District dairy industry in transition

While it is common knowledge that there has been a rapid transition in agriculture, the equally rapid changes that have occurred in the relationship between agriculture, on the one hand, and manufacturing and the entire business structure, on the other, have not been as widely publicized.

In recent decades, applied technology has provided the impulse for the accelerated transition. New equipment and improved methods have revolutionized the storage, manufacture and distribution fields. As a result, many activities which were formerly farm operations are now performed in urban centers. In pioneer days, when farms were still self-sufficient units, farmers performed all phases of production, processing and distribution of food and fiber. Now farm operations are limited primarily to production while the storage, manufacture and distribution functions of farm products are mainly performed by an array of business firms.

Industrial activity in the Ninth district has always been heavily concentrated in the processing of agricultural products. Meat packing, poultry dressing, vegetable canning, dairy product processing and flour and other grain milling comprise approximately half of the manufacture of nondurable products in terms of value added through the manufacturing process. In the four states wholly in the district, the number of employees in the food processing industries has aggregated approximately 65,000 or about a quarter of manufacturing employment, while in the nation only 11 percent of the total have been in this industry.

Within the agricultural business complex in the district, the production of milk on farms and the manufacture of dairy products traditionally have been an important economic pursuit. Technological developments during the past decade have made themselves felt on the dairy industry itself and on the regional economy.

Commercial dairy regions

As farming has moved toward greater specialization, dairying has been increasingly concentrated in certain geographic areas. The greatest density of milk cows on farms is in a two county-wide band extending approximately from Fergus Falls and Detroit Lakes, Minnesota, to the southeast corner of that state and the southern portion of that part of Wisconsin which is in the Ninth Federal Reserve district. While there are other scattered dairying centers, they are small and some are adjacent to the larger cities.

Natural, political and economic factors have contributed to the growth of the commercial dairy regions. The rainfall, terrain and type of soil in these regions is favorable for livestock grazing and not, for example, for the intensive grain farming carried on in western Minnesota, the Dakotas and Montana. In some areas where the natural setting is favorable for dairying, opportunities for off-farm employment have proven more attractive and dairying has become a secondary occupation. In northeastern Minnesota, northern Wisconsin and Upper Michigan, when the demand for iron ore was strong in the late forties and early fifties, there was a sharp reduction in dairying. Recently, there appears to be some return to dairying due to the lack of off-farm employment.

Government legislation has had its impact on this type of agriculture too. Federal grain price support programs have made it profitable for farmers in grain producing sections to turn exclu-

sively to grain production. Higher health standards established by legislation have required the installation of expensive equipment which, in turn, made it necessary to maintain large herds. This has led to the liquidation of small inefficient operators.

It is no longer necessary for dairy farmers to be close to the market. The development of new methods of storing and transporting milk, such as bulk milk tanks and large specially designed transports, makes it possible to deliver milk over longer distances. Thus, the market for the commercial dairy regions has been enlarged.

Milk production

Although the number of dairy cows in the post World War II period has decreased sharply in many areas of the district, the output of milk per cow has risen almost universally. In Minnesota and Wisconsin, the production of milk from 1954 to 1959 inclusively rose substantially more than the 2 percent increase in the nation as can be seen in Table 1. In 1959, Wisconsin ranked first and Minnesota second, the former state producing 14 percent of the nation's milk supply and the latter 8 percent. South Dakota experienced an increase of nearly 5 percent. While output in North Dakota was still down in 1959 from the volume of the early fifties, it has risen recently. In Upper Michigan, the output of milk has remained stable, but in Montana, there was a noticeable fall-off in production during the past decade.

TABLE 1—MILK PRODUCTION IN DISTRICT STATES AND IN UNITED STATES, 1954-59

(Millions of Pounds)

	1954	1959	Percent Change 1954/1959
Michigan	5,423	5,416	— 0.1
Minnesota	8,615	9,970	+15.7
Montana	540	485	—10.2
North Dakota	1,786	1,747	— 2.2
South Dakota	1,360	1,422	+ 4.6
Wisconsin	16,273	17,711	+ 8.8
United States	122,094	124,396	+ 1.9

Source: U. S. Department of Agriculture, Agricultural Marketing Service, Washington, D. C. "Dairy Statistics," Bulletin No. 218, pp. 4-51; and "Supplement for 1959" to Statistical Bulletin No. 218 pp. 1-5.

Market for milk

Since the late thirties, there has been a continuous reduction in the quantity of milk used on farms. The transition started prior to World War II but was greatly accelerated during war by the relatively favorable prices paid for nonfat milk solids. Less cream has been churned into butter on farms and the steady decline in the number of agriculture workers employed has lowered the consumption of fluid milk and cream on farms. Improved herd management practices have reduced the feeding of skimmed milk to calves. In the United States from 1954 to 1958 inclusively, the consumption of milk on farms declined by 24 percent. In all district states except Wisconsin, consumption declined by a comparable percentage. In Wisconsin the trend toward using less whole and skimmed milk on farms began several decades ago because of the long tradition of marketing whole milk at cheese plants.

There are essentially two distinct markets for milk: the retail market, and the dairy plants producing manufactured products. Because of the differential in price which favors Grade A milk, the fluid market is supplied first and the remaining milk supply is converted into other dairy products.

In the district, except in the area around the Twin Cities, the consumption of fluid milk does not provide the substantial portion of the market for milk that it does in the densely populated eastern states. The fluid market in the district grew slowly during the fifties due to the slow population growth, at approximately half the rate in the nation. According to the 1950 and 1960 population census, the district's population increased by 9.7 percent, compared with 18.5 percent in the nation. The fluid market outside of the district is largely beyond reach due to the erection of artificial barriers. Even though equip-

ment and processing methods are now available to transport milk longer distances with less danger to its quality, legal restrictions must be removed before large urban centers can be reached.

The rise in consumption through natural population growth and also through limited government purchases has led to a steady growth in the market for manufactured products. During World War II, a new outlet, dried milk products, sprang up. Many creameries installed milk drying equipment and others found a market for skimmed milk among the specialized milk drying plants. The increase in whole milk used for manufactured products has been much greater in most district states than in the nation as a whole. In the United States, the volume from 1954 to 1958 rose only slightly, while in Minnesota, North Dakota, South Dakota and Wisconsin, the increase was quite marked as may be observed in Table 2. In Michigan, the demand for fluid milk rose faster than the supply, and consequently, the amount of whole milk used in manufacturing dropped. The decline of milk production in Montana was accompanied by a decline in the use of milk for manufacturing.

Manufactured dairy products

There has been a large production of butter, cheese, condensed, evaporated and dried milk products and ice cream and other frozen products in Minnesota and Wisconsin. During the late fifties, creameries in North and South Dakota were converting from the purchase of farm separated cream to whole milk. At the same time,

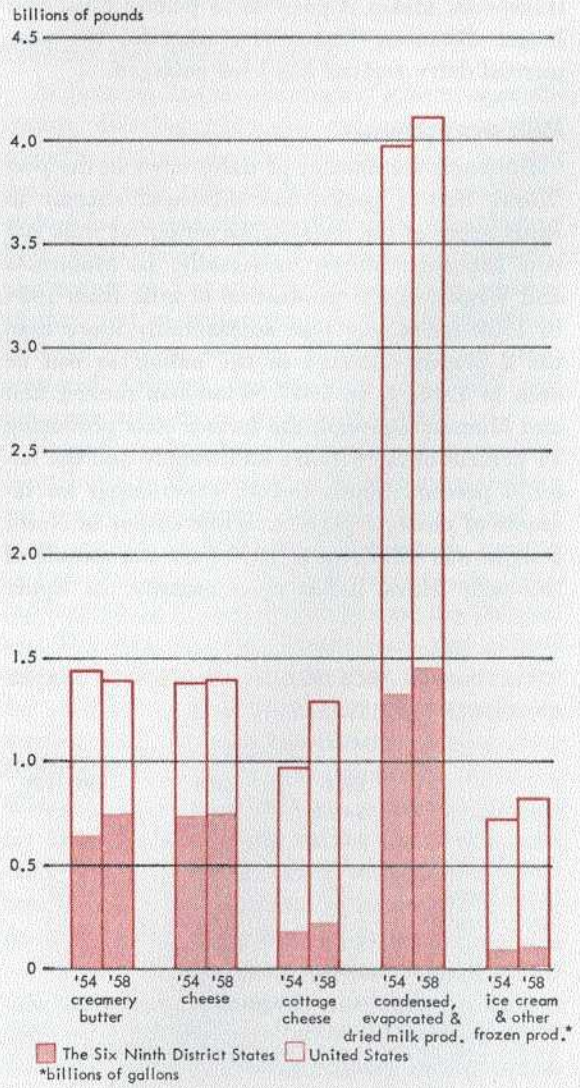
TABLE 2—WHOLE MILK USED IN THE MANUFACTURE OF DAIRY PRODUCTS IN DISTRICT STATES AND IN UNITED STATES, 1954-58

(Millions of Pounds)

	1954	1958	Percent Change 1954/1958
Michigan	2,194	1,917	—12.6
Minnesota	6,927	8,212	+18.6
Montana	206	173	—16.0
North Dakota	1,107	1,309	+18.2
South Dakota	754	988	+31.0
Wisconsin	12,130	13,452	+10.9
United States	58,074	58,243	+ 0.3

Source: U. S. Department of Agriculture, Agricultural Marketing Service, Washington, D. C., "Dairy Statistics," pp. 327 and 328 and "Supplement for 1959 to Dairy Statistics," p. 81.

Dairy products production in district states and in the United States, 1954 and 1958.



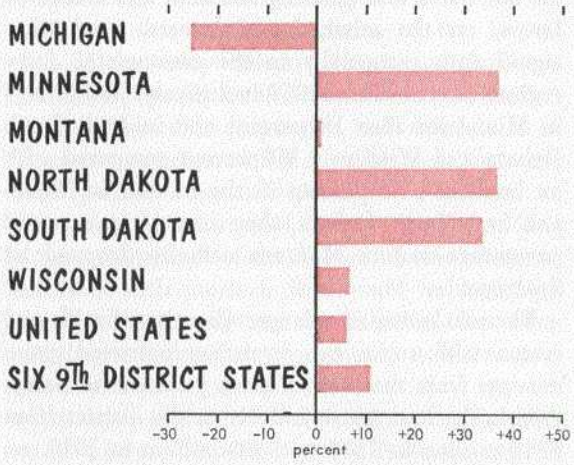
several plants were established in those states to produce cheese and some of the dried milk products. The sharp decline in butter production bottomed out in Montana during 1958 and a few dairy plants turned to the production of other products.

In spite of the 4 percent drop in the nation's butter production from 1954 to 1958 inclusively, the output during this period continued to expand in all district states except Montana. Production in Wisconsin expanded sharply, by 32 percent. However, the 1958 output proved to be an exceptional volume in the above state which was not equaled in the two subsequent years. On the basis of the latter annual volume, output increased by 26 percent from the 1954 total. Production in Minnesota, the nation's leading butter producing state, rose by 16 percent between 1954 and 1958. Output subsequently has risen further and in 1960 exceeded all previous records except the 1941 total. Production in North and South Dakota is small in comparison with the district dairy states, but it rose by 13 and 21 percent respectively between 1954 and 1958. Production in Montana declined by 27 percent during this period and has increased slightly since that time.

Cheese production in the nation rose only slightly during the latter half of the fifties. Wisconsin, the leading cheese producing state, accounted for 45 percent of the nation's total in 1958 and has enjoyed a small but steady increase in the two subsequent years. Production in Minnesota has declined, and in 1958 turned out only 4.6 percent of the nation's total. Output is small but rising in the other district states.

Cottage cheese production in the nation rose by one-third from 1954 to 1958 inclusively. Production in the dairy states of Minnesota and Wisconsin rose by 29 percent and 20 percent respectively. In the other district states, dairy plants turned to the production of cottage cheese during the fifties; in Montana, North and South Dakota, output rose over 80 percent from 1954 to 1958 inclusively.

Percent change in dairy products production in district states and in the United States, 1954 to 1958.



There was a sharp increase in the production of condensed, evaporated, and dried milk products during World War II to supply the needs of the federal government. Following the termination of hostilities, the market dropped abruptly. Since the early fifties, the civilian demand in the nation, plus a federal government storage program, has resulted in a slow expansion of about 3.5 percent in production from 1954 to 1958 inclusively. Wisconsin, a heavy producer of these products during the war, while still ranking first in 1958, increased production only 1 percent in the four year period. At the same time, Minnesota shifted to these products and expanded output by nearly three-fourths of the 1954 total.

Ice cream, ice milk and other frozen products are produced primarily for a local market. Output of most of these products rose during the fifties in all district states.

Dairy industry and district economy

The dairy industry is an important part of the district economy and the transition in the post

World War II period has had a significant impact.

The gross receipts received by dairymen reveal the importance of the industry to district agriculture. The trend of expanding production, on the one hand, and of using less milk and cream on farms, on the other, has increased marketings significantly, especially in the commercial dairy regions from 1954 to 1959 inclusively. Marketings in Minnesota rose 18 percent and in both South Dakota and Wisconsin 10 percent compared with an increase of 6 percent in the nation. In Michigan and North Dakota, they rose by a nominal percentage and in Montana actually dropped by 8 percent.

The marketing of a larger quantity of milk and cream with some rise in price increased gross receipts from the sale of dairy products to dairymen in the four states entirely in the district from $312 million in 1954 to $376 million in 1959, an increase of 20 percent. Over three-fourths of the income was realized by Minnesota farmers. The receipts derived from dairying in the other three states were small, in 1959 ranging from $15 million in Montana to $39 million in North Dakota, only a negligible increase from 1954.

A comparison of these receipts with total receipts from all farm marketings reveals the importance of the dairy industry to district agriculture. As may be observed in Table 3, about half of the receipts in Wisconsin have been from the sale of dairy products. They have been approximately one-fourth in Michigan and nearly one-fifth in Minnesota. They have been less than 10 percent in the three western district states.

From town to city

The transition in the manufacture of dairy products during the past two decades has reduced operations in small communities and expanded them in larger urban centers. Many small communities in the commercial dairy regions of Minnesota and Wisconsin have lost processing plants as operations were integrated into larger units. As plants were consolidated, many long established creameries and cheese plants were closed in small towns as the processing was transferred to larger centers. In the brief span of four years, from 1954 to 1958, the number of creameries in Minnesota declined from 580 to 479, and the number of cheese plants from 45 to 31. In Wisconsin, creameries declined from 235 to 183 and cheese plants from 1,078 to 853. On the other hand, during the fifties there was practically no change in the number of operating dairy plants in Montana, and in both Dakotas cheese and milk drying plants have sprung up in recent years.

The tendency has been for larger urban centers to be the beneficiaries of the trend toward consolidation into fewer and larger plants and some integration into multiple unit firms. While the number of establishments in the industry between 1954 and 1958 inclusively declined in all states wholly or partly in the district with the exception of Minnesota and South Dakota where numerous plants to produce new products sprang up, the number of establishments with 20 or more employees increased in these states with the exception of Montana and North Dakota where

TABLE 3—CASH RECEIPTS FROM DAIRY PRODUCTS AND ALL FARM MARKETINGS, NINTH DISTRICT STATES AND UNITED STATES

(Millions of Dollars)

	Dairy Products[1]		Total[2]		Dairy Products as a Percent of Total	
	1954	1959	1954	1959	1954	1959
Mich.	$ 174.5	$ 184.6	$ 676.9	$ 698.9	25.8	26.4
Minn.	231.3	287.2	1,237.2	1,379.1	18.7	20.8
Montana	15.5	14.8	386.3	418.3	4.0	3.5
N. D.	36.8	38.5	471.5	575.1	7.8	6.7
S. D.	27.9	35.3	567.7	621.6	4.9	5.7
Wis.	491.5	555.6	995.5	1,071.2	49.4	51.9
U. S.	$4,114.1	$4,604.0	$29,953.0	$33,452.0	13.7	13.8

Source: [1]U. S. Department of Agriculture, Agricultural Marketing Service, Washington, D. C., "Dairy Statistics," pp. 101-149 and "Supplement for 1959 to Dairy Statistics," pp. 11-15.

[2]U. S. Department of Agriculture, Economic Research Service, "Farm Income, A Supplement to the Farm Income Situation for July 1961," pp. 4-25.

dairying has been a secondary type of farming.

In milk drying plants, there has been practically no expansion since World War II as plant capacity has been more than ample. The greatly increased demand for dried milk products during the war led to the construction of drying plants and to the installation of drying equipment in many creameries in Minnesota and Wisconsin, many of them financed by the war-time lend-lease program. Emphasis was placed on volume of output regardless of cost, which led to over-expansion of plant capacity. Although the average annual output of plants in operation increased significantly during the late forties, in the early fifties there still was some unused plant capacity in the district.

In spite of the mechanization which has taken place in the industry, it has been a source of increased employment in the district. In Minnesota, the industry in 1958 had over 10,000 employees, an increase of over 8 percent from 1954. In Wisconsin the industry had nearly 20,000 employees, an increase of 9 percent over the four year period. In the western half of the district, employment in the industry is small — less than 1,000 employees in each of the states of Montana, North and South Dakota. In the nation, while employment in the industry has expanded slowly, rising by 5 percent from 1954 to 1958 inclusively, the number of workers in the production end declined by 6 percent, typical of the general trend in manufacturing.

Payrolls are tangible evidence of the importance of the dairy industry in cities and towns. The 1958 payrolls in the manufacture of butter, cheese, condensed, evaporated and dried milk in Minnesota aggregated $21.2 million, an increase of 42 percent from 1954, and $43.5 million in Wisconsin, an increase of 40 percent from 1954. In the western half of the district where the manufacture of such products is a minor industry, aggregate state payrolls are insignificant. Nevertheless, they are important to specific urban centers where such plants are located.

The value of the finished dairy products, which are in a large measure exported from the region, reveals the importance to the economy of the entire district. It is important that this region have commodities as well as services so that it can command imports. Income from industries such as this one provides the funds for the purchase of commodities such as automobiles from Detroit, steel from Gary and shoes from St. Louis.

—Oscar F. Litterer

Turkey growers face surplus

Minnesota turkey growers, who last year strutted to the top in U. S. turkey production with a record 13,496,000 birds, are finding themselves with an embarrassing surplus of the traditional Thanksgiving treat this year. An even larger number of the birds, 19,132,000, was raised by Minnesota growers in 1961, a 32 percent increase over a year ago.

Growers say they made relatively large profits on last year's flocks and this year they set out to increase production. The result is overproduction that has sent prices skidding and has prompt-

ed a nation-wide advertising campaign to persuade the American housewife to serve more turkey more often.

For several years the national turkey growers association has warned growers that improved production methods which make it possible for a single grower to produce thousands of birds each year would ultimately create a surplus if better marketing techniques were not adopted to make the gobbler a year-round seller.

Heeding the prophesy, some producer-processors have developed a variety of new ways to market turkey, sometimes in such unlikely guises as turkeyburgers, turkey sausage and even turkeyloney (turkey baloney). Fryers (small turkeys weighing less than 10 pounds) and turkey roasts (a quarter of a 15 to 20 pound bird) are increasing in popularity with both producer-processors and consumers. But the "turkey image" remains that of a 20 to 30 pound tom, stuffed and roasted to perfection, served with "all the trimmings" to a happy gathering of the clan during the holiday season. Although a homemaker can buy a turkey for considerably less per pound than hamburger, she typically thinks of turkey as "special"—and consequently infrequently adds it to her menu.

In Minnesota during September prices paid to producers for toms dipped to a low of 13 cents a pound, while hen prices went as low as 16.5 cents. The average September price, however, was 17 cents per pound in Minnesota, compared with 18.4 cents in the rest of the country. Turkey growers estimate the break-even point is 20 to 22 cents per pound, a dramatic improvement over the 25 to 30 cent break-even point of 10 years ago, but still not low enough to make a profit in a surplus year. Table 1 traces the monthly prices of turkey over the past year in Minnesota and in the nation.

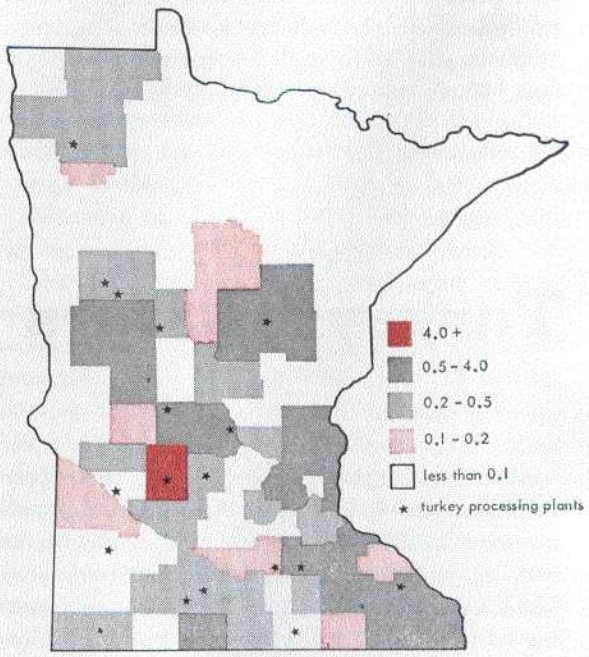
In an all-out effort to eliminate this year's turkey surplus, the Minnesota Turkey Growers Association in September launched a statewide promotion campaign that they hope will catch on nationally. The fanfare began in the small Minnesota

TABLE 1—MONTHLY AVERAGE PRICES OF LIVE TURKEYS RECEIVED BY FARMERS[1]

Date	U.S.	Minnesota
	(cents per pound)	
1960		
Oct.	25.6	26
Nov.	25.9	25
Dec.	26.6	27
1961		
Jan.	25.4	25
Feb.	23.7	23
Mar.	23.6	22
Apr.	22.1	20
May	21.5	20
June	20.5	19
July	19.5	18
Aug.	19.8	19
Sept.	18.4	17

[1] United States Department of Agriculture figures.

Average number of turkeys per acre in Minnesota, 1959, and location of processing plants.



to have a retarding influence on cash farm income over the next several months. Offsetting this to some extent, however, is the favorable corn and soybean crop heavily marketed in the fourth quarter, a high level of marketings of livestock and livestock products, and relatively favorable agricultural prices.

The question frequently posed in recent months has been whether reduced farm income would substantially retard general economic recovery in the Ninth district compared with that of the nation as a whole. The available evidence indicates that Ninth district economic recovery through the third quarter has not been stopped and that it has about paralleled that of the nation. This is true in spite of the fact that agriculture's role in the district economy is 3 to 4 times more significant than it is for the U. S. Personal incomes during the third quarter increased about the same percentage here as in the nation. District nonagricultural employment shows about the same trends as for the U. S. Improvement in employment levels, both here and nationally, has been disappointing with the rates of unemployment remaining relatively high. Some increase in retail sales, both here and nationally, and an increase in over-all economic output suggests productivity per worker has improved, but this is not an unusual phenomenon in the early stages of a cyclical recovery.

In banking, continued improvement in liquidity is noted through the end of October. Loans at the district city banks were below year-ago levels by 2 percent and demand deposits were up by the same percentage. Time deposits grew by 19 percent. The loan-deposit ratio, one measure of liquidity, declined 4 points from year-ago levels.

At the country banks, similar trends are noted. Loans changed little. Demand deposits were up about 3 percent and time deposits up 7 percent. Liquidity, as measured by the loan-deposit ratio, had improved 2 points.

Investments at both city and country banks had also shown substantial growth from year-earlier figures—up 19 percent and 14 percent respectively.

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

RETAIL SALES UP

Retail sales in the nation turned up in October following a period of five months in which the volume had been on a plateau. The seasonally adjusted volume rose to $18.6 billion, up 2 percent from the September level. Sales of durable goods in October rose 6 percent, with the automotive group up even more, while sales of nondurable goods rose 1 percent.

Department store sales in the nation increased slightly in October on a seasonally adjusted basis. The index rose to 151 percent of the 1947-49 average as compared with 150 percent in September. Sales during the first eleven days of November continued at about the October level. An unseasonably warm October depressed sales in several major departments. Retail merchants in the second week of November were still waiting for the first winter weather to spur sales of heavy apparel.

Prior to October, lagging retail sales had not been an expansionary force in the economic recovery. The recovery had been stimulated largely by government and business spending rather than by consumers in retail markets. From February, which marks the trough of the business cycle and the beginning of the recovery, to September, seasonally adjusted retail sales rose only by 2.2 percent, while adjusted personal income rose by 4.2 percent. Consumers have also used credit conservatively. Total installment credit outstanding in the nation from February through September rose only by 0.7 percent. The amount of automobile paper outstanding actually declined by 1 percent, the tenth consecutive month of decline.

In the Ninth district, monthly estimates on total retail sales are not available. The Bureau of Census' sample of sales of retail stores in the district which excludes sales of large retail chains, is the broadest coverage available. From February

through August, the latest figures available, sales have been down significantly more from a year ago here than in the nation. They were down more than in the nation in a majority of the categories including general merchandise, apparel, furniture and appliances, lumber and building hardware, automobile and drugs.

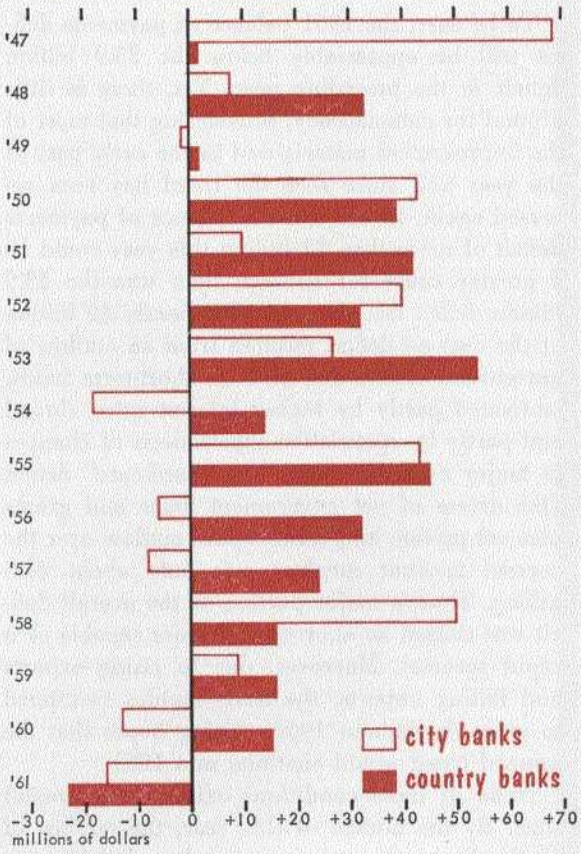
District department store sales, on a seasonally adjusted basis, declined in October to 134 percent of the 1947-49 average from 139 percent in September. As in the nation, an unseasonably warm October depressed the sale of heavy wearing apparel. From February, the beginning of the recovery period, district department store sales have declined slightly on a seasonally adjusted basis and, since June, they have been even lower than in the first half of the year.

LOANS SLUGGISH IN OCTOBER

District member bank loans continued to fall in October after falling by more in the third quarter than in any other third quarter since the war. The October decline of $1 million compares with an average increase in loans of $10.4 million in previous Octobers since the war. City bank loans declined $6 million and country bank loans rose $5 million this October in contrast to average changes of minus $2.4 million and plus $12.8 million respectively in the previous fourteen Octobers.

In the twelve months ended in October, district city bank loans fell almost 2 percent while their total deposits rose by more than 5 percent; the ratio of loans to deposits fell from 54.8 percent to 51.1 percent. In the same period country bank loans rose almost 2 percent and their deposits rose almost 5 percent, bringing the ratio of loans to deposits from 47.5 percent to 46.1 percent. Time deposits and demand deposits were both at record highs in October at the city and country banks.

Change in district member bank loans, July through October, 1947-61.



U. S. BALANCE OF PAYMENTS DEVELOPMENTS

The balance of payments deficit for the third quarter of 1961, according to the preliminary estimate of the U. S. Department of Commerce, was about $3 million, at a seasonally adjusted annual rate. This compares with a $1.9 billion deficit in the second quarter (excluding advance prepayments of $650 million on U. S. government loans), and a $1.4 billion deficit in the first quarter. For the first nine months of 1961 the deficit was at an annual rate of $2.1 billion, not counting the special transactions in the second quarter. For

the whole of 1961 it now appears that the balance of payments deficit will be somewhat above this rate.

To be sure, the 1961 balance of payments deficit will be appreciably below the $3.9 billion deficit in the preceding year. Yet, there is little ground for complacency, considering that most of the improvement materialized in the early part of the year and since then the trend has been reversed again. In one sense a balance of payments deficit of more than $2 billion this year could be a greater cause for concern than was the $3.9 billion deficit last year. In 1960 nearly $2 billion of the over-all deficit resulted from an outflow of unrecorded capital and of U. S. short-term funds, motivated partly by higher interest rates abroad and partly by speculative expectations of changes in major exchange rates. The "hard-core" deficit (the excess of net government loans and grants plus net private long-term capital outflow over the current account surplus) was only about $1.5 billion. Thus, a major portion of the overall deficit was caused by short-term factors capable of a rapid reversal. Moreover, due to rising exports and falling imports, the trade surplus continued to grow throughout 1960, raising hopes that the upward trend would continue into 1961.

None of these conditions exist at the present time. By the middle of this year, the outflow of U. S. short-term and unrecorded capital was reduced to negligible proportions, while the trade surplus, after reaching an all-time peak of $6.6 billion (seasonally adjusted annual rate) in the first quarter, began to decline. It follows that in the future there is only a limited possibility to achieve any significant reduction in the balance of payments deficit through further gains on the short-term capital account. On the contrary, conditions which would create incentives for a renewed large scale outflow of such funds might reappear. Moreover, there is little likelihood that the recent decline in the trade surplus will reverse in the foreseeable future. For one thing, merchandise imports, after rising almost 15 percent in the third quarter, are expected to increase still further as economic conditions in the U. S. improve. Although merchandise exports have decreased only slightly thus far from their peak level of $20.2 billion in the first quarter, in view of possible declines in economic activity abroad and increasing competition in the world markets, a further decrease is not unlikely.

However, barring a curtailment of either the government foreign aid program or of private long-term foreign investment, any major improvement in the basic balance of payments position will have to be realized on the current account. Essentially this means increasing exports in excess of any possible increase in imports. It is clear that this is a long-run solution which will require an all-out competitive effort on the part of U. S. producers in both domestic and world markets.