MONTHLY REVIEW

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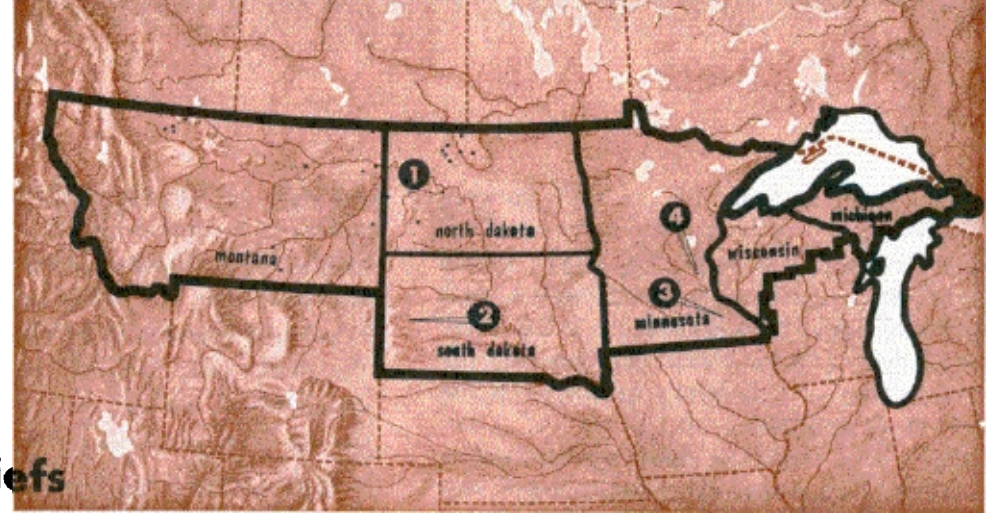
FEDERAL RESERVE BANK OF MINNEAPOLIS

AUGUST 1966

Economic Briefs



1. Oil exploratory program launched

A major effort to find new oil in the Williston basin of North Dakota and Montana and in the Powder River basin in Montana is being launched by two petroleum companies. A 22-well exploratory program will test prospects developed by Continental Oil Co. over an area 500 miles wide in the two states. Pel-Tex Petroleum Co. is the driller.

2. Rapid City gets new plant

Rapid City, South Dakota, has been selected by C. P. Clare & Co. as the site for a new manufacturing plant. The company makes a variety of products for the electronics industry. For Rapid City, plans call for the production of mercury-wetted contact modules for switching devices. About 100 persons are expected to be employed initially.

3. Sheraton Hotel pact reached

An agreement reached in July paves the way for the construction of a $6.5 million Sheraton Hotel in Rochester, Minnesota. Demolition of vacant buildings on the hotel site should begin late this summer and completion of the 14-story hotel is expected near the end of 1967.

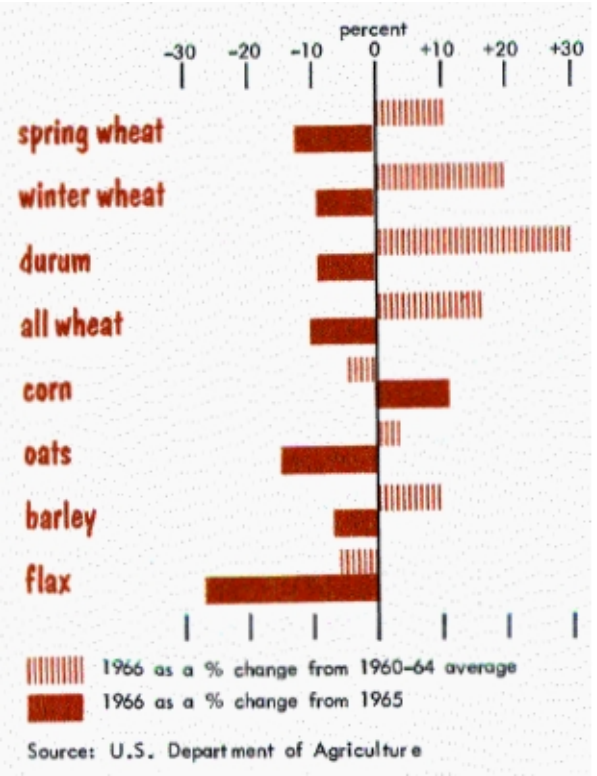
4. Ground broken for steel mill

Ground has been broken for the construction of a $10-million steel mill south of St. Paul, Minnesota. The new corporation, North Star Steel Co., will produce from scrap metal about 80,000 tons annually of structural steel bars of various shapes. About 200 persons will be employed at the plant once steel production gets underway.

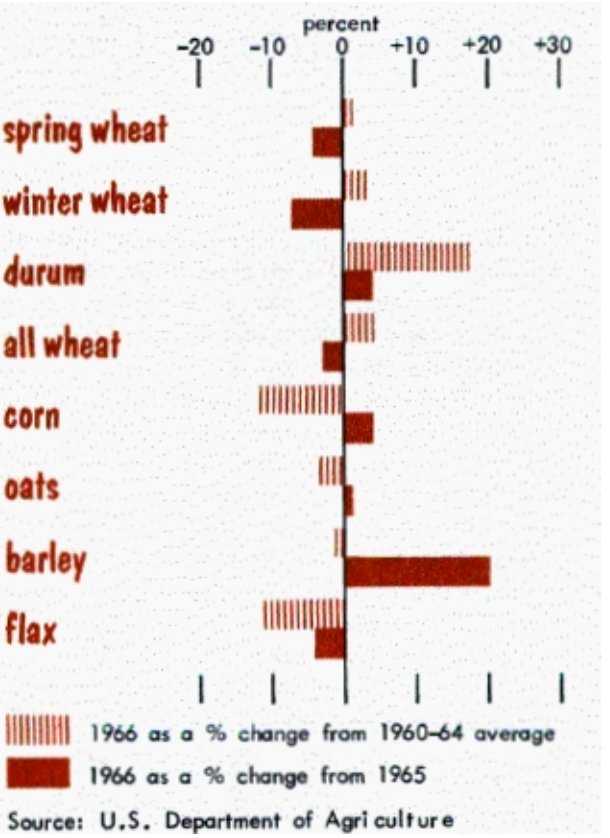
bushels, 8 per cent below that of 1965. This year's expected 62 million bushel durum crop reflects a 9 per cent fall from a year ago as production in North Dakota, the nation's leading durum producer is likely to be down about 10 per cent. Rye production, which has been declining generally for some time, is estimated at 11 million bushels, down 40 per cent from last year, as substantial reductions are expected throughout the district.

Corn output is expected to reverse last year's rather disappointing performance with an anticipated output of 411 million bushels, a figure that represents an 11 per cent gain over a year earlier, although 4 per cent short of the five-year average. In Minnesota and South Dakota, the area's major corn states, production is at 11 per cent and 14 per cent, respectively, above that of 1965. The

District crop production estimates



District acreage for harvest



estimated production of other feed grains in the district reflects a general cutback in output with the sharpest drop occurring in oats.

The reduced wheat output, relative to last year, is a result of both smaller harvested averages and an expected reduction in yields. The total harvested acreage of wheat is expected to fall 3 per cent short of last year with cutbacks of 3 per cent, 5 per cent, and 7 per cent occurring in North Dakota, Minnesota, and Montana, respectively. Virtually no change from last year is expected in South Dakota. Per acre yields of wheat are also expected to be down slightly due to the dry grow-

(continued on page 9)

First year averages announced for Functional Cost program

In October 1965 the Federal Reserve Bank of Minneapolis initiated a program to provide Federal Reserve member banks in the Ninth district with an analysis of their operating costs. With this beginning, the bank became one of eight Federal Reserve banks to offer the Functional Cost Analysis (FCA) service. Other districts where FCA was made available for the first time in 1965 were Cleveland, Chicago, St. Louis, and San Francisco — the program was already in effect at Boston, New York, and Philadelphia. For 1966 it appears that FCA will be available in additional Federal Reserve districts.

Nearly 27 per cent of the Ninth district's member banks participated in the 1965 program despite a rather short deadline for completion of the necessary forms and schedules. Banks with over $50 million in deposits were required to supply their data by March 1, while those banks with under $50 million had until April 1, 1966. Eight of the district's large banks and 124 of the smaller banks achieved the deadlines.

Each member bank taking part in the Functional Cost Analysis program was asked to provide comprehensive data on income and expense for each of nine basic banking functions: regular checking, special checking, time deposits, instalment loans, real estate loans, other loans (including commercial and agricultural loans), investments, trust activities, and safe deposit departments. In addition, an average balance sheet for the year — generally based on 12 monthly statements — was required as well as a breakdown of instalment loan activity into acquisition and maintenance income and expense.

After the schedules containing functional data had been submitted, this bank key punched the figures into data cards, edited the resulting printout for reasonableness and balancing errors, and then forwarded the punched cards to the Federal Reserve Bank of New York for analysis on their large-capacity computer. The calculations and comparisons resulted in an individual 33-page report to each participating bank.

Each participating bank's report shows not only the bank's figures for each function but also the average figures of a comparison group composed of 10 other banks of similar function size. For example, a bank reporting $1,279,261 in total instalment loans would have for its comparison group for the instalment loan function five banks with total instalment loans next above $1,280,000 and five banks next below that figure. Selection of the comparison groups for each of the functions is based on the same procedure. (A bank reporting on all nine functions could thus have a completely different comparison group for each of the functions.) The data from each of the 10 comparison banks is added to the data from the bank being analyzed, the totals divided by 11, and a comparison average figure printed out — all by computer. Where over-all measures of performance such as total earnings are analyzed, the comparison banks are selected for similarity of deposit size and demand-time mix.

Several uniform definitions and procedures are used in the Functional Cost Analysis program to insure comparability not only among banks within the Ninth district but in all of the districts offering the program (see box on page 7). Each partici-

pating bank in the nation — regardless of size or locale — follows the same instructions and uses identical forms.

Some findings of the 1965 program

In 1965, of 124 participating banks with total deposits under $50 million, the "average bank" had total assets of about $13½ million, with deposits amounting to 89.36 per cent of total assets and a demand-time ratio of 49.4-50.6.[1] The distribution ratio of time deposits to total assets — 45.25 per cent of total assets on a district average basis — is shown in Chart 1.

Total deposits in the 124 participating banks ranged from less than $1 million to over $41 million. Ten banks were under $3 million with 34 banks (the largest concentration) in the $3 to $6 million range (Chart 2).

The cash position of the district's banks varied considerably with a few banks ranging down toward 7.5 per cent of total assets and others very near 25 per cent. The district average was an amount equal to about 12.5 per cent. Michigan banks averaged the lowest with 10.5 per cent of total assets in cash while Montana's had the greatest proportion of cash assets, an average of 14.4 per cent.

Tax exempt obligations (including tax exempt loans) as a per cent of total assets averaged just

[1]Because of the necessity to preserve the confidential nature of each bank's figures only district and state averages are discussed. It should be noted that the eight large banks (over $50 million in deposits) in the district that participated were compared with large banks from other districts where the FCA program was offered. This was necessary because of the relatively few large banks available for comparison in any one district. The district and state averages discussed in this article, then, refer only to banks with deposits of under $50 million. The number of participants by state and type of charter:

	National	State	Total
Michigan	10	1	11
Minnesota	37	7	44
Montana	16	16	32
North Dakota	12	1	13
South Dakota	8	6	14
Wisconsin	9	1	10
Total	92	32	124

Selected summary charts, Ninth district banks participating in the Functional Cost program, 1965

CHART 1 — PERCENT OF TIME DEPOSITS TO TOTAL ASSETS

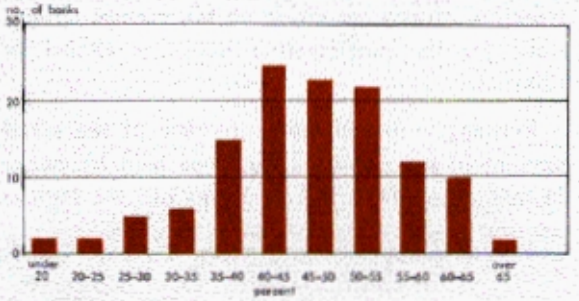


CHART 2 — TOTAL DEPOSITS

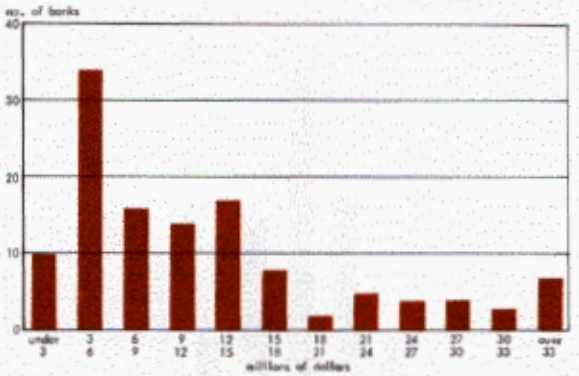
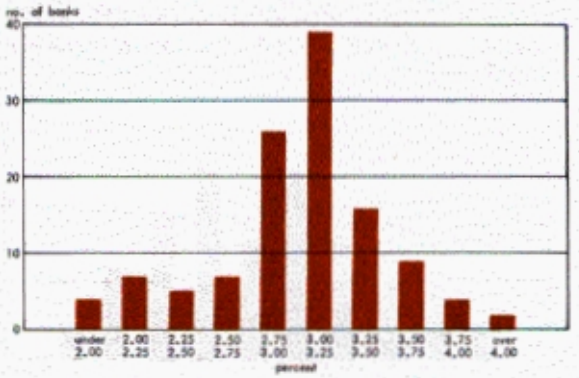


CHART 3 — YIELD ON TAX EXEMPT OBLIGATIONS, UNADJUSTED



under 10 per cent for the district with South Dakota showing the lowest average percentage, 6.3 per cent, and Michigan the highest, 16.1 per cent. The rate of return on municipal obligations averaged 3.03 per cent for the district and the state averages ranged from 2.91 per cent in South Dakota to 3.20 per cent in North Dakota. A distribution of average yields on tax exempt obligations for the participating banks is shown in Chart 3.

Perhaps understandably, in view of the small amount of tax exempt obligations held by banks in that state, South Dakota banks had the highest average percentage of U.S. Government securities to total assets (25.0 per cent) while Montana had the lowest (19.1 per cent). The district average was 21.7 per cent of total assets. The yields on U.S. Government securities averaged 3.86 per cent for the district with only a narrow range of averages by state from 3.75 to 3.95 per cent. The distribution of effective rate by bank, however, spread from less than 3.0 to over 5.0 per cent (Chart 4).

After adjustment of tax exempt income to a taxable basis, the effective rate on total investments was 4.46 per cent for the district (Chart 5).

As indicated by Chart 6, participating banks

Selected summary charts, Ninth district banks participating in the Functional Cost program, 1965

CHART 4 — EFFECTIVE RATE ON U.S. SECURITIES

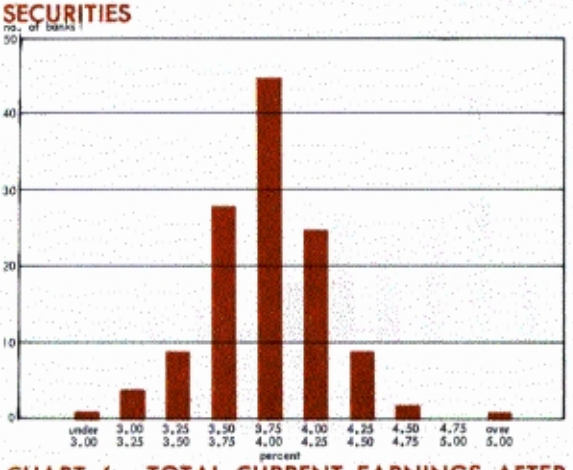


CHART 5 — EFFECTIVE RATE ON TOTAL INVESTMENTS, ADJUSTED

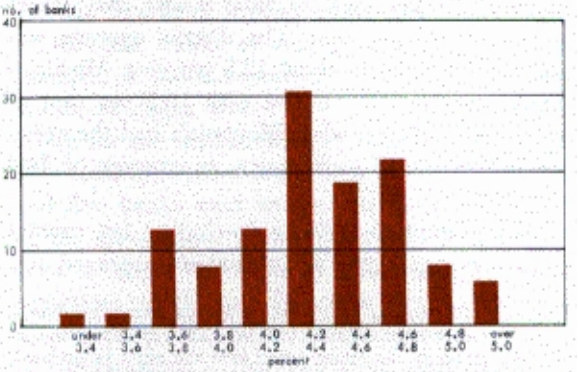


CHART 6 — TOTAL CURRENT EARNINGS AFTER FEDERAL TAX PER THOUSAND OF AVAILABLE FUNDS

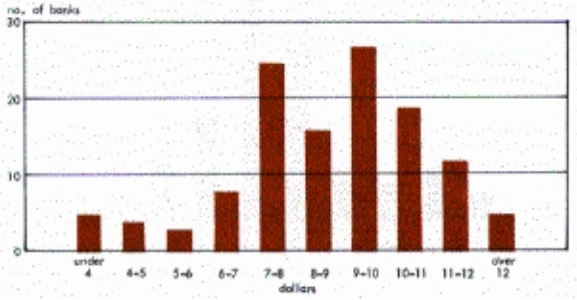
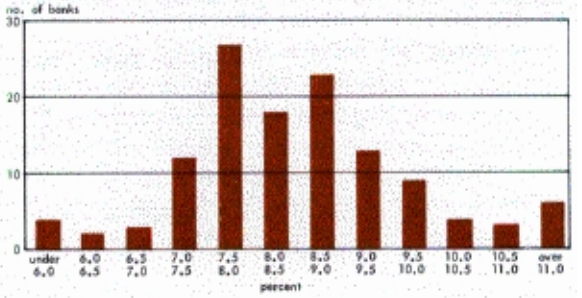


CHART 7 — GROSS YIELD ON TOTAL INSTALMENT LOANS



differed considerably in the rate of return on available funds (loans and investments plus cash). In contrast to district average earnings after federal taxes of $8.87 per thousand dollars of available funds, some banks earned less than $4.00 while others earned more than $12.00.

Gross yields on total instalment loans averaged 8.17 per cent for the district; for the six states this ranged from 7.47 per cent for North Dakota to 9.44 per cent for South Dakota. Chart 7 shows the range of gross yields on total instalment loans, together with the number of banks at each level of yields.

The Functional Cost Analysis program has been warmly received by member banks of the Ninth district. The program offers many advantages to the participating member banker:

- It is free, as an additional benefit of membership in the Federal Reserve System.
- It draws on a wide base of banks for comparative purposes — from all Ninth district states (nationwide for large banks), all sizes of banks, and all types of operations.
- It is the most complete and comprehensive program available.
- The functional comparisons are based on size of function rather than on total bank size.
- It is an ongoing program, supported by the resources of the Federal Reserve System, and offering year-to-year comparisons.

During September and October a series of 15 meetings will be held across the district to which representatives from all member banks will be invited. The 1965 FCA program will be reviewed and the schedules and forms for the 1966 program discussed.

A limited number of copies of the **1965 Functional Cost Analysis Program Statistical Summary and Chart Book for the Ninth District** are available. Single copies may be obtained by writing:
Publications Section
Bank and Public Services Department
Federal Reserve Bank of Minneapolis
Minneapolis, Minnesota 55440

Functional Cost Analysis program: terminology and definitions

(1) **Available funds.** Loans, investments, and cash.

(2) **Conversion of tax exempt income to a taxable basis.** Income from tax free securities (municipal securities and loans) is converted to a taxable basis where applicable throughout the report. Both figures — earnings before and after conversion — are reported. The purpose of this conversion is to place banks with small amounts of tax exempt securities on the same basis as those with large holdings.

(3) **Computation of federal income tax on current earnings.** The federal income tax rate applicable to current earnings is determined by deducting tax exempt income from net current earnings and applying the appropriate tax rate (in 1965, 22 per cent on the first $25,000 of earnings, and 48 per cent on the remainder) without any provision for adjustment for "below the line" entries. The resultant tax ratio is then applied uniformly to the earnings of each fund supplying function. This calculation is also made on net current earnings which include tax exempt income on a tax equivalent basis.

(4) **Cost of money computation.** The net cost of money is obtained by adding the servicing costs of demand deposits and the interest and servicing costs of time deposits and subtracting from this sum the income from activity charges. The resulting figure is divided by "total available funds," with the ratio being the cost of money expressed as a percentage. When analyzing a fund-using function, this percentage is multiplied by the dollar volume of the function and subtracted from the net earnings to show the net earnings after cost of money.

(5) **Primary reserve.** The participating bank's cash and due from banks figure reported on the average balance sheet is allocated between time and demand deposits, with the balance of those deposits being assigned to the portfolio of loans and investments. An amount equal to 5 per cent of time deposits is deducted from the total of time deposits and the balance of time deposits is assigned to portfolio. This same amount (equal to 5 per cent of time deposits) is subtracted from the total of cash and due from banks and the balance of that category on the balance sheet is allocated to demand deposits, with the balance of such deposits assigned to portfolio.

(6) **Occupancy costs and unallocated expenses.** The first of these is allocated to the specific functions by the computer as is the latter which include those expenses the bank finds it impossible to allocate to one of the nine functions. These expenses are allocated back to the various functions in direct proportion to the distribution of those direct expenses the banker was able to allocate. Thus, if 11 per cent of a bank's direct expense was allocated by the banker to the instalment loan function, 11 per cent of his unallocated expenses would be charged to that department.

These basic terms and definitions must be borne in mind when one analyzes the figures of an individual bank report, or when one looks at state or district average figures.

Current conditions . . .

Most major Ninth district economic indicators continued to push ahead during the second quarter of 1966, but the rate of growth may have slowed a bit from the previous two quarters as it did for the national economy.

The district's two major indicators of industrial production, industrial use of electric power and production worker man-hours, showed only a relatively small second quarter change from the first quarter although they continued to register substantially above year-earlier levels.

District employment gains also moderated in recent months as compared with earlier in 1966. The unemployment rate, however, continued relatively low with the rate in Minnesota during June put at 3.2 per cent compared with 3.3 per cent in May and 4.3 per cent in June 1965.

District consumer retail sales for the first five months of 1966 expanded about 8 per cent over the similar time period in 1965 — about the same as nationally. There is evidence, however, both in the district and in the nation, that sales may have slowed somewhat during May and June. One indication of a moderation in sales was the slowdown in the expansion of consumer instalment credit at commercial banks during the second quarter. A reduction in car sales, too, was an important factor in a slowdown in instalment credit.

Although the district's construction industry has expanded substantially in terms of employment, the year-to-year gain during May was relatively small and preliminary June data indicate a continuation of this trend. Nevertheless, construction contracts let in May showed a healthy gain — most of it in nonresidential building. Single family housing permits, however, were sharply below year-earlier levels.

The district's agricultural situation as of mid-July was most promising. An excellent small grain harvest was virtually assured and normal rainfall in late July and August would result in bumper row crops — especially for corn and soybeans. High crop production, expansion in livestock production and livestock feeding operations along with relatively high prices for farm products have boosted farm incomes and farm purchasing power. Consequently, sales of farm machinery and farm equipment are reported good.

Loan demand at both city and country district member banks continued strong at mid-year point. Loans for business, particularly, were in strong demand, with increases during June about double that of a recent 5-year average. Most other loan categories followed the usual seasonal patterns.

Deposit growth also occurred during June but not enough to prevent a slight further increase in the ratio of net loans to total deposits. This ratio for June was 66.9 for weekly reporting banks and 57.2 for the non-weekly reporters, ratios about the same as those registered for the nation as a whole.

The use of federal funds and daily average borrowings at the "Fed" were relatively high at the mid-year point — up substantially from year-earlier levels as might be expected in view of the pressures on credit availability.

The following topic describes a particular aspect of the district's current economic scene:

Loan, deposit growth moderates

During the second quarter of 1966 the loan and deposit expansion observed at Ninth district member banks during the first three months of 1966 gave way to more moderate rates of growth. The deposit increase was slightly less than usual for the season; loan expansion, although slightly exceeding the seasonal advance, fell considerably short of the rise recorded the year earlier.

Deposits. Total deposit inflow at all district banks during the second quarter was 14 per cent less than the average inflow for comparable periods in the previous five years and fully 30 per cent below deposit inflow recorded in the April-June span of 1965. The relative sluggishness of total deposits was attributable entirely to the behavior of demand deposits: the second quarter rise amounted to little more than one-third of the average advance in recent years.

Time deposit inflow, still bouyed, no doubt, by the changes made in Regulation Q last December, surpassed the advances recorded during the second quarter of each of the previous five years except for 1962, and exceeded the five-year average growth by nearly 30 per cent. The expansion was great despite a substantial decline in large negotiable certificates of deposit (CDs) during June, a drop likely motivated by the need of corporations (generally considered to be the principal holders of large CDs) for funds to fulfill June tax and dividend obligations.

Loans. Loans at Ninth district member banks rose more than seasonally during the second quarter, exceeding by 16 per cent the average loan advance during comparable periods in the previous five years. The expansion, however, fell considerably short of second quarter advances registered in 1964 and 1965. Special factors appear to underlie the moderate nature of this year's loan growth: most of the increase took place during June, a month when demand for loans is usually heavy because corporations need funds to meet income tax and dividend payments falling due in mid-month. This year the need was augmented by an increase in the portion of the current year's estimated corporate federal income tax which had to be remitted in the June instalment. In addition, starting in June the remittance schedule of personal income and social security taxes withheld from employees was accelerated.

1966 crop conditions

(continued from page 3)

ing conditions. Estimated winter wheat yields in Montana are off 1 bushel per acre from 1965 and spring wheat yields are expected to be off 1.5 bushels per acre in North Dakota and 3 bushels per acre in South Dakota.

District corn acreage is expected to exceed that of last year by 4 per cent due mainly to an 11 per cent boost in South Dakota. Minnesota harvested corn acres are expected to be only 1 per cent above a year ago. The per-acre corn yield in Minnesota is expected to reach 67 bushels, up 7 bushels per acre from last year. South Dakota yields are estimated at 40 bushels per acre, up 1 bushel from 1965.

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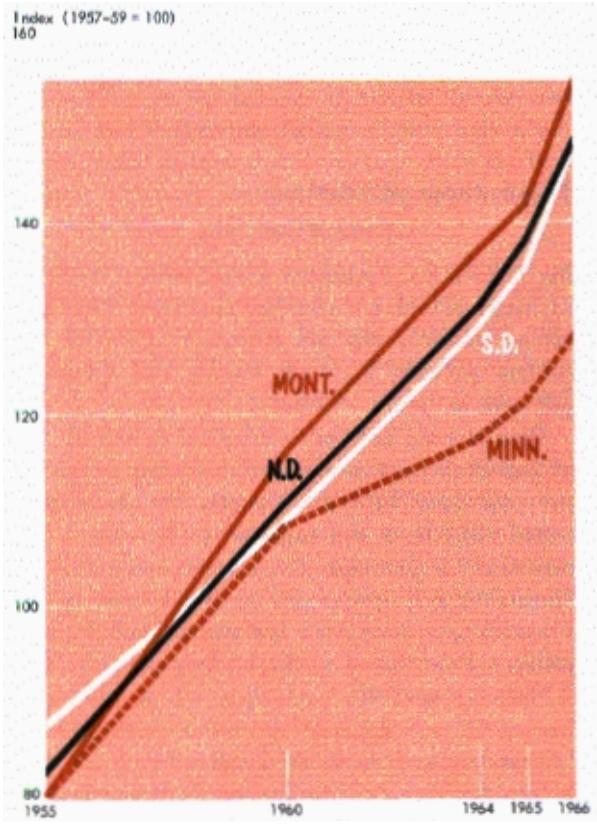
Farm land prices surge upward

An upward surge occurred in Ninth district farmland prices during the past year. According to the U. S. Department of Agriculture reports, land values in the district states reached 139 per cent of the 1957-59 average on March 1 of this year, an increase of 8 per cent over that of the year earlier. The advance equaled the relative change in the average price of all farmland in the U. S., although the U. S. index moved to the higher level of 150. Among the district states the largest percentage increase in the index was 9 per cent in Montana followed by rise of 8 per cent in South Dakota, 7 per cent in North Dakota, and 6 per cent in Minnesota. The changes moved the estimated total value of district farmland and buildings to $14.6 billion as compared to $13.6 billion in 1965 and $11.6 billion in 1960.

Average value per acre of farmland as of March 1



While rising land values have been common over the past decade, the increase during the recent period reflects an upward shift from the trend line. As shown in the chart, district land values have been advancing at a rapid but fairly constant rate until the last year or so. In Minnesota the rate of increase appeared, in fact, to be moderating during the early 1960s. The long term demand pressures on land prices, particularly the desire of farm operators to expand their holdings to gain greater operating efficiencies, were augmented by a more favorable current farm income situation — resulting in the reported jump in land prices. Over-all, land prices in the Dakotas and Montana have reached levels around 50 per cent greater than the 1957-59 average, while prices in Minnesota advanced to nearly 30 per cent above the average.

In terms of dollars the average acre of farmland in Minnesota was evaluated at $184, up from $174 in 1965 and $155 in 1960. Land values in both Dakotas have advanced $18 per acre since 1960 to reach $71 per acre in North Dakota and $69 per acre in South Dakota. The March average of $48 per acre in Montana reflects a $13 increase from that of 1960. The average value of farmland and buildings on March 1, 1966 ranged from $112,900 per farm in Montana to $43,800 in Minnesota. The averages in North and South Dakota were $62,000 and $63,500 respectively.

Activity in the district farmland market increased during the past year, as indicated by a rise in land title transfers. For the year ended March 1, title transfers averaged 45.7 per 1,000 farms

in the district, up from 39.6 per 1,000 farms in 1965. This gain is most likely due to the attractiveness of current price levels. The supply of land placed on the market, however, remains tight relative to demand. In general, the U.S.D.A. reports indicate that the demand for farmland will remain strong over the next year and prices are likely to advance further.

Higher farmland prices and larger average size real estate loans pushed mortgage lending to new highs for the U. S. during 1965. The value of recorded farm mortgages reached $15.2 billion that year, up 10 per cent from 1964. The total number of mortgages recorded, however, declined by 2 per cent. Mortgage lending expense during the first quarter of 1966 included an increase of 11 per cent over that of the same period of 1965. The recent gain, however, was not as great as anticipated in the light of higher farm incomes and real estate values. Should there be a tightening in lending policies and higher interest rates, farm mortgage lending is likely to be restrained further through the rest of 1966.

Recent articles Board of Governors and Federal Reserve banks

Board of Governors of the Federal Reserve System, Washington, D.C. 20551	Recent credit and monetary developments *Federal Reserve Bulletin*, July 1966
Federal Reserve Bank of Boston, Massachusetts 02106	Does retraining pay? *Business Review*, July 1966
Federal Reserve Bank of Chicago, Illinois 60690	Corporate cash — 20-year decline *Business Conditions*, July 1966
Federal Reserve Bank of Dallas, Texas 75222	Carbon black *Business Review*, July 1966
Federal Reserve Bank of St. Louis, Missouri 63166	Total demand and inflation *Review*, July 1966

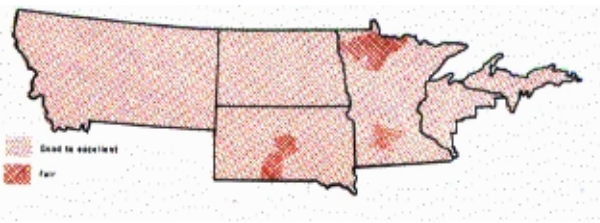
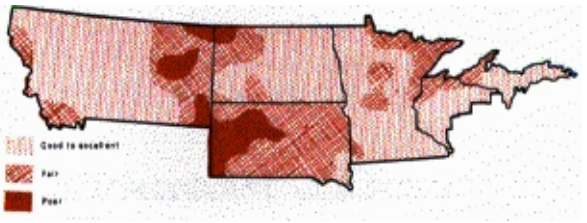
1966 crop conditions varied, but general outlook is good

The days of uncertainty are drawing to a close as Ninth district farmers move full swing into the harvest season. The long and worrisome period of plant development is near an end and the results of the 1966 crop year soon will be known. So far, 1966 has not been a particularly kind year to the grain producer — especially in view of the exceptional conditions that prevailed during 1965. This year's growing conditions have been highly variable — ranging from extreme dryness to late frosts and excessive moisture. In some areas growing conditions were favorable throughout the season, in other parts crop loss was prevalent. As shown in the map, crop prospects were rated as excellent at mid-summer in most of North Dakota and Minnesota, while a lack of moisture adversely affected crop prospects in much of South Dakota and in a large part of Montana. A comparison with July 1 conditions of a year earlier (see map) points up the less promising output prospects for 1966.

Crop production prospects, while unfavorable to those of 1965, are, however, not as bleak as the year-to-year comparison would indicate. Certainly the 1966 crop is expected to fall short of that of 1965, but 1965 was in many respects a record year. In terms of average production, the 1966 crop will likely go into the records as one of the better ones for the district. Corn appears to be the major exception to the general outlook, as expectations are for a larger crop in 1966 as compared to 1965, but somewhat under average.

According to the July 1 crop estimate of the U.S. Department of Agriculture, the district's wheat output is expected to exceed 305 million bushels, a drop of 11 per cent from that of 1965 but 16 per cent greater than the 1960-64 average output. A crop of that magnitude, 305 million bushels, would be the third largest produced in the district following those of 1965 and 1958. Hard spring wheat is expected to reach 174 million bushels, down 11 per cent from last year and 11 per cent above the average. Major declines in spring wheat production are expected in Montana and South Dakota, both down about 20 per cent from last year, followed by lesser declines of 9 per cent in North Dakota and 4 per cent in Minnesota. A 28 per cent increase in the expected South Dakota winter wheat crop softened the impact of a 12 per cent drop in Montana and a 25 per cent fall in Minnesota. Thus, the district's winter wheat crop is expected to reach 69 million

District crop prospects, July 1, 1965



District crop prospects, July 1, 1966