

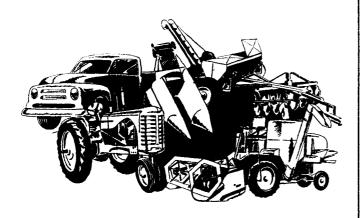
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Mechanization of Eighth District Agriculture

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The machine affords opportunities in the quest for larger farm output and for higher standards of living on the farm.

But it also presents problems such as: 1) further adaptation of machines to certain farm operations, 2) determination of the proper level of investment in machinery, 3) procurement of additional capital and credit, and 4) adjustment to new burdens of higher fixed cash outlays.

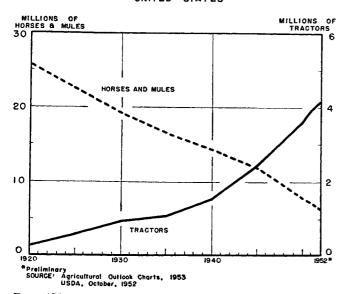
Mechanization that increases efficiency in district farm output should be speeded but better farming practices are also necessary.

Farm machinery has brought about a revolution in agriculture.

THE EIGHTH Federal Reserve District, located in the heart of the great valleys of the Mississippi, Missouri, and Ohio Rivers, has been the scene since early in the Nineteenth Century of many historical events, stories, and folklore making up the romance of agriculture. High in the list of events has been the progress in farm mechanization. The change from hand power methods in American agriculture has been described as one of the most far-reaching transformations in human history, eliminating much drudgery from farm work and bringing an abundance of food and fibre never before known in any land or era.

The story of the machine in agriculture is partly old, but generously mixed with the new. It is unusual today to meet a farmer who has experienced the day when wheat was bound by hand or when hay was baled with horsepower, but many of our school children can recall the days before the development of a successful cotton picker. In this country mechanization progressed slowly until the last quarter-century. Horse and mule numbers did not start to decline until after 1920 and in that year there were less than 250,000 tractors on American farms. Faster progress was made with the coming of the gasoline-powered era and with increased availability of electricity in farming, particularly over the most recent years. Thus in 1870 the average farm worker controlled 1.6 horsepower; in 1920 he had 5.3 horsepower at his command, but by 1950 this had increased to 33.1

HORSES, MULES AND TRACTORS ON FARMS



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Even though mechanization has moved ahead at a relatively rapid pace in the United States during recent years, it might be well to recall two facts. Elsewhere in the world over a billion people are being supplied with food produced with farming methods little different than were used fifty centuries ago. And further, although the over-all rate of progress is remarkable, some stages of crop production on many United States farms involve hand methods little different than those used in the underdeveloped areas of today.

Districtwise the shift toward mechanization has been remarkable in rate and extent.

How does the Eighth District stand in this mechanical progress? First of all it should be noted that no comprehensive measures of mechanization of farming are available. The count of farms with tractors in use gives some indication, but must be interpreted with care. A measure in terms of the percentage of farms with tractors would, on the one hand, tend to overstate the degree of mechanization on farms. Many operations are not mechanized even though there is a tractor on the farm. The first operations to be mechanized are usually plowing and seedbed preparation. Mechanized seeding, cultivation, and harvesting tend to come later, with chores being about the last of the farm operations to succumb. Thus, at the time of the 1950 Census of Agriculture, 32 per cent of district farms had tractors, but only 8 per cent had combines, 5 per cent had corn pickers, and 3 per eent had pick-up hay balers.

Table 1 MECHANICAL EQUIPMENT ON EIGHTH DISTRICT FARMS, 1950

	all farms
Tractors	. 32%
Trucks	. 27
Automobiles	. 47
Grain combines	. 8
Corn pickers	. 5
Pick-up hay balers	. 3
Electricity	
Electric water pumps	
Milking machines	
Electric feed grinders	
Source: Preliminary data, CENSUS OF AGRICULTURE	

At the same time, the percentage measure would be biased on the down side, that is it would tend to understate the degree of mechanization in commercial farm operations. A number of farms included in the total of all farms are residential units and part-time; still others classed as commercial farms are quite small and produce little for sale. For example, only 62 and 65 per cent of all farms were commercial farms in Arkansas and Indiana (1950). In other district states the proportion of commercial to total farms ranged between 71 and

¹ LAND OF PLENTY, Farm Equipment Institute, 1950, page 2.

76 per cent. Many part-time farmers, no doubt, have tractors, but a considerable number have no tractor or draft animals and are unlikely to acquire any. Further, the percentages do not indicate the extent to which landlords furnish mechanical power for part or all of the farm operations or the extent to which custom operators are employed. Data showing the percentage of all farms with tractors are, however, useful to make comparisons over time and represent in a rough way the extent of mechanization on district farms.

In these terms some areas of the district lag behind the average development but much progress is evident over all. An indication of this can be seen by comparing the maps on pages 174 and 175, showing the per cent of farms with tractors in 1945 and 1950. For the district as a whole, 32 per cent of the farms had tractors in 1950 compared with 18 per cent in 1945.

A study of the 1950 map shows that in 39 counties 60 per cent or more of all farms had tractors, triple the number of counties in 1945. When non-commercial farms are excluded, it can be seen that the transition to mechanical power is virtually completed in those counties. In 49 other counties 50 to 60 per cent of the farms had tractors. On the other hand, the map also shows that in 1950 there still were 105 district counties in which less than one-fifth the farms reported tractors. This large number of counties on which less than one-fifth of the farms had tractors must be considered in the light of the fact that topography is a deterrent to mechanization in some parts of the district. A considerable number of the counties in which little mechanization has taken place are located in the mountainous Ozark and Ouachita regions. Also, mechanization is prevented by small size farms, by emphasis on tobacco and cotton crops requiring much hand labor, and low income per farm. Even in these areas, though, progress is being made. In fact the data indicate that considerable catching up occurred between 1945 and 1950. For example, 4.6 per cent of all tractors in the United States in 1950 were located on farms in district portions of Arkansas, Kentucky, Mississippi, and Tennessee. In 1945 only 2.9 per cent of the tractors were in district portions of those states.

In discussing mechanization it should be remembered that these small area data are for early 1950 (the most recent available), and that considerable changes have taken place since that time. Tractor numbers have increased nationally by half a million in the two years since 1950. Since tractor numbers

in the Eighth District increased 89 per cent between 1945 and 1950 compared with a 49 per cent increase nationally, it is logical to assume that the increase in the district since 1950 has exceeded the 15 per cent increase nationally. The same is probably true for other types of equipment.

The machine affords opportunities in the quest for larger farm output . . .

Behind the romance of the machine, however startling the development may be, are many implications, problems, and opportunities which are having and will continue to have a profound effect on agriculture and the economy of this district and As a primary opportunity or social gain, increased power on farms has made possible steadily increasing output. Fortunately, this increase came at a time when need for food was extremely high. Farmers were able to produce more food with less labor, releasing workers for employment or service elsewhere. Thus, between 1930 and 1952 agricultural output for the nation increased threefifths, total man-labor requirements declined nearly one-fourth, and output per farm worker nearly doubled. District data, if available, undoubtedly would show similar trends.

Table 2

FARM OUTPUT AND LABOR INPUT, U. S. 1935-39=100.

	Farm output	Man hours of work ¹	Output per man hour
1930	95	109	87
1935	96	110	96
1940	110	9 8	112
1945	129	95	136
1950	136	83	164
19512	139	86	162
19522	141	83	170

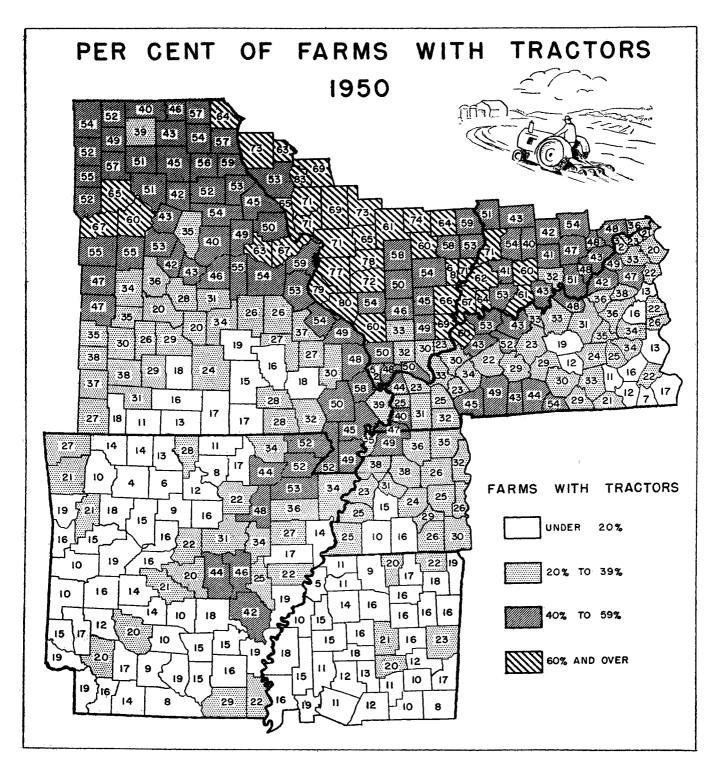
¹ In terms of time required by average adult worker.

Source: AGRICULTURAL OUTLOOK CHARTS, USDA, 1953, p. 19.

. . . and for higher standards of living on the farm.

A second opportunity has come in the form of higher standards of living on the farm. In agricultural areas with relatively low per capita incomes, the machine offers an economic opportunity whereby the gap between productivity and income of agricultural workers and those engaged in industry can be narrowed. The marvel of the machine in such instances lies in the fact that both those remaining in agriculture and those who take employment in industry are able to improve their standard of living. This is in addition to the fact that production and incomes can be improved markedly by better farm management practices and in other ways.

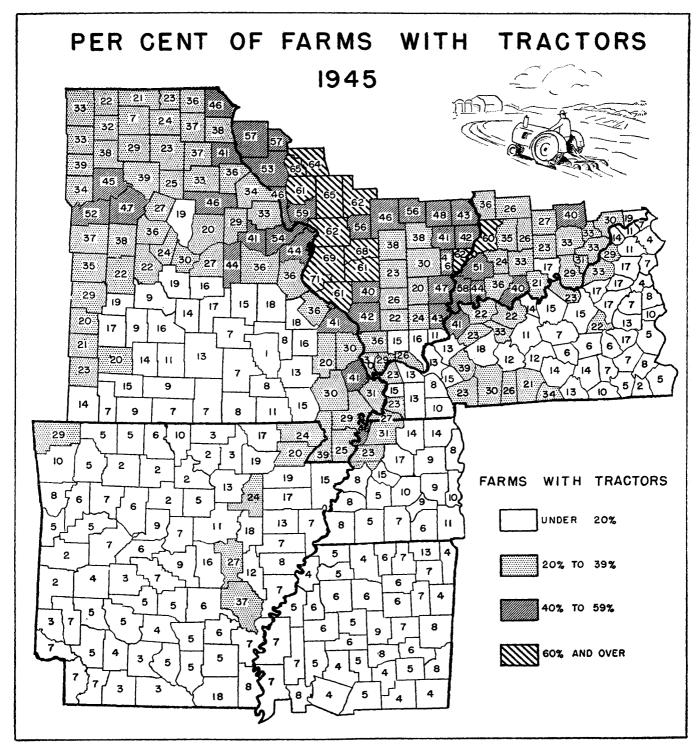
² Preliminary.



THE SHADING on the maps illustrates at a glance that mechanization of farms in the Eighth District has proceeded rapidly since World War II. The map showing per cent of farms with tractors in 1950 has a much deeper shading than the one showing the percentage in 1945.

The over-all increase in number of district farms having tractors has been from 18 per cent in 1945 to 32 per cent in 1950.

Another striking fact brought out by the maps is that the northern part of the district is by far the more heavily mechanized. And it, as well as the



southern part, has had a substantial growth in recent years in the number of tractors on farms. In fact, there has been substantial improvement in practically every county in the district.

The reader who is familiar with the district can note how a low number of tractors per farm is associated with the mountainous regions of southern Missouri and northwestern Arkansas and many tobacco and cotton growing regions in the southern parts of the district. In studying these maps, it should be borne in mind that the percentage of farms with tractors represents in only a rough way the extent of mechanization.

An indication of the close association of increased output per worker, mechanization, and standard of living, can be seen by comparing the map showing level of living indexes (page 177) with the maps showing farms with tractors. In a considerable number of counties (92 counties in 1950) the level of living is equal to or exceeds the national average and in 60 other counties the level of living is as good as the 1945 national average. By and large these counties also are the ones in which mechanization is nearly completed. But in the other 200-odd district counties, substantial progress still needs to be made. And these are the counties for the most part that have lagged in the shift to power farming.

But it also presents problems such as: 1) further adaptation of machines to certain farm operations. . . .

Threading through this epic of the machine are several problems that have not been solved in their entirety. Among these might be listed the problem of adapting machines to certain farm operations. Despite the ingenuity of American engineers and farmers, production of tobacco, many fruits and vegetables, and even cotton, to name a few examples, still require large amounts of hand labor. Tobacco and cotton, of course, are major sources of income in the Eighth District. Wide differences also exist in the extent to which use is made of machines from farm to farm after machines have been developed. But more important still is the problem of determining when there has been suffi-

ACRES OF CROPLAND HARVESTED PER TRACTOR EIGHTH DISTRICT, 1950

ARKANSAS 97 ILLINOIS 88 INDIANA 76 KENTUCKY 83 MISSISSIPPI 108 MISSOURI 98 90 TENNESSEE 8th DISTRICT UNITED STATES

SOURCE: Adapted from Preliminary Data Gensus of Agriculture, 1950

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cient investment in machinery on the farms.

Data on machinery give little indication that a leveling-off stage has been reached in machinery numbers. What is the likelihood of a leveling off in tractor numbers? Is there a saturation point for mechanical equipment? At what level does the addition of a machine lead to uneconomical operation? Answers to these questions cannot be stated in precise terms, but further discussion of them is desirable.

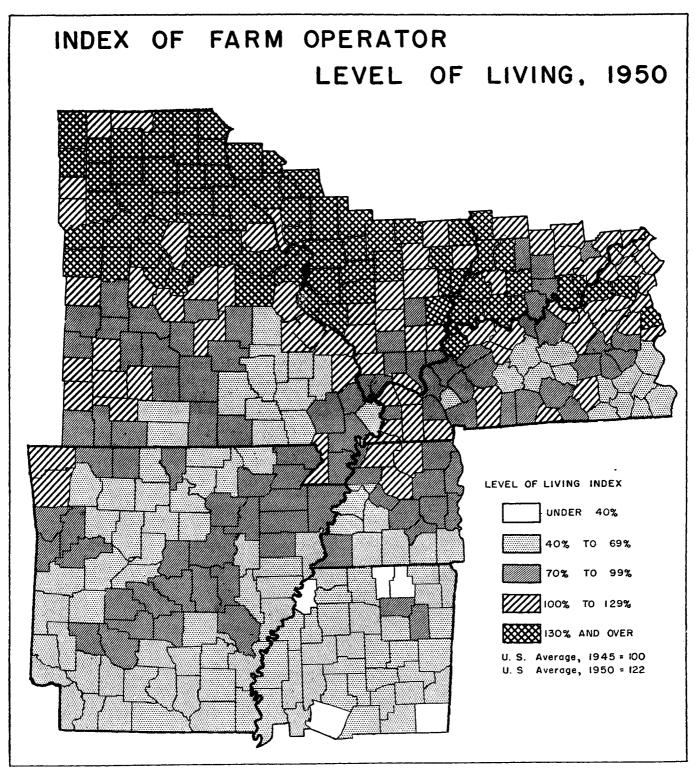
At first glance the mere fact that large numbers of farms in the district still are not mechanized indicates the likelihood that more machinery will be added to district farms. On the basis of percentage of farms mechanized, some increase can be expected in practically all areas, but particularly in the South. Thus, if the number of tractors in all parts of the district were increased to a tractor for every 76 acres harvested as in Indiana, tractor numbers in the district would increase nearly one-fourth. But 76 acres per tractor is in no way indicative of a leveling-off point. Tractor numbers are still increasing in Indiana, too. Some closely associated with the farm equipment industry believe that eventually there will be a tractor for each fifty acres of harvested land, or less. Recent developments of smaller, less expensive equipment may make this feasible. Evidence of this trend is indicated by the increase in tractor numbers since 1950. Dividing total acres harvested in the district by tractor numbers gives 81 acres per tractor in 1952 compared with 93 in 1950. (This assumes the same percentage increases in tractor number districtwise as occurred nationally.)

How much lower will acres harvested per tractor go or should they go? The above data show the trend, but do not tell the whole story. Some adjustment should be made for the fact that these averages include substantial acreage in small non-

Table 3 FARMS IN DISTRICT STATES CLASSIFIED BY CROPLAND HARVESTED, 1950

Di Citt	Number of farms with harvested cropland of—					
(In thousands)	Less than 30 acres	More than 30 acres	More than 50 acres	farms reporting tractors ¹		
Arkansas	100	55	27	40		
Illinois	33	142	128	138		
Indiana		98	78	101		
Kentucky	146	52	25	47		
Mississippi	180	49	16	32		
Missouri	73	119	84	97		
Tennessee		62	27	47		
1Wheel tractors-ex	cludes garder	and crawler	tractors.			
Source: Preliminary						

mechanized farms. If this small-farm acreage is disregarded there are more farms with tractors in district states than there are farms with 50 or more acres of harvested land. For example, in Indiana more farmers owned tractors (exclusive of garden and crawler tractors) than there were farms having



thirty or more harvested acres. In Illinois there were nearly as many. An additional several thousand farmers in these states reported garden tractors (presumably residential and part-time farmers) but no wheel or crawler type. Studies in Kentucky and Missouri have shown that an availability of 75 harvested acres or more per tractor usually provides the most efficient level for tractor operation.

These data suggest, therefore, that in some district states the number of tractors may already have increased to the point where machinery costs per unit output are higher than if more days use per year were available. Even in the states generally considered as being less advanced in mechanization, farms having tractors and farms having forty harvested acres are about equal. If additional tractors

are to be used economically in a good many instances in these states, farm consolidation may be a necessary prerequisite. This assumes harvested acreage on present farms cannot be increased substantially.

The matter of economy of use will need closer examination in the period ahead in view of prospective narrowing profit margins. Economy on a cost-per-unit or a cost-per-day basis to a considerable extent is dependent on how much a piece of equipment is used. For example, the accompanying table shows that the cost per day when a tractor (two plow) is used 125 days is but half the cost when used only 35 days per year.

Table 4 TRACTOR COST PER DAY¹

Tractor 1 plow:
Days used per year..... 21 42 69 94 119 186
Cost per day..........\$11.00 \$ 7.25 \$ 5.30 \$ 5.10 \$ 4.36 \$ 4.35
Tractor 2 plow:
Days used per year..... 22 40 70 96 127 167
Cost per day..........\$15.00 \$ 10.00 \$ 7.72 \$ 7.79 \$ 5.33 \$ 5.43

¹Tractor investment (average 1951) 1 plow \$980; 2 plow \$1,800.
Source: Some Criteria for Evaluating Farm Machinery and Building Loans, University of Kentucky data, Federal Reserve Bank of Cleveland and St. Louis, September, 1952, p. 24.

A point not generally recognized is the number of farms that are apt to have closer to thirty days' use for a tractor than 120. For example, a Kentucky farm producing tobacco, corn, small grain and hay with forty-six acres of harvested crop land, plus 120 acres of pasture, would have but about thirty-six days' use for a tractor each year.² Such farms tend to be on the high end of the use-cost scale.

. . . 2) determination of proper level of investment in machinery, . . .

This, of course, does not necessarily mean that a farmer having but twenty-five days' use for a tractor a year should not own one. A number of factors may justify purchase of equipment on smaller farms. A tractor may be cheaper to own than a team, even though the small size of the farm does not permit most efficient use. Custom operators may not be available, and labor may be scarce and expensive. Machinery may be justified on the basis of increased output due to timeliness of operations or due to replacement of horses with other productive livestock. Farmers may work together trading use of equipment, keeping each farmer's machinery investment down. More use thus would be obtained from each piece of equipment, making for more efficiency. Furthermore, the data on economical use of farm equipment are for average operators. Better-than-average operators may get by with smaller depreciation charges and operating costs.

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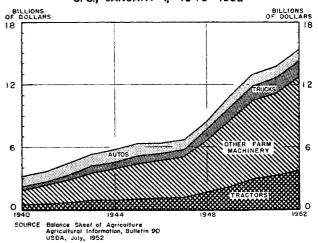
All of these factors tend to make equipment on smaller farms more easily justified.

However, recognizing these extenuating circumstances does not alter the basic fact that if other conditions are the same the operator with 100 days' tractor use will have a lower cost per unit output than one with but 30. And it does mean that the farmer with a more efficient level of operation has a better chance of servicing debts with less difficulty. In a price-cost squeeze this extra efficiency may well mean the difference between operating at a profit or operating at a loss.

. . . 3) procurement of additional capital . . .

So much for the difficulty of adjusting machines to the size of the farm, in other words, the problem of using machinery efficiently. The third problem generated by the spread of mechanization in farming is that of obtaining additional capital. This deserves separate consideration, for the capital structure of agriculture, like farm power, has undergone considerable change in recent years. The very fact that machinery and equipment investment on farms has increased five fold since 1940 suggests that financing needs also have increased greatly. In addition to price increases machines have become more complex, adding to their cost, and the number of machines in use has more than doubled.

FARM MACHINERY AND MOTOR VEHICLES ON FARMS
U.S., JANUARY I, 1940-1952

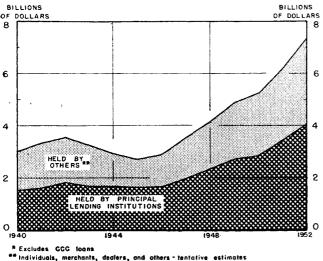


Even more significant than the sheer size of the machinery inventory is the ratio of machinery assets to land investment. In 1940 total farm machinery values were one-tenth the total value of farm real estate. By 1952 the ratio had increased to one-sixth of land value.

² Some Criteria for Evaluating Farm Machinery and Building Loans, University of Kentucky data, Federal Reserve Bank of Cleveland and St. Louis, September, 1952, p. 27.

Obtaining the necessary capital to purchase equipment has created new problems for farmers and bankers. Generally it is not enough to have money for just the cost of machinery. In many instances, additional capital is needed for farm consolidation before additional machinery can be used efficiently. More capital is also needed to increase productivity of land to justify the greater investment in machinery.

AGRICULTURAL NON-REAL ESTATE DEBT* U. S., JANUARY I, 1940-1952



** Individuals, merchants, dedlers, and others tentative estimates
SOURCE: Balance Sheet of Agriculture.
Agricultural Information, Bulletin 90
USDA., July, 1952

. . . and credit, . . .

In effecting the shift toward mechanization and larger farm output, additional credit is needed along with additional capital. Considerable mechanization has been paid for in the post World War II era out of accumulated savings of the war years and from current earnings. At the same time, bankers have extended considerable credit and are being called on to an increasing extent to finance the new, more expensive machines. The increased use of credit reflects the fact that many farmers have spent wartime savings and the fact that purchasing power of farm operators has been declining. Since 1947 purchasing power has declined nearly a fourth despite the boom resulting from the Korean War.

It might also be pointed out that provision of this increased credit volume has presented some problems to the lenders. Not only must the banker advance more credit in this new machine age than formerly, but each loan requires more supervision as the farmer today is more vulnerable to price change.

. . . and 4) adjustment to new burdens of higher fixed cash outlays.

The fourth major problem posed by the rapid growth of mechanization of district farms is the one of adjusting to higher fixed cash outlays. Mechanization of farm operations is, of course, not the sole cause of the increase in cash costs relative to total farm operating costs, but it has contributed importantly. Vehicle operation and maintenance, both cash costs, and vehicle depreciation, an item that requires cash disbursal in a relatively few years, are important items in farm expense records today. Further, rapidly rising machinery investment has contributed to the accelerated expansion of short-term debt with its attendant cash outlay in the form of interest and principal repayments.

From the chart it can be seen that non-real estate debts of farmers up to January 1, 1952, had increased 40 per cent from 1950 levels and were 153 per cent higher than at the outset of 1946, shortly after the end of World War II. Preliminary estimates indicate a further rise in this category of at least 10 per cent during 1952.³

In any price-cost squeeze on district farmers, the rise in the proportion of cash expense items to total expense, occasioned by mechanization, is given extra leverage by a growth in short-term debt. It becomes increasingly necessary, then, for farmers (and for bankers lending to farmers) to adjust to this problem. Larger cash reserves and more careful determination of the optimum level of investment in machinery for each individual farm are certainly in order.

Mechanization that increases efficiency in district farm output should be speeded . . .

Thus mechanization is not a panacea; it will not cure all the disabilities of agriculture in this district. It offers substantial opportunities to bring idle land into productive use, thereby enlarging the income base for the farm, and to reduce unit production costs and increase the efficiency of farm operations as well as the income of the operator. But the mere acquisition of machinery does not necessarily and inevitably achieve these goals. To the extent that it will, mechanization should be speeded. Credit extended in these instances can be self-liquidating over a relatively short time. And consolidation of extremely small farms into larger units to get maximum efficiency from the machines can be helpful. On the other hand, machinery purchases which will show little or no improvement in total product

³ AGRICULTURAL FINANCE REVIEW, Vol. 14, Sup. 2, USDA, October, 1952.

or lowering of unit cost, and which will add dangerously to cash expense outlays, should be discouraged.

. . . but better farming practices are also necessary.

Finally, it might be noted that mechanization alone, despite its valuable contribution to district agricultural production especially in recent years, will not bring income per farm in the Eighth District up to the national average. To attain this goal, mechanization must be accompanied by the whole range of better farming practices which make possible increased production and income. Together, these necessary ingredients—mechanization and other better farm practices—can continue to improve the level of living for district farmers.

Donald L. Henry



Survey of Current Conditions

DEMAND continued to increase in many lines and business activity in the Eighth District rose further in October and early November, despite some seasonal slowdowns. Industrial output again moved ahead and, with the support of increasing personal incomes and instalment credit, consumer purchasing in October continued to pick up. With a substantial amount of new work put under contract in recent months, construction activity remained at a high level. On farms, the drouth was relieved by widespread rains in November. Banks supported the faster tempo of business activity with a seasonal increase in loans.

In the nation, also, economic activity was at high levels in October and early November. Industrial activity which had recovered rapidly in August and September, expanded slightly in October. The slower rate of increase partly was due to a substantial decline in coal mining. But the increase also was limited in some cases by a lack of unused plant capacity, restricted supplies of critical materials, and the need for more manpower.

The index of industrial production of the Federal Reserve Board rose from 226 per cent of the 1935-39 average for September to 227 per cent for October. Durable goods manufacturing increased considerably further, nondurable goods output showed little change, but mineral output declined 6 per cent.

Construction activity declined less than seasonally, primarily as a result of the strength in private residential building. Labor markets tightened further in early October as the rise in business activity brought increased demands for manpower, and, as in September, youngsters left the labor market to re-enter school. Unemployment was 1.3 million, a record postwar low, and 150,000 below the September level. Nonfarm employment was at a record high for October—54.6 million persons.

During October, prices did not reflect the increasing firmness in business demand, primarily because improved supplies created easier markets. The average level of wholesale prices declined somewhat as a few basic commodities—notably lead, zinc, and cotton—developed new weakness and prices of livestock and meats continued to decrease. Wholesale prices continued to decline in November largely reflecting further decreases in prices of cotton, livestock, and meats. And despite recent declines in the price level of basic commodities, prices of many items were still above their pre-Korean levels.

From mid-September to mid-October food prices continued downward slightly, but other price increases raised the price index of all consumer items by less than 0.1 per cent. In the last two weeks of October, retail food prices declined 0.1 per cent.

Employment

The rise in business activity this fall brought increased demands for manpower, while additional youngsters left the labor market to re-enter school. Primarily as a result of these forces, labor markets tightened further from September to early October. Unemployment in the nation was estimated at 1.3 million, a record postwar low and 150,000 below the September level. However, during the rest of October, unemployment apparently changed little. Seasonal declines and temporary layoffs in some industries were offset by high level activity in most other parts of the economy.

In district states, claims for state unemployment insurance continued to decline during October. By the end of the month they were one-seventh less than at the end of September and less than one-half the peak volume in late July. Most of the decline from September was in Illinois, with claims in other district states remaining about the same.

In St. Louis, employment for the first eight months of 1952 averaged about the same as in the comparable period of 1951. But from August to September, it increased sharply to a total about 11,000 above that of a year earlier. The gain resulted primarily from increased defense activity, but also was due to greater employment in production of apparel, textiles and shoes and in trade. Due to the movement of the Army Finance Center from St. Louis, governmental employment in September dropped 5,000 compared with a year earlier. During October and early November the labor market in

WHOLESALE PRICES IN THE UNITED STATES

Bureau of Labor Statistics			October, 1952 compared with			
(1947-49=100)	Oct.,'52	Sept.,'52	Oct.,'51	Sept.,'52	Oct.,'51	
All Commodities Farm Products Foods Other	104.9 108.5	111.8 106.6 110.3 113.2	113.7 111.5 111.6 114.6	- 1% - 2 - 2 - 0 -	- 2% - 6 - 3 - 1	

CONSUMER PRICE INDEX*

Bureau of Labor Statistics (1935-39=100)	Oct. 15, 1952	Sept. 15, 1952	Oct. 15, 1951		15, 1952 ed with Oct. 15,'51
United States	190.9	190.8	187.4	- 0 -%	+ 2%

RETAIL FOOD*

Bureau of Labor Statistics (1935-39=100)	Oct. 15, 1952	Sept. 15, 1952	Oct. 15, 1951		15, 1952 ed with Oct. 15,'51
U. S. (51 cities) St. Louis Little Rock Louisville Memphis * New series.	244.4 228.8 218.1	233.2 244.3 231.6 221.1 240.8	229.2 239.3 224.4 216.7 238.0	-0-% -0- -1 -1 -1	+ 1% + 2 + 2 + 1 + 1

St. Louis reflected primarily seasonal trends. Shoe plants and garment industries were in their seasonal slack period with the resultant layoffs and shortened work weeks. Unemployment insurance claims for the week ending November 15 were only slightly less than four weeks earlier but slightly higher than in mid-September.

Seasonal trends dominated the employment picture in Louisville. Distilleries increased employment on their bottling lines considerably from September to October, but construction activity slowed. In November an 88-day strike affecting 3,300 workers at the International Harvester tractor plant was settled

In Evansville expansion of defense output and seasonal advances in manufacturing and trade activities pushed employment still higher in October. Estimated employment was 82,000, a rise of 1,000 since September and 9,000 above the October, 1951, level. Most of the increased employment over the past year was in aircraft parts manufacturing.

Industry

Eighth District industry became more balanced in October and early November as production continued to expand. The level of activity was helped by a recovery in furniture, textile, and apparel manufacture. Shoe producers, although in a seasonally slack period, were busier than usual and optimistic as well. Coal tonnage fell off sharply, however.

Manufacturing—An average of reports from five large reporting cities shows that use of electric power in October increased over both a month and a year ago in the important chemical, electrical machinery, metals, textile, and transportation industries. Declines from both a month and a year ago, in comparison, were shown only by food and nonelectrical machinery manufacturers.

The level of steel ingot production and meat packing in the St. Louis area added to the favorable record of industry in the district. Steel ingots were turned out at an average of 107 per cent of capacity in October, although maintenance cut the operation rate to 98 per cent for the first three weeks in November. October livestock slaughter was 11 per cent better than a year ago and 20 per cent above September.

Production of lumber in the Southeast continued at an even keel with markets for both Southern pine and hardwoods reportedly firm. About the only industry in the district not reflecting prosperity was whiskey production. Only 16 Kentucky distilleries were operating at the end of October and warehouses still held huge stocks. There was some pickup in bottling, however, as the industry prepared for holiday trade.

Mineral Production—Coal production, after having risen rather sharply in September due to the threat of a strike, fell off in October when miners finally walked out. And when the strike was called off, many orders were cancelled by buyers who apparently desired delivery only to protect themselves against the possibility of a prolonged strike. Unseasonally warm weather did not favor buying by domestic consumers.

Crude oil continued to flow at a very substantial production rate.

CONSUMPTION OF ELECTRICITY

Daily Average*

(K.W.H. in thous.)	Oct., 1952 K.W.H.	Sept., 1952 K.W.H.	Oct., 1951 K.W.H.	Octobe compar Sept.,'52	
Evansville	811	853	680	5%	+19%
Little Rock	215	169	204	+27	+ 5
Louisville	3,579	3,860	3,660	7	— 2
Memphis	1,374	1,346	1,459	+ 2	6
Pine Bluff	235	280	497	16	53
St. Louis	4,726	4,974	4,692	5	+ 1
Totals	10,940	11,482	11,192	5%	2%

LOADS INTERCHANGED FOR 25 RAILROADS AT ST. LOUIS

* Selected manufacturing firms.

			First Ni			
Oct.,'52	Sept.,'52	Oct.,'51	Nov.,'52	Nov.,'51	10 mos.'52	10 mos.'51
123,180	112,994	121,009	34,402	32,659	1,109,233	1,170,640
Source	: Termin	al Railroad	Associatio	on of St.	Louis.	

CRUDE OIL PRODUCTION

Daily Average

(In thousands	Oct.,			October, 1952 compared with		
of bbls.)	1952	1952	1951	Sept.,'52	Oct.,'51	
Arkansas		75.0	77.3	1%	4%	
Illinois	167.0	166.9	168.9	- 0 -	1	
Indiana	34.1	33.7	33.1	+ 1	+ 3	
Kentucky	31.2	32.2	32.8	3	5	
Total	306.3	307.8	312.1	- 1%	2%	

COAL PRODUCTION INDEX

1935-39=100

Unadjusted			Adjusted				
Oct., '52	Sept., '52	Oct., 51 164.6	Oct., '52 113.7 P	Sept., '52 188.4 P	Oct., 51 153.8		
141.7 1	197.0 1	104.0	113.7 1	100.4 F	133.0		

SHOE PRODUCTION INDEX

1935-39 = 100

Unadjusted			Adjusted				
Sept., '52	Aug., '52	Sept., '51	Sept., '52	Aug., '52	Sept., '51		
161.4 P	165.4	114.2	159.8 P	170.5	113.1		
P- Prel	iminary,						

Construction

Nationally, outlays for new construction put in place declined less than seasonally from September to a total of \$3 billion for October. Thus the strength shown in recent months, primarily in private nonfarm residential building activity, continued. For five straight months construction expenditures exceeded by 5 per cent or more the total for the corresponding month in 1951. For the first ten months of this year, they have totaled 4 per cent more than in the same months of 1951. However, when adjusted for increased costs, construction activity this year has been running about equal to last year.

Strength in the residential real estate markets was reflected in an increase from September to October in the number of nonfarm housing units started, although a decline is usually expected. The number of starts rose from 98,000 in September to 101,000 in October and were 11,000 units greater than in October, 1951. For the first ten months of 1952 there were 966,400 starts, an increase of 10,400 above those for the same period of 1951.

In this district residential construction has kept pace with the rest of the nation, primarily because of a greater amount of public housing. While the number of dwelling units included in contracts awarded during the first nine months of 1952 were one per cent greater than in the same months of 1951, private housing starts declined about 4 per cent

Total construction contracts awarded in this district during October totaled \$86 million, and were 26 per cent greater than in October, 1951. For the first ten months construction contracted was valued at \$1,404 million, compared with \$1,181 million in the same months of 1951. Excluding the large contracts for the Paducah Atomic Energy Commission plant, the volume of work in the first ten months this year has been 13 per cent larger than last year.

BUILDING PERMITS

Month of October, 1952

		New C	Construct	Repairs, etc.				
(Cost in thousands)	Number Co 1952 1951 1952		ost 1951	Number 1952 1951		1952	ost 1951	
tiiousanus)	1752		1752		1752	1731	1932	1731
Evansville	62	119	\$ 437	\$ 157	91	78	\$ 43	\$ 36
Little Rock	68	84	734	7,312*	301	240	390	
Louisville	169	149	1,295	883	103	105	267	296
Memphis	3,120	2,516	4,046	2,897	215	191	136	127
St. Louis	30 9	315	3,929	1,280	302	26 0	695	849
Oct. Totals	3.728	3,183	\$10,441	\$12,529	1.012	874	\$1.531	\$1,669
Sept. Totals					1,033	867	\$1,618	\$1,490
* Hospital Co.	setman	tion 5	\$6.500					

The increased volume of work has not been uniform for all types of construction or for all parts of the district. Contracts awarded for manufacturing buildings in the first ten months for the district as a whole were about double the amount in the same period last year. But, the volume of such construction in the major cities of the district (except for the St. Louis area) has been less than last year. In part this reflects the trend toward the increasing location of plants in smaller communities.

Construction contracts for commercial buildings in this district in the first ten months this year have been slightly less than in the same period last year. However, this downtrend may not continue, if the many projects currently being planned are put under construction.

Trade

As measured by the experience of reporting retail lines in the Eighth District, the volume of retail trade during October compared quite favorably with both that in September and October, 1951. Some lines increased more than seasonally from the previous month with the best sales in nondurables lines. In comparison to last year, sales gains among reporting retail lines were general.

At department stores throughout the district, daily average sales in October, on a seasonally adjusted basis, reached 114 per cent of the 1947-49 average—the highest point since January, 1951, In comparison they were 104 per cent in September and 105 per cent in October, 1951. At the end of October cumulative 1952 sales were 3 per cent larger than in the comparable period of 1951. In the first half of November, preliminary reports indicate that sales totaled less than in 1951. But a somewhat earlier start of Christmas sales this year will probably pull sales for the month even or ahead of last year and maintain the cumulative rate of gain from 1951.

St. Louis area women's specialty store sales during October were somewhat above those in the previous month and the comparable month of 1951. Men's wear sales in the district during October

WHOLES	ALE TR	ADE	
Line of Commodities	Net	Sales	Stocks
Data furnished by Bureau of Census, U. S. Dept. of Commerce*	Octobe compar Sept.,'52	er, 1952 red with Oct.,'51	Oct. 31, 1952 compared with Oct. 31, 1951
Automotive Supplies	+11% + 3 - 3 +11 +12 + 9	+22% + 8 + 7 + 7 + 7 + 7 + 15 + 7%	+ 2% + 9 -18 + 6 -13 24 -12%
* Preliminary. ** Includes certain items not lis			12 /0

DEPARTMENT STORES

		Net Sal	cs	Stocks on Hand	Stor	
	compare	d with	to same	Oct. 31,'52 comp. with Oct. 31,'51	Oct	
8th F. R. District	+19%	+10%	+ 3%	+ 1%	3.08	2.75
Ft. Smith, Ark.1	+ 7	+ 3	+ 1	2	2.90	2.71
Little Rock, Ark	+ 9	+12	+ 5	+ 2	3.06	2.63
Quincy, Ill,	+19	-0-	5	 3	3.06	2.78
Evansville, Ind	+35	+40	+ 9	*******	*******	*******
Louisville, Ky		+ 9	+ 5	+10	3.17	3.10
Paducah, Ky		+32	+28		*******	*******
St. Louis Areal 2		+ 8	+ 2	3	3.08	2.66
Springfield, Mo		5	+ 2	+10	2.70	2.46
Memphis, Tenn		+13	+ 4	+ 5	3.28	3.11
All other cities3		+ 8	+ 6	+14	2.64	2.55

¹In order to permit publication of figures for this city (or area), a special sample has been constructed which is not confined exclusively to department stores. Figures for any such nondepartment stores, however, are not used in computing the district percentage changes or in computing department store indexes.

²Includes St. Louis, Clayton, Maplewood, Missouri; Alton and Belleville, Illinois

³Fayetteville, Pine Bluff, Arkansas; Harrisburg, Mt. Vernon, Illinois; Vincennes, Indiana; Danville, Hopkinsville, Mayfield, Kentucky; Chillicothe, Missouri; Greenville, Mississippi; and Jackson, Tennessee.

OUTSTANDING ORDERS of reporting stores at the end of October, 1952, were 20 per cent larger than on the corresponding date a year ago.

PERCENTAGE OF ACCOUNTS AND NOTES RECEIVABLE Outstanding October 1, 1952, collected during October:

	Excl. Instal. Accounts	Instalment Accounts	Excl. Instal. Accounts
Fort Smith%	47%	Quincy 22%	59%
Little Rock 17	48	St. Louis 20	5 6
Louisville 20	48	Other Cities 12	53
Memphis 20	43	8th F.R. Dist. 19	51

INDEXES OF DEPARTMENT STORE SALES AND STOCKS 8th Federal Reserve District

	Oct., 1952	Sept., 1952	Aug., 1952	Oct., 1951
Sales (daily average), unadjusted4	120	110	98	111
Sales (daily average), seasonally adjusted4	114	104	110	105
Stocks, unadjusted5	147	140	125	134
Stocks, seasonally adjusted5	130	132	129	119

Daily average 1947-49=100. ⁵ End of Month Average 1947-49=100.

SPECIALTY STORES

		Net	Sales		on Hand	Turn	
		Octobe			Oct. 31,'52 comp. with	Jan. Oct.	
		Sept.,'52	Oct., 51		Oct. 31, '51		1951
	Furnishings.		+12%	+ 1%	-12%	1.78	1.53
Boots	and Shoes	3	4	+ 2	+13	3.42	3.35

PERCENTAGE OF ACCOUNTS AND NOTES RECEIVABLE

Outstanding October 1, 1952, collected during October: Men's Furnishings...... 47% Boots and Shoes..... Trading days: Oct., 1952-27; Sept., 1952-25; Oct., 1951-27.

RETAIL FURNITURE STORES

M-4 C-1--

_	Net	Sales	Inve	ntories		
		er, 1952 red with		er, 1952 red with	Rati Collec	
	Sept.,'52	Oct.,'51	Sept.,'52	Oct.,'51	Sept.,'52	Oct.,'51
8th Dist. Total1	+15%	+ 7%	+ 3%	-0-%	19%	21%
St. Louis Area2		11	+ 1	+ 1	41	38
St. Louis		19	+ 1	+ 1	43	40
Louisville Area3	. +23	+ 9	— 3	— 4	13	15
Louisville	. +24	+12	3	— 2	12	14
Memphis	+10	+ 4	*	*	13	15
Little Rock	. +19	+25	+ 4	+ 4	21	.18
Springfield	. — 2	+14	+ 4	2	16	20
Fort Smith	. +22	+18	*	*	*	*

* Not shown separately due to insufficient coverage, but included in Eighth District totals.

1 In addition to following cities, includes stores in Blytheville, Pine Bluff, Arkansas; Hopkinsville, Owensboro, Kentucky; Greenwood, Mississippi; Hannibal, Missouri; and Evansville, Indiana.

2 Includes St. Izouis, Missouri; and Aiton, Illinois.

3 Includes Louisville, Kentucky; and New Albany, Indiana.

PERCENTAGE DISTRIBUTION OF FURNITURE SALES

	Oct., '52	Sept., '52	Oct., '51
	17%	16%	18.%
Credit Sales	83	84	82
Total Sales	100%	100%	100%

totaled substantially larger than in September and a year ago.

Furniture store sales in the district during October were almost one-seventh larger than a month earlier and were 7 per cent above those in October, 1951.

The retail value of inventories held on October 31 by district retailers was not much changed from that a month earlier. Department stores and furniture stores reported slight gains while apparel store inventories totaled a little less than those on September 30. In comparison to October 31, 1951, department store and furniture store inventories were valued about the same as last year while sizable drops were reported by the apparel stores.

Outstanding orders of district department stores on October 31, in terms of retail value, totaled less than on September 30. In comparison to a year ago they were valued about one-fifth higher.

Banking and Finance

The money market was fairly tight during October and early November. Nevertheless, bank loans to business expanded, both districtwise and nationally, and financing of real estate and consumer purchases also increased.

Largely as a result of this growth in bank loans and net Treasury spending, the private money supply rose during October. Use of this money supply was at a high level, reflecting the improvement in business activity generally.

Money Market—Throughout October and early November banks generally were under pressure for funds. Member banks were drained of over a billion dollars by routine market factors. Most of these factors drained reserves, but about half the loss was caused by a net flow of currency into circulation. At the same time banks were losing funds, there was an increase, in large part seasonal, in the demand for loans by businesses. To obtain the needed reserves, banks increased their borrowings sharply. Borrowings of member banks from the System rose to \$1.7 billion, the highest level in years.

District Banking—In the district, as in the entire nation, banks were under pressure for funds over most of the period from the end of September to mid-November. District banks lost a substantial amount of reserves due to Treasury operations and an outflow of currency, \$95 million and \$58 million respectively. In addition, they were drained of a minor amount of funds through a contraction in Federal Reserve float. These drains more than offset

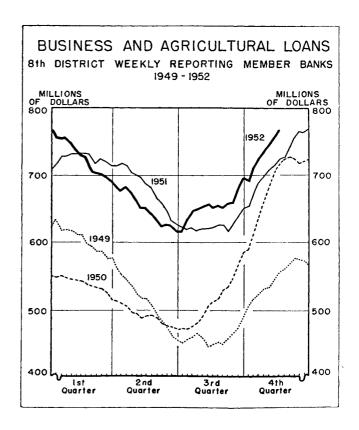
a net inflow of funds of about \$125 million from other districts. To help meet the net reduction, banks increased their borrowings.

Despite the pressure under which banks operated, they were able to increase their loans substantially. During October and early November, member banks in the district expanded their loans about \$100 million (5 per cent). As usual at this time, business borrowing from the larger city banks accounted for a lion's share of the growth. The rise in business loans went in large part to finance the processing and marketing of farm products. In addition, metal manufacturers and trade concerns increased their borrowings substantially.

Loans to consumers continued to expand sharply. Consumer instalment credit at Eighth District commercial banks rose in October, continuing the upward trend that began last May. The largest expansion during October was in repair and modernization loans.

Banking Nationally—The picture nationally was about the same as in the district. Business loans during October and early November were up about \$1 billion. The rise was mostly in loans to food processors, commodity dealers, and trade concerns. Loans to both real estate owners and consumers continued to climb.

Largely reflecting this expansion in bank loans and a transfer of funds from Government to private



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accounts, the nation's private money supply rose over \$3 billion during October to an all-time peak of nearly \$191 billion. Roughly three-fourths of the increase in the money supply was in checking accounts of businesses and individuals. However, both savings accounts and currency in circulation continued to grow.

Debits to Deposit Accounts—Debits to deposit accounts (on an adjusted basis) at 22 district cities were \$4.5 billion during October, an increase of 2 per cent from the previous all-time peak reached a month earlier. This increase was shared in by twenty-one of the twenty-two reporting centers, with the greatest percentage gains at Helena and Pine Bluff, Arkansas.

Nationally, also, the volume of checks cashed was up in October. Debits at banks in 342 leading cities totaled \$154 billion, up 11 per cent from both the previous month and the comparable month a year ago.

DEBITS TO DEPOSIT ACCOUNTS

(In thousands of dollars)	Oct., 1952		Sept. 1952		Oct., 1951	CO	tobe mpar ,'52	ed w	rith
El Dorado, Ark\$	28,387	\$	26,778	\$	28,040	+	6%	+	1%
Fort Smith, Ark	56,185		48,171		51,119	+:	17	+1	0
Helena, Ark	15,168		11,206		14,131	+3	35	+	7
Little Rock, Ark	184,772		167,761		176,007	+1	Ó	+	5
Pine Bluff, Ark	66,645		49,513		49,235	+3	15	+3	5
Texarkana, Ark.*	19,695		20,316		18,930	_	3	+	4
Alton, Illinois	35,150		32,137		29,797	+	9	+1	8
E.St.LNat.S.Y.,III	148,676		138,397		166,382	+	7	1	1
Quincy, Ill	40,782		34,838		40,078	+1	7	+	2
Evansville, Ind	158,558		149,126		147,762	+	6	+	7
Louisville, Ky	729,505		682,040		726,651	+	7	0	_
Owensboro, Ky	52,054		42,831		46,718	+2	2	+1	1
Paducah, Ky	47,936		44,106		30,184	+	9	+5	9
Greenville, Miss	31,054		29,585		34,843	+	5	1	1
Cape Girardeau, Mo	13,916		12,904		13,930	+	8	-0	_
Hannibal, Mo	10,771		9,404		11,516	+1	5	_	7
Jefferson City, Mo	57,716		57,392		65,501	+	1	1	2
St. Louis, Missouri 2	,193,740	1	,970,669	2	,046,665	+1	1	+	7
Sedalia, Mo	12,748		11,861		12,630	+	7	+	1
Springfield, Mo	77,402		68,436		82,991	+1	3		7
Jackson, Tenn	28,828		23,149		29,069	+2	5	_	1
Memphis, Tenn	883,046		742,876	_	823,921	+1	9	+	7
Totals\$4	.892.734	\$4	.373.496	\$4	.646.100	+1	2%	+	5%

*These figures are for Texarkana, Arkansas, only. Total debts for banks in Texarkana, Texas-Arkansas, including banks in the Eleventh District, amounted to \$41,830.

EIGHTH DISTRICT MEMBER BANK ASSETS AND LIABILITIES BY SELECTED GROUPS

		All Membe	r	Lar	ge City Bar	ks 1	St	naller Bank	s 2
(In Millions of Dollars)		Change	e from:		Change	from:		Change	e from:
Assets	Oct., 1952	Sept., 1952 to Oct., 1952	to	Oct., 1952	Sept., 1952 to Oct., 1952	to	Oct., 1952	Sept., 1952 to Oct., 1952	to
1. Loans and Investments	\$4,521	\$+162	\$+334	\$2,665	\$+132	\$+205	\$1,856	\$+ 30	\$+129
a. Loans	2,076	+ 72	+167	1,394	+ 69	+113	682	+ 3	+ 54
b. U. S. Government Obligations	2,046	+ 92	+135	1,079	+ 66	+ 73	967	+ 26	+ 62
c. Other Securities	3 99	— 2	+ 32	192	— 3	+ 19	207	+ 1	+ 13
2. Reserves and Other Cash Balances	1,538	+ 71	+ 20	941	+ 11	+ 2	597	+ 60	+ 18
a. Reserves with the F. R. Bank	748	+ 4	+ 21	489	4	+ 10	259	+ 8	+ 11
b. Other Cash Balances 8	790	+ 67	1	452	+ 15	8	338	+ 52	+ 7
3. Other Assets	54	+ 2	+ 2	33	+ 1	+ 2	21	+ 1	0
4. Total Assets	\$6,113	\$+235	\$+356	\$3,639	\$+144	\$+209	\$2,474	\$+ 91	\$+147
Liabilities and Capital									
5. Gross Demand Deposits	\$4,551	\$+210	\$+202	\$2,799	\$+129	\$+113	\$1,752	\$+ 81	\$ + 89
a. Deposits of Banks	818	+ 96	+ 24	766	+ 87	+ 21	52	+ 9	+ 3
b. Other Demand Deposits	3,733	+114	+178	2,033	+ 42	+ 92	1,700	+ 72	+ 86
6. Time Deposits	1,052	+ 11	+ 60	507	+ 5	+ 22	545	+ 6	+ 38
7. Borrowings and Other Liabilities	122	+ 10	+ 70	112	+ 10	+ 65	10	-0-	+ 5
8. Total Capital Accounts	388	+ 4	+ 24	221	- 0 -	+ 9	167	+ 4	+ 15
9. Total Liabilities and Capital Accounts	\$6,113	\$+235 ====	\$+356	\$3,639	\$+144 =====	\$+209	\$2,474	\$+ 91	\$+147

Includes 13 St. Louis, 6 Louisville, 3 Memphis, 3 Evansville, 4 Little Rock, and 4 East St. Louis-National Stock Yards, Illinois, banks.

Includes all other Eighth District member banks. Some of these banks are located in smaller urban centers, but the majority are rural area banks.

Includes vault cash, balances with other banks in the United States, and cash items reported in process of collection.

Agriculture

The drouth that persisted throughout the district during most of September and October was broken in November by general rains. During the first week of the month enough rain (up to three inches) fell in the southern part of the district to improve conditions materially. However, northern Missouri, district Illinois and Indiana received only temporary relief (less than one-half inch) until the second and third week in the month when additional rain was received.

Fall pastures, reflecting the severity of the drouth, were in poorer condition on November 1 than any time since 1934. The bulk of district pastures were less than 35 per cent of normal November condition. Fall-seeded pastures were particularly hard hit. Early sown wheat was up to good stands, but later seedings were spotty. Thus, the crop was more vulnerable to winter kill due to the short growth and lack of secondary root development. However, considerable improvement was expected as a result of the rains.

The drouth, although seriously affecting fall-sown crop prospects, was beneficial for harvesting 1952 crops. Harvesting was practically completed by early November and the quality of the corn was good.

Cotton—The cotton crop was turning out better than had been expected. The November crop report indicated a district production of 3,763,000 bales, 5 per cent more than the October estimate and 12 per cent larger than the 1951 crop. Increased prospects in Arkansas, Mississippi, and Tennessee were offset by a slight decline in those for Missouri during the month.

ESTIMATED PRODUCTION FOR MAJOR CROPS EIGHTH DISTRICT, NOVEMBER 1, 1952

	Estimated Production Nov. 1, 1952	Per Cent Change from 1951	Per Cent Change from Previous Month
	(In thousands)		
Corn (bu.),	346,049	 5%	+ 6%
Soybeans (bu.)		+ 6	 1
Rice (bags)	10,051	+ 4	 4
Cotton (bales)	3,763	+12	+ 5
Burley tobacco (lbs.)	193,271	— 3	2

Corn—Corn prospects improved somewhat in the district during October, including a 19-million-bushel increase for district Missouri. However, the crop deteriorated further in Arkansas and Kentucky. The recent district estimate is 5 per cent less than 1951 production in contrast with a 12 per cent increase nationally.

Other crops—Slight declines in expected district production of burley tobacco, soybeans, and rice occurred during the month. Rice production and soybean production are expected to be 4 and 6 per cent more than in 1951, but the burley tobacco estimate is 3 per cent less.

Prices—Agricultural prices continued their downward trend. For the month ending October 15, the index of prices received by farmers was 282 (1910-14 = 100), compared with 288 in September and 295 in August. Prices were lower for meat animals, cotton, corn, chickens and potatoes. Prices paid by farmers, including farm produced items, declined too, but not as much as prices received. Thus, the parity ratio declined 1 point and stood at 100, the same as the average for the year in 1950.

CASH FARM INCOME

		Sept.,		9 month total	Jan. thr	u Sept.
		compare	ed with		19	952
(In thousands	Sept.,	Aug.,	Sept.,	Sept.,	compar	
of dollars)	1952	1952	1951	1952	1951 R	1950 R
Arkansas	\$ 83,589	+251%	+57%	\$ 324,032	+23%	+53%
Illinois	160,542	+ 10	+ 2	1,380,011	— 1	+16
Indiana		+ 1	- 0	772,681	— 3	+15
Kentucky		+ 4	+ 3	362,008	+ 2	+11
Mississippi	102,584	+216	+49	292,318	+22	+48
Missouri	113,210	+ 30	+ 7	736,219	— 5	+14
Tennessee	65,837	+102	+37	319,997	+ 4	+31
Totals	\$662,049	+ 45%	+17%	\$4,187,266	+ 1%	+20%
R-Revision of a	11 '50 and	'51 fig.				

RECEIPTS AND SHIPMENTS AT NATIONAL STOCK YARDS

		Receipts			Shipment	s
	Oct., 1952		er, '52 ed with Oct.,'51	Oct., 1952	Sept., 52	Oct.,'51
Cattle and calves Hogs Sheep Totals	190,286 249,620 61,531 501,437	+46% +38 -15 +31%	+20% -14 $+10$ $-1%$	95,561 36,984 20,051 152,596	+48% -39 -58 -12%	+19% 49 18 14%



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