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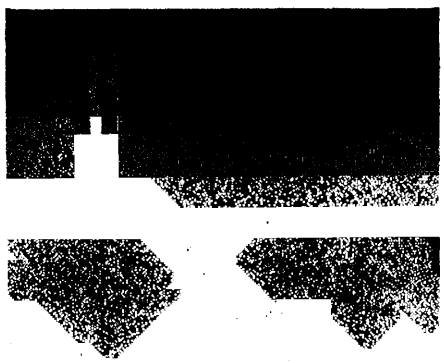

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FEDERAL RESERVE BANK OF MINNEAPOLIS

MARCH 1962

*The following is a condensation of the report, **Upper Midwest Agriculture: Structure and Problems**, by Dr. Arvid C. Knudtson, formerly agricultural economist at the Federal Reserve Bank of Minneapolis, and Dr. Rex W. Cox, agricultural economist for the **Upper Midwest Economic Study**. This release of the Upper Midwest Economic Study (UMES) is the first release of a joint UMES-Federal Reserve Bank of Minneapolis agricultural research project*[1].

Report cites agricultural problems

Relatively low income and underutilization of labor are two basic problems that need to be solved by farmers in the Ninth district.

These agricultural problems are assessed and examined in a newly released report by the **Upper Midwest Economic Study.** Some of the major findings of the study are reviewed in this article.

In the Ninth district's four full states, total personal income and the contributions of net farm income to total personal income for 1960 were substantially higher than for the nation as a whole as may be observed in Table 1. The contribution of net farm income to total personal income for the district was 12 percent, contrasted with a contribution of less than 4 percent nationally.

Agricultural activity in the district stimulates activity in many other sectors, such as food processing and transportation, the **Upper Midwest Economic Study** report noted. In additon, the 1.3 million people who lived on district farms in 1960 provided a large market for consumer goods. The direct contribution of agriculture to personal income tends to understate the importance of agriculture. Gross farm income, total cash receipts plus noncash income, is a better measuring stick. Gross farm incomes in 1960 were $446 million for Montana, $582 million for North Dakota, $656 million for South Dakota, and $1,588 million for Minnesota. The four-state total of $3.3 billion accounted for 8.6 percent of the nation's gross farm income.

According to the report, in 1960 the four states marketed 19 percent of the nation's food grains, 12 percent of its meat animals, 12 percent of its oil crops, 10 percent of its feed grains, 8 percent of its dairy products and 6 percent of its poultry products.

TABLE 1—CONTRIBUTION OF NET FARM INCOME TO TOTAL PERSONAL INCOME, 1960

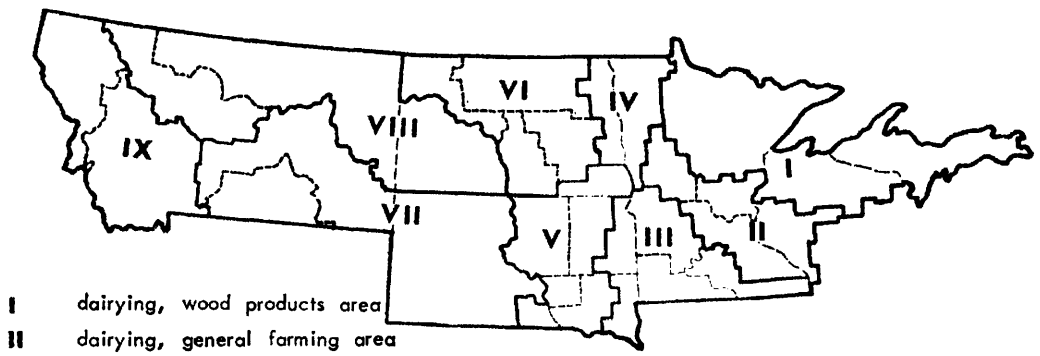
	Total Personal Income	Net Farm Income	Farm Income as a percent of total
	(millions of dollars)		
Montana	1,368	178	13
North Dakota	1,104	246	22
South Dakota	1,256	317	25
Minnesota	7,036	522	7
Four States	10,764	1,263	12

Agriculture—a dynamic industry

Agriculture has been dramatically transformed during the last 20 years, both in the district and in the nation as a whole. The number of farms in the four full states declined by 20 percent from 390,000 in 1940 to 310,000 in 1959. This decline was accompanied by a marked increase in the

[1] The Upper Midwest Economic Study area coincides with the Ninth Federal Reserve district.

Chart 1—Type of farming areas and state economic subdivisions*



I dairying, wood products area
II dairying, general farming area
III corn, livestock feeding area
IV small grain, specialty crop area
V small grain, corn transitional area
VI small grain, livestock farming area
VII livestock ranching area
VIII small grain, livestock ranching area
IX livestock ranching, irrigation farming, wood products area

* The state economic areas conform to census area designations

average size of farms in each of the four states. The advances in technology together with the rapid rate of substitution of capital for farm labor have increased the output of the agricultural plant to levels that were thought impossible 20 years ago, the report of the **Upper Midwest Economic Study** said.

Nevertheless, agricultural labor and capital are less than fully employed on many farms, and returns to resource investments on a large number of farms are low by any standard. This is a nationwide phenomenon. Its extent in the district is one of the prime considerations of the **Upper Midwest Economic Study** report.

Scope and organization of the study

The land area included in the **Upper Midwest Economic Study** research extends approximately 1,500 miles from east to west and 600 miles from north to south. Wide variations in topography, soils and climate exist. A diversity of environmental conditions, both physical and economic, has resulted in a variety of agricultural production patterns. Basic agricultural data for the study have been separately collected and organized for each of the state economic areas in the region, denoted by the dotted lines subdividing the states in Chart 1. The economic areas were then combined into nine major Type-of-Farming areas, denoted by numerals I through IX. The data provide a detailed picture of investment, labor use, production, sales and income flow.

Dollar sales are used in the report as a measure of farm size to allow interarea comparisons. Farms in each area have been subdivided into two main groups, commercial farms (farm product sales volume of $2,500 per year or more) and noncommercial farms (farm product sales of less than $2,500). The commercial farms are divided into two subgroups which have been designated as Group I (those with farm product sales of $10,000 and over) and Group II farms (those with sales of $2,500 to $9,999).

Operating farmers in the group designated as commercial farms, those with sales of $2,500 or more, were judged to be the farmers whose future swings with the fortunes and misfortunes of agriculture. Farmers with sales of less than $2,500 were classified as noncommercial because they

were judged to be not as fully dependent upon agriculture for their incomes, but rather heavily dependent on off-farm work. However, the study found a significant number of the farmers in the noncommercial group are dependent solely upon agriculture for a living. Their classification as noncommercial merely recognizes the fact that they do not have the resources to earn an adequate living in agriculture. The problems of these farmers are basically problems of poverty. The remedial measures for problems facing commercial agriculture are quite different from the remedial measures required to deal with the problems of noncommercial agriculture.

The research in the **Upper Midwest Economic Study** report is primarily concerned with commercial agriculture. Thus, in the analyses of the inputs, outputs, income and their relations in the various areas, only minor consideration is given to noncommercial farms; the main attention is focused on the comparison of Group I and Group II commercial farms. (Because Group I farms constituted such a minor portion of the commercial farms in Area I, the only comparison made in Area I is between Group II and noncommercial farms.)

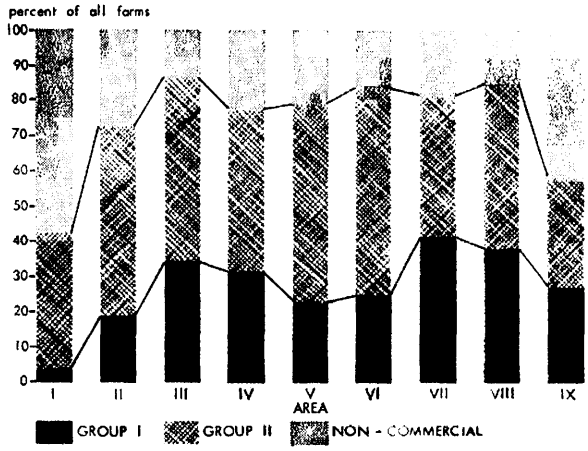
A breakdown in the distribution of farms by sales volume is illustrated in Chart 2.

Farm sales vary by regions

The report noted that the diverse patterns of farming found within the district can be seen in the importance of the sales of various farm products from the Type-of-Farming areas. Dairy products predominate in the eastern section of the district (Areas I and II), accounting for 40 to 50 percent of all cash receipts. In other areas, dairy products were of comparatively minor importance. Poultry sales in Area II (14 percent of total sales) were of relatively greater importance than in any other area. The area encompasses large turkey and broiler producers.

Crops and livestock are both important in the corn belt area of southwestern Minnesota and

Chart 2—Distribution of farms by sales volume, 1959



For the district as a whole 70.1 percent of all farms fall into either Group I (farms with farm product sales of $10,000 or more) or Group II (farms with sales of $2,500 to $9,999) commercial farms. The number of Group I and Group II farms, however, varies widely from area to area. Noncommercial farms are a particularly large part of the total number of farms in areas I and IX. Area I is a "cutover" forested region in the northeastern part of the district, while area IX is in the mountainous Rocky Mountain sector in the western end of the district.

southeastern South Dakota (Area III). Corn and soybeans are the major cash crops; fed cattle and hogs are the major sources of livestock sales.

East central South Dakota and southeast North Dakota (Area V) is a transitional area with corn-livestock in the east and small grain with livestock enterprises in the west. Crop sales amounted to 38 percent of total receipts; wheat sales accounted for more than one-third of the crop sales. Cattle and calves were the major sources of livestock sales, equalling almost one-half the total sales.

Livestock is the main source of cash receipts in the western range areas (VII and IX), with cattle and calves accounting for about 50 percent of the total cash receipts. Cash crops, mainly wheat, were of major importance along the northern edge of

the region from the Red River Valley to the Montana Rockies (Areas IV, VI and VIII).

Farm size increases from east to west

The distribution of farms among acreage-size categories exhibited wide variations among the nine Type-of-Farming areas, the study found. In areas where dairying predominates, approximately three-fourths of the farms were less than 220 acres in size in 1959.

Crop farming areas have much larger farms than those found in the dairy and livestock feeding areas. For example, the report notes that in central and southwest North Dakota, which is a major wheat producing area, less than 10 percent of the farms were less than 220 acres, and over 20 percent were larger than 1,000 acres. Mechanization followed by expansion in farm size has moved more rapidly in crop farming than in livestock farming. This may be because of the fact that as farmers add larger tillage and harvest machines, they immediately realize the need to add cropland to make use of their added productive capacity. In livestock production, the size of operating unit may be more rigidly fixed for a longer period of time by reason of fixed building facilities.

In western livestock ranching areas, where as much as 25 to 40 acres of rangeland may be required to support an animal unit, the total acreage requirement for an economic ranch unit is very large. For example, in Area VII approximately 35 percent of the farms were over 2,000 acres in size in 1959, the report said.

Capital investments indicate sizable operations

The investment in Group I commercial farms (those farms with product sales of $10,000 or more) throughout the region averaged $76,000 per farm during 1954-58, ranging from a little over $50,000 in the east to more than $140,000 in the west. This wide variation is in part explained by the type of farming activities in the areas which in turn are determined mainly by the physical characteristics of each area, the study concluded. The large ranching and wheat operations found in the western areas embody very large acreages which in part explain the large capital investments in the average Group I farms in those areas.

The per farm investment for all Group II farms (those farms with sales of $2,500 to $9,999) averaged $32,000 and ranged from approximately $18,000 to $45,000 from east to west.

The differences in the average investment between the two groups of farms among the Type-of-Farming areas is explained partly in the patterns of farm production. In many of the eastern areas, the Group I and Group II farms are organized quite similarly with the differences in size explaining most differences in investments between Group I and Group II farms. In contrast, the smaller Group II units are often organized quite differently from the Group I units in the western parts of the region, the report said. The larger units in the range area, for example, are generally ranching units, whereas the small units rely more heavily on irrigated cropping and general livestock farming.

Labor not adequately utilized

Although there has been a rapid migration from the farms and ranches in the region, the rate has not been sufficient to offset the effects of the technological advances which have occurred in the region's agriculture, the study found. Thus, the **Upper Midwest Economic Study** reported that underutilization of labor of varying degrees has prevailed in agriculture throughout the region as capital has been added at a rate which has more than offset the outflow of labor.

Comparisons with standard labor requirements indicate that more than one-third of all available farm labor time is not effectively utilized. In the case of the poorest farms, surplus labor is even greater; and even the highest income farm group failed to use part of its available man-hours. On some farms, such as cash grain farms, much of the work is seasonal with the result that the avail-

Chart 3—Average farm size by sales group and area, 1954

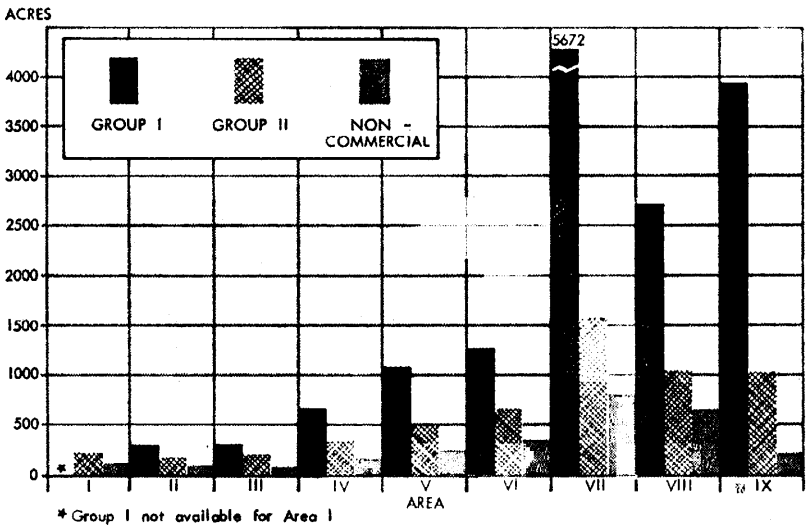
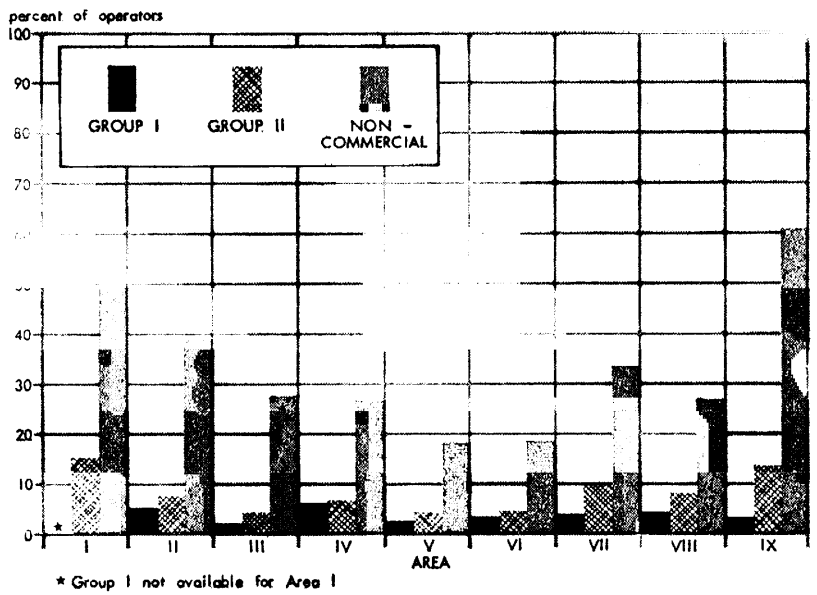


Chart 4—Farm operators working off-farm 100 days or more, 1954



able labor is unutilized during a large part of the year.

Farm size affects costs and incomes

Comparison between the classes of commercial farms by the study reveals significant differences in the relative importance of the cost items. Cash expenses accounted for a much larger proportion of total costs on Group I commercial farms. The spendable capital position of these farm operators was such as to enable them to expend more funds for fertilizer and other purchased inputs and thus increase their income.

Labor costs on the smaller Group II farms accounted for a much larger proportion of the total inputs than on Group I farms, the report said. While more labor in terms of man equivalents was employed on Group I farms, each man equivalent was able to handle more acres and more units of livestock; thus, labor as a proportion of total inputs was lower than on Group II farms. This advantage of size possessed by Group I farms, however, must be linked with the better management of labor on these farms in explaining why labor accounts for a lesser proportion of the total inputs when compared with Group II farms.

Net income is the difference between gross income (cash receipts from marketings, government payments, value of products consumed at home, and rental value of the farm dwelling) and production expenses (cash expenses and depreciation). The 1954-58 annual average net incomes for each of the Type-of-Farming areas (in thousands of dollars per farm per year) are as follows:

	TYPE OF FARMING AREA								
	I	II	III	IV	V	VI	VII	VIII	IX
Group I	n.a.	9.3	11.2	11.8	10.2	12.0	13.6	15.3	13.1
Group II	2.7	2.7	3.0	3.2	3.1	3.5	3.0	3.5	3.1

Group I farms generated larger net incomes, first, through being larger volume producers. Even if Groups I and II had equal unit costs, the net incomes on the larger units would be greater. In addition, the Group I farms generated a portion of their greater net incomes through achieving cost advantages, the study reported. They produced a larger volume with a given expenditure on production inputs.

Off-farm work supplements income

Off-farm work has been looked to by an increasing number of farmers as a source of income to supplement the farm income stream. While estimates of the flow of income from off-farm sources are inadequate, the Census of Agriculture provides an indication of the extent to which farm operators work off the farm. One such estimate is the proportion of farm operators working off the farm 100 days or more. As expected, the lower income groups, noncommercial farmers and Group II farmers, depend more on off-farm work than do the Group I farm operators. In most areas less than 5 percent of the Group I operators worked off the farm 100 days or more; the range was 5 to 15 percent for Group II farmers, and 18 to 61 percent for the noncommercial farmers, according to the study.

The wide ranges noted by the report in the proportions of noncommercial farm operators working off the farm mainly reflect area differences in off-farm work opportunities.

Only a relatively few, less than 3 percent in all areas, of the Group I operators received a greater income from off-farm work than from the sales of farm products. The range for Group II farmers was about 3 to 12 percent, and 17 to 63 percent of the noncommercial operators received more income from off-farm work than from sales of farm products.

Report emphasizes problems of district agriculture

Despite a sharp decline in farm numbers and corresponding increases in average farm sizes, the **Upper Midwest Economic Study** indicates that a basic problem of low income persists. In general, the net incomes of Group I farmers compare favorably with the incomes of nonfarm workers. However, in each of the nine areas, the average net income of Group II farmers is low; these net incomes were not sufficient to provide an adequate return for the farmer's own labor and capital. The average incomes of noncommercial farmers are grossly deficient unless they have substantial off-farm income. Some 262,431 (74 percent) of the total 354,509 farms are in the Group II and noncommercial categories. Even allowing for a few farm operators in Group II who do considerably better than average, there remains roughly two-thirds of the region's farm population living on farms organized on too small a scale to provide a satisfactory flow of income.

Adjustments toward larger units have moved at a rapid pace during the past two decades, but the pace of technological advancement has been even more rapid. And, with labor-saving technology pouring into agriculture more rapidly than labor has released, underemployment remains a serious problem.

One aspect of the problem which many of the

Group II and noncommercial farmers face is that of controlling too few resources to earn an adequate income within agriculture; and because of their relatively poor capital positions, they are unable to achieve the necessary expansions to economic sized farm units.

An obvious answer to the problems of low incomes and underemployment in agriculture is off-farm migration. However, the report pointed out some serious problems involved in a stepped up rate of off-farm migration. First, there must be room for the surplus farm labor in the industry. Thus, a dynamic and expanding economy is of foremost importance in achieving the needed adjustments in agriculture.

However, even with the existence of ample nonfarm job opportunities, there exist problems of labor mobility. The restrictions to the mobility of labor, particularly the agricultural labor force, are numerous. The lack of information regarding the availability of nonfarm occupations plus the uncertainty which accompanies a farmer's entering the nonfarm labor force are major deterrents to off-farm migration.

The agricultural problems of low incomes and underutilization of labor could be solved in part through increasing the off-farm work opportunities for farm people. In some areas, there is a good chance of success in this endeavor. The extent of underemployment in agriculture, however, is so great that it is unlikely that in total the problem will be solved in the near future by local off-farm work opportunities, the study said.

Whether the solution to fuller employment of the agricultural labor force lies in off-farm migration into nonfarm jobs or in industrial development in rural areas, the report cites a need for vocational training to enable the farm labor force to acquire the specialized skills needed in other lines. This vocational training, other than agricultural, would be particularly applicable to the rural youth and also the young adult farmers. The older farmers, who may be less willing to change occupations and possibly less adaptable to developing new skills, present another problem. The economic situation of the typical small farmer in the upper age bracket is more difficult to improve since it is harder for him to acquire the resources necessary to expand farm size or to secure suitable off-farm employment.

Current conditions . . .

Severe snowstorms and unusually cold weather since the first of the year may have slowed the region's economic pulse to a minor extent. Department store sales have paralleled year earlier levels and retail sales of appliances and durables other than automobiles are reported slow. Auto sales, however, are up. Total personal income in the district, which was expanding rapidly in the final quarter of 1961, has slowed up a bit during January. In fact the total personal income figure was about the same as the December figure but registered a 4.1 percent gain from a year

earlier. Nonagricultural employment in the district, however, moved up in January with a 2.1 percent gain from a year earlier. Manufacturing employment in Minnesota gained 5.3 percent and durables manufacturing employment was up 8.3 percent. January nonagricultural employment in Minnesota was better than the December forecast had indicated by some 12,000. Construction contract awards and building permits, except those for the residential sector, were relatively high during late 1961. This suggests a favorable level of construction activity in the region in the period ahead, particularly as more moderate weather stimulates outside work. The number of help wanted ads placed by employers in the region's metropolitan newspapers during January was up sharply, indicating an expanded need for workers.

Apparent heavy marketings of livestock and livestock products during late 1961 have brightened the district's farm picture somewhat from the drouth period of last summer. By December, cash farm income had again risen above year earlier figures and the build-up of livestock inventories during 1961 promises a continued high level of marketings in the next several months and perhaps through all of 1962. On January 1, both beef cattle and hog numbers were up 4 percent from a year earlier. Beef cattle numbers are now high in relation to a recent ten-year average but hog numbers are about equal. District milk cow numbers are substantially reduced from the recent ten-year average. Stocks of wheat and feed grains in district on-farm and off-farm positions on January 1 are also substantially below year-ago levels, reflecting the short small grain crops of 1961 and indicating a reduced level of cash marketings for the remainder of the current crop year.

The announcement last December that the maximum rates of interest on time and savings deposits at commercial banks would be increased by the first of the year has resulted in a heavy inflow of time money at both city and country banks. In fact, at city banks the increase in time money during December and January was 700 percent of the recent fifteen-year average. At country banks it was about 300 percent.

The liquidity position of the district weekly reporting city banks at mid-February was improved. Total loans had increased only 2 percent from a year earlier but total deposits registered a 5 percent growth. The city banks were largely out of debt to the Federal Reserve and the banks tended as a group to be net lenders of Federal funds. Likewise, the liquidity position of district country member banks improved as reflected by deposit growth, particularly in the time deposit category and normal loan demand with only a very few banks borrowing.

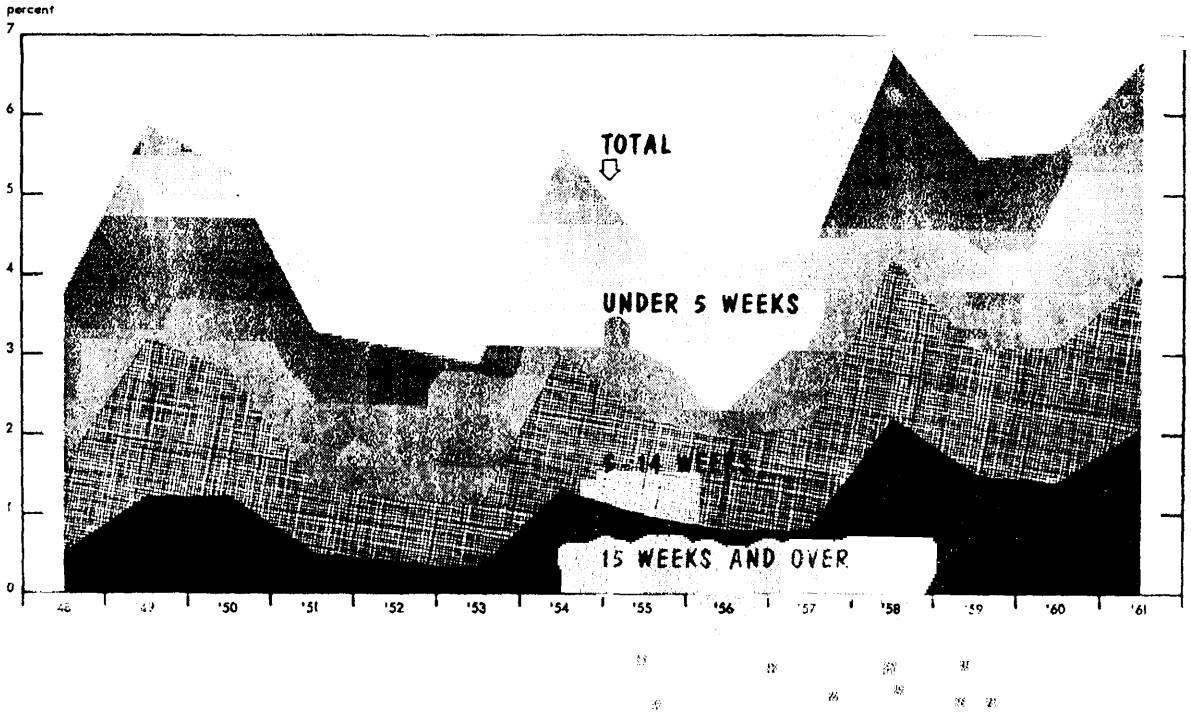
The following selected topics describe particular aspects of the district's current economic scene:

UNEMPLOYMENT DOWN

The persistence of a high unemployment rate well into the current recovery period is similar to the pattern in the previous recovery periods. However, the high recession levels of unemployment persisted longer in 1961 than in the preceding upswings, and the decline thus far has been only moderate. Unemployment, seasonally adjusted, as a percent of the civilian labor force from December 1960, through October 1961, fluctuated within the narrow range of 6.7 percent and 7.0 percent. The rate in November began to decline but it still remains slightly higher than the percent unemployed at the corresponding stage of the previous upswing in early 1959. In January, the adjusted unemployment rate for the first time in 16 months dropped below 6 percent to 5.8.

As is usual, increases in the labor force contributed to high unemployment both in the late recession and in the early recovery period. Then,

Unemployment by duration as percent of civilian labor forces



beginning in the spring of 1961, the expansion in the total labor force slackened and in the last half of the year, particularly after an increase of 300,000 in the armed forces, the civilian labor force declined appreciably. Nonfarm employment seasonally adjusted in January was only a little higher than in last July. Thus, the moderate decline in unemployment has been due as much to a decline in the supply of labor as to the rise in employment.

The number of unemployed persons in the nation during 1961 ranged from a high of 5,700,000 in February to a low of 3,900,000 in October. These estimates on unemployment are not a measure of the economic underutilization of available labor. The unemployment statistics include individuals out of work because of temporary illness or not seeking work because they believe no jobs are available in their line of work. They include individuals unable to work but who, nevertheless, are seeking a specific type of employment. They also include seasonal workers who are regularly laid off for definite intervals during the year. Only a fraction of these workers are interested in other jobs, if they are available, during their off periods. It also includes a substantial number who are in the process of moving voluntarily to better positions and new workers or re-entrants into the labor force.

On the other hand, a relatively small number of totally or partially unemployed workers are not counted among the unemployed. For instance, some unemployed persons become discouraged and give up the search for work and thus are technically no longer a part of the labor force. Some individuals (about 3 percent of the civilian

labor force in January) are employed for only part of the week but are interested in full time work.

In the latter months of 1961 in the nation there was some decrease in long-term unemployment. In December, the unemployed for 15 weeks or more rose only by the usual seasonal number of workers. On a seasonally adjusted basis, long-term unemployment reached a peak of 600,000 in July 1961, and has declined slowly to about 300,000 by the end of the year. Nevertheless, according to the unemployment report released for January, long-term unemployment declined more than seasonally but continues to be a serious problem.

In the Ninth district[1], unemployment in 1961 ranged from 227,250 in February, which is usually the seasonal high, to 92,170 in September, usually the seasonal low. In December, unemployment stood at 135,750, 4.0 percent below the year ago total.

FEED AND LIVESTOCK INVENTORIES

Below normal range feed conditions required heavier supplementary feeding of grain and hay in the western regions of the Ninth district this winter. The U. S. Department of Agriculture reported that range conditions on February 1 varied from "bad" to "poor" throughout the region. (The 10-year average rating for the same date is "fair.") Even where the snow cover has been light the grass has been too short to provide adequate grazing, due to last summer's drouth. With the additional feeding, however, livestock have been maintained in good condition with little weight or death loss above normal reported. In North Dakota and western South Dakota it is expected that stocks of grain and hay will be adequate to carry present livestock numbers through to spring, barring a prolonged and severe winter season. In central and eastern Montana, supplies of hay are reported to be very short, and a late spring may bring about further adjustments. Soil moisture conditions on the ranges are generally inadequate and more precipitation is needed to insure spring grazing on new grass.

Hay supplies on January 1 throughout the district were down from the previous year's level. The drop was most severe in South Dakota and Montana, down 16.5 percent and 12.8 percent, respectively. While the hay supply in Minnesota was down about 3 percent from the January 1, 1961, level, stocks were well above the 10-year average supply. In North Dakota, hay supplies on January 1, 1962, were higher than a year earlier and the 10-year average.

Table 1—DISTRICT* HAY SUPPLIES, JANUARY 1, 1962

	Average 1951-60	1961	1962	1962 in % of 1961
		(1,000 tons)		
Minnesota	4,592	5,161	5,017	— 2.8
Montana	2,724	2,639	2,300	—12.8
North Dakota	3,028	3,181	3,215	+ 1.1
South Dakota	4,116	4,467	3,732	—16.5
Total	14,460	15,448	14,264	— 7.7

*Includes only four full states.

Except for corn, the stocks of feed grains in all positions in district states on January 1 were also below the levels of January 1, 1961. The quantities of oats and barley are down about 20 percent while total corn supplies, concentrated mainly in Minnesota, are up just over 1 percent. In North Dakota, the total bushels of feed grains (corn, oats, barley and sorghum) were down 33 percent from last year, and feed grain stocks in Montana and South Dakota were off 16.4 percent and 9 percent, respectively. There was little change in the total stocks in Minnesota. For the four full states in the district, there were 1,085,000 bushels of feed grains in all positions on January 1, down 8 percent from January 1, 1961.

The number of all cattle and calves in the Ninth district was 2 percent higher on January 1, 1962,

1. Estimates do not include northwestern Wisconsin.

Table 2—PERCENT CHANGE IN LIVESTOCK, JANUARY 1, 1961, TO JANUARY 1, 1962

	Minn.	N.D.	S.D.	Mont.	Dist.*	U.S.
Milk cows and heifers (2 years and older)	+1	+ 1	— 1	— 4	+1	—1
Beef cattle	+8	0	+ 5	— 2	+3	+3
Cattle and calves on feed	—8	—20	+11	— 3	—4	+3
Hogs and pigs	+2	+11	+ 9	— 2	+4	+3
Sheep and lambs	—5	— 5	— 6	—11	—7	—5

*Includes four full states.

than on that date a year earlier, according to U. S. Department of Agriculture estimates. Beef cattle inventories were up 3 perecnt, totaling 8.4 million head. The only state having fewer beef cattle was Montana where numbers were cut from 2,028,000 head to 1,990,000 head. Cattle and calves on feed in the district numbered 980,000 head on January 1, down 4 percent from 1,021,000 head reported January 1, 1961. In Minnesota, cattle and calves on feed decreased 8 percent, from 478,000 to 440,000 head, while in South Dakota the number increased 10 percent, totaling 325,000 head. The sharpest cutback was in North Dakota where cattle and calves on feed were reported to have declined from 175,000 head to 140,000, down 20 percent.

District dairy cattle numbers increased slightly between reporting dates counter to the trend of the past few years. Milk cows and heifers totaled 2.08 million head on January 1 compared with 2.07 million on January 1, 1961, an increase of 1 percent. The total, however, is still far below the 1951-60 average of 2.3 million head. The bulk of the increase was in Minnesota where numbers increased from 1,421,000 head to 1,435,000 head.

All of the states except Montana reported increased hog numbers. The largest percentage increase, 11 percent, was shown in North Dakota where the number increased from 248,000 to 275,000 head between the January 1 reporting dates. Hog numbers increased from 1.3 to 1.4 million head in South Dakota and from 3.4 to 3.5 million head in Minnesota. Hog numbers were down 2 percent, from 151,000 to 148,000, in Montana. The total number of hogs in the district now stands at 5.4 million head compared with 5.2 million head on January 1, 1961. This 4 percent increase exceeds the 3 percent national increase in hog numbers.

All sheep and lambs were the only class of livestock to decrease in numbers in the district. A 7 percent decline, from 5,402,000 to 5,026,000 head, was reported between January 1, 1961, and January 1, 1962. Most of the cutback took place in Montana where numbers were reduced from 1.8 million head to 1.6 million, a drop of 11 percent.

Table 3—PERCENT CHANGE, JANUARY 1, 1961, TO JANUARY 1, 1962, IN VALUE OF LIVESTOCK

	Minn.	N.D.	S.D.	Mont.	Dist.
Cattle and calves	+ 8	+3	+ 8	+ 3	+ 6
Hogs and pigs	+ 2	0	+10	0	+ 4
Sheep and lambs	—12	—9	—18	—22	—17
Total	+ 6	+3	+ 7	+ 1	+ 5

The total value of all livestock on district farms and ranches on January 1 was $1,997 million, up 5 percent from $1,900 million on January 1, 1961. The largest percentage increase occurred in South Dakota where livestock values were $595 million, up 7 percent. Most of the gain was in the increase in the value of all cattle and calves from $1,662 million to $1,767 million. The total value of sheep and lambs declined 17 percent from $82 million to $68 million.

Large time deposit gains in district

The increase of interest rates paid on time and savings deposits at many district member banks since the first of the year has been accompanied by a record inflow of time deposits at both the city (weekly reporting) banks and the country banks in the district. In December and January the inflow at the city banks amounted to $14.4 million in contrast to the previous record inflow of $8.6 million in December 1956 and January 1957 when the interest rate maximum on time deposits was raised from 2½ to 3 percent. At the country banks a $39.7 million inflow last December and January compares with the previous record inflow of $29.6 million in the comparable months of 1956 and 1957. Percentagewise, the city and country bank time deposit gain in the most recent December and January amounted to 9.63 percent and 3.00 percent respectively in contrast to previous records of 2.90 percent and 3.33 percent respectively. Thus, the percentage growth in country bank time deposits in the recent period did not quite match that for the 1956-57 period although the absolute growth was one-third higher in the recent period than the previous record high.

The average percentage increase in city and country bank time deposits in the December-January periods since 1946 has been 1.79 percent and 1.40 percent respectively. Thus, the most recent percentage gains amounted to 5.4 times and 2.1 times the fifteen year averages, respectively. The absolute gains in the most recent period amounted to seven times the fifteen year average at the city banks and three times at the country banks. It is clear that both in absolute terms and in percentage terms the city bank figures afford the sharpest contrast with past experience. In part this may reflect the shifting of funds from competing savings institutions which do not exist in many country bank towns. It may also reflect a smaller proportion of country banks than of city banks raising time deposit interest rates.

Even though Regulation Q did not permit raising maximum rates until January 1 the statistics described pertain to both December and January. This is because the change in Regulation Q was announced in early December and many banks announced before the end of the year that they would pay higher rates beginning January 1. It is therefore not unreasonable to suppose that some funds were deposited in December in anticipation of the rate increase.

As indicated in the smaller table the absolute increase of time deposits at country banks in each district state or part state during the recent

CHANGE IN TIME DEPOSITS AT DISTRICT CITY AND COUNTRY BANKS, LAST WEDNESDAY IN NOVEMBER TO LAST WEDNESDAY IN JANUARY, BY YEARS

(millions of dollars and percent)

Period Ending Jan.	COUNTRY BANKS Absolute Change	COUNTRY BANKS % Change	CITY BANKS Absolute Change	CITY BANKS % Change
1948	5.8	.86	3.2	1.28
1949	2.1	.31	1.8	.71
1950	3.8	.56	2.5	1.00
1951	— .2	— .03	— 2.2	— .91
1952	12.8	1.91	4.9	2.08
1953	18.6	2.55	5.2	2.04
1954	9.8	1.25	3.2	1.21
1955	5.9	.71	4.6	1.66
1956	5.6	.66	3.9	1.36
1957	29.6	3.33	8.6	2.90
1958	23.1	2.27	6.3	1.88
1959	21.0	1.84	4.1	1.08
1960	5.3	.44	— 1.2	— .32
1961	17.0	1.36	4.9	1.25
1962	39.7	3.00	44.4	9.63
Average	13.3	1.40	6.3	1.79

period was well above the fifteen year average. In Wisconsin time deposits increased in contrast to a small decrease on the average and in the other states the recent gain ranged from about twice average in Michigan and Montana to about three times average in Minnesota, North and South Dakota where the increases were also the largest on record for the period. In the fourteen previous periods, Michigan banks recorded larger gains than the recent one in three periods, Montana banks in one, and Wisconsin banks in two.

Although the percentage gain of time deposits at country member banks in each district state or part state was larger than average in the most recent December-January period it was a record for the period only in Minnesota. In Montana and

CHANGE IN TIME DEPOSITS AT DISTRICT COUNTRY BANKS, LAST WEDNESDAY IN NOVEMBER TO LAST WEDNESDAY IN JANUARY, BY YEARS

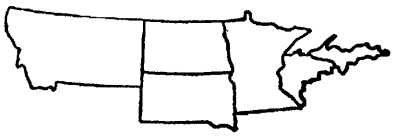
(millions of dollars and percent)

Period Ending Jan.	MICHIGAN		MINNESOTA		MONTANA		NO. DAKOTA		SO. DAKOTA		WISCONSIN	
	Absolute Change	% Change	Absolute Change	% Change	Absolute Change	% Change	Absolute Change	% Change	Absolute Change	% Change	Absolute Change	% Change
1948	0	0	3.5	1.06	1.2	1.71	1.3	2.33	.6	1.20	– .8	– .99
1949	– .1	– .11	1.8	.54	.8	1.13	.6	1.03	.2	.39	– 1.2	– 1.51
1950	– .4	– .46	3.4	1.03	.5	.69	.5	.83	.6	1.15	– .8	– 1.08
1951	– .1	– .12	– .4	– .12	.6	.84	.1	.17	.5	.95	– 1.0	– 1.42
1952	.6	.67	7.1	2.19	1.4	1.90	2.0	3.51	1.6	2.84	.2	.29
1953	1.4	1.54	8.3	2.35	1.1	1.36	.9	1.42	6.6	10.12	.4	.51
1954	.6	.61	5.7	1.50	1.4	1.64	.5	.76	2.2	2.99	– .5	– .63
1955	– .3	– .29	3.1	.76	1.8	2.00	.1	.15	2.0	2.42	– .9	– 1.12
1956	.2	.19	2.7	.65	3.0	3.13	– .6	– .89	.8	.92	– .5	– .62
1957	.9	.85	13.0	3.00	7.6	6.97	4.0	5.68	4.1	4.64	.1	.12
1958	1.2	1.07	6.4	1.33	8.2	5.98	3.0	3.39	2.8	2.64	1.5	1.67
1959	.5	.42	8.1	1.52	4.6	2.90	3.2	3.07	4.2	3.33	.5	.50
1960	– .1	– .08	.6	.11	5.1	2.97	– .1	– .09	.1	.07	– .5	– .47
1961	.1	.08	6.4	1.12	5.7	3.03	1.2	1.03	3.0	2.14	.9	.83
1962	.6	.47	18.7	3.13	7.9	3.83	4.3	3.50	7.5	4.85	.5	.44
Average	.3	.32	5.9	1.34	3.4	2.67	1.4	1.73	2.5	2.71	– .1	– .23

North Dakota the highest percentage gain for the period was registered at the time of the previous increase in maximum time deposit interest rates, 1956-57; in Michigan and South Dakota the 1952-53 period saw the largest percentage gain. In Wisconsin the largest increase came in 1957-58.

The rate of growth of time deposits over the past fifteen years has been roughly comparable at the city banks and the country banks in the district. In January 1962 the city bank time deposits amounted to 215 percent of the January 1947 level while the country bank figure was 210 percent. The country bank figures by state ranged from a low of 144 percent in the Ninth district portion of Michigan and Wisconsin to 318 percent and 300 percent respectively in South Dakota and Montana. At the country banks in North Dakota and Minnesota January 1962 time deposits were 223 percent and 184 percent respectively of the January 1947 level.

The increase of the maximum permissible time deposit interest rate in 1957 was followed by a pronounced increase in the annual growth rate of time deposits at both the city and country banks. In the ten years ended January 1957 the growth rates (compounded annually) at the city and country banks were 2.6 percent and 3.5 percent respectively. In the five years subsequent to January 1957 these rates were 10.6 percent and 8.2 percent respectively.



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