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Some Considerations in Profitable Farm Forestry

THE LOW-GRADE land and other physical resources of the Sixth District states must be put to more profitable uses if incomes are to be raised appreciably within the existing pattern of Southern agriculture. Further changes toward fewer farms, larger farms, fewer farm workers, and increased mechanization will possibly bring about a permanent increase in the farm workers' income. But these changes seem likely to be relatively slow, and it is imperative that land, labor, and capital be made to provide as much income as possible in the farming systems now being followed. To that end commercial forestry, or the growing of trees for cash profit, offers a promising opportunity.

The situation in which Southern farmers find themselves is partly the result of a high rate of soil depletion. Among the causes for this soil exhaustion are the high rainfall, the composition of the soil, and the long open winters. Also, the general growing of cotton and other intertilled crops leaves the soil unprotected from heavy winter rains. This heavy drain has left less than 5 percent of the land area in the District states suitable for continuous cultivation under farming systems that provide only for a maintenance of its natural state of fertility and good physical condition. Even with a moderate application of the special practices required to control erosion and correct deficiencies in natural fertility, less than 20 percent of it is suitable for continuous cultivation.

These low-grade lands impose a serious burden upon the District farmer in his attempts to raise products that are grown extensively in other parts of the country. As long as he raises cotton, peanuts, or other crops that yield high per-acre incomes and that are peculiarly adaptable to local conditions, the Southern farmer does not feel this burden keenly. When he shifts to crops that can be raised equally well in other parts of the country, corn for example, the quality of his soil counts heavily against him.

One alternative frequently suggested is that more intensive enterprises, such as the raising of poultry and truck crops, be added to the farming systems. Since they would require larger amounts of capital and labor, they might provide a partial solution for the individual farmer. As farm mechanization advances the improved labor distribution over the year will undoubtedly make these enterprises practicable for more of the farmers. As a widespread solution for the low-income problem, however, this approach is limited by the probable unwillingness of consumers to buy the products of these intensive enterprises at prices profitable to the grower in much greater quantities than they now do.

The most direct attack, of course, is the attempt to improve soil quality. In recent years this approach has received more attention than any other. With the widespread interest in soil conservation and in the restoration of soil fertility, an unprecedented amount of energy in soil-conserving and soil-building programs has been expended. Furthermore, the technical information required to increase soil quality is available. Measures to control erosion, to restore organic matter, and to replace necessary minerals are well known and are adaptable to practical application. Large public subsidies in the forms of technical assistance and direct cash payments have been made available to farmers. In spite of these subsidies, however, any great improvement of soil quality remains an expensive venture for District farmers. In one study the cost of converting a run-down farm to its most productive state and properly protecting it against erosion is estimated roughly, because of widely varying conditions over the District, at almost $35 an acre over a 10-year period. At any rate building up soil productivity will require comparatively large capital investments, investments often greater than the value of the unimproved land.

The growing of trees as an alternative use for low-grade lands may bring more income to many land owners than any other use would. Land is usually rated according to the qualities, such as plant-nutrient supply and susceptibility to erosion, that affect its usefulness in growing field crops. In that sense much District land is low grade, but the soils are well adapted to growing trees. Abundant rainfall and a long growing season complete the requirements for a first-class forest area.

Until recently the Sixth District forest industry was built upon a timber crop that was already grown. Incentives to grow trees were almost entirely lacking as long as virgin-timber stands could be bought at a very low cost. In the clearing of land for farming, of course, trees were an obstacle that had to be removed. There was a tendency to use the highest-grade lands for crops and pasture and to leave the others in woods. The growing of timber, thus, came to be a residual use for land.

Like that in other areas, the timber industry in the District generally has shown a fluctuating movement, with the peak production followed by a long-time decline. In the District the peak was reached about 1925. The earliest deliberate efforts to grow trees, in the sense that cotton or corn is grown, were made by the larger wood-using companies so that they might have a perpetual supply for their plants. Such operations, however, were not typical of the District timber industry. As the virgin timber was exhausted the idea of growing trees as a crop spread rapidly, and now most of the larger owners of commercial timberland practice sustained-yield forestry.

Deliberate efforts to grow trees are naturally most intense

Percentages of Land by Use Capabilities

State	Total Land		Suitable for Continuous Cultivation				Suitable for Occasional Cultivation	Suitable for Woodland or Grazing	Suitable Only for Wild Life
	Number of Acres (Thousands)	Percent	With No Special Practices Other Than Maintenance of Fertility and Good Physical Condition	With Moderate Special Practices	With Intensive Special Practices	Total			
Alabama	32,869	100.0	7.0	15.5	14.6	37.1	13.5	49.4	...
Florida	34,727	100.0	0.4	4.2	19.9	24.5	19.0	47.8	8.7
Georgia	37,451	100.0	1.7	17.9	22.5	42.1	11.9	46.0	..
Louisiana 1/	8,893	100.0	3.6	18.2	54.6	76.4	...	23.6	..
Mississippi	30,348	100.0	2.4	28.4	24.7	55.5	11.1	33.4	...
Tennessee	26,854	100.0	7.1	13.5	20.8	41.4	14.3	43.9	0.4

1/ Includes only land in farms

when the prospects for profits are greatest. Since the beginning of the defense period preceding the recent war, a very active demand for forest porducts has pushed their prices to new high levels. Timber owners, both large and small, have found themselves in a sellers' market with steadily increasing prices for everything the woods produce. Trees formerly considered unmerchantable suddenly became valuable. The profitable operation of thousands of acres of cut-over land, even when they contained only second-growth timber far below the usual quality standards, became possible. Small tracts with a comparatively large volume of timber could be operated on a commercial basis. A Florida owner of a 20-acre tract of old-growth pine, for example, received more than $5,000 for saw logs in 1947. Since he cut only mature trees, his stand was left in excellent productive condition. By harvesting the timber himself, he obtained a return of $244 an acre for his timber and his time.

Although scores of success stories show that the growing of trees even on a small scale is now highly profitable, much of the land suitable for forestry is idle and most of the small owners' timber stands are producing very little income. Seemingly many landowners are neglecting to use forestry as a means of obtaining higher incomes from their low-grade lands. If landowners are to practice sustained-yield forestry or to choose forestry as a use for their land and labor, trees as a crop must yield profits to their land and labor as great as, or greater than, the profits from other enterprises. Therefore, the landowner must be aware of the returns that various enterprises would bring from his own land before he can determine the advantages that forestry would have for him.

Ownership

How the growing of trees compares with other land uses as a profitable proposition may depend upon who owns the land. The administrator of an undivided family estate, for example, may be interested only in using the land so that it will return profits until it is divided among the various heirs, whereas the young farmer who owns his land may prefer using it so that it will yield the greatest profits over a period of many years.

Of all the commercial forest acreage in the Sixth District states, about nine tenths is privately owned. Only about a third of this privately owned land is in farms. The timberland owners other than farmers make up a diverse group. In the coastal region turpentine operators, lumber companies, and pulpmills have blocked out large holdings. Such owners as pulpmill operators, of course, can and do ignore the question of whether the lands used for the growing of their trees could be put to a more profitable use. If their main purpose is to operate a pulpmill and the combination of forestry and pulpmill operation yields a satisfactory profit, their use of the land to grow timber is justified.

Most of the nonfarm forest acreage belongs to persons who own less than 5,000 acres each. Often they are residents of towns near their forest property and may be merchants, doctors, retired farmers, or other persons who are holding the land as an investment. For these owners the growing of trees yields returns only in the form of rent for the land. They do not get the labor returns that an owner-operator often obtains from his timber work, nor can they combine timber growing with a processing operation as the pulpmill operators do.

Other owners of large timberland acreages include railroad companies, banks, real-estate speculators, undivided family estates, and insurance companies. Since profit from forestry depends upon relatively stable operations, many owners, particularly those whose main intention is to sell their property as soon as possible, do not regard the growing of timber as a profitable business. The administrators of family estates who use investments in timberlands to perpetuate and increase the wealth of the estates are important exceptions. There is some evidence that the forest-land holdings in this type of estate are increasing as more people learn that the growing of timber can be a profitable investment.

Farm Land and Farm Woodland Owned by Farm Operators
(In thousands of Acres)

Area	All Land in Farms	Land in Farms Owned by Farm Operators		Woodland in Farms	Woodland in Farms Owned by Farm Operators	
		Number of Acres	Percent of All Land in Farms		Number of Acres	Percent of All Woodland in Farms
Alabama	19,068	11,751	62	7,576	5,434	73
Florida	13,084	10,142	78	5,802	4,205	72
Georgia	23,676	14,358	61	10,722	7,112	66
Louisiana	10,040	6,646	66	2,880	2,108	73
Mississippi	19,617	13,381	68	6,957	5,350	77
Tennessee	17,789	12,307	69	5,053	3,867	77
Six States	103,274	68,585	66	38,980	28,076	72

Owners of the third of District forest acreage that is within farms vary in their degree of control over the farm operations and in their incentives to practice forestry. Although recent information is meager, some studies indicate that farmers, retired farmers, farmers' widows, businessmen, and professional persons own about 30 percent of the farm woodland acreage that is in rented farms. The remaining 70 percent is owned by farmers who operate their own farms. In general the growing of trees is likely to be more attractive to them because they can often increase their labor income by working in their own woods.

From a profit standpoint the relative attractiveness that the growing of trees has for a farmer may also depend on the amount of land that he has available for that purpose. About 85 percent of the District's farms, as they are defined in the census, are less than 140 acres in size. They contain only 28 percent of the farm woodlands, averaging about 11 acres of woodland each. Many of the woodlands on them do not even

furnish all the forest products needed for home use. The operators of these small farms in order to maintain even their present low incomes must concentrate on growing the crops that have high labor requirements per acre, such as cotton. In comparison with forestry the intensive crops may yield low returns per hour, but, since they furnish many more hours of employment, they will yield the highest total income.

Farm Woodland in Sixth District States, by Size of Farm

Farm-Size Group (Acres)	Percent of All Farms	Total Woodland (Thousands of Acres)	Average Woodland Acreage Per Farm	Percent of Farm Woodland
Less than 10	9.6	28	0.3	0.0
10 - 69	56.8	3,452	5.3	8.9
70 - 139	19.8	7,467	33.2	19.2
140 - 259	8.8	7,981	79.5	20.5
260 - 499	3.1	5,816	162.5	14.9
500 - 999	1.2	4,334	321.9	11.1
1,000 - 4,999	0.6	5,655	855.3	14.5
5,000 and more	0.1	4,247	7,032.2	10.9
All Groups	100.0	38,980	34.3	100.0

On the farms of 140 acres and more, about half the total acreage is in woodland. Forestry, as an alternative use for land and labor, has been practiced more generally on those farms than it has on the very small farms. The larger farm owners are under relatively less pressure to find profitable uses for their time. In addition, their farming operations are usually more mechanized, with the result that the time spent on each acre is comparatively little. They are usually able to practice such extensive land use as forestry or pasture to greater advantage than are the smaller farmers.

Broad Comparisons

A comparison of the gross returns from the land and the time devoted to forestry with those from competing uses of the land may suggest a way for District farmers to increase their income. From the standpoint of acreage as well as the amount of work required cotton and corn are the principal intertilled crops. Together, they accounted in 1944 for about 60 percent of the District crop acreage and about 42 percent of the total man-hours spent on all farm enterprises. All hay crops in that year took up about 20 percent of the cropland acreage and required about 2 percent of the total man-hours of work. The value of these three crops constitutes about 60 percent of the total value of crops in the District. Cotton is an example of a high-labor-requirement cash crop, corn of a high-labor-requirement feed crop, and hay of a low-labor-requirement feed crop.

Estimated Gross Value of Selected Crops, 1944

Area	Corn		Hay		Cotton	
	Per Acre	Per Man-hour	Per Acre	Per Man-hour	Per Acre	Per Man-hour
Alabama	$24	$0.57	$14	$1.20	$88	$0.62
Florida	16	0.39	9	1.33	49	0.59
Georgia	18	0.48	10	1.18	76	0.60
Louisiana	20	0.52	20	1.03	83	0.69
Mississippi	24	0.55	25	1.37	110	0.65
Tennessee	31	0.93	24	2.43	104	0.48
Six States	23	0.59	18	1.56	94	0.64

The gross value an acre, at 1944 prices and yields, was $94 for cotton, $23 for corn, and $18 for hay. For the time required in production the gross value an hour was 64 cents for cotton, 59 cents for corn, and $1.56 for hay. Since the growing of trees has not been so generally practiced as the growing of such other crops as cotton and corn, only rough estimates of the returns from farm tree crops are available. One estimate, made for the Special Subcommittee on Cotton in the House of Representatives, places possible stumpage returns between $2 and $4 an acre. The farmer could more than double these returns by doing all the harvesting and delivering himself. A more detailed estimate based on uncut second-growth saw-log-size stands places the average annual gross returns at about $6 an acre for a 20-year period. For the labor required to harvest and deliver the forest products, the farmer would receive about $1.50 an hour. The stumpage prices used in these estimates were $1.50 a cord for pulpwood, $10 a thousand board feet for pine saw logs, and $6 a thousand board feet for hardwood saw logs. Ordinarily, average timber stands that have become run down because of fire and overcutting can be built up to the assumed income producing levels in from 10 to 15 years of good management.

Land varies, of course, in its ability to grow timber just as it does in its ability to grow cotton or other crops. Timber stands vary considerably over the District in quantity as well as in quality. Returns on the farm-forestry experimental plot at Crossett, Arkansas, indicate, however, that an average gross return of $6 an acre may be conservative. This tract now contains about the same amount of growing stock as those on which the $6 estimate was based. During 1938-45 this area was cut annually under a management system that resulted in the removal of a volume of timber approximately equivalent to the annual growth. The average stumpage value of the logs harvested was about $9.90 a thousand board feet; the pulpwood stumpage was valued at $1.15 a standard cord. These values are about the same as those on which the average gross return of $6 an acre from timber is based. The annual gross returns from the Crossett experimental plot on sawlogs and pulpwood, however, were about $11 an acre. Although the tract produced fuel wood and posts that had an annual delivered value of about $3.80 an acre, these products were excluded from the gross returns an acre because they do not always have a sale value. At the 1946 time requirements for harvesting and delivering the logs and pulpwood, gross labor returns were about $1.20 an hour.

Direct comparisons between the gross returns from pasture and those from forestry are possible only to the extent that the feed produced in pastures can be valued. Since the feed must be eaten by livestock to bring in any returns, its value depends upon the degree to which it is utilized, the efficiency of the livestock enterprise, and the kind of livestock. Any estimate of returns from an acre of pasture, therefore, is applicable only under a given set of conditions. On the basis of 1944 prices, the numbers of various classes of livestock, and the livestock production rates on typical District farms, it is estimated that open pastures produced feed worth $4 an acre in that year. In this estimate all feed produced in pastures is imputed only to the 22 million acres of open pasture in the District states. Undoubtedly, however, the 17 million acres of woodland pasture produced some feed that

Estimates of Costs per Acre and Net Returns per Man-Hour and per Acre on Cotton, 1944

State	Costs				Man-hours	Net Returns Per Hour of Man Labor	Net Returns to Land
	Labor	Cash	Land Rent	Total			
Alabama	$ 43	$ 19	$ 6	$ 68	141	$0.45	$ 26
Georgia	38	19	5	62	128	0.41	19
Louisiana	46	15	7	68	139	0.44	22
Mississippi	57	18	8	83	159	0.53	35
Tennessee	53	16	8	77	160	0.50	35

livestock ate. The gross return per acre of open pasture is overestimated, therefore, to that extent.

In 1944 cotton gave net returns to land of $19 an acre in Georgia and $26 in Alabama, which two states produce about four fifths of the District crop. These figures, of course, are the amounts above cash production expenses and labor value. Average hourly net returns for the labor, which are returns above cash production expenses and land rental at the rates prevailing in 1944, were about 41 cents for Georgia and 45 cents for Alabama.

Net returns from forestry in the Sixth District that are estimated on average returns over a 20-year period from thrifty timber stands and on stumpage prices roughly equivalent to those obtained in 1944 amount to about $2.70 an acre. Under the management plans usually advocated, however, some of the current growth would be allowed to accumulate to build up the timber stand, which would make net returns somewhat more than $2.70 an acre at the end of the period. Hourly returns from labor, those above the value of stumpage, the cash costs incurred in harvesting, and a charge for the use of equipment, are estimated at 65 cents.

Average net returns from pasture are estimated at $4 an acre. Although pasture lands incur some costs, only a small proportion of those in the District receive any special treatment involving cash costs. Under its pasture-building program the Production and Marketing Administration in 1944 made payments for seeding or reseeding on less than 3 percent of the open pasture acreage. Estimates made by the Soil Conservation Service of conservation needs on farm pasture lands indicate that little money is now spent on most pasture. Labor inputs are also relatively low. Even if labor requirements for an acre of pasture were as high as the preharvest labor requirements for hay crops, net returns per hour of labor for pasture would average almost two dollars.

These average-return figures from various enterprises provide a basis for estimates that indicate the relative magnitude of the income changes that would result from shifts in the uses of land and labor. If the District's 39 million acres of farm woodland were built up to the productivity levels of average uncut second-growth saw-log-size timber stands, the harvesting and delivery of timber products would require about a sixth of the total labor now spent on cotton. If all farm workers were fully employed at present a shift of one sixth of the time they now spend on cotton to productive farm woodlands would increase total returns to land and labor significantly. Productive woodlands, in other words, would provide job opportunities that would more than offset in value the employment now provided on one sixth of the cotton land.

Since an acre of timberland furnishes very little productive employment, however, only a relatively small amount of land could be shifted from cotton to timber without greatly lowering the total income to land and labor. Also, on a basis of these estimated average returns and of full employment of all farm labor, no labor could be shifted from pasture to timber without lowering it. All farm laborers in the District, however, are not fully employed on farms. In 1945 about a fourth of them worked an average of 160 days off the farms. That labor is not fully employed on District farms is owing in part to the unequal labor distribution of the heavy-labor-requirement crops over the year. In Georgia, for example, about two thirds of the work on cotton is done in a four-month period. As average returns indicate, the growing of trees offers greater returns per acre for extra farm labor than the use of land for pasture does.

The individual farmer, of course, is not concerned with average returns. His problem is to use the available land, equipment, and time in a manner that will yield him the largest returns above cash costs. In deciding whether to shift labor or land from cotton to timber, for example, the farmer would choose between the actual returns from the least profitable acre, or the least profitable hour, devoted to cotton and the expected returns to the acre, or to the labor, that was devoted to timber. But, choices between optional uses of land and labor are not always made entirely for economic reasons.

Individual Cases

In many instances farmers have turned to timber growing because the farming systems they followed became unprofitable. A farmer in the red clay hills of North Georgia, for example, originally received most of his income from cotton. Because of damage by insect pests, depletion of soil fertility, and unfavorable cotton prices, however, his returns from that crop became so low they no longer provided him with a living. The farm contained about a thousand acres of thrifty shortleaf-pine and hardwood timber. By hiring his tenants to harvest the timber and by selectively cutting the woods the farmer has realized returns of from $5,000 to $8,000 annually from the stand.

Since opportunities for the farmer to increase his income by spending more time on such intensive crops as cotton are very limited on most small farms, timber growing is often most attractive as a profitable use for extra labor. A North Carolina farmer who had considerable idle time during the winter decided that he would make an improvement cutting in his timber if, by doing so, he could earn $2 a day for his labor. For his first cutting he selected an acre of dense second-growth shortleaf pine about 28 years old. This stand had reseeded on a field which had once been used for row crops. The trees harvested were only those that needed to be removed to improve the stand. They were worked into fuel wood and sold in town for $7.50 a cord. For both his labor and the trees the farmer received $52 an acre; for his labor alone he received gross returns of about 60 cents an hour.

Often farmers are unaware of the opportunities to use their time advantageously in harvesting their timber. To an offer of assistance in marking and selling timber made by a farm forester, a Tennessee farmer replied that he was too busy to spend any time on his 200-acre woodland. During the winter, however, the farm forester was able to convince the farmer he had enough time during the slack season of farm work to harvest and sell his own logs. As a result the farmer sold 20,000 board feet of good-quality logs to a furniture plant in a near-by town. For his time and the use of his farm truck in cutting and delivering the logs he received returns, in excess of stumpage values, of about $3.50 an hour.

The recommendations of another farm forester to a North Carolina landowner illustrate the type of choice that often must be made between timber and pasture as a use for particular land. Since the present owner, who recently bought the farm mainly as a place to live, works in town, he is not particularly interested in the land as a source of employment. Of the 120 acres he had in woodland, 50, though in poor

condition, contained enough young trees to build up to a good stand with proper care. The remainder was so badly depleted that it had no prospects of becoming a merchantable timber stand through reproduction. Here the choice was not between average woodland and average pasture land, and the problem was to use the land in a manner that would yield the highest net returns only to land. The forester recommended that the nonrestocking areas suitable in situation and water supply be converted to pasture and that the restocking portion be retained in woods.

How forestry can be fitted in with other farm enterprises is shown by the experience of a farmer in South Mississippi. This farmer and his son with some hired labor operate a farm containing 400 acres of timberland. Their operation is unusual in that the farmer keeps detailed records of income, expenses, and hired labor. Since hired labor on the farm is paid by the hour, the farmer can determine returns per hour of labor or per acre of land with considerable accuracy. Record keeping, of course, is the first step toward an accurate evaluation of the advantages in optional uses of both land and labor.

This farmer, a retired civil engineer, began operating the farm with cotton and timber as the main products. When his records showed that cotton was contributing little or nothing to his net income, he abandoned cotton growing and started a dairy enterprise. Dairying, of course, requires relatively large amounts of labor, and, under average conditions, brings relatively small net returns an hour. In the first few years very little time was spent on the timberland. As the farmer learned more about the possible returns from selling and delivering his timber products, however, he began to give more time to the timber and less to the enterprises that required large amounts of labor. In 1942 he abandoned the dairy operation altogether and began a beef-cattle enterprise, which would leave him more time to spend on his timber. During 1941-47 his total returns from the 400 acres of timber amounted to approximately $16,000.

In 1947 alone he received $2,500 for his timber products, which consisted largely of saw logs, poles, and ties. He obtained the necessary extra labor by hiring neighboring tenant farmers at 60 cents an hour. The farm tractor and truck were used to load all the products and haul them to market. In negotiating with timber-product buyers, the farmer carefully checked all measurements to make sure that he received full value for his products. The ties were made on a custom basis on which the farmer furnished the equipment, did the hauling and selling, and received payment at a rate of half the market value. On the poles and saw logs his net returns, those above the current stumpage value, averaged more than $3 an hour for the time spent in harvesting, hauling, and selling. This farmer's returns per hour of labor are, of course, greater than the average returns that could be expected even at 1947 prices.

Although much of the land in farms would contribute more to net income if it were in trees, some of it would have to be artificially planted to yield any income from trees within the next 20 years. A planting made by a Mississippi farmer in 1935 exemplifies the financial returns from such plantings. Before that year the land had been in cotton. In 1947 the owner made an improvement cutting in which he obtained seven units of pulpwood to the acre. The work was done by his tenants on a custom basis on which he received half the market value of the pulpwood. His net returns were $35 an acre, or approximately $3 an acre annually. Since only about a third of the timber volume was removed, another pulpwood cutting can be made from the same tract after a five-year interval.

Need for Larger Forest Acreages

About one acre in every 10 of District farm land produces no crops, pasture, or timber. Some of this land, of course, is used for roads, buildings, barnlots, feedlots, and other value-producing purposes. From most of it, however, the farmer derives little or no income. Although a revision of farm layouts would make it possible for the farmers to use some of these idle acres for crops, most of them are suitable only for grazing or for timber. To convert them to pasture land would often involve a considerable cash outlay for fencing, seeding, and other items. On most farms reforestation by artificial replanting probably would yield the highest net returns in proportion to per-acre costs of improvement.

Farm Land Not Used for Crops, Pastures, or Timber
(In Thousands of Acres)

Area	All Farm Land	Farm Land Not Used			
		Cropland, Idle or Failure	Waste Land, Roads, Ditches, Farmsteads, etc.	Total	Percent of All Farm Land
Alabama	19,068	1,191	785	1,976	10.4
Florida	13,084	474	399	873	6.7
Georgia	23,676	1,945	699	2,644	11.2
Louisiana	10,040	519	522	1,041	10.4
Mississippi	19,617	850	1,001	1,851	9.4
Tennessee	17,789	1,089	1,016	2,105	11.8
Six States	103,274	6,068	4,422	10,490	10.5

The farmer could greatly reduce his reforestation costs by taking advantage of the various state and Federal reforestation programs. Seedlings for reforestation can usually be obtained at low cost from state tree nurseries. Moreover, many farmers are eligible under the Federal farm program to receive benefit payments for planting trees. In some areas of the District last year these payments were ample to cover tree-planting costs at current prices. Where the farmer planted the trees himself, of course, his cash outlay was negligible.

On the idle acres the rate of soil erosion and water runoff is usually very high. Since trees make one of the most efficient types of land cover used to control runoff and erosion, the reforestation of these lands would yield considerable intangible benefit to the entire community and state.

Numerous studies of the integration of forestry with other farm enterprises indicate that increases in the woodland acreages would increase net income on many farms. A study of farm woodlands in a Louisiana parish showed that the woodlands on one-mule cotton farms were not furnishing even enough fuel wood for home use. These woodlands had been overcut, overgrazed, and frequently burned. Even with good management they could not furnish the fuel-wood requirements unless pine saw-timber was cut. Since it would have taken about a fourth of their cash income from cropland to purchase all their fuel wood, these farmers found it virtually impossible to use their woodlands effectively.

In another study of the place held by woodlands in a dairy-farm organization, it was found that a devoting of more land to woods could increase net farm income significantly. At present the farm has 28 acres in woods and 12 acres in woods pasture, or a total of 40 acres in woodland. The pres-

ent income from woodland is only $51, or about 6 percent of total farm-family earnings. Under the proposed farm reorganization the family earnings at the end of a 15-year period would be almost doubled.

Under that plan, the woodland would be increased to 56 acres and made to contribute about $255 to net farm income. To attain these results the farmer would have to reduce his open-pasture acreage, though there would be only a slight reduction in the actual grazing area since the 16 acres that would be shifted to woodland now produce very little feed for the cows. The improvement of the remaining pasture by removing brush, applying minerals, sowing some seed, and practicing better grazing management would more than offset the loss of pasture acreage. Most of the early returns from woodland would come from the use of farm labor during slack periods to cut fuel wood and saw logs. Although a few acres would have to be planted to trees, most of the increase in woodland would come from natural reforestation.

Pasture Acreage in Farms

Area	All Pasture (Thousands of Acres)	Woodland	Pasture
		Number of Acres (In Thousands)	Percent
Alabama	6,211	2,917	47
Florida	9,096	4,528	50
Georgia	5,903	3,508	59
Louisiana	3,921	1,386	35
Mississippi	7,804	3,571	46
Tennessee	6,040	1,333	22
Six States	38,975	17,243	44

An increase in farm woodland acreages would require other farm adjustments. District farmers use almost half of their woodland acreages also for pasture. The amount of livestock feed produced to the acre of woodland pasture is very small, but the total acreage is so large that woodland pastures now contribute considerably to livestock production. As the timber stands became more dense or more heavily stocked under fire protection and intensive forest management, they would become less and less valuable as range for cattle or other livestock. If the livestock industry is to be maintained, and particularly if it is to be increased, as is so frequently advocated, the present pasture-feed production must be increased. Fortunately, the techniques for increasing pasture carrying capacity are available, and under the programs of state experiment stations and other agencies much has already been accomplished. The February *Monthly Review* contained an article dealing with the applicability and costs of the recommended methods for improving grazing crops and the returns possible with them.

The necessity for increasing pasture yields is only one of the obstacles to profitable farm forestry; there are many others that stand in the way of increasing the physical productiveness of farm woodlands and enlarging farm woodland acreages. The comparisons between forestry and other farm enterprises for large areas as well as for individual farms, however, show that the growing of trees can under certain circumstances make an important contribution to the farmers' income. Whether a farmer overcomes the obstacles inherent in this type of enterprise and thus realizes increased income will depend on the degree to which he plans an efficient use of all his time and labor, uses the technical and financial assistance available to him, and manages the whole farm in a businesslike manner.

BROWN R. RAWLINGS

Sixth District Indexes

DEPARTMENT STORE SALES*

Place	Adjusted**			Unadjusted		
	Mar. 1948	Feb. 1948	Mar. 1947	Mar. 1948	Feb. 1948	Mar. 1947
DISTRICT	369	359	346	387	316	346
Atlanta	398	377	375	428	355	392
Baton Rouge	417	365	356	433	329	362
Birmingham	381	366	331	391	315	332
Chattanooga	355	337	358	357	283	351
Jackson	352	342	322	346	294	311
Jacksonville	431	412	394	436	362	392
Knoxville	327	315	315	333	283	314
Macon	328	305	329	320	244	317
Miami	374	366	341	434	431	396
Montgomery	374	352	357	362	303	338
Nashville	454	381	412	455	335	407
New Orleans	368	307	317	352	270	301
Tampa	499	496	458	507	441	459

DEPARTMENT STORE STOCKS

Place	Adjusted**			Unadjusted		
	Mar. 1948	Feb. 1948	Mar. 1947	Mar. 1948	Feb. 1948	Mar. 1947
DISTRICT	370	378	321	370	352	321
Atlanta	481	467	405	490	444	413
Birmingham	303	320	227	311	308	233
Montgomery	336	360	315	356	352	334
Nashville	538	535	450	559	524	468
New Orleans	330	310	310	349	311	327

GASOLINE TAX COLLECTIONS***

Place	Adjusted**			Unadjusted		
	Mar. 1948	Feb. 1948	Mar. 1947	Mar. 1948	Feb. 1948	Mar. 1947
SIX STATES	165	169	165	153	169	153
Alabama	177	186	169	163	177	161
Florida	182	183	170	191	197	179
Georgia	164	170	158	150	162	144
Louisiana	138	147	154	127	144	142
Mississippi	140	160	160	126	154	144
Tennessee	161	171	160	142	164	140

COTTON CONSUMPTION*

Place	Mar. 1948	Feb. 1948	Mar. 1947
TOTAL	158	164	169
Alabama	162	170	178
Georgia	160	165	172
Mississippi	110	103	113
Tennessee	141	141	129

ELECTRIC POWER PRODUCTION*

	Feb. 1948	Jan. 1948	Feb. 1947
SIX STATES	338	328	313
Hydro-generated	291	247	326
Fuel-generated	400	433	297

MANUFACTURING EMPLOYMENT***

Place	Feb. 1948	Jan. 1948	Feb. 1947
SIX STATES	146	148	145
Alabama	162	161r	155
Florida	126	128	129
Georgia	136	137	135
Louisiana	138	141	134
Mississippi	149	162r	159
Tennessee	157	156	155

CONSTRUCTION CONTRACTS

Place	Feb. 1948	Jan. 1948	Feb. 1947
DISTRICT	349	339	232
Residential	501	436	270
Other	276	293	213
Alabama	271	316	239
Florida	501	390	318
Georgia	285	322	231
Louisiana	425	275	141
Mississippi	169	443	164
Tennessee	270	422	209

CONSUMERS' PRICE INDEX

Item	Feb. 1948	Jan. 1948	Feb. 1947
All ITEMS	173	174	159
Food	214	219	193
Clothing	197	193	177
Fuel, elec., and ice	132	132	121
Home furnishings	187	187	172
Misc.	148	147	140
Purchasing power of dollar	.58	.57	.63

ANNUAL RATE OF TURNOVER OF DEMAND DEPOSITS

	Mar. 1948	Feb. 1948	Mar. 1947
Unadjusted	19.1	19.4r	13.7
Adjusted**	19.6	19.2r	19.1
Index**	79.3	78.0r	73.9

CRUDE PETROLEUM PRODUCTION IN COASTAL LOUISIANA AND MISSISSIPPI*

	Mar. 1948	Feb. 1948	Mar. 1947
Unadjusted	282	279	244
Adjusted**	282	275	243

*Daily average basis
**Adjusted for seasonal variation
***1939 monthly average=100; other indexes, 1935-39=100

r Revised

District Business

Trade

The expected after-Easter slump in sales at department stores occurred during the week ended April 3, when sales at the weekly reporting Sixth District stores were down 14 percent from those of the corresponding week in 1947. During the following week, partly as a result of the stimulus from special sales and promotions in some of the District cities, total sales for these stores were 15 percent above those of the corresponding period last year. Sales for the week ended April 17 were up 12 percent.

Even after an adjustment for seasonal variation which took into account the early date of Easter, the index of daily average sales for the District's department stores of 369 for March exceeded that for both March of last year and February of this year. Sales of reporting furniture stores were approximately the same this March as they were last March. During the same period household-appliance-store sales increased 52 percent and jewelry-store sales declined 3 percent.

The trend toward a greater use of credit in retail selling continued in March. Credit sales at department stores for that month increased 24 percent above those for the corresponding month in 1947, those of furniture stores 4 percent, those at household-appliance stores 27 percent, and those at jewelry stores 9 percent.

These greater credit sales, of course, mean increased risks. Every merchant who sells on credit faces not only the necessity of waiting for payment but also the possibility that some of his customers will never pay. As a general rule, the proportion of credit sales that a merchant must eventually write off is small. Sixth District merchants are finding that this general tendency is continuing even though losses on bad debts have increased at a greater rate than credit sales have.

A preliminary tabulation of data collected by this bank in the retail-credit survey for 1947 shows that the combined bad-debt losses of 436 retailers in nine different lines of business were 42 percent greater last year than they were in 1946.

Although the 1947 ratios are comparatively low, they exceed the 1940 ratios reported by the Department of Commerce for many lines of business throughout the United States. The ratio of losses on open-credit accounts in 1947 exceeded the 1940 ratios of the department, household-appliance, jewelry, men's-clothing, and women's-apparel stores. On the other hand, the ratios of bad-debt losses to instalment sales were higher in 1947 in the Sixth District for only jewelry, men's-clothing, and women's-apparel stores. The ratios of losses on open-credit sales for all except three of the different lines of business were lower than the ratios of losses on instalment sales.

The increase in bad-debt losses during 1947 was part of the price paid for maintaining a large sales volume through the use of credit. Increased credit buying last year, according to the survey, brought the sales of the 594 credit-granting stores that reported a complete breakdown of sales by type of transaction to 461 million dollars, a sum that exceeded the 1946 sales figure 8 percent.

The greater buying of consumer durable goods last year is shown by the substantial increases in the sales of stores specializing in that type of merchandise.

The increased availability of such goods as washing machines, electrical appliances, and radios is reflected in the 94-percent increase in the inventories at the reporting household-appliance stores during 1947. Although automobiles remained for the most part on an allotment basis, automobile dealers reported that their inventories increased 53 percent last year. Other stores reporting substantial increases in inventories were men's-clothing, 25 percent; automobile-tire-and-accessory, 37 percent; and hardware, 30 percent. Lesser increases in inventories were reported by the remaining lines of business: furniture stores, 6 percent; department stores, 2 percent; women's-apparel stores, 3 percent; and jewelry stores, 8 percent.

Besides being increased by greater inventories, current assets were expanded by a 32 percent increase in total accounts receivable during 1947. Reflecting the greater increase in instalment sales, instalment accounts expanded 53 percent while open-credit accounts increased only 22 percent. In each line of business except women's-apparel stores the rate of increase in instalment accounts exceeded the rate of increase in open-credit accounts. The 76-percent increase in the total accounts of automobile-tire-and-accessory stores was the greatest, and the 61-percent increase in the accounts of household-appliance stores was next. The stores reported increases in accounts receivable at the end of 1947 in all lines—men's-clothing, 49 percent; hardware, 46 percent; furniture, 38 percent; jewelry, 32 percent; department, 28 percent; automobile, 22 percent; and women's-apparel, 17 percent.

C. T. T.

Finance

Income-tax payments and Treasury debt retirements were reflected in Sixth District member-bank operations during March and April. Checks drawn by businesses and indi-

SALES BY TYPE OF TRANSACTION
SIXTH DISTRICT REPORTING STORES
1947 RETAIL CREDIT SURVEY

Type of Retailer	No. of Reporting Stores	Percent Change in Sales 1946-47				Percent of Total Sales					
						Cash		Open Credit		Instalment	
		Total	Cash	Open Credit	Instalment	1946	1947	1946	1947	1946	1947
Department	136	+ 3	— 6	+ 13	+ 59	57	51	39	43	4	6
Furniture	150	+ 13	— 19	+ 10	+ 23	18	13	6	6	76	81
Auto tire & accessory	88	— 5	— 25	— 10	+100	42	33	48	45	10	22
Automobile	58	+ 39	+ 40	+ 31	+ 68	62	61	25	23	13	16
Jewelry	36	— 9	— 20	+ 3	+ 9	55	49	25	28	20	23
Hardware	63	+ 13	— 2	+ 17	+115	50	46	49	52	1	2
Men's clothing	38	+ 12	— 4	+ 30	+ 47	52	44	41	47	7	9
Women's apparel	48	— 3	— 11	+ 10	— 2	50	45	47	52	3	3
Household appliance	219	+ 60	+ 30	+ 48	+123	43	34	24	22	33	44
All types	594	+ 8	— 3	+ 14	+ 41	52	47	36	37	12	16

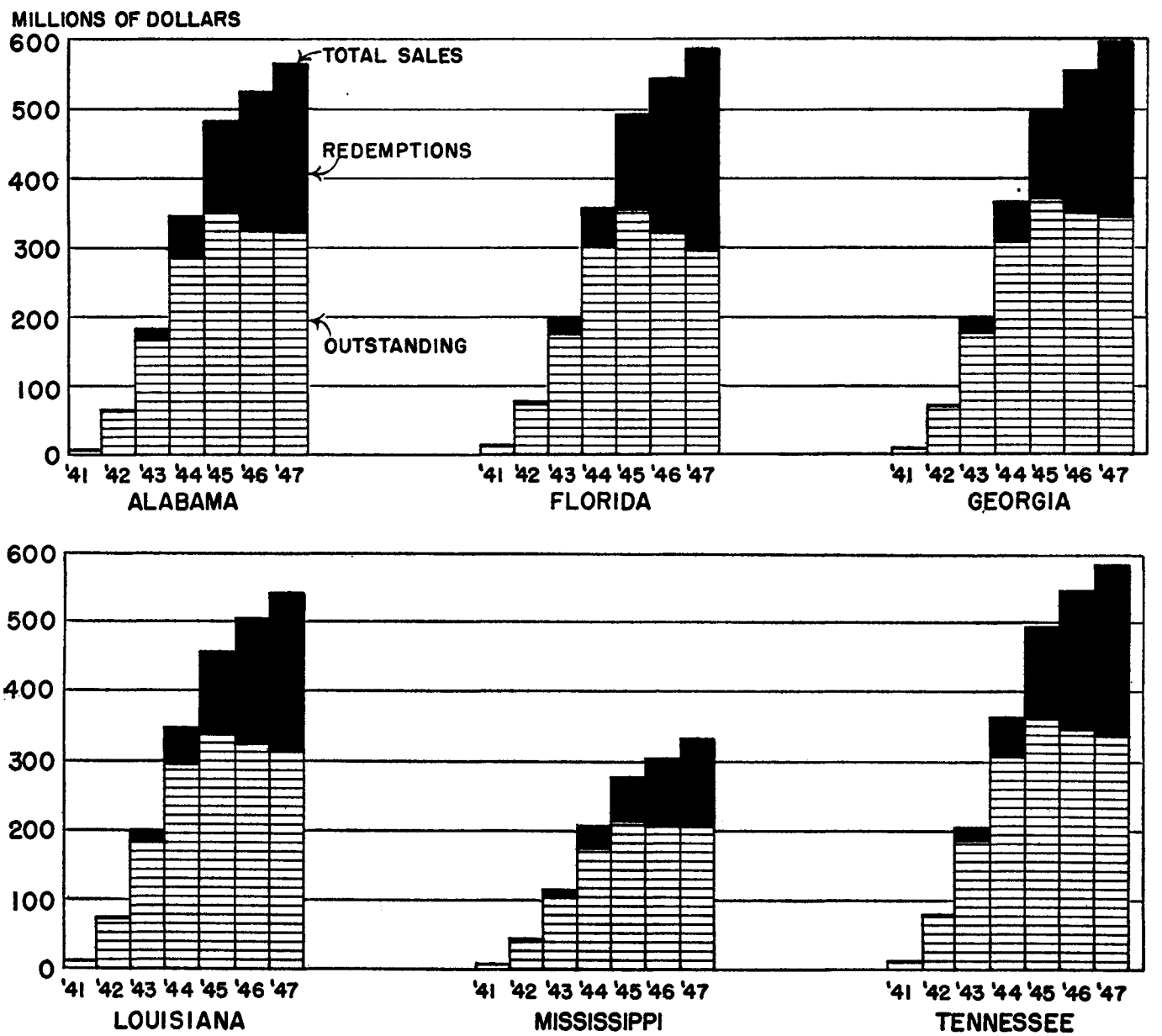
viduals on their deposit balances to meet tax payments resulted in a decline of 63 million dollars in demand deposits adjusted between the last Wednesday in February and the end of March. The Treasury's balance with this bank increased 61 million dollars.

In order to transfer the funds involved, member banks reduced their reserves each week; the total reduction in March amounted to 13 million dollars. They also reduced their demand balances with other banks 28 million dollars and their holdings of Government securities 48 million. Between the end of March and the middle of April member-bank reserves increased 23 million dollars, and at the weekly reporting banks demand deposits adjusted increased 33 million.

Between February 27 and March 31, the Treasury's receipts exceeded its expenditures to the extent that it was able to retire about 1.1 billion dollars worth of the Government securities which were held by the Federal Reserve Banks. This debt retirement was part of the current program to relieve inflationary pressures by the retirement of the debt held by banks, particularly that held by the Federal Reserve Banks, out of budgetary surpluses.

Another aspect of the current program to check inflationary movements is often overlooked. The Americans who have bought almost 69 billion dollars worth of United States savings bonds since May 1, 1941, did much to withhold purchasing power from the spending stream and thus

U. S. SAVINGS BONDS, SERIES E, PURCHASED AND REDEEMED IN SIXTH DISTRICT STATES
From May 1941 to and of each year 1941-47



Source: U. S. Treasury Bulletins. Redemption data for 1941-44 were estimated on basis of U. S. experience; those for 1945-47 were adjusted to eliminate redemptions of Series A-D bonds and accrued discount from published data.

helped to keep down bidding for scarce goods and to check the rising prices. About 48 billion dollars worth of the bonds sold were Series E bonds, most of which were bought by wage and salary earners. Their 1946 purchases of 7.5 billion dollars amounted to 46 percent of the peak, 1944 purchases, and their 1947 purchases of 6.9 billion dollars to 42 percent.

Over three billion dollars, or 6.5 percent of the United States total, had been invested by individuals in the Sixth District states in Series E bonds since early 1941. Georgians made the largest investment, one of 598 million dollars, closely followed by the citizens of Florida, with purchases of 588 million dollars, and those of Tennessee, who bought 586 million dollars worth. Total sales in Louisiana amounted to 540 million dollars, and those in Mississippi to 330 million. In addition to buying Series E bonds, many individuals bought a large part of the more-than one billion dollars worth of Series F and G savings bonds sold in the District states during the same period.

With the total public debt at the end of March amounting to 253 billion dollars, the amount represented by purchases of Series E bonds in the Sixth District states appears insignificant. Yet it assumes great importance in a comparison with other financial statistics for the area. The total amount is, for example, 10 percent larger than the amount of personal demand deposits in all the banks of the Six States. It is equal to more than half the personal and business demand deposits combined. It exceeds by 79 percent the total time deposits. It amounts to about a fourth of individual income payments in these states for any recent year. It is more than twice as much as the total cost of the war manufacturing facilities in these states that were financed wholly or partly with public funds during the years 1940-45. If all of this investment had been retained by the purchasers and were kept intact, at maturity it would have yielded them more than a billion dollars in interest, which is equivalent to about one month's total income received by individuals in the District states at the present time.

On the assumption that most of the bonds redeemed in the Sixth District states were purchased there and that most of the remaining bonds purchased in those states are still held there, the estimated total holdings of Series E bonds at purchase price amount to about 1.8 billion dollars, or 57 percent of the purchases made in 1941-47. The holders of these bonds had by the first of the year earned sufficient accrued discount to raise the value of their holdings to about 1.9 billion dollars.

The continued holding of those United States savings bonds already purchased and purchases greater than those typical of the past year are integral parts of the current program to check inflationary pressures. Prospective increases in expenditures for national defense, the European Recovery Program, and the recently enacted tax-reduction law all lower the budgetary surplus that would be available for reducing inflationary pressures by retirement of the bank-held public debt.

C. T. T.

Industry

The coal strike that was officially terminated April 12 had serious effects in the District. Among the first to be felt were, of course, the lack of coal production, the idleness of the miners, and the reductions in steel-mill operations.

Before the end of March these effects had become widespread. Coal output had declined precipitately, and opera-

Sixth District Statistics

CONDITION OF 28 MEMBER BANKS IN SELECTED CITIES
(In Thousands of Dollars)

Item	April 21 1948	March 24 1948	April 23 1947	Percent Change April 21, 1948, from March 24 1948	Percent Change April 21, 1948, from April 23 1947
Loans and investments—Total	2,290,830	2,317,450	2,338,205	— 1	— 2
Loans—total	828,026	835,384	705,745	— 1	+ 17
Commercial, industrial, and agricultural loans	516,014	522,754	409,951	— 1	+ 26
Loans to brokers and dealers in securities	6,016	6,554	8,331	— 8	— 28
Other loans for purchasing and carrying securities	58,221	57,673	82,568	+ 1	— 29
Real estate loans	74,680	74,311	54,986	+ 0	+ 36
Loans to banks	5,265	4,361	4,263	+ 21	+ 23
Other loans	167,830	169,731	145,646	— 1	+ 15
Investments—total	1,462,804	1,482,066	1,632,460	— 1	— 10
U. S. direct obligations	378,874	368,513	439,982	+ 3	— 14
Obligations guaranteed by U. S.	899,448	928,085	1,005,750	— 3	— 11
Other securities	184,482	185,468	186,728	— 1	— 1
Reserve with F. R. Bank	450,692	430,844	430,793	+ 5	+ 5
Cash in vault	41,336	44,662	41,068	— 7	+ 1
Balances with domestic banks	190,112	187,053	188,991	+ 2	+ 1
Demand deposits adjusted	1,741,332	1,745,147	1,741,115	— 0	+ 0
Time deposits	545,167	545,180	545,446	— 0	— 0
U. S. Gov't deposits	37,608	33,196	49,738	+ 13	— 24
Deposits of domestic banks	469,597	475,287	489,528	— 1	— 4
Borrowings	5,000	5,500	10,000	— 9	— 50

DEBITS TO INDIVIDUAL BANK ACCOUNTS
(In Thousands of Dollars)

Place	No. of Banks Reporting	Mar. 1948	Feb. 1948	Mar. 1947	Percent Change Mar. 1948 from Feb. 1948	Percent Change Mar. 1948 from Mar. 1947
ALABAMA						
Anniston	3	22,282	17,846	21,350	+ 25	+ 4
Birmingham	6	339,851	291,534	298,214	+ 17	+ 14
Dothan	2	12,030	9,991	10,824	+ 20	+ 11
Gadsden	3	18,045	14,725	18,271	+ 23	— 1
Mobile	5	150,120	122,304	120,186	+ 23	+ 25
Montgomery	3	75,622	67,741	67,362	+ 12	+ 12
FLORIDA						
Jacksonville	3	283,428	238,689	247,365	+ 19	+ 15
Miami	7	281,680	255,910	239,007	+ 10	+ 18
Greater Miami*	12	403,231	357,835	343,252	+ 13	+ 17
Orlando	3	54,274	45,998	49,807	+ 18	+ 9
Pensacola	3	37,453	28,948	30,215	+ 29	+ 24
St. Petersburg	3	60,256	52,224	55,846	+ 15	+ 8
Tampa	3	120,039	115,252	108,904	+ 4	+ 10
GEORGIA						
Albany	2	17,208	16,220	14,674	+ 6	+ 17
Atlanta	4	807,176	700,996	719,437	+ 15	+ 12
Augusta	3	57,688	43,938	51,964	+ 31	+ 11
Brunswick	2	8,784	8,029	8,873	+ 9	— 1
Columbus	4	57,625	50,142	57,736	+ 15	— 0
Elberton	2	3,875	3,016	3,634	+ 28	+ 7
Gainesville*	3	13,741	11,183	12,040	+ 23	+ 14
Griffin*	2	10,823	10,121	10,108	+ 7	+ 7
Macon	3	60,213	51,185	57,418	+ 18	+ 5
Newnan	2	7,903	7,402	7,029	+ 7	+ 12
Rome*	3	21,490	18,206	19,942	+ 18	+ 8
Savannah	4	94,610	74,683	78,946	+ 27	+ 20
Valdosta	2	10,671	9,219	11,460	+ 16	— 7
LOUISIANA						
Baton Rouge	3	88,368	75,054	74,394	+ 18	+ 19
Lake Charles	3	31,780	26,727	25,378	+ 19	+ 25
New Orleans	7	641,450	566,751	608,269	+ 13	+ 5
MISSISSIPPI						
Hattiesburg	2	16,137	14,283	16,776	+ 13	— 4
Jackson	4	149,611	108,464	123,617	+ 38	+ 21
Meridian	3	28,947	22,022	26,978	+ 31	+ 7
Vicksburg	2	25,483	20,914	22,577	+ 22	+ 13
TENNESSEE						
Chattanooga	4	142,212	120,009	131,099	+ 19	+ 8
Knoxville	4	107,444	97,903	105,476	+ 10	+ 2
Nashville	6	280,415	246,572	262,845	+ 14	+ 7
SIXTH DISTRICT 32 Cities	110	4,092,680	3,524,691	3,675,931	+ 16	+ 11
UNITED STATES 333 Cities		107,621,000	90,266,000	93,308,000	+ 19	+ 15

*Not included in Sixth District total

tions at steel mills had dropped to less than half the rates that had prevailed all during last year and up to the middle of March this year. From 102 percent of rated capacity for the week begun March 16, reports show, the rates of steel-mill activity declined to 90 percent for the week of March 23, to 69 percent for the week of March 30, and to 46 percent for the week of April 6. Production at the Ensley Steel Works of the Tennessee Coal, Iron and Railroad Company was cut in half soon after the strike began—four blast furnaces were banked and four open-hearth furnaces taken out of production, resulting in the idleness of about 1,500 employees. The Woodward Iron Company announced the removal of one of its stacks. Republic Steel Corporation shut down half of its coke ovens in Birmingham and reduced its coke-producing operations at Gadsden 30 percent.

Coal exports through the port of Mobile were stopped when the stock piles at the docks became exhausted. In the first 11 weeks of the year coal production in Alabama and Tennessee averaged 525,000 tons a week, only 2.6 percent less than that in the corresponding weeks of 1947. During the week ended March 20, however, output declined to 184,000 tons, and for the week ended March 27 it amounted to only 44,000 tons. First-quarter production was, as a consequence, 14 percent less this year than it was last year. From 31,032 for the week ended March 13 freight-car loadings dropped to 11,624 the following week, however, and to 6,136 in the week ended March 27. Thus the first quarter this year ended with carloadings of coal, which had shown an increase of 6.2 percent through the first two weeks of March over the figure for that period last year, showing a decrease of 4.8 percent from the first-quarter total last year.

Loadings of revenue freight by those railroads that comprise the Association of American Railroads' Southern district, amounted to 1,706,334 cars in the first 13 weeks of 1948. Compared with loadings for that period in 1947, this total represents a decrease of 4.7 percent and includes fewer loadings of livestock, grain, and grain products; more loadings of coke in each of the 13 weeks; and fewer loadings of merchandise in less-than-carload-lots in all but one of those weeks. There were 13 percent fewer loadings of forest products in the first quarter this year than there were in that period last year.

Wet weather continued in March to be the chief deterrent in logging and lumber-mill operations and in outdoor construction work. During the first half of April rains were less frequent, and there were reports of increased activity. There is still, of course, an accumulated need for construction of almost every kind, but seemingly the limit to the number of consumers able and willing to meet the high costs is being approached. In dollar value construction contracts awarded in the District during February, however, exceeded those awarded in January. The increase was owing entirely to a gain of 21 percent in the value of awards for residential construction, since awards for other types of building declined 8 percent. Total value of awards in February was almost 72 million dollars, representing an increase of about 53 percent over the February 1947 figure, which is the smallest total for any month in the past two years. The dollar value of residential awards was almost double that of a year earlier, and all other contracts were up about 27 percent.

Of particular interest to the cotton-textile industry in this country are the developments in the Japanese industry as they are reported in the Department of Agriculture's "The Cotton Situation" for the first quarter of 1948. Because of Japan's expansion of its textile industry after the first world war, the account states, that country had become the world's largest exporter of cotton cloth by 1933. At the peak, during 1934-37, these exports averaged 2.8 billion square yards a year, with the number of installed spindles in the mills averaging about 11 million. A large part of the cotton-textile-mill equipment in Japan was scrapped during World War II to produce military materials. Only about a fifth of the prewar mill capacity remained in February 1946, with only about 1.1 million of the 2.2 million installed spindles operable. On October 1, 1947, the number of installed spindles had increased to 2.9 million, of which 2.8 million were operable and 1.5 million actually in operation. That substantial part of the capacity for textile-machinery production which had remained intact was used mainly to repair damaged spindles and looms in 1946 and to produce new spindles and looms in 1947. Recovery of the textile mills, the account continues, will depend largely on those decisions with respect to textile-manufacturing machinery that the occupying powers make in connection with problems of reparation and the removal of Japan's war potential.

The mills, according to reports in the press, have recently requested that the current ceiling of four million spindles be lifted. Cotton-textile exports from Japan in January of this year were reportedly almost 24 million yards, with most of it going to Far Eastern and Middle Eastern countries.

D. E. M.

Agriculture

Cloudy and rainy weather during the first quarter of the year in some sections of the Sixth District has caused many readjustments, particularly in agriculture. There has been a virtual cessation of many kinds of outdoor work, and the deterioration of roads because of rain has made transportation difficult or impossible in places.

In parts of the District, particularly in South Georgia and South Alabama, rains have repeatedly sent creeks out of their banks and washed early planted seed into drainage areas. Much of the fertilizer applied before or at planting time has leached out with the frequent drenching of fields and will be of little value to crop production. In some instances early planted corn and peanuts have rotted from too much moisture in the ground, and the peach crop in some sections has been seriously damaged by a late frost.

Much of the damage caused by inclement weather can be repaired or overcome, but some is irreparable. Where, for instance, frost killed budding peaches, the loss is for the duration of the year. A second crop is impossible, and, in spite of a loss of income, expenses for pruning, spraying, and cultivating go on. Losses of this kind, of course, can be quite serious for an entire community because they can reduce the incomes of business and professional men as well as those of farmers.

In some areas of the District prolonged rainy weather has also made it virtually impossible to turn under winter legumes. Tractors and mules have mired in fields that have been water-logged for weeks. The greater growth attained by legumes will, without significantly increasing their value as soil builders, make them more difficult to turn under, and farmers using mules and small equipment will have a particularly hard time doing the job. The delay not only will postpone the planting of corn and other crops that follow legumes but will create other problems.

Although weather research has progressed for more than a

half century, weather is still the most elusive factor affecting farm production. Unusually wet weather not only has an immediate effect but initiates a chain of circumstances which may affect production throughout the year and add greatly to the cost of production. A rainy spring causing delayed planting will mean later maturity of the crops and, probably, greater damage from insects and diseases. The boll weevil is much more of a problem when the cotton matures late than it is when the crop matures early. Many farmers, therefore, often plant early and take a chance on the weather in the hope that the crop will mature before the weevils get a good start. The peanut worm is also a serious pest in fields that are planted late. It is possible, of course, to check boll weevils and peanut worms with poisons, but this increases production costs and rain often washes the poison off before it has had time to have full effect. Usually a wet and cloudy spring means that the first cutting of hay cannot be cured and will, therefore, be lost.

The credit requirements of farmers may be altered by weather conditions. Farm production loans, conservatively estimated at the beginning of the year, may suddenly appear inadequate to meet the costs of reseeding, applying additional quantities of fertilizer, hiring additional labor, or buying poisons. Some farmers will request supplementary loans in order to complete their production schedules, but the total loan might then be higher than a conservative loan policy would permit. The banker is then faced with the necessity of either granting additional funds to better his chances for recovery of the original loan or risking the loss of his customer to another lender.

Some district bankers have felt the effects of the adverse weather conditions through other types of borrowers also. The inability of workers to harvest timber or turpentine, to build houses, or to perform other types of outside work has in some sections resulted in a decrease in deposits. Small merchants and dealers are finding that their accounts receivable have grown to such proportions they must now borrow from banks to continue carrying them. Hardware and farm-supply dealers will likely seek additional credit to stock more poisons, sprayers, fertilizers, and seed. With deposits diminishing and credit-needs expanding, bankers feel the effects of weather almost as acutely as those directly affected.

It is almost impossible to estimate accurately the damage to crop production in those areas of the District which have had excessive rainfall. Time and money have been lost, and, though good yields of most crops are still possible with favorable weather for the remainder of the season, the production costs will be higher than they would have been if the weather had been favorable in the early months. There is always a tendency to overestimate the damage from excessive rainfall, particularly when it occurs early in the season. Since farms in the District are now more mechanized than ever, it is possible to make up some of the lost time. Where necessary, tractors and tractor-drawn equipment can be operated day and night until the work is completed. Therefore, favorable weather for the next few months could go far toward improving the District's agricultural prospects.

J. L. L.

Sixth District Statistics

INSTALMENT CASH LOANS

Lenders	No. of Lenders Reporting	Volume: Percent Change March 1948 from February 1948	Volume: Percent Change March 1948 from March 1947	Outstandings: Percent Change March 1948 from February 1948	Outstandings: Percent Change March 1948 from March 1947
Federal credit unions	46	+ 23	+ 70	+ 5	+ 62
State credit unions	25	+ 28	+101	+ 6	+ 55
Industrial banking companies	11	+ 22	+ 18	+ 1	+ 13
Industrial loan companies	18	+ 13	+ 0	+ 0	+ 4
Small loan companies	43	+ 34	+ 8	+ 0	+ 10
Commercial banks	34	+ 21	+ 59	+ 4	+ 62

RETAIL FURNITURE STORE OPERATIONS

Item	Number of Stores Reporting	Percent Change March 1948 from February 1948	Percent Change March 1948 from March 1947
Total sales	90	+ 23	+ 0
Cash sales	82	+ 22	— 23
Instalment and other credit sales	82	+ 24	+ 4
Accounts receivable, end of month	89	+ 0	+ 41
Collections during month	89	+ 3	+ 2
Inventories, end of month	63	+ 4	+ 15

WHOLESALE SALES AND INVENTORIES*

Item	SALES: No. of Firms Reporting	SALES: Percent Change March 1948 from Feb. 1948	SALES: Percent Change March 1948 from Mar. 1947	INVENTORIES: No. of Firms Reporting	INVENTORIES: Percent Change Mar. 31, 1948, from Feb. 29 1948	INVENTORIES: Percent Change Mar. 31, 1948, from Mar. 31 1947
Automobile supplies	5	+ 28	— 2	4	— 2	— 4
Electrical Group						
Wiring supplies	3	+ 38	+ 81	3	+ 5	+ 24
Appliances	3	+ 13	+ 2	.	..	..
General hardware	9	+ 23	+ 6	.	..	..
Industrial hardware	4	— 9	+ 20	4	+ 5	+ 23
Jewelry	5	+ 16	— 3	4	— 3	— 14
Plumbing and heating supplies	4	— 17	+ 20	3	+ 12	+ 82
Confectionery	5	+ 35	+ 16	.	..	..
Drugs and sundries	9	+ 12	+ 5	4	+ 4	+ 5
Dry goods	19	+ 16	— 1	13	+ 7	+ 20
Groceries						
Full lines	35	+ 18	— 0	23	— 3	+ 3
Specialty lines	6	+ 28	+ 7	3	— 5	+ 6
Tobacco products	10	+ 5	+ 6	4	+ 1	+ 12
Miscellaneous	17	+ 28	+ 11	13	+ 1	+ 34
Total	134	+ 16	+ 6	78	+ 2	+ 16

*Based on U. S. Department of Commerce figures

DEPARTMENT STORE SALES AND INVENTORIES

Place	SALES: No. of Stores Reporting	SALES: Percent Change March 1948 from Feb. 1948	SALES: Percent Change March 1948 from Mar. 1947	INVENTORIES: No. of Stores Reporting	INVENTORIES: Percent Change Mar. 31, 1948, from Feb. 29 1948	INVENTORIES: Percent Change Mar. 31, 1948, from Mar. 31 1947
ALABAMA						
Birmingham	5	+ 40	+ 22	4	+ 1	+ 34
Mobile	5	+ 48	+ 24	.	..	..
Montgomery	3	+ 34	+ 11	3	+ 1	+ 7
FLORIDA						
Jacksonville	4	+ 35	+ 15	3	+ 1	+ 27
Miami	4	+ 13	+ 14	3	— 10	+ 10
Orlando	3	+ 26	+ 40	.	..	..
Tampa	5	+ 29	+ 15	3	+ 0	+ 23
GEORGIA						
Atlanta	6	+ 36	+ 13	5	+ 11	+ 19
Augusta	4	+ 53	+ 5	3	+ 1	— 1
Columbus	3	+ 49	+ 28	.	..	..
Macon	4	+ 47	+ 5	4	— 8	— 16
Rome	3	+ 60	+ 16	.	..	..
Savannah	4	+ 53	+ 21	.	..	..
LOUISIANA						
Baton Rouge	4	+ 48	+ 24	4	+ 3	+ 19
New Orleans	5	+ 47	+ 22	4	+ 12	+ 7
MISSISSIPPI						
Jackson	4	+ 32	+ 15	4	+ 6	+ 18
Meridian	3	+ 62	+ 9	.	..	..
TENNESSEE						
Bristol	3	+ 43	+ 12	3	+ 5	— 1
Chattanooga	4	+ 42	+ 7	3	+ 1	+ 6
Knoxville	4	+ 32	+ 11	.	..	..
Nashville	6	+ 53	+ 16	5	+ 7	+ 20
OTHER CITIES*	19	+ 32	+ 10	22	+ 10	+ 15
DISTRICT	105	+ 37	+ 16	73	+ 5	+ 15

*When fewer than three stores report in a given city, the sales or stocks are grouped together under "other cities."

National Business Conditions

CURTAILED coal output reduced industrial production in March and the early part of April. Value of department-store sales continued at a level about 6 percent higher than in the corresponding period a year ago. The general level of wholesale-commodity prices increased somewhat.

Industrial Production

Industrial production declined slightly in March owing to a sharp reduction in bituminous-coal output after the middle of the month; and the Board's seasonally adjusted index was 192 percent of the 1935-39 average as compared with 194 in February. Continuation of work stoppages at coal mines in April has reduced total industrial production further this month.

Production of durable manufactures increased in March, mainly because of larger output of steel and automobiles. Steel production for the month was at a new record peacetime rate. Steel-mill operations were somewhat curtailed at the end of March, because of reduced supplies of coal, and declined considerably in the first three weeks of April. Activity in the automobile industry expanded in March to earlier postwar-peak rates, after being curtailed by fuel shortages in February. Production of machinery and most other durable goods was maintained at about the level of the preceding months.

Output of nondurable-goods industries as a group decreased slightly in March. Activity declined in the cotton-textile, rubber-products, coke, flour, and meat-packing industries but increased in the rayon-textile, paper-board, and alcoholic-beverage industries. A substantial reduction in meat production under Federal inspection reflected work stoppages in plants of major packers begun March 16. Paperboard production, following some curtailment in February, increased 7 percent to a new record rate.

Output of minerals declined 10 percent in March, reflecting a drop in coal production due to work stoppages at most mines begun March 15. Coal-mine operations continued at a very low level during the first two weeks of April but subsequently increased sharply following settlement of an industrial dispute.

Construction

Value of construction contracts awarded, according to the F. W. Dodge Corporation, showed little change in March, as a decline in public awards offset a seasonal increase in private awards mainly for residential building. The number of dwelling units started in March, according to estimates of the Department of Labor, was 67,000, compared with 47,000 in February and 58,400 in March 1947.

Distribution

Department-store sales in March and the early part of April showed little change from the average level of 284 percent of the 1935-39 average for January and February, after allowance was made for the usual seasonal fluctuation. Value of department-store stocks reached a new peak at the end of February, when the Board's seasonally adjusted index was 303 percent of the 1935-39 average.

Work stoppages sharply reduced railroad shipments of coal and coke from the early part of March to the middle of April. Loadings of forest products and general merchandise continued to show little change.

Commodity Prices

The general level of wholesale commodity prices increased somewhat from the beginning of March to the third week of April. Prices advanced sharply reflecting prospects of increased exports. Meat prices were also higher, owing to reduced supplies as a result of the strike in the packing industry. Hog prices, on the other hand, declined considerably further. Prices of other farm products and food and industrial commodities generally showed little change.

A further small reduction in retail food prices from mid-February to mid-March lowered the consumers' price index from 167.5 percent of the 1935-39 average to 166.9. Retail prices of apparel and home furnishings and rental rates rose somewhat further.

Bank Credit

During the first three weeks of April, in contrast to the situation in March, the Government's cash payments exceeded receipts and the Treasury's balance at Federal Reserve Banks declined sharply. As a consequence, commercial-bank reserves and deposits, which had been under a severe drain in March, increased somewhat in April.

Total Government-security holdings of the reserve banks declined further by about one-half billion dollars during the first three weeks of April, following a small decline in March. Treasury retirement in March and early April of 1.3 billion dollars of securities held by reserve banks was offset in part by system purchases in the market.

Real-estate and consumer loans at banks in leading cities continued to expand during March and the first half of April, while commercial and industrial loans declined somewhat. Holdings of Government securities were reduced over the period.

Security Markets

Prices of common stocks rose sharply in the last half of March and the third week of April. Trading in the New York stock exchange was more active. Prices of corporate bonds were firmer in the first three weeks of April, and prices of municipal bonds continued to advance.

THE BOARD OF GOVERNORS

Bank Announcements

The Columbia Bank of Ybor City, Tampa, Florida, became a member of the Federal Reserve System on April 16. *For almost* 25 *years it has served this colorful Latin quarter of Tampa. The officers of the bank are A. J. Grimaldi, president; Harry N. Sandler and Henry Scaglione, vice presidents; John Lazzara, vice president and cashier; and Charles P. Alonso, assistant cashier. This bank has capital stock amounting to* $100,000, *surplus and undivided profits to* $136,200, *and deposits to* $5,163,000.