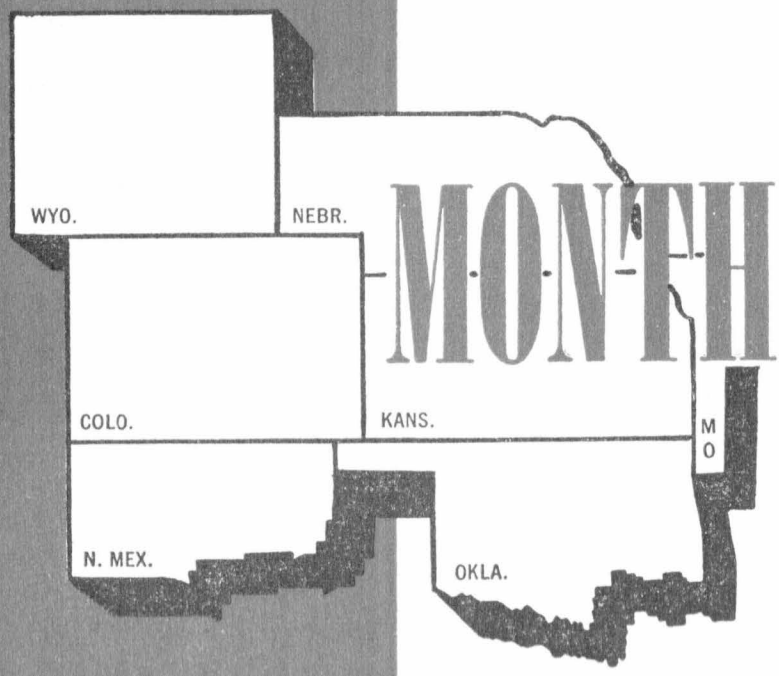
August 1954



MONTHLY REVIEW

In This Issue

Market Interest Rates and Maturity of Issues . . . . . *page 3*

Controls and Crop Prospects . . . . . *page 9*

Petroleum Product Stocks High . . . . . *page 12*

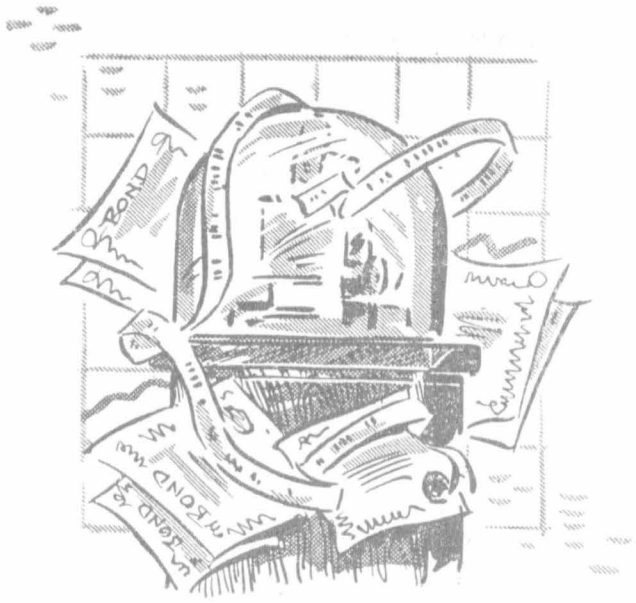
Reserve Requirements Are Lowered . . . . *page 14*

Current Charts and Statistics . . . . . *page 15*

FEDERAL RESERVE BANK
OF KANSAS CITY

Subscriptions to the MONTHLY REVIEW *are available to the public without charge. Additional copies of any issue may be obtained from the Research Department, Federal Reserve Bank of Kansas City, Kansas City 6, Missouri. Permission is granted to reproduce any material in this publication.*

Market Interest Rates and Maturity of Issues



IN THE YEARS since rigid support of the prices of marketable Treasury securities was discontinued, these prices have fluctuated comparatively widely. These movements have involved both upward and downward swings of all interest rates and a wider variation of short-term than of long-term rates. The reactions of investors, analysts, and investing institutions have taken a variety of forms. Some have purchased issues that are consistent with their investment requirements without explicitly attempting to predict the future level of rates. Administrators of short-term funds for state and local governments, for example, have invested temporarily available balances in short-term Government bills that would mature when the funds were expected to be needed. Pension funds, having balances that would not be required for meeting obligations until the distant future, have invested in the longest-term Treasury securities. Others have sought to develop methods of analyzing the money and capital markets that would afford a basis for selecting securities that would be better than other alternatives. Formulas developed for application under past market conditions have been revived and re-examined. Central bank monetary and credit policy and the Treasury's decisions in managing the public debt have been examined exhaustively in this process. There is no adequate record from which to determine how successful these efforts have been.

The following material reviews some of the past thinking on the subject of market rates of interest as a way of setting forth certain of the analytical problems involved in evaluating the trend of interest rates. Since Treasury securities do not have a risk of default, their yields reflect current interest rates, except when special pricing factors, such as subscription rights, intervene. The references to yields in this discussion, therefore, will be to those of marketable Government issues. As one of the central problems of investment is the selection of maturities – short, intermediate, and long term – the treatment is further restricted to analyses of what is called the term structure of interest rates, or the factors governing the relation between the yield of a security and the number of years to its maturity. The term structure of interest rates is particularly useful in illustrating problems involving interest rates in general, since some think it gives a clue to the future trend of interest rates and others believe it affords an opportunity, in other ways, to make a superior choice of investments.

Alternative Methods of Portraying the Interest Rate Structure

The yield curve is the best and probably the most widely used graphic device for examining the relationship between the yield on Treasury issues and term to maturity. Such a

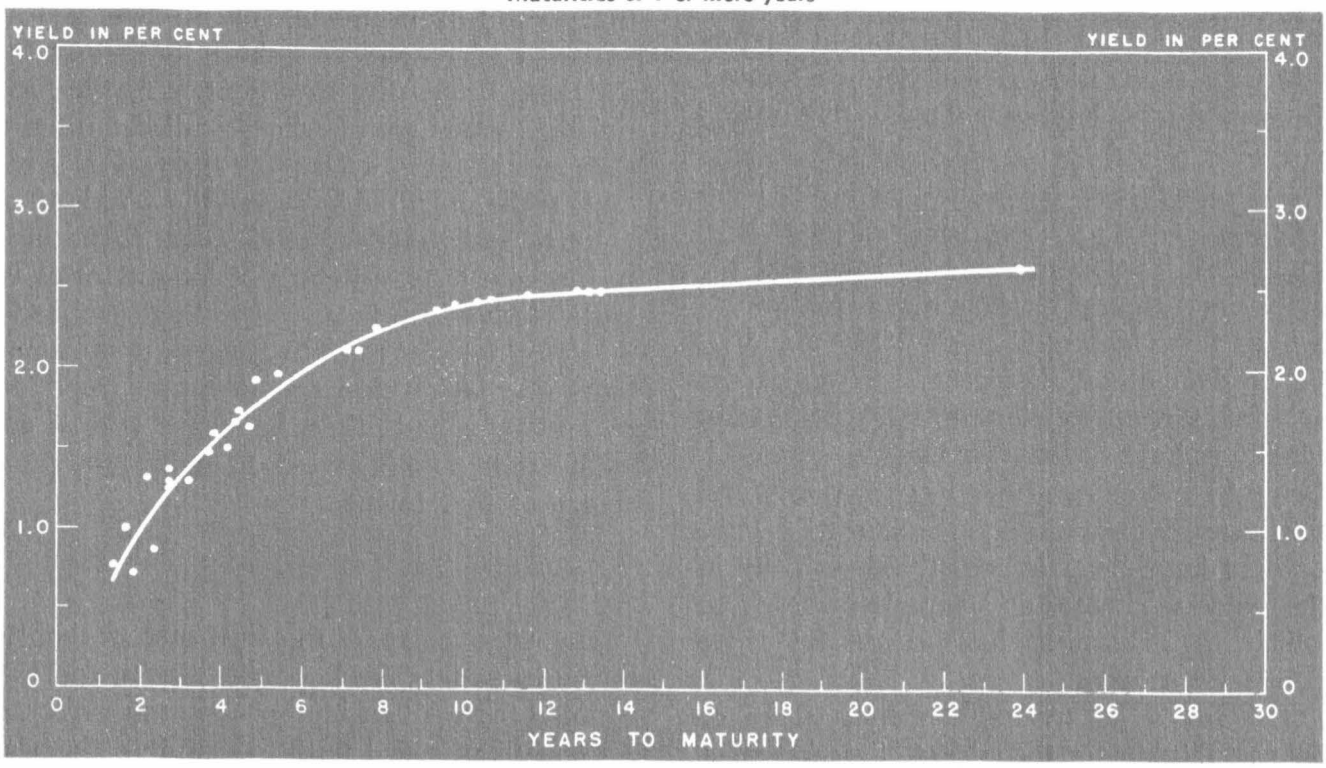
curve is drawn by marking off the horizontal axis of graph paper in years and the vertical axis in rates of interest. A point is plotted on the chart for each security whose yield is to be used in constructing the curve. Only issues that are similar in all significant characteristics should be plotted on a given chart. Taxable and partially tax-exempt issues are not plotted together. Under some circumstances, it also is desirable to confine the chart to issues having a fixed maturity date and to exclude securities that are callable after the lapse of a number of years. When callable bonds are plotted, the term to maturity is considered to be the earliest call date if the security is selling above par and the final maturity if the security is selling below par. After the point for each security has been plotted, a freehand curve is drawn through the points in a way that will describe, in general, the indicated relation between yields and term to maturity.

The accompanying chart displays a yield curve for marketable Government securities based upon the prices of fully taxable Treasury notes and bonds early in July 1954. Only securities having a term of one or more years were plotted and both callable and fixed maturity issues were included.

Security analysts sometimes consider that the yield and maturity relationship is expressed more effectively if only the issues receiving the greatest current trading interest are used to locate the yield curve. Presumably, this procedure is adopted in order to reflect the activity of investors who currently are exerting the greatest influence on the pattern of rates. An example of this kind occurred last March when one group of analysts stated that the yield curve at that time was established by a line running through the yields on 1 3/4 per cent notes of 1955, 2 1/2 and 2 3/4 per cent bonds of 1961, and 3 1/4 per cent bonds

Yields of Marketable Treasury Securities, July 1954

Maturities of 1 or more years



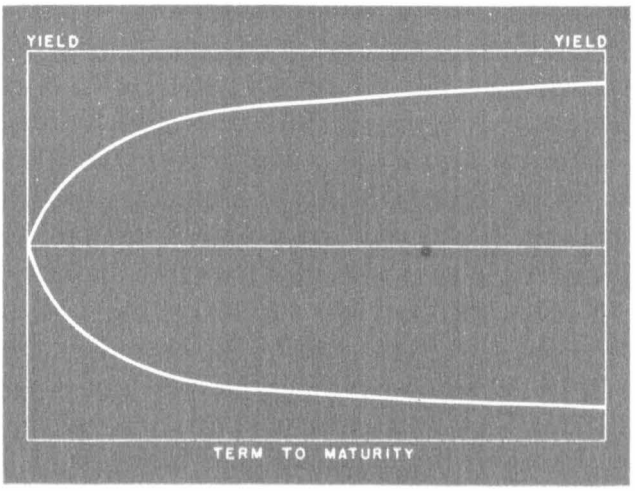
of 1978-83. In order to prepare a yield curve in this manner, it would be necessary to be in close touch with the Government securities market so as to know the issues in which trading was concentrated. While the method usually is employed in an effort to locate securities whose prices have not responded to changed market conditions, it also may have merit as a method of examining underlying yield relations.

Types of Yield-Maturity Relationships

Under most market conditions, the relationship of yield and maturity on Treasury securities will assume one of three forms. Yield can be lowest on the shortest-term issues, rising at a diminishing rate until it approaches a horizontal line in the longest maturities. Alternatively, yield can be highest on the shortest maturities, descending at a diminishing rate until it approaches a horizontal line. Less frequently, yields are approximately the same for short-, intermediate-, and long-term securities, and the yield curve is horizontal. Each of these general types of curves is an indication of the evaluation of investors as to the future trend of interest rates, as well as an expression of the investment requirements of various classes of investors. In the United States, the horizontal type of relationship generally characterized interest rates from 1901 to 1905 when yields necessarily were measured on corporate securities, and the descending type of curve was most common from 1905 until 1931. Since 1931, the yield curve has been primarily of the rising type. The three types of curves are illustrated in the accompanying chart.

One analysis of the relationship of yield and maturity that has had considerable appeal is stated largely in terms of the influence of investors' expectations about future rates in determining the present yield curve. In this analysis, investors indicated an expectation

Types of Yield Curves



that short-term rates would be higher in the future when their collective actions caused an ascending curve to be formed. Acting on their expectations, they would sell intermediate- and long-term securities in order to invest in short-term issues, causing rates in the long-term market to rise and rates in the short-term market to fall. If rates in the future were expected to be lower, investors would purchase intermediate- and long-term issues with funds obtained from selling short-term issues. These switches of securities then would cause a descending curve to be formed. To the extent that investors would be able to evaluate future rates exactly, the yield curve would forecast future rates.

According to this analysis, the forecast of rates expressed by a yield curve could be determined in the following manner: if a Treasury security maturing in one year was priced to yield 1 per cent while an issue maturing in two years had a yield of 2 per cent, the rate structure would express a prediction that the one-year rate in the second year would be 3 per cent. Investors having funds to invest for two years could earn 4 per cent in two years by purchasing the two-year issue; they would have to earn 3 per cent in the second year to gain the same return by investing for one year

at 1 per cent and then reinvesting in another one-year security in the second year. If a rate lower than 3 per cent were expected in the second year, the differential between the one-year and two-year maturities would be less.

The same reasoning was applied to the other parts of the yield curve, according to this analysis. If the yield on a four-year maturity was 1.5 per cent and on a five-year maturity, 1.6 per cent, the yield curve was thought to indicate a one-year rate of 2 per cent in the fifth year. This was because a return of 6 per cent in four years was obtained through investment in the one issue and a return of 8 per cent in five years was received through purchase of the other. Therefore, a return of 2 per cent in the fifth year on a one-year security would be required to equalize the gains from the two alternative ways of investing.

This analysis of interest rate relationships was developed on the assumptions that the composite opinion of buyers and sellers in the market could forecast future rates and that all investors were free to purchase any maturity. In practice, the market has not been signally successful in predicting future rates. Moreover, individual and institutional investors have a variety of objectives that lead them to confine their activities to certain segments of the market in order to meet specific requirements rather than to try to obtain a higher return by predicting rates. These requirements can be sufficiently broad, of course, to permit selection within a fairly wide range of maturities. Corporate investment of accrued tax reserves in Treasury bills customarily is confined to short maturities. Commercial banks' secondary reserves also are invested in comparatively short-term issues and probably would remain so invested even though the bankers' predictions of rates were favorable to longer-term investment. Either of these classes of investors could meet its obligations by purchasing longer-term securities and selling them when funds were required. This decision involves the possibility that either a capital loss not compensated by the higher return or a capital gain would result and the investor, by purchasing securities that are redeemed when his liability to others matures, foregoes both in order to be assured of funds when needed. Other institutional investors such as life insurance companies and pension funds usually are buyers of longer-term issues, their preferences broadly indicating a greater concern for stability of income than for the possibility that bond prices may be lower at some date before maturity.

To the extent that the structure of interest rates reflects the differing preferences of various institutional and individual investors, it is clear that given events affecting specific demands for securities or cash will influence various parts of the yield curve. Economic events which cause banks to reduce their security holdings, for example, will have their principal initial effect on short-term rates of interest, since increased amounts of short-term securities would be offered in the market. The rise in short-term rates might induce switching operations by other investors among the various maturities so that the entire yield curve is raised. Decisions of the Treasury to offer short- or long-term securities in meeting cash requirements or refunding maturing issues might also materially affect the rate structure by increasing the supply of securities in specific segments of the market.

The fact that individual and institutional investors have varying preferences for securities, in some cases seeking primarily to minimize the possibility of loss through a fall in prices, and in other cases seeking to assure future income, modifies the explanation of the structure of interest rates based on investor expectations alone. When these institutional preferences are recognized, an ascending yield curve can be viewed as a reflection of a pre-

ponderance of demand from investors whose principal objective is to maintain a high degree of liquidity rather than as a prediction by the market that interest rates will rise. Yet it also is clear that expectations about future demand and supply conditions will exert an important influence on all investors even though investors have varied preferences. Commercial banks customarily prefer shorter-term securities as a means of minimizing the risk of capital loss, but if the demand for loans shows signs of declining, banks will purchase intermediate-term issues in greater amount to protect against an income decline, unless other events cause them to fear a loss of deposits.

Yield Curves in Investment Analysis

Another characteristic of the structure of interest rates is exemplified by the view, advanced by those who would use the yield curve in investment analysis, that the curve enables an investor to select securities that will minimize the risk of a capital loss and provide an alternative to holding short-term assets for this purpose. In this view, the slope of the existing yield curve is regarded as affording a guide to the determination of the point of minimum risk. In the segment of the curve where yields increase sharply with increased term, the gain in yield that occurs as maturity is lengthened is thought to offset or compensate for the increased exposure to capital loss that would result if a rise should occur in the entire interest rate structure. In the part of the curve where a more gentle slope appears, the gain in yield from still longer-term securities is not considered to be sufficient to offset the greater exposure to risk.

The reasoning on which this type of investment policy is based is as follows: if the yield curve maintains its ascending slope over future years, a security will tend to appreciate in price, with the passage of time, as it moves into the shorter end of the maturity schedule. If rates should move upward throughout the entire range of maturities, the movement of the security toward maturity will compensate, at least in part, for the tendency of the issue to decline in price under the influence of higher interest rates.

An illustration of such a movement can be drawn from the period of rising interest rates that occurred from the end of July 1952 to the end of May 1953. At the start of this period, 2 3/8 per cent bonds of 1957-59 sold at 100 and were located at the point of maximum slope on the yield curve, while 2 1/2 per cent bonds of 1962-67 were selling at 99 1/2 and were in the segment of the curve that rose less sharply. At the end of May 1953, when bond prices were near their lowest levels, the 2 3/8 per cent bond sold at 96 1/2, a decline of 3 1/2 points, whereas the 2 1/2 per cent bond had fallen to 92 1/2, or by 7 points. An investor who found it necessary to liquidate at that time would have lost less by following the policy than an investor who did not.

Bond prices recovered in the succeeding 12 months, and by June 18, 1954, the 2 3/8 per cent bond sold for 102 15/32 and the 2 1/2 per cent bond for 101 1/4. Over the period of approximately two years, the 2 3/8 per cent bond yielded 1/8 per cent less interest each year, or about 1/4 per cent less than the 2 1/2 per cent bonds. On the other hand, the 2 3/8 per cent bond showed a profit from appreciation of nearly $25 per $1,000, while the 2 1/2 per cent issue recorded a gain of $17.50 per $1,000. Therefore, the gain in price on the 2 3/8 per cent bond more than compensated for the loss of interest at a rate of 1/8 per cent per year. If quotations are taken on other days than June 18, 1954, a slightly different result is obtained. In some instances, the outcome is more favorable to the 2 1/2 per cent issue, but the figures generally indicate the

results from pursuit of the policy in one partial cycle of bond prices and interest rates.

There is an attractive simplicity about an investment policy based on such a method of choosing securities, for no analysis is required in the selection. But the policy is founded upon certain assumptions that deserve careful examination, as their validity in any given situation will affect materially the results that are obtained. The first of these assumptions is that the yield curve at a future date will be of the ascending type. This condition is essential if the security is to appreciate in price as a result of the shortening of its maturity. If one regards the persistence of this type of curve over a period of years as establishing a presumption that it will continue in future years, then he will expect the prices of securities to benefit as maturity is reduced by the passage of time.

The second assumption of the policy is that the shape of the present yield curve indicates a point at which return is highest in relation to the risk involved. It was pointed out above that, under the policy, investments would be chosen at the point of the curve where rates began to increase less rapidly as maturity was increased. Up to such a point, it was stated that the higher return compensated for the greater exposure to risk of capital loss, while beyond the point, the increase in yield did not compensate for the risk. Selection of maturities in this manner will produce the desired result only if the *future* yield curve possesses the same steepness of slope in the same maturities as the present curve.

An example will make the point clearer. Suppose a five-year maturity is purchased to yield 1.75 per cent to maturity and that the current yield on a four-year maturity is 1.60 per cent. Under the policy, the investor would expect the five-year issue to appreciate in price in the year a sufficient amount to reduce the yield to 1.60 per cent. But during the year, that particular segment of the yield curve might change so as to set a rate of 1.75 per cent or more on a four-year security. On the other hand, the remainder of the short-term curve might have remained unchanged and a four-year issue therefore would have risen in price through the shortening of its term. Thus, the assumption that the yield curve denotes a particular maturity that will give the greatest return for the risk involved is only as good as future events prove it to be. An alternative, and seemingly more defensible, assumption is that the market has gauged the risks of each maturity and has established yields appropriate to each.

The individual investing institution, viewing the yield curve, might consider that the market correctly expresses its own view as to the yields that should prevail on each maturity or it might hold a different opinion from that of the market. Even though it agrees with the market evaluation, it may find a certain combination of maturities and yields more attractive, in the light of its own portfolio requirements, than any other. If the problem is the maintenance of liquidity, the relation between short-term and intermediate-term yields can, at times, enable the requirement to be satisfied with a higher return by a combination of cash and securities than by investment in equal amounts of the various maturities. When employed in this way, the yield curve is not a device for predicting future rates or for obtaining a point of minimum risk in relation to yield. Rather, it is an aid in comparing yields available in the present market with the requirements of the investment portfolio. Since these requirements are not static but are being altered by the course of economic events, review and reformulation of investment policy necessarily involve a consideration of the alternative yields which the yield curve portrays.

Controls and Crop Prospects

Composition of Production Changed But a Large Total Is Expected

MARKETING QUOTAS and acreage allotments are in effect for the basic commodities being harvested this year. Cross-compliance provisions of the present legislation, however, were not imposed on crops planted for harvest during 1954. Thus, farmers had considerable freedom of choice as to how their diverted acres could be used.

For those crops where marketing quotas were imposed, farmers abided by the quotas and almost unanimously reduced the acreage planted. Where only acreage allotments were imposed, many farmers chose not to comply and national acreage reductions for these crops were small. Furthermore, the acres diverted from production of crops to which marketing quotas applied could be used, with minor limitations, for producing any other crop. The result is that total crop production again is expected to approach record levels if weather conditions are average or better. The composition of this production will be altered somewhat.

These circumstances were responsible for the announcement by the Secretary of Agriculture on June 21 which:

(1) proclaimed a national marketing quota for the 1955 wheat crop, as required under present legislation; (2) as required by law, announced a national 1955 wheat acreage allotment of 55 million acres; (3) set July 23 as the date for wheat growers to vote on the proposed marketing quotas; (4) announced that in 1955 farmers would be required to comply with all acreage allotments on their farms and that farmers with larger totals of diverted acres also must comply with a total acreage allotment in order to be eligible for price support on any crop produced on the farm. The Secretary mentioned that these provisions were necessary to prevent the shifting of surpluses and to aid in a more balanced production that would bring supplies more nearly in line with demand.

The widespread publicity given to the farm surplus problem and the announcement of strict controls intended for some of next year's crops have created more than usual interest in crop production prospects this summer. According to the July Crop Report released by the United States Department of Agriculture, it appears that 341,500,000 acres of crops will be harvested this year. This would be approximately one million acres more than last year. Favorable weather during the remainder of the growing season could boost total crop production to near-record levels.

There were two areas of severe drought in the United States on July 1. One was centered in the western part of the Great Plains region and included the eastern parts of Colorado, New Mexico, and Wyoming, and the western parts of Kansas, Nebraska, and Oklahoma. This region is in the heart of the Tenth Federal Reserve District. The other drought area was in central Texas. High temperatures after July 1 were particularly hard on pastures and crops in these areas. In many instances, pastures have not received adequate precipitation to promote growth at any time during the spring or summer. Where this is the case,

either livestock is being liquidated or supplemental feeding is being practiced. In other parts of the Nation, prospects on July 1 were favorable.

Acreage for Harvest

Nationally, acreages of wheat and cotton for harvest in 1954 were reduced sharply because of the strict production control programs imposed under marketing quotas. It appears that the wheat and cotton harvest in 1954 will be approximately 19 million acres less than that harvested in 1953. Even though acreage allotments were in effect this year, the acreage planted to corn is virtually the same as in 1953. Acreages of most other crops increased substantially and the total acreage for harvest this year is expected to be larger than last year and nearly the same as in 1952.

In the seven Tenth District states, the acreages for harvest of the different crops followed national trends rather closely. Wheat, cotton, and corn acreage for harvest declined, as was the case nationally. The acreage of corn for harvest in District states this year was approximately 600 thousand less than last year. For the Nation as a whole, it was only about 100 thousand acres less this year than last. This indicates that the acreage of corn for harvest outside District states increased about 500 thousand acres this year. It also should be noted that the percentage increase in acreage of hay for harvest was substantially larger in District states than it was for the Nation.

Crop Production

The Department of Agriculture reports that another large volume of crop production is expected in 1954. It is expected to be almost as large as in 1952 and 1953, but nearly 4 per cent less than the 1948 record. On the basis of the July Crop Report, over-all crop production this year is expected to be 102 per cent of the 1947-49 base period. This would be the fourth largest on record, falling short of the 103 per cent in both 1952 and 1953, and the record of 106 per cent in 1948.

Feed grains account for a major proportion of the all-crop production volume. According to the July Crop Report, corn production is expected to be the second largest on record, while oat production will be at record levels and barley production much larger than average. The sorghum crop is being grown on a near-record acreage although yield prospects are extremely uncertain. Much of the sorghum crop produced in the United States is grown

Acreage For Harvest

In Thousands of Acres

Crop	Tenth District			United States		
	Average 1943-52	1953	Indicated 1954	Average 1943-52	1953	Indicated 1954
Wheat (all)	26,314	26,142	20,679	66,025	67,608	53,726
Corn	16,664	14,727	14,149	85,820	80,279	80,164
Oats	6,401	5,534	5,908	39,526	39,358	41,980
Barley	1,901	920	1,649	10,960	8,534	12,885
Sorghum	6,137	6,394	8,800	13,681	12,397	18,489
Hay (all)	14,207	14,652	15,958	74,629	73,918	75,984
Sugar beets	224	206	229	716	745	879
Cotton	1,936	1,952	1,675	22,428	25,244	19,961
Soybeans	1,443	2,744	2,895	13,523	16,085	18,825

SOURCE: U. S. Department of Agriculture.

in the two areas that have been suffering from extreme drought and high temperatures.

The contribution of the food grains to the all-crop production volume will be smaller than usual because of the below-average production. The acreage seeded to winter wheat last fall was about 18 per cent less than was seeded in the fall of 1952. Approximately 18 per cent of the seeded acreage was abandoned—about the same abandonment as a year earlier but well above the average of 12 per cent. Winter wheat yields per acre harvested this year were considerably above average—in fact, the second highest on record. The 23 million bushels of rye produced is above average, and rice production is expected to continue its series of record-breaking outputs with about 60 million bags.

For those crops on which production estimates were made, trends in District states again tended to follow those for the Nation. However, magnitude of the changes showed considerable variation. The decline in wheat production between 1953 and 1954 in District states was not as large as it was for the Nation as a whole. Estimated corn production in District states was up more percentagewise than it was nationally, although the acreage decrease in District states was larger than that for the Nation. This probably can be accounted for by the fact that drought conditions in the corn-producing areas of this District last year were worse than they appeared to be as of July 1 this year. It also should be noted that the estimated increase in hay production for District states from 1953 to 1954 was larger than it was for the Nation. This indicates that hay production outside the District states is expected to be smaller this year than it was last year. In general, it appears as if crop production prospects for the District are favorable. However, prospects for many crops in the drought areas are quite poor. The drought within the District intensified after July 1 and crop prospects since that time have deteriorated. Therefore, the production estimates for District states as indicated in the July Crop Report probably are too optimistic.

Crop Production
In Thousands of Units

Crop	Tenth District			United States		
	Average 1943-52	1953	Indicated 1954	Average 1943-52	1953	Indicated 1954
Wheat (bu.)	428,063	392,336	355,890	1,121,506	1,168,536	988,321
Corn (bu.)	487,821	413,490	493,539	3,057,464	3,176,615	3,311,493
Oats (bu.)	153,564	119,466	183,415	1,316,359	1,216,416	1,544,674
Barley (bu.)	39,765	22,296	34,992	274,955	241,015	372,519
Hay (tons)	17,855	16,798	19,616	101,959	105,300	107,494

SOURCE: U. S. Department of Agriculture.

Summary

Despite acreage allotments and marketing quotas, it appeared, as of July 1, that the total acreage of crops to be harvested during 1954 would be larger than last year. Total crop production was expected to be the fourth highest on record—nearly 4 per cent below the record achieved in 1948.

Crop conditions were favorable except for two areas in the western Great Plains and in central Texas, where severe drought prevailed. Extreme temperatures and lack of rainfall after July 1 caused considerable deterioration of crops throughout the southern Great Plains and Rocky Mountain regions. The drought situation in these areas is critical.

PETROLEUM PRODUCT STOCKS HIGH

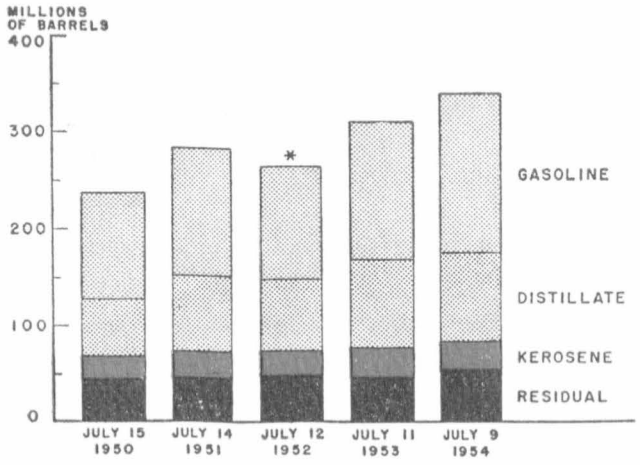
EXCESSIVE GASOLINE STOCKS currently are causing concern in the oil industry. Scattered price reductions already have occurred as a result of stiffening competition for available outlets. On the Gulf Coast, regular grade gasoline at refineries in July of this year was 1 1/2 cents a gallon below the level reached after a 1-cent price rise in June 1953. In the Mid-Continent area, July prices were 5/8 of a cent under the June 1953 levels. Some independent refiners are encountering increasing difficulties as the refiners' margin narrows. This situation was highlighted by the closing late this June of a Texas refinery with 20,000 barrels a day capacity. Although crude oil prices have not been cut, the squeeze on independent refiners has caused speculation as to whether the June 1953 increase in crude prices would be maintained.

On July 9, gasoline stocks were 21.2 million barrels, or 15 per cent higher than a year earlier. While residual fuel oil stocks also have increased substantially in the last year, they have not increased as much as gasoline or distillate stocks since 1950. More than half of the increases in stocks in the last four years were in gasoline, while about two fifths were in distillate stocks. However, distillate stocks did not increase in the past year.

While the increase in stocks was not due to reduction in consumption, overestimation of the probable increase in consumption for 1954 undoubtedly was a factor. The consumption of petroleum products has been increasing at an average rate of 5 per cent a year for several decades; for the last two years, the increase has been 4 per cent. Some private forecasters estimated that consumption would increase 5 per cent in 1954, while the U. S. Bureau of Mines in December 1953 estimated that the 1954 increase would be 2.9 per cent. In June, this estimate was revised downward to 2.1 per cent. Mild weather in January and February reduced the demand estimate for distillate fuels while reduced industrial activity caused a lower estimate of residual fuel consumption. The projected increase in gasoline consumption also was pared from 4.2 per cent in the December estimate to 2.5 per cent in the revised forecast. The Bureau of Mines' revised forecast is based on normal weather for the remainder of the year and increased industrial activity in the latter part of the year.

Residual oil consumption has not increased in recent years as other fuels, notably natural gas, have encroached on its markets. In fact, the revised estimate for 1954 consumption is 200 thousand barrels under the 1950 level. While consumption of distillate fuels has increased at a slightly higher rate than gasoline

Petroleum Product Stocks



*Stocks in July 1952 were affected by the oil strike in May 1952.
SOURCE: American Petroleum Institute.

Changes in Demand For Petroleum Products

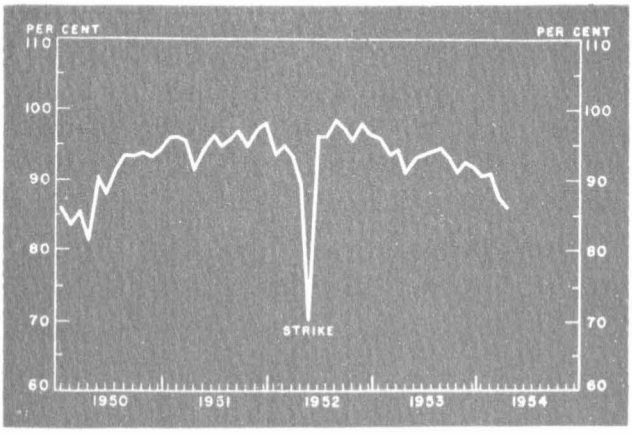
	1950-1951	1951-1952	1952-1953	1953-54 Estimated	
				Dec. '53	June '54
	(Yearly percentage changes)				
Gasoline	10.7	5.6	6.7	4.2	2.5
Residual	4.2	—1.5	1.3	—2.9	—3.7
Distillate	15.4	9.3	1.5	8.0	5.5
Total	9.6	3.8	3.8	2.9	2.1

SOURCE: U. S. Bureau of Mines.

consumption since 1950, warmer than average winters in the past several years have reduced the potential markets. Demand in 1954 still is expected to exceed that in 1953 by 5.5 per cent, even though demand in 1953 was only 1.5 per cent above 1952.

Since residual fuel markets have not expanded and the price of residual has been below that of crude oil for years, refiners, in order to show a higher profit, continually have employed process improvements which convert more residual oils to distillate products. For example, catalytic cracking capacity has been increasing at a higher rate than total capacity in recent years. The yield of residual fuels declined from 27 per cent of refinery runs in 1942 to 18 per cent in 1953, and the yields of gasoline and distillate fuels increased from 55 to 66 per cent of refinery runs during the same period. Distillate yields in 1953 and early 1954 were reduced slightly, however, due to the lowered consumption caused by warmer than average winters. While demands for residual and distillate oils for the first half of 1954 were below their levels in 1953, production also was reduced and stocks are fairly close to their 1953 levels. Gasoline demand, on the other hand, continued to increase this year, but because of increased gasoline yields from refinery runs, gasoline inventories are at a disturbing level.

Petroleum Refinery Capacity Operated



SOURCE: U. S. Bureau of Mines.

Some steps have been taken in recent weeks to alleviate this situation. The accompanying chart indicates that the per cent of refinery capacity operated declined from 91 per cent in February of this year to 86 per cent in April. Except for the 1952 oil strike, this was the first time the operating ratio had fallen below 90 per cent since June 1950. Weekly figures through July 16 indicate that production since April has been fairly stable at the lower level. Announced cuts in refinery runs by many major refiners indicate that production will continue to be curtailed. State conservation officials in important southwest oil-producing states have reduced oil allowables considerably in recent months in an attempt to lower crude oil stocks. With cuts in allowable production of 190,000 barrels daily in July and 120,000 barrels in August, Texas crude oil production is restricted more than at any time since prior to World War II. In Oklahoma, the June rate was extended for July; this rate is 20 per cent lower than the permissible output for May. Up to the present time, however, the steps taken have not reduced gasoline inventories much more than seasonally. From the first of May to July 16, gasoline stocks were cut 15,272,000 barrels, compared with a reduction of 14,201,000 barrels in the same period last year.

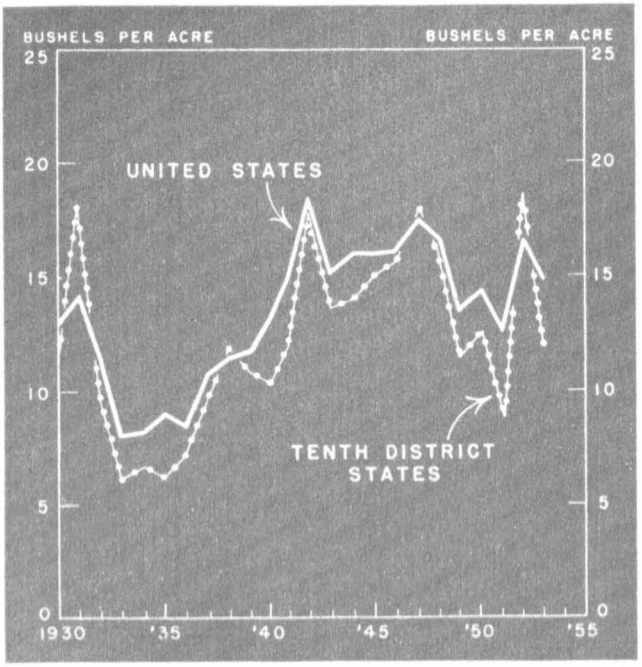
RESERVE REQUIREMENTS ARE LOWERED

One of the instruments that the Federal Reserve System uses at infrequent intervals in adjusting the money supply to the needs of the economy was employed by the Board of Governors in the six weeks from mid-June to August 1, when the reserve requirements of member banks were reduced. Requirements on net demand deposits—checking accounts—were lowered from 22 to 20 per cent at central reserve city banks in New York and Chicago, from 19 to 18 per cent at reserve city banks, and from 13 to 12 per cent at country banks. The requirement against time and savings accounts was lowered from 6 to 5 per cent at all member banks. The over-all effect of the action was to release an estimated 1,555 million dollars of reserves for use by member banks in expanding their loans and investments. Since the banking system considered as a unit is able to increase its loans and investments by a multiple of the funds released, it is obvious that a base has been provided for a substantial increase in bank assets. The reduction in requirements was timed to allow banks to meet demands for credit that are particularly strong in late summer and autumn as a result of crop movements, inventory replenishment by retailers in anticipation of the fall and Christmas sale seasons, and the Treasury's financing needs.

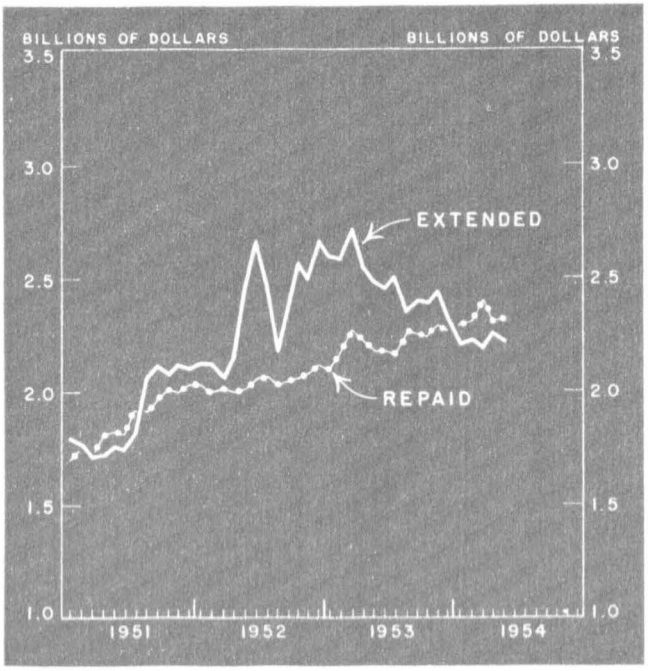
The new requirements on member banks in the Tenth Federal Reserve District are now at the level in force early in 1951. Approximately 60 million dollars of funds were released at these banks when the lower requirements became effective. In June, when the requirements on time and savings deposits were reduced, about 5.7 million dollars of reserves were released at District country member banks and 4.7 million dollars were released at reserve city members. On July 29, the lower requirement on reserve city banks made 27.4 million dollars available for lending and investing and on August 1, the reserves released at country banks were estimated to have been 22.3 million dollars. Reserve city banks in the District are the larger banks in Denver; Pueblo; Kansas City, Kansas; Kansas City, Missouri; Oklahoma City; Omaha; Topeka; Tulsa; and Wichita.

The last previous reduction in reserve requirements was announced on June 24, 1953. At that time, it was estimated that requirements on member banks in the Tenth District were lowered by 48 million dollars. These two reductions in the past year represent a relaxing of the control on bank credit that was imposed following the start of the Korean War when inflationary pressures were severe. Under the law, the reserve requirements on net demand deposits can be set as low as 13 per cent at central reserve city member banks, 10 per cent at reserve city members, and 7 per cent at country member banks, and 3 per cent on time and savings deposits at any member bank.

WHEAT YIELDS



INSTALMENT CREDIT, U. S.



BANKING IN THE TENTH DISTRICT

District and States	Loans				Deposits			
	Reserve City Member Banks		Country Member Banks		Reserve City Member Banks		Country Member Banks	
	June 1954 Percentage Change From							
	May 1954	June 1953	May 1954	June 1953	May 1954	June 1953	May 1954	June 1953
Tenth F. R. Dist.	+2	0	+4	+13	+3	+1	+1	+11
Colorado	+3	+7	+2	+3	+1	+6	+1	+6
Kansas	+4	+7	+4	+4	+10	+14	+1	−1
Missouri*	−1	−4	+2	+60	+2	−2	+1	+60
Nebraska	+3	−9	+3	+41	−1	−21	−1	+30
New Mexico*	**	**	+2	+6	**	**	+2	+4
Oklahoma*	+4	+2	+9	+4	+3	+11	+3	+6
Wyoming	**	**	+2	+6	**	**	0	+5

*Tenth District portion only. **No reserve city banks in this state.

PRICE INDEXES, UNITED STATES

Index		June 1954	May 1954	June 1953
Consumer Price Index	(1947-49=100)	115.1	115.0	114.5
Wholesale Price Index	(1947-49=100)	110.0	110.9	109.5
Prices Rec'd by Farmers	(1910-14=100)	248	258	257
Prices Paid by Farmers	(1910-14=100)	282	284	277

TENTH DISTRICT BUSINESS INDICATORS

District and Principal Metropolitan Areas	Value of Check Payments		Value of Department Store Sales		*Value of Residential Bldg. Permits	
	Percentage change—1954 from 1953					
	June	Year to date	June	Year to date	June	Year to date
Tenth F. R. Dist.	+6	+3	−2	−4	+89	+25
Denver	+9	+2	−1	−3	+78	+19
Wichita	+3	+1	−6	−9	+186	+34
Kansas City	+2	−1	−3†	−4†	+192‡	+21‡
Omaha	+7	+8	0	+3	+48	+36
Okla. City	+10	+8	+10	0	+97	+71
Tulsa	+12	+5	−1	−4	+54	+34

*City only. †Kansas City, Mo., only. ‡Kansas City, Mo., and Kans.

FEDERAL RESERVE BANK OF KANSAS CITY
10-J
INCORPORATED MAY 18, 1914