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FEDERAL RESERVE BANK
OF KANSAS CITY

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Farm Finance

in this modern era

THE AMERICAN FARMER and agricultural scientist are a prolific team. With the aid of industry, this team has doubled farm output in the last 25 years with approximately a third less farm labor. This rapid increase in efficiency was accomplished only under conditions that have created an upheaval in farming and other related sectors of the economy. These sectors include the institutions that finance the agricultural industry and other related activities. In many instances, it has been difficult for financial institutions to interpret properly the significance of new developments. Consequently, some have had a difficult time adapting their lending procedures to the requirements of modern innovations in farming. It will be the purpose of this article to point out some reasons for the rapid acceptance of innovations, the major changes occurring in resource requirements, and the influence these developments are likely to have on the financial requirements of American agriculture.

Reasons for Acceptance of Innovations

The farming industry is composed of a large number of highly competitive business enterprises. Consequently, many individuals in the industry are constantly searching for new methods through which production and marketing efficiency can be increased. This relentless search has been a strong inducement for acceptance of innovations by commercial

farmers. New techniques also have enabled farmers and distributors to provide consumers with a better seasonal distribution of supplies, frequently with a higher quality product, and to render these improved services more efficiently.

Numerous examples can be cited in which advancements in areas such as breeding, feeding, chemicals, biologicals, machines, equipment, and management have made these accomplishments possible. Although achievements have varied among commodities, areas, and producers, there is little question that rapid change will continue in the industry for some time in the future.

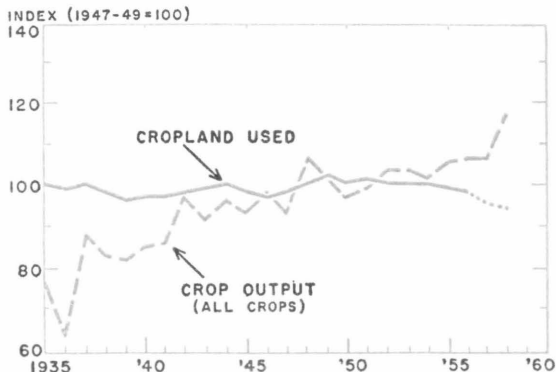
Innovation in the past generally has encouraged specialization and the development of larger-scale operations. These larger-scale operations result both from handling more units at a time and the tendency to make continuous production programs out of those that at one time were highly seasonal in nature. The advantages offered by use of these new techniques, combined with the competitive nature of the farming business, have provided strong incentives for commercial farmers to modernize their businesses. They have been able to do this only by making rapid shifts in the structure of their business enterprises.

Changing Resource Requirements

Both the kinds and quantities of resources used in farm production have changed sig-

Cropland Used and Crop Output

United States



SOURCE: U. S. Department of Agriculture.

nificantly with the technological innovations that have occurred in recent years. Generally speaking, the amounts of cropland and farm labor needed to produce a unit of farm output have declined sharply during the past quarter century. The total amount of these resources used also has declined, but at a less rapid rate than on a per-unit-of-output basis. On the other hand, the amounts of most capital items used have increased sharply on both a per-unit-of-output and total basis.

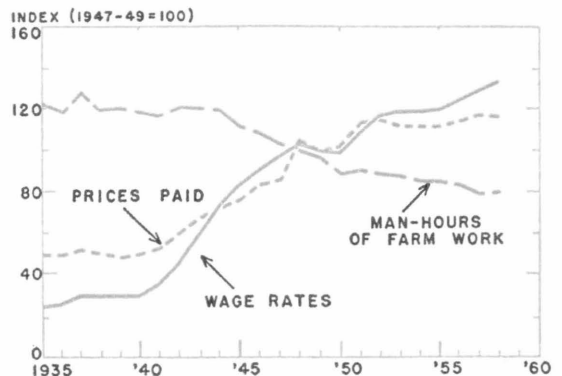
To finance the farm business properly, it is necessary to be familiar with the resource requirements of the industry on a per-unit-of-output and total per-farm basis. For example, even though substantially less land per unit of output is used today as compared with a quarter of a century ago, the per-farm capital requirements for providing land are much higher. This is explained by the record-high land prices that prevail currently and the larger average acreage handled per farmer because of the forces brought about largely by innovation. The average farmer today handles about two thirds more land acreage than the average farmer did in the mid-1930's.

Although there are many reasons for the prevailing record land prices, from a farming

viewpoint much of the increase can be attributed to the ability of producers to expand output per acre sharply because of innovation, the tendency for innovation to result in economies of scale, and the continued strong demand for farm products. The first chart indicates that the total physical quantity of land used for crop production has declined slightly in recent decades. Crop production on this acreage, however, increased by more than a half. Since the average farmer with present technology can produce about 55 per cent more crops per acre than could the average farmer a quarter of a century ago, land is now more valuable to him with the stronger demand for farm products. Furthermore, Government programs and economies of scale continue to provide strong inducements for many farmers to increase the acreage of land they handle. The highly competitive conditions existing in the industry under these circumstances, combined with other causes, have resulted in strong bidding for farm land which has pushed prices to about three and one half times their 1935 levels. The combination of higher prices and larger acreage handled per farmer has resulted in the current land invest-

Farm Labor, Wage Rates, and Prices Paid By Farmers

United States



SOURCE: U. S. Department of Agriculture.

ment per farm being about five times that prevailing in 1940.

Although the total amount of labor used in the agricultural industry today is a third less than in the mid-1930's, farm wage rates are more than five times higher and therefore total wage payments are higher because the increase in wage rates has more than offset the decline in agricultural employment. Since wage rates have increased much more rapidly than prices of most capital items, farmers have had an additional strong inducement for substituting capital for hired labor.

The substitution of capital for labor and land on a per-unit-of-output basis is reflected in the accompanying table. Cropland and man-hours per unit of output declined sharply as compared with large increases in fertilizer, feed purchased, and the investment items of tractors and trucks. Other production items, such as petroleum products, electricity, water, hybrid seed, biologicals, other chemicals, machinery rental, and other machinery and equipment, also have become increasingly more important during this period.

Many of the capital items referred to have enabled farmers to produce additional quantities at little extra cost. For example, use of chemicals and hybrid seed in many instances has enabled farmers to double per-acre yields with only modest increases in cost. The cheapest crop production in recent years has been the additional output obtained by application of these relatively low-cost items. It is largely through the increased use of these resources that farmers have been able to achieve such a rapid rate of increase in output during a period in which intensive efforts were being made to restrict farm production by various types of programs.

This type of innovation, in addition to enabling farmers to increase output per acre rapidly, has had the further advantage of becoming relatively more economical in that prices for these resources have not increased

as rapidly as have prices of many of the other resources used in farming. Since 1940, for example, wage rates have increased about 350 per cent and the over-all index of prices paid by farmers has increased 150 per cent, but prices paid for fertilizer have increased only 50 per cent. Approximate price increases for some of the other resources used by farmers for this period were: motor supplies, 70 per cent; feed, 100 per cent; seed, 110 per cent; farm supplies, 110 per cent; farm machinery, 145 per cent; motor vehicles, 160 per cent; and building and fencing materials, 170 per cent.

Although prices of some resources, such as fertilizer, have increased relatively little compared with those of many other resources, total expenditures per farm for fertilizer are much

Selected Resources Used Per Unit of Farm Output, 1935-58

United States
1935-39=100

Year	Cropland used for crops	Man-hours of farm labor	Feed Purchased	Fertilizer (plant nutrient)	Tractors	Trucks
1935	106	104	81	86	88	95
1936	115	114	124	109	106	110
1937	93	96	93	102	92	94
1938	94	93	87	99	105	102
1939	92	93	115	104	109	99
1940	89	88	141	109	113	98
1941	86	84	137	114	118	99
1942	78	79	150	114	118	94
1943	81	80	170	134	133	106
1944	79	77	170	145	136	111
1945	79	72	194	154	149	120
1946	76	68	181	177	153	122
1947	79	67	195	192	167	139
1948	73	59	180	183	164	141
1949	78	59	170	201	187	158
1950	77	55	183	232	207	172
1951	75	54	200	244	218	174
1952	72	51	188	262	221	175
1953	71	50	180	273	231	181
1954	71	48	187	294	238	187
1955	68	47	191	290	236	188
1956	66	46	195	286	244	193
1957	64	44	209	299	248	200
1958*	59	41	216	289	236	192

* Preliminary.

SOURCE: U. S. Department of Agriculture.

higher today than in the prewar year of 1940. This is because fertilizer is a relatively cheap resource that farmers have learned how to use effectively. With more fertilizer being used per acre on the larger farms, the amount used per farm has increased substantially. If allowance is made for increased use per acre, the increase in average size of farm, and the increase in price, the average farmer in 1958 spent approximately nine times as much for fertilizer as the average farmer in 1940. Since prices of fertilizer increased only 50 per cent, a major part of this increased expenditure was caused by the purchase of a larger physical quantity. It also should be pointed out that the more efficient producers in many areas were those most likely to increase their use of fertilizer. Therefore, it is probable that many of the more efficient farmers increased their fertilizer expenditures more than the average ninefold increase.

Available data indicate that the dollar value of petroleum products and feed used per farm in 1958 was around six times that of 1940. The average dollar investment per farm in machinery and motor vehicles in 1958 was about eight times 1940 levels, while that of livestock was about four times those levels.

Modifications of the type that emphasize the changing relative importance of resources and specific capital requirements also influenced the total capital requirements on a per-farm basis. The average dollar value per farm of assets used in production was almost five times the 1940 level in 1958. Operating expenses indicate the amount of operating capital required per farm in 1958 was more than five times 1940 levels.

Influence on Financial Requirements

Changes in resource requirements of the magnitude described obviously influence the financial requirements of farmers. Successful financial agencies have found it necessary to adapt their methods and procedures to pre-

vailing dynamic conditions. In addition to adapting loans to individual farm requirements, it is also desirable to review the decision-making process for determining whether the supply of available funds is being allocated among farmers in the most advantageous way.

Technological innovation in agriculture has resulted in development of pressures that tend to induce inefficient farmers to move out of the industry. Financial agencies need to be familiar with these pressures, since from an economic viewpoint, it is to the best interests of both society as a whole and financial agencies if the supplies of farm capital available are allocated to producers who can use this capital most efficiently. These are the operators who will produce goods most efficiently for consumers, stay in business, use resources most effectively, and be most able to repay their loans.

Many examples could illustrate some of the economic consequences of technological innovation in agriculture. To point out one, not too many years ago a large proportion of the eggs in the Nation were produced by small flocks. Seasonal distribution of supplies varied substantially, quality frequently was poor, the operation tended to be inefficient, and credit was of little significance in this type of operation. Today, eggs are produced largely by highly specialized operators who use credit extensively. Similar changes also have been occurring in the broiler, turkey, dairy, and meat animal industries. These changes result in the substitution of capital for labor and in the use of new kinds of capital in the productive process. Both the amount and complexity of financing operations have been influenced.

Such factors as the increased tendency toward specialization and the use of new techniques have also brought about innovations in financing. For example, capital today often is made available to farm producers through suppliers, processors, and speculators. In com-

mercial broiler and cattle feeding operations, the producer may finance his land, buildings, and equipment through a financial institution, but have a large part of his operating capital provided by suppliers, processors, and speculators. Under these circumstances, financial institutions still may provide indirectly for much of the operating capital, but the methods used for financing are substantially different than if the loans were made directly to the individual providing the labor and facilities.

The farm economy becomes more fluid as financial agencies effectively adapt their financing procedures to the dynamic conditions that prevail. It cannot remain static. This fact needs to be emphasized, since a growing economy can be achieved only by finding solutions to the problems that hamper economic growth.

America has had a growing economy, and it seems most realistic to assume that growth will continue to be emphasized. Therefore, it is highly probable that farm finance will continue to be quite dynamic in the next few years. It is difficult to foresee the exact nature of the changes that are likely to occur. A brief review, however, of the probable influence of changing resource requirements on the methods and procedures used in financing farmers should provide some helpful information for analytical purposes.

Shifts in the kinds of resources used in farming obviously mean that the purpose for which loans are made has changed. Thus, many loan characteristics are different now than they were a decade or two ago. The material covered previously indicated that per-farm expenditures for such items as fertilizer, machinery, etc., increased at a more rapid rate than expenditures for such items as wages, rents, and livestock investment. Since farmers need relatively larger amounts of financing for those items where expenditures are growing most rapidly, it would seem logical that re-

quests for credit to finance these items would become more prevalent. On an average, the amount needed to finance fertilizer purchases during the past two decades has increased much more rapidly than has that needed for financing investment in livestock.

Changes in the structure of resources used in farm production also are likely to influence the maturities of farm loans. For example, loans made for purchasing fertilizer usually can be repaid within a crop season. Those made for investment in breeding livestock herds frequently require several years before repayment can be made. Therefore, insofar as these two items are concerned, short-term financing has been increasing much more rapidly than has intermediate-term financing. Despite the amount of discussion about the growing need for more intermediate-term financing, it appears that the need for short-term financing is growing at an even more rapid rate. Regardless of which is growing more rapidly, maturities of farm loans should be tailored to realistic repayment schedules. Making farm loans with maturities of 6 months or a year, where income from the enterprise being financed is such that several years may be required for repayment, is an obsolete procedure in the modern farm economy.

The trends in capital requirements also have influenced the size of loan necessary for adequately financing the modern farm business. Based on the trends in average value per farm of assets used in production and operating expenses from 1940 to 1958, it appears that the size of the average farm loan would have increased by five times during this period. Furthermore, all available evidence indicates that this trend toward the need for larger loans will continue. This means that financial institutions, if they are to serve agriculture properly, must be prepared to meet requests for large loans from individual farmers. It now appears that the most logical assumption for financial agencies

to make for planning purposes is that they will be required to continue lending an increasing aggregate amount to a decreasing number of farmers. Financial agencies that are unable to handle these individual requests for large loans may lose their most profitable farm customers, since large loans are cheaper to service on a per-dollar-of-volume basis and the larger operators frequently are the most efficient ones. The available methods of preparing for legally handling such requests vary widely, depending on variations in laws as they apply to different kinds of financial institutions in different states. This problem needs to be studied by financial agencies that have difficulty in meeting individual loan requests because the loan needed is larger than they can provide.

With the current degree of specialization in farming and the dynamic nature of the industry, farm lenders must be flexible. Most farmers keep well informed on current developments, and frequently find it desirable to vary production plans as conditions change. As these changes occur, it becomes necessary to revise credit planning. More or less credit with different maturities may be appropriate. Obsolescence also becomes more common and,

in many cases, additional financing may be necessary if a farm operator is to remain competitive. Thus, it becomes increasingly important for farm lenders to keep well versed on conditions in the industry.

The trends toward specialization, larger size of business, and the greater relative importance of cash expenses are causing managerial ability to become an increasingly important consideration in extending farm credit. With the large amounts of capital necessary in commercial farming today, a poor manager will become insolvent much more rapidly. In many instances, managerial ability needs to be considered as much as character, willingness to work, and other factors and—if all other characteristics are assumed to be constant—frequently outranks security as a measure of repayment ability.

Security in many cases is becoming a relatively less satisfactory measure of repayment ability as modern trends unfold. A poor manager can become insolvent rapidly even though he may have had a substantial net worth statement. Although security continues to be important in farm lending, generally it does not warrant the same relative emphasis as previously.



GROWTH OF

Consumer Instalment Credit

At District Member Banks

TOTAL CONSUMER instalment credit outstanding in the Nation was estimated to have been \$33 billion on June 30, 1958, after a growth of \$20 billion over the preceding 8 years. The total outstanding at commercial banks at midyear 1958 was \$12.5 billion, reflecting an expansion of about \$7.3 billion from June 30, 1950. At District member banks during the 8-year interval, consumer instalment loans grew from \$173.3 million to \$451.8 million. These gains represent increases of 153 per cent in total consumer instalment credit, of 142 per cent in instalment credit held by all commercial banks in the Nation, and of 161 per cent at Tenth Federal Reserve District member banks.

Growth of such magnitude in a particular type of loan raises a number of questions. How large is the volume compared with total assets? Is the growth the result of large increases at a minority of banks, or are increasing numbers of banks expanding their operations in this area of credit? Has District growth been based upon a specific kind of loan, such as automobile credits, or has bank lending also penetrated other areas as well, such as loans on other consumer durables, home repair and modernization loans, and cash instalment loans? What bank size and which District states have been most important in the growth of instalment lending? These and related questions are treated in the ensuing discussion.

Total consumer instalment loans of District member banks grew more rapidly in the 8 years ending June 30, 1958, than those of all member banks in the United States. But at the earlier date, District members were employing a smaller proportion of their total assets in consumer loans than were member banks nationally. Consequently, the more rapid growth in the District during the 8 years only narrowed the difference between District and national ratios. On June 30, 1950, District member banks had 2.7 per cent of their total assets invested in consumer instalment loans; the ratio for all member banks in the United States was 3.5 per cent. By midyear 1958, the District ratio had risen to 5.3 per cent while that for the national group had advanced to 5.9 per cent. Thus, even after the marked growth of the 8-year period, District banks had committed a smaller proportion of their assets to these loans than the national average for member banks.

Over the 8 years, loans on automobiles increased more rapidly than other classes, both in the District and Nation. The relative gain of District banks was attributable to the rapid expansion of loans on other consumer goods and for home repair and modernization. In the first of these categories, District member banks had reached the same ratio of loans to total assets that prevailed at member banks nationally, but in home modernization credits, there still was a materially lower District

ratio. The growth of cash instalment loans over the 8 years was 120 per cent at District members and 138 per cent nationally. This was the only class in which the District lagged behind the national performance.

Contrasts of District Reserve City and Country Bank Trends

In turning to intra-District comparisons of reserve city and country bank positions with respect to consumer instalment loans, it is necessary to shorten the period reviewed to the 4 years from June 30, 1954, to June 30, 1958, owing to the reclassification of a number of banks from reserve city to country bank status in the spring of 1954. In the 4-year period, consumer instalment loans in relation to total assets increased from 3.4 per cent to 4.4 per cent at reserve city banks and from 4.5 per cent to 6.3 per cent among country member banks. All member banks in the United States showed a growth from 5.1 per cent to 5.9 per cent. Thus, it is evident that the country banks of the District experienced a relative increase greater than either District city members or member banks in the Nation. The slower growth of loans at city banks partly reflects the absence of branch banking in these cities, in contrast to other parts of the country, which would have enabled the city banks to follow populations to the suburbs. Also important are the broader range of loan demands of the larger city banks and their greater cash asset requirements.

The ratios of loans to total assets of the reserve city banks, by type of loan, show them to be higher than those of country banks on loans for home repair and modernization and retail credit other than on automobiles. Country banks show distinctly higher ratios than either District reserve city or all member banks on automobile loans and are well above the city banks in the extension of cash instalment credit. The fact that cash instalment loans increased at country banks by 63 per

cent over the 4 years, whereas single-payment loans to individuals rose by only 24 per cent, may reflect in part the success of these banks in placing more of their loans to individuals on an instalment payment basis.

Other Intra-District Contrasts

It is of interest also to note the comparative growth of consumer instalment loans among individual states in the District and by size of bank. References to Missouri, New Mexico, and Oklahoma pertain only to the Tenth District portions. The measurement employed for these comparisons is the percentage of member banks having more than 6 per cent of total assets in consumer instalment loans in June 1950 and June 1958. This measure is an arbitrary choice used to divide banks into two groups to characterize trends in the period. For the District as a whole, 12.2 per cent of the member banks had ratios greater than 6 per cent in 1950, but by June 1958 their number had risen to 34 per cent of the banks.

At the earlier date, consumer instalment credit had reached higher relative volumes among member banks in Missouri, Oklahoma, and Wyoming, but in the 8-year span, the positions of several of the states changed materially. The largest growth occurred in New Mexico and Oklahoma.

Among District states with a sizable number of member banks, Oklahoma led in consumer instalment lending, with 51 per cent of its member banks having 6 per cent or more of total assets in consumer loans. These credits were lowest in Nebraska where only 10 per cent of the member banks had lent more than 6 per cent of their total assets for this purpose. During the 8-year period, growth in Colorado, Kansas, and Wyoming was marked in relation to bank assets, but the increase in Missouri was much less rapid than formerly.

Looking at the extreme end of the spectrum, 13 member banks in the District had 18 per

Consumer Instalment Credit in Relation To Bank Assets

Tenth District Member Banks

Percentages of Member Banks by States and Size Classes

By States				
	1950		1958	
	More than 6 per cent of total assets	Less than 6 per cent of total assets	More than 6 per cent of total assets	Less than 6 per cent of total assets
Colorado	8	92	37	63
Kansas	6	94	27	73
Missouri	20	80	42	58
Nebraska	3	97	10	90
New Mexico	10	90	70	30
Oklahoma	24	76	51	49
Wyoming	19	81	41	59
District	12	88	34	66
Banks By Deposit Size				
\$1 million and under	13	87	23	77
\$1-\$2 million	15	85	23	77
\$2-\$5 million	10	90	31	69
\$5-\$10 million	14	86	42	58
\$10-\$50 million	15	85	55	45
Over \$50 million	5	95	29	71

cent or more of their assets in consumer instalment loans and 4 had 24 per cent or more so committed. All but 1 of the 13 were in Oklahoma.

Comparisons of ratios in 1950 and 1958 in relation to size of bank also reveal several differences in growth rates. In 1950, the range in percentages of banks having more than 6 per cent of total assets in consumer loans, excluding the largest banks, was only from 10 per cent to 15 per cent, as can be observed from the accompanying table. Over the succeeding 8 years, all bank sizes increased the amounts

committed to these loans, but growth was most widespread among banks having deposits of from \$10 million to \$50 million.

Examination of the location of the banks in the \$10-\$50 million deposit group which had relatively high ratios of consumer loans to total assets failed to suggest any particular locational factor to account for their growth. A few were in college communities, others were in suburban areas which might not produce large business credit demands, still others were in medium-sized cities, and one was in the center of a metropolitan area. Tentatively, it appears that bank policy with respect to this type of credit, including aggressive promotion, may be more important than other factors in explaining most of the differences among the \$10-\$50 million banks and the smaller-sized banks. In the largest banks, where business deposits and business credit demands usually are substantial and where cash assets are a comparatively larger percentage of total assets, it is to be expected that consumer instalment loans would not constitute so great a proportion of total assets as in the smaller banks.

In summary, while the growth of consumer instalment loans among Tenth District member banks has been rapid over the past several years, large numbers of banks, particularly in certain District states, still have not committed important amounts of resources to this purpose. Pressures from rising operating costs may bring revisions of bank policies, where these now limit the growth of consumer loans, and lead to further marked expansion in future periods.



District State and Local Bond Offerings

STATES AND THEIR political subdivisions in the United States have continued to express heavy demands for funds in the capital markets this year, with issuances of municipal bonds from January through April totaling more than \$3 billion. Only in 1958 did the volume of marketings in the first 4 months of any year exceed this figure. A decade ago, such a volume of new tax-exempt securities would have been a record for an entire year, indicating a dramatic surge in the requirements for external financing by this sector of the economy.

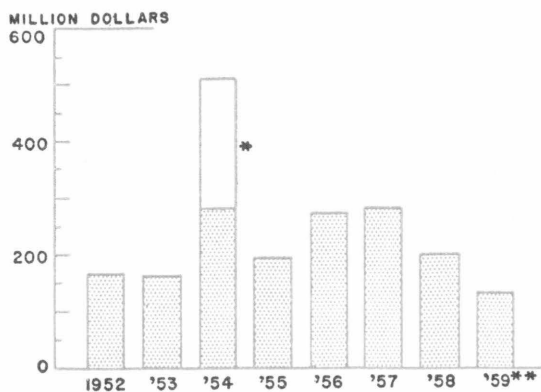
Underlying this growth in state and local debt issuances has been an increased need for streets and highways, water and sewage systems, schools, hospitals, airports, and many other types of facilities—requirements which have been felt keenly by cities and states within the Tenth Federal Reserve District as well as elsewhere in the Nation. Tabulations of District municipal bond offerings kept by this bank since 1952 indicate that borrowing authorities in the region issued approximately \$1.8 billion in new long-term debt obligations during the 7 years ending in 1958—about 4 per cent of the national total. This does not imply, however, an equivalent expansion of total state and local debt within the District, since some outstanding obligations were also retired during that period. Based on the national ratio of change in state and local debt to total municipal bond flotations, the growth in total debts of District borrowing authorities may be estimated roughly at \$1¼ billion over the past 7 years.

Trends in District Offerings

The accompanying chart depicts the annual volume of new bond offerings by District authorities from 1952 to the present, including a figure for 1959 based on a simple projection of new offerings during the first 4 months. Year-to-year variations in the volume of offerings are quite large, since the inclusion or exclusion of a single large issue greatly affects the total for a particular 12-month period. Thus, the extraordinarily large 1954 volume, which includes two turnpike issues amounting to \$228 million, has not yet been surpassed. But there appears to be a general upward trend in the series, as evidenced by

Bond Offerings of States and Political Subdivisions

Tenth Federal Reserve District



*Top section of the bar for 1954 represents two large toll road issues.

**First 4 months at annual rate.

SOURCE: Weekly issues of the Commercial and Financial Chronicle.

the fact that the average volume of issues in the last two complete calendar years was 48 per cent above the 1952-53 average, which is approximately the same as the 49 per cent increase in the national volume of municipal security issues over the same interval.

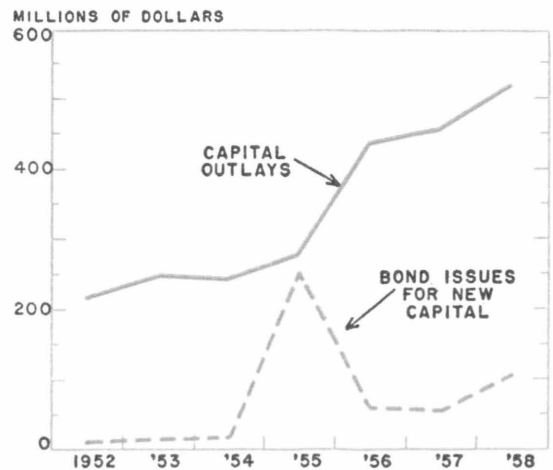
Funds raised by state and local bond issues typically are for financing capital outlays, and a basic question which arises is the degree of correlation between the level of bond issues and the volume of capital expenditures undertaken by state and local governments within the District. This question is of particular interest at the moment in view of the decline in new bond offerings during 1958 and the relatively low level of new issues early this year which are evident in the first chart. Does this reduction in bond flotations carry with it the implication that state and local construction expenditures in the region are weakening, thus perhaps placing a brake on the expansion of the regional economy?

Data which would permit a definitive answer to this question are not available, for there are no statistics relating to the capital outlays of the many political subdivisions of District states with which their bond offerings may be compared. It is possible, however, to trace the relationship between capital outlays and new bond issues of state governments in the seven states included (in part or in whole) within the District, as is done in the second chart. The capital expenditure and bond issue data in that chart encompass all boards, departments, commissions, semi-autonomous authorities, districts, and other agencies subject to administrative and fiscal control by the state.

It is quite apparent from this chart that the capital outlays of the seven states typically exceed their bond issues by a substantial amount, indicating that the financing requirements are met partly from other sources—from accumulated surpluses and current revenues, as well as from considerable amounts of funds

Capital Outlays and Bond Issues

Seven District States
Fiscal Years



NOTE: Data are for Colorado, Kansas, Missouri, Nebraska, New Mexico, Oklahoma, and Wyoming, including portions not in the Tenth District. Statistics are for fiscal years, whereas the first chart is based on calendar years.

SOURCE: U. S. Bureau of the Census.

received under Federal assistance programs. Additionally, year-to-year changes in these two series may bear little relation to one another, since funds raised in the capital markets at a given period in time may be expended over a lengthy period of construction or may, in some cases, permanently finance projects already completed. These observations suggest that the recent low levels of security offerings by all types of District state and local borrowing authorities need not imply a reduction in their capital outlays, although it should be noted that a larger proportion of local government capital outlays is financed by borrowing than is the case for states.

Responses to Changing Capital Market Conditions

Issues coming to market this year have carried a considerably higher net interest cost than those marketed in the comparable period

of 1958; yields on seasoned tax-exempt obligations from January through April averaged about 35 percentage points higher than a year earlier. However, this increase was only half as large as the rise in yields on outstanding long-term Treasury issues.

Necessarily, this change in yields raises questions concerning the possibility of District bond flotations and construction projects being postponed to await more favorable market conditions. The limited information available suggests that only a small portion of the bond offerings of District authorities respond to movements in interest rates or market conditions within the range of recent variations. The volume of offerings in the first 6 months of 1958, for example, did not display the sharp acceleration from the previous year which was evident in the national totals, but was about equal to the level in the first half of 1957. Interviews with financial officers of a sample of those District borrowing authorities who placed new issues in the market during the first half of 1958 tend to corroborate the view that interest costs and market conditions did not affect greatly the volume of new capital raised in that period. A dire need for new facilities and the ability to raise new capital funds under existing debt limitations were indicated as highly important elements influencing the size and timing of new issues, and apparently there would have been little reluctance to market the securities under less favorable market conditions.

Purposes of Security Offerings

Keeping in mind the qualifications noted above regarding the relations between capital outlays and bond issues, it is of some interest to note the various purposes for which new securities have been issued by District governmental units. The accompanying table shows a division by purpose for 1956, 1957, and 1958. Construction of schools and of water and sewage systems have been important uses

of long-term funds, each accounting for nearly 40 per cent of the new capital raised in the securities markets by District borrowing authorities from 1956 through 1958. Financing for streets, highways, and bridges comprised 11 per cent of the total over that 3-year period, while the remainder was for public buildings and a variety of other projects. This distribution by purpose has been fairly typical of most recent years except 1954, when flotations of two large toll road issues — the Kansas and Oklahoma turnpike obligations — dominated the annual volume.

The percentage of District bond offerings for the purpose of constructing or acquiring water and sewer systems is unusually high by comparison with national totals—roughly 10 per cent of all water and sewer system bonds issued in the United States from 1956 through 1958 originated in the Tenth District. Included among these were a \$42 million issue by the City of Wichita, two issues of \$20 million each placed in the markets by the City and County of Denver, and a \$20 million issue of Johnson County (Kansas) Water District No. 1. The latter issue was not for constructing new facilities but for purchasing a privately owned utility.

Who Acquires the Bond Issues?

The size of the potential market for new issues of District borrowing authorities varies

Security Offerings of State and Local Governments

By Purpose — In millions of dollars

Purpose	1956	1957	1958	3-Year Summary	
				Volume	Per Cent
Schools	125.8	75.2	86.4	287.4	38
Water and sewer systems	99.5	131.8	56.6	287.9	38
Streets, highways, and bridges	33.0	39.4	13.8	86.2	11
Public buildings	14.9	3.9	10.3	29.1	4
Miscellaneous	3.6	34.9	35.7	74.2	10
Total	276.8	285.1	202.7	764.6	100

NOTE: Details may not add to totals because of rounding.
SOURCE: Weekly Issues of the Commercial and Financial Chronicle.

greatly with the size and type of issue. Small issues of a few thousand dollars tap a predominantly local market and are frequently sold on a negotiated basis to a local bank or to an investment bond house in the vicinity. Very large issues, such as the \$160 million Kansas turnpike bonds of 1954, are marketed through a nationwide syndicate of bond dealers and brokers, involving hundreds of individual firms.

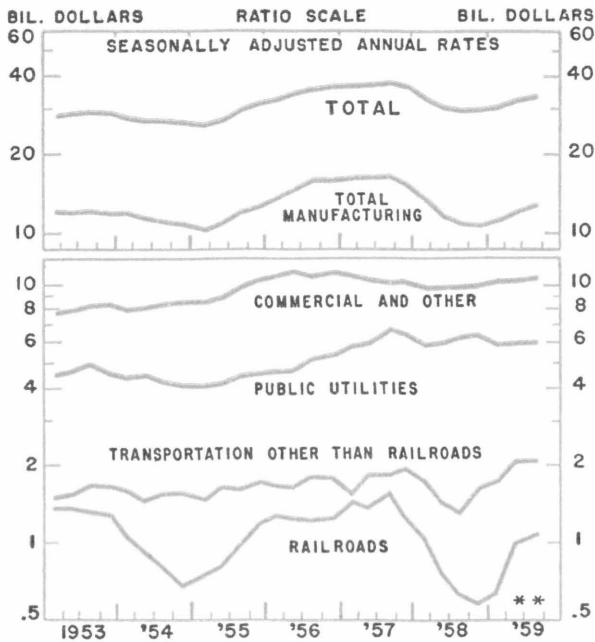
Information is not available as to the ultimate investors acquiring these securities, but judging by the ownership distribution of all municipal securities outstanding in the United States, the major market for these tax-exempt obligations is among individuals and commercial banks. Individuals owned an estimated 43 per cent of all municipal issues outstanding at the end of 1957 and commercial banks

held an additional 25 per cent. State and local government units other than the issuing authority and fire and casualty insurance companies owned most of the remaining 32 per cent. Major nonbank savings institutions typically do not invest heavily in municipal obligations, since the tax-exempt feature of these issues is not particularly attractive to them.

Among District member commercial banks, interest in adding to portfolios of state and local securities during recent years has been most evident among country members rather than among the larger city banks. Since the end of 1954, country members have expanded their ownership of municipal issues by more than 40 per cent, while the growth for reserve city banks over the same period has been less than 5 per cent.



Plant and Equipment Expenditures



*Anticipated.
NOTE: On a ratio scale, equal slopes indicate equal rates of change.

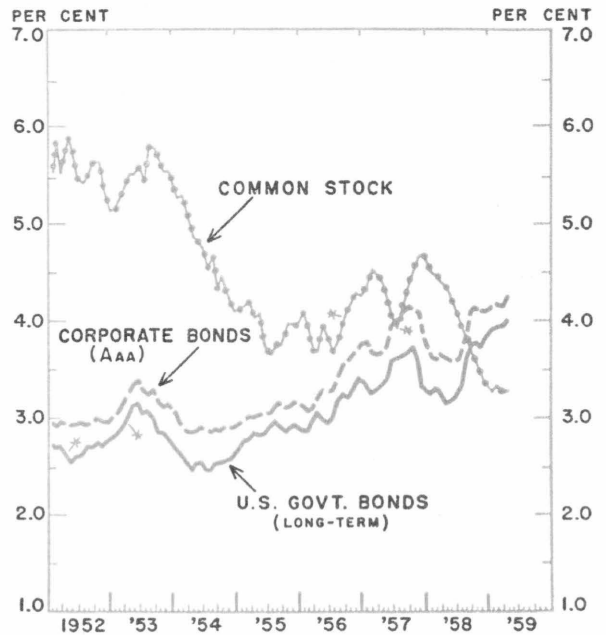
BANKING IN THE TENTH DISTRICT

District and States	Loans				Deposits			
	Reserve City Member Banks		Country Member Banks		Reserve City Member Banks		Country Member Banks	
	May 1959 Percentage Change From							
	Apr. 1959	May 1958	Apr. 1959	May 1958	Apr. 1959	May 1958	Apr. 1959	May 1958
Tenth F. R. Dist.	+1	+13	+3	+17	-1	†	-2	+8
Colorado	+2	+23	+2	+16	-1	+8	-2	+9
Kansas	-1	+9	+1	+18	-2	+1	-3	+8
Missouri*	+3	+9	+8	+18	-1	-6	+3	+7
Nebraska	†	+24	+1	+11	+5	+3	-2	+6
New Mexico*	**	**	+4	+22	**	**	-2	+11
Oklahoma*	+2	+5	+3	+22	-1	-2	-3	+8
Wyoming	**	**	+3	+13	**	**	-1	+6

*Tenth District portion only. **No reserve cities in this state.
†Less than 0.5 per cent.

Comparative Market Yields

January 1952-April 1959



*Change in issues included.

PRICE INDEXES, UNITED STATES

Index	May 1959	April 1959	May 1958
Consumer Price Index (1947-49=100)	124.0	123.9	123.6
Wholesale Price Index (1947-49=100)	119.8	120.0	119.5
Prices Rec'd by Farmers (1910-14=100)	245	244	256 r
Prices Paid by Farmers (1910-14=100)	299	299	295 r

r Revised.

TENTH DISTRICT BUSINESS INDICATORS

District and Principal Metropolitan Areas	Value of Check Payments		Value of Department Store Sales	
	Percentage change—1959 from 1958			
	May	Year to date	May	Year to date
Tenth F. R. Dist.	+12	+11	+2	+8
Denver	+13	+12	+4	+9
Wichita	+6	+6	-5	+2
Kansas City	+14	+13	+4	+10
Omaha	+11	+13	+2	+5
Oklahoma City	+9	+9	0	+9
Tulsa	+13	+6	+5	+9