 million were awarded to noncompetitive bidders at the average price. The high price bid was \$99.115; the lowest price at which bills were awarded was \$99.069. All bidders who offered to pay more than \$99.069 for \$100 face value of bills were awarded the amount of bills they requested at those prices; bidders who offered the price of \$99.069 received only part of the bills they had requested. Subscribers bidding a lower price received none. The average price of \$99.084 was then computed by weighting the prices of bids accepted by the amount of bills taken at those prices. This average price was then set on the bills awarded to noncompetitive bidders.

WHAT ARE TREASURY BILL RATES? There are as many bill rates as there are issues outstanding. A bill rate is the return a bill yields, stated as a rate for a 360-day year and computed on a bank discount basis. To illustrate, the rate associated with the average price on the 91-day bills auctioned on April 11 was 3.622 per cent. A non-competitive bidder paid \$99.084 for \$100 face value of Treasury bills maturing in 91 days. If

he holds them until maturity he will receive a return of \$0.916 over the price he paid for each \$100 of maturing bills. This is equivalent to a return of approximately \$3.62 a year, or a bank discount rate of approximately 3.622% for 360 days. (The return per day is: $\$0.916 \div 91 = \0.01006 . For the 360 days the return would be: $360 \times \$0.01006 = \3.622 . Expressed as a rate of discount this return is: $\$3.622 \div 100 = 3.622\%$.)

This rate of discount, which was the "bill rate" for that particular bill at the time of issuance, differs from the interest rate as it is computed for certificates, notes, and bonds. Interest rates on the latter securities are computed as the return on the actual money invested, rather than as the rate of discount from the face value, and are based on the actual number of days in the interest period, with semi-annual compounding of interest if the period involved requires it. It is important for the investor deciding between the purchase of bills and some other investment to compare yields computed in the same way. The return on a non-competitive allotment in the mid-April auction, computed as yields on bonds are computed, was 3.71 per cent. This is called the "coupon issue equivalent yield basis."

WHAT BILL RATES SHOW When rates are falling, the price investors have to pay for bills is increasing. When rates are rising, investors are buying bills at larger discounts, i.e., at lower prices. This is true of rates set at the time new bills are issued. It is also true of current rates on outstanding bills.

As in the case of any other marketable item, there are buyers and sellers of outstanding bills. Dealers serve as middlemen; they buy bills for their inventory or sell them, and the price of the bills reflects the changing supply offered for sale and the changing demand. The shifts in demand and supply of bills reflect changes in the need for temporary funds and in the amount of temporarily available money which holders want to invest.

The principal participants in the buying and selling of Treasury bills are commercial banks, mutual savings banks, foreign central banks, Federal Reserve banks, life insurance companies, fire, casualty and Marine insurance companies, corporate and public pension funds, and manufacturing, mining and other commercial and industrial corporations.

the F I F T H district

Reinvigorated by the spring pickup in most retail markets and encouraged by the year's first real flurry of new orders for cotton print cloth, economic activity in the Fifth District has continued on a high and generally prosperous level. The soft spots in the over-all business situation, however, have caused businessmen to pursue conservative purchasing and inventory policies and to view prospects with cautious optimism. Accordingly, in many lines inventories are quite low relative to sales. The generally circumspect sentiment stems also from a wait-and-see attitude concerning the March declines in employment and in manufacturing man-hours.

UPSURGE IN TRADE Department store sales in the District and the nation in the week before Easter set a record for any Easter season week. Even after a twofold adjustment (for normal seasonal variation and for the shift in the Easter date) department store sales during the first three weeks

of April provided an estimate for that month which exceeds March by around 18% and surpasses April of last year by approximately 4%. In view of distinctly subnormal buying activity in February and March, however, the present spurt might represent in part deferred demand.

FURNITURE MARKET NONCOMMITTAL The Southern Furniture and Rug Market opened April 22 with reports of excellent attendance, probably the best in recent years. This is one of the annual showings of new lines at various centers in Furnitureland that attracts buyers from coast to coast. This market and the one in October cover an area stretching from Martinsville, Virginia, down to High Point, North Carolina, then west to Morganton, including Winston-Salem, Lexington, Thomasville, Drexel, Lenoir, and Hickory.

Manufacturers had many new lines and a wide variety of new designs to show. Early American was reported to be the dominant style with classic

Consumers in the District have responded to the usual stimulus of spring.



themes skillfully adapted to modern tastes. The latest available information indicates, however, that many dealers came to look rather than to buy. With no immediate expectation by the trade of price increases in the near future and with prompt availability of practically any item from factory inventories, retailers are currently carrying minimum stocks and show no inclination to increase them. Furniture makers, however, view prospects optimistically. The furniture industry started fast in January with good backlogs. Retail sales in February and March were disappointing with the result that "fill-in" sales to round out dealers' inventories have been rather slow. Experience indicates that news of the new lines and normal seasonal pickup in consumer interest may provide a fresh impetus next month. Industry sources estimate that manufacturers' backlogs still average between three and four weeks' production.

NEW STRENGTH IN TEXTILES The large backlogs which have kept most textile mills smoothly in operation since the first of the year are still well above normal levels. Buyer interest in print cloths for third and fourth quarter deliveries has recently developed into the first flurry of new orders this year. Mill margins, the spread in cents per pound between cotton cloth prices and the cost of raw cotton, declined slightly in March after rising fairly steadily since the end of 1958. Broadwoven cottons, knit goods and synthetics are all strong. Yarn mills are continuing to operate at capacity levels although new orders are slow. Spring sales of new autos may improve the rather weak demand for industrial fabrics.

In considering the textile industry as a major factor in the District and of considerable importance in the national economy, it is interesting to note that 1959 wholesale prices of textile mill products were about 9% below the average for 1947-1949. Average hourly earnings of textile workers increased in the same period about 40%. In contrast wholesale prices of all manufactured goods increased about 28% during this period, while average hourly earnings rose 67%. Some of the benefits of textile progress have gone to consumers in the form of lower prices.

SUSPENSIVE STATISTICS From an all-time high in February, seasonally adjusted nonagricultural employment in the District declined in March. Employment is checked in the week nearest the 15th of each month and reflects the conditions of that period. These might or might not be characteristic of the rest of the month. The declines

in the March figures are largely a consequence of unusually severe snow storms in mid-March. Adjustment for the usual seasonal forces did not fully compensate for the abnormal conditions.

The decreases in employment in March were generally small—about 1% or less after seasonal adjustment, except in the case of contract construction. Actual employment in contract construction dropped 6% between February and March at a time when there is usually a pickup. Except in mining and contract construction the various classifications of nonagricultural employment were higher in March 1960 than in March 1959 by amounts ranging from 1% to 3%.

The unseasonable mid-March weather not only affected the total number employed but caused a drop in the number of average hours worked. The declines in man-hours, seasonally adjusted, were widespread in manufacturing. The total figure combining all manufacturing industries fell 3% to a level 3% below March 1959 and almost 6% below June 1959—last year's high. Decreases between February and March of from 7% to 9% occurred in lumber, furniture and fixtures, stone, clay and glass, and cigarettes. Man-hours in March were below their year-ago levels in all manufacturing categories except in the metals and machinery industries, the broadwoven goods component of textiles, printing, and chemicals.

BANKING Despite some signs of reduced pressures, District member banks remained in relatively tight positions during most of April. Loans of weekly reporting banks expanded more than seasonally, member banks borrowed pretty heavily at the Federal Reserve discount window, and District money market banks were net buyers of Federal funds. The situation eased enough, however, to permit banks to lower their loan-to-deposit ratios and add noticeably to their Government security holdings. Loan ratios of the 20 weekly reporting banks slipped a full ½% the first four weeks of April—from 52.2% to 51.7%, and Government security holdings of these 20 banks expanded rather sharply, apparently largely through purchases of the new 25 month 4% notes.

PHOTO CREDITS

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