ECONOMIC REVIEW

SE Industrial Investment

Cotton Prices Boost Acreage

Fewer Farms Produce More

Business Loans Up

Farmers Reap Record Cash

Federal Reserve Bank of Atlanta

May/June 1977

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update Is Here

Sixth District Statistics, Debits to Demand Deposit Accounts and District Business Conditions are no longer carried in the **Review.** These features appear in **update,** a new monthly publication.

Small Banks and Monetary Control: Is Fed Membership Important?

by William N. Cox, III

This is the fourth in a series of Federal Reserve Bank of Atlanta Working Papers. Interested parties may have their names placed on a subscription list for future studies in the series.

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FACTS & FICTION

SOUTHEASTERN INDUSTRIAL INVESTMENT

by William D. Toal

Growth of the capital stock of a nation's or region's industrial base is generally regarded as the cornerstone of economic growth. Over the past 25 years, the South has transformed itself from a region of underinvestment to one that now garners a sizable portion of the nation's capital spending.[1] This article sets forth patterns for plant and equipment spending in the Sixth Federal Reserve District's manufacturing sector and contrasts them with national trends.[2] Data limitations allow us to examine only the manufacturing sector. This is an obvious shortcoming because investments in nonmanufacturing industries (i.e., service, trade, transportation, utilities) and in people (i.e., education and on-job training) are also key parts of the total investment picture.

We will state and then examine some conventional views on capital investment in the Southeast. Are the following statements fact or fiction?

1. The lion's share of new capital investment in manufacturing occurs in the South, particularly the Southeast.
2. Until recently, the Southeast's capital spending has been concentrated in labor-intensive industries.
3. Southeastern manufacturing, in general, is more labor-intensive than manufacturing nationally.
4. In specific manufacturing industries, capital spending per worker is higher in the Southeast than it is nationally.

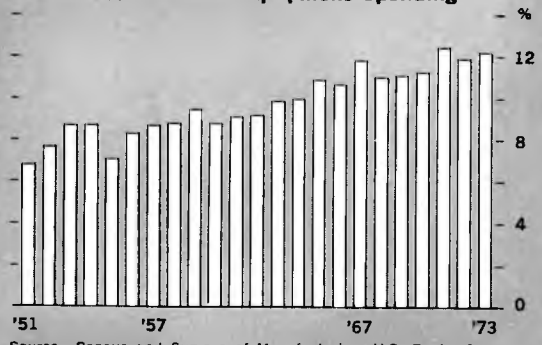
The Southeast's Share of Manufacturing Investment. The Southeast's share of plant and equipment spending in manufacturing has risen steadily over the past two decades. In 1951, plant and equipment spending was $800 million, or 6.8 percent of the nation's manufacturing sector spending. By 1973 (the latest data available), the regional figure was

[1]We look specifically here at those states included in the Sixth Federal Reserve District—Alabama, Florida, Georgia, Louisiana, Mississippi and Tennessee.

[2]The data analyzed here relate to gross plant and equipment spending by manufacturing firms; we call it gross capital spending or gross investment. A problem immediately arises. Gross capital spending relates to both additions and replacements of the capital stock. Because of capital depreciation, the capital spending data used here will overstate the **net** additions to the nation's or region's capital stock. And since depreciation rates may vary among regions, there is no guarantee that a specific amount of gross capital spending will yield the same net additions to the capital stock in different regions. There is little, however, we can do about this problem.

CHART 1

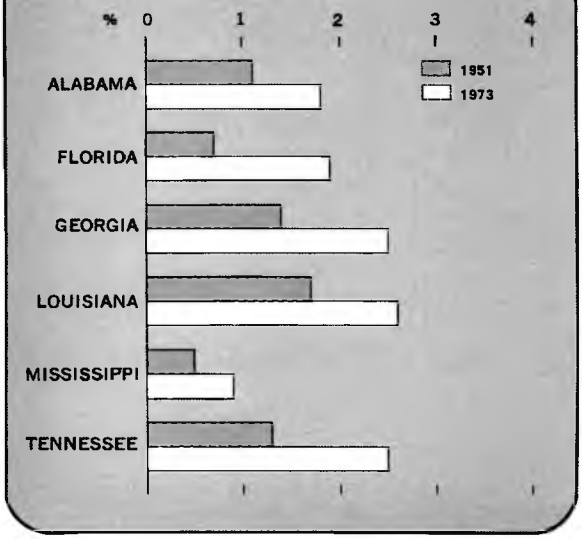
Sixth District States' Share of U.S. Plant and Equipment Spending



Source: Census and Surveys of Manufacturing, U.S. Dept. of Commerce Bureau of the Census.

CHART 2

Percent of U.S. Plant and Equipment Spending for 1951 & 1973



$3.3 billion, or 12.2 percent of the nation's total (see Chart 1). By any objective measure (e.g., population, employment, income), the Southeast's economy has been a larger share of the total national economy than these data indicate. Consequently, we *cannot* say that this region is receiving a disproportionately large share of manufacturing investment. So, statement 1 is fiction. But we can say that in the past there was substantial underinvestment in Southeastern manufacturing.

Does this hold true in all six District states? Each state increased its share of U. S. manufacturing investment between 1951 and 1973 (see Chart 2). In 1973, Georgia, Louisiana and Tennessee each captured over two percent of the nation's manufacturing investment, while Alabama's and Florida's share were just slightly below two percent. Mississippi's manufacturing investment in 1973 was below one percent of national spending.

Capital Spending by Industry. Is most of the Southeast's capital spending in labor-intensive industries? The following facts are misleading because they suggest that it is. Although no more than 12 percent of the nation's capital investment in manufacturing was in the Southeast over the past 25 years, that region accounted for nearly 30 percent of U. S. manufacturing job gains. Actually, while labor intensity in specific industries changes with time and in different geographic areas, the five industries accounting for the bulk of the Southeast's capital spending (see Chart 3) are among the more *capital-intensive* industries. The region's chemical industries, paper manufacturers and food processors over the past 15 years have been the largest spenders on plants and equipment. Each ranks high among capital-intensive manufacturers (see Chart 6). Only the primary metals industry, which is relatively capital-intensive, generally spends more as a fraction of total plant and equipment spending in the entire U. S. than in the Southeast. So, our preconception is wrong; the most capital-intensive industries are investing proportionately large sums in the Southeast.

Capital Intensity of Southeastern Manufacturing. Southeastern manufacturing capital-intensity data provide more unexpected results. In general, this sector is more *capital intensive* than is the nation's. The Southeast's high levels of capital spending by relatively capital-intensive industries have maintained this overall standard. But this is *not* a recent phenomenon. Southeastern manufacturing has been more capital intensive at least since 1957, as Chart 4 shows. Louisiana, with a capital intensity over twice the national level, is the main cause. Its heavily capital-intensive chemical, petroleum and paper industries, the state's largest manufacturers, were attracted primarily because of available natural resources. Alabama also has maintained a greater-than-national figure, partly because of its primary metals industry. Florida's level was unexpectedly higher than the nation's in the 1950s

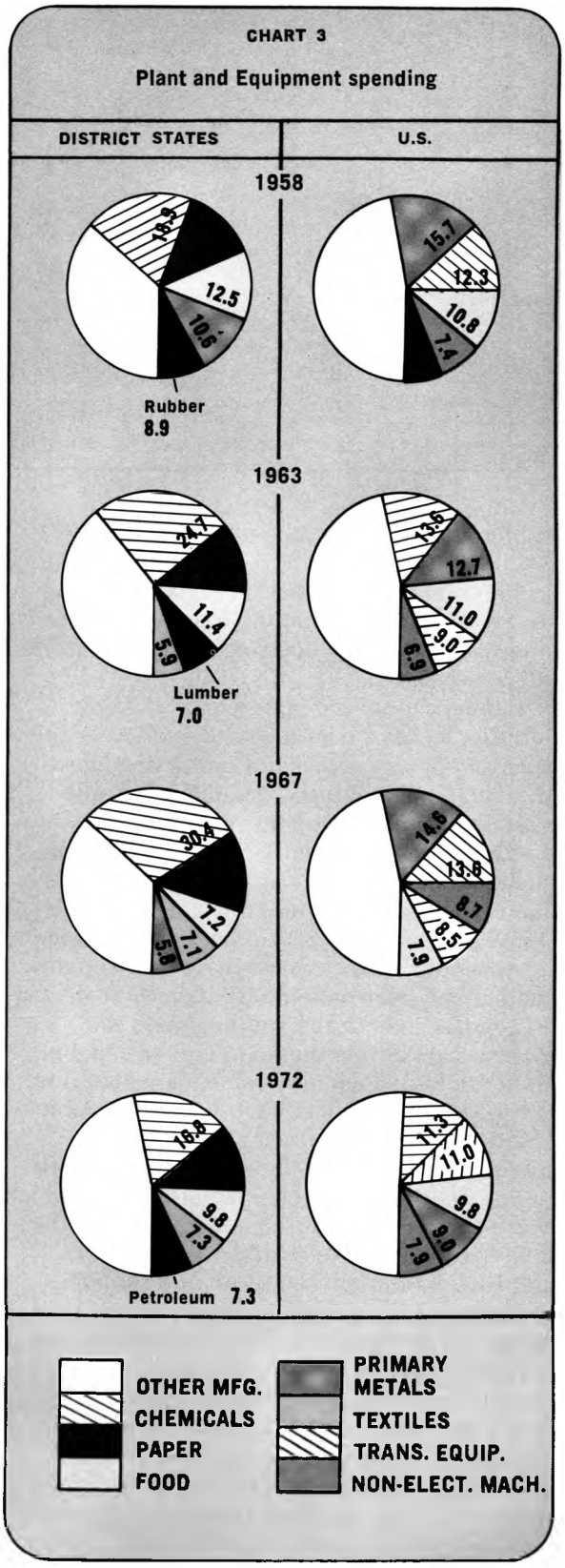
and 1960s, mainly because of the state's food processing, paper and chemical manufacturing. However in 1971, that figure fell below national levels. The other three District states (Georgia, Mississippi, Tennessee) had lower-than-national capital intensities; Georgia's (as of 1971) was the lowest.

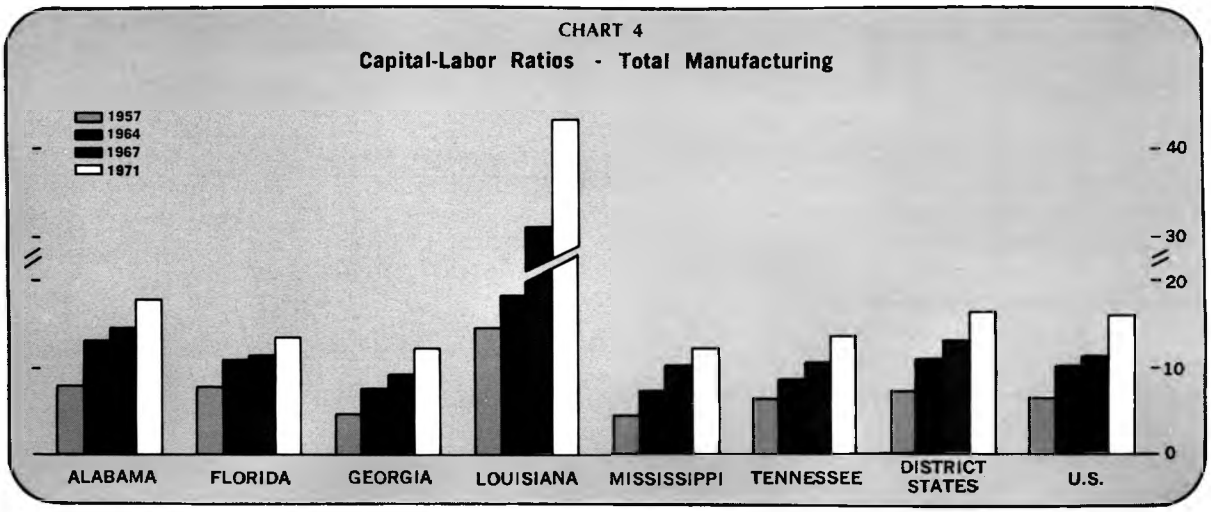
Capital Spending per Worker. Capital-intensity trend indicators can be found in the levels of capital spending per worker over a number of years. The level of capital spending per factory worker in the District's manufacturing sector has been consistently above national levels from 1958 to 1973 (see Chart 5a). So, it is not unusual that manufacturing is more capital intensive here than at the national level.

The figures for capital spending per worker by individual District states from 1958 to 1973 (see Charts 5b through 5g) show patterns that match our previous findings concerning capital intensity. In Louisiana, the spending has consistently been two to three times larger than the national figure. Capital spending per worker in Alabama has been above national levels, except for three years. In Florida, this spending fell below national levels in the late 1960s and is probably why Florida's capital intensity also fell below national levels between 1967 and 1971. Between 1970 and 1973, however, Florida's capital spending per worker once again rose above the national mark, suggesting that Florida manufacturing may again be above national levels in capital intensity.

Georgia's capital intensity may be approaching that of the nation. Between 1958 and 1969, capital spending per worker in Georgia was below the national level; however, since 1969, it has equaled or surpassed the national pace.

Capital Intensity by Industry. So far, we have explained differences in capital intensity and capital spending between the U. S. and the Southeast by citing the importance of the region's different industries. But in specific manufacturing sectors, the degree of capital intensity (capital-labor ratios) and capital spending per worker differ markedly between the Southeast and nation. As of 1964, eight District manufacturing industries out of 20 examined had larger capital-labor ratios than their national counterparts (see Chart 6). Particularly large differences existed in the paper, petroleum refining, chemical and





rubber industries. On the other hand, the Southeast's transportation equipment industry in 1964 was only one-half as capital intensive as it was nationally, and the more capital-intensive tobacco processing plants lie outside the Southeast.

Capital expenditure per worker data by industry let us update the outdated 1964 capital intensity figures shown in Chart 6 (the latest available on an industry detail level). Southeastern nondurable goods manufacturers have had higher capital spending per worker than nationally, as Charts 7a and 7b indicate. This has been true throughout the late 1950s, the 1960s and early 1970s. Southeastern durable goods industries, however, have only roughly maintained near-national levels in this category. In general, in both the Southeast and the nation, capital spending per worker is higher in nondurable than in durable manufacturing, a usually unrecognized fact. And nondurable goods producers, on the average, are more capital intensive than durable goods industries.

Four Southeastern manufacturing areas which were substantially more capital intensive than their national counterparts in 1964—paper, petroleum refining, chemicals and rubber—consistently had greater plant and equipment spending per worker in the Southeast from 1958 through 1973. This suggests that they have maintained their greater capital intensity in the Southeast since 1964. All are classed in the nondurable goods category.

Electrical equipment, printing and publishing, and stone, clay and glass manufacturing were generally above average in plant and equipment spending per worker from 1958 through 1973. All three were slightly more capital intensive than their national counterparts in 1964 and probably were still more capital intensive in the early 1970s.

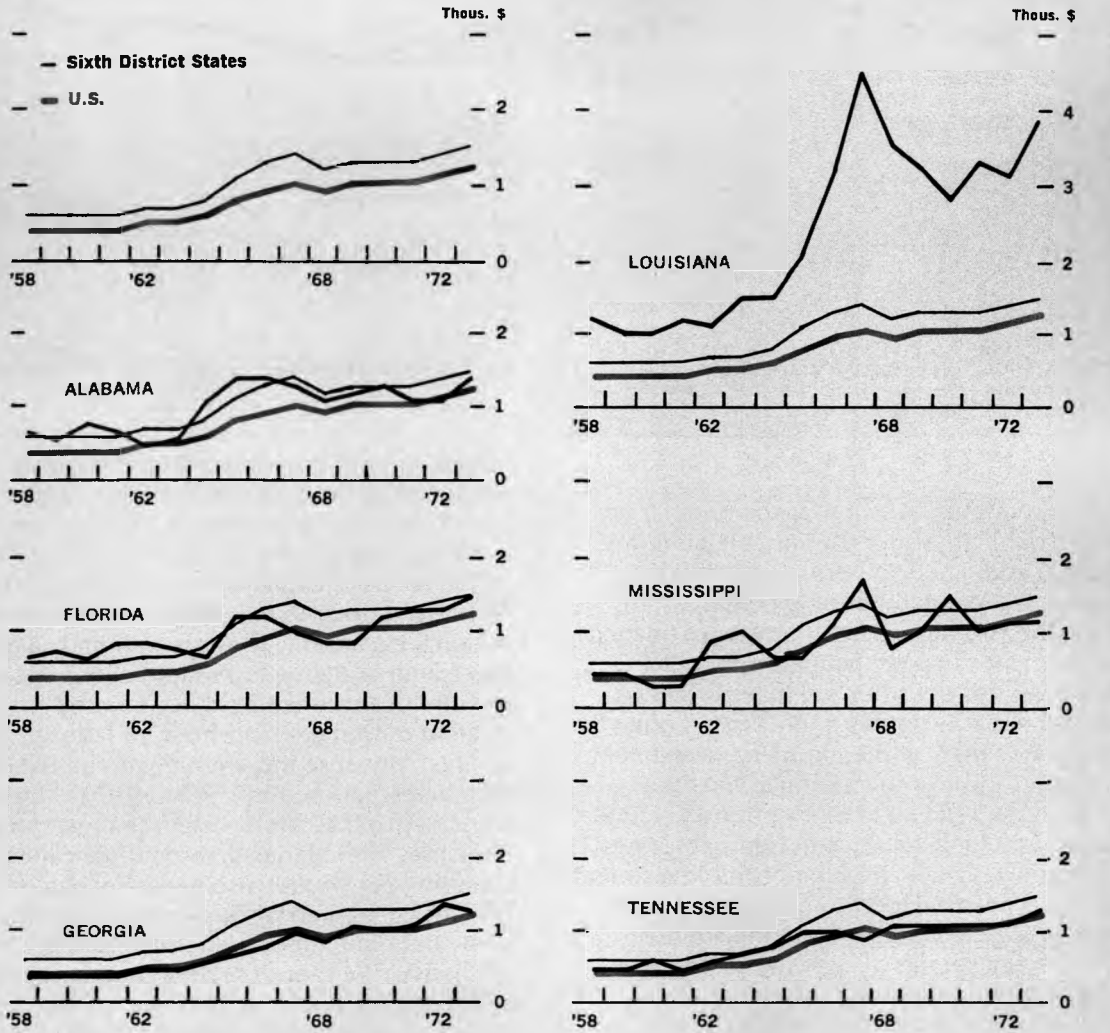
Only one Southeastern manufacturing industry ranking above national levels in capital intensity in 1964 (see Chart 6) has had lower levels of capital spending per worker since then—the primary metals producers. This change suggests that industry in the Southeast is slowly but surely losing its advantage in capital intensity.

Most other Southeastern manufacturing industries maintained approximately the same levels of capital spending per worker from 1958 through 1973 as did the industries nationally. Only makers of transportation equipment and tobacco products in the Southeast had substantially lower capital spending per worker. Both industries also had lower capital intensity in the region back in 1964 (Chart 6) and therefore still do. In all, from 1958 through 1973 seven Southeastern industries maintained higher levels of plant and equipment spending per worker than the same industries nationally. Only two regional manufacturing industries were significantly below national levels.

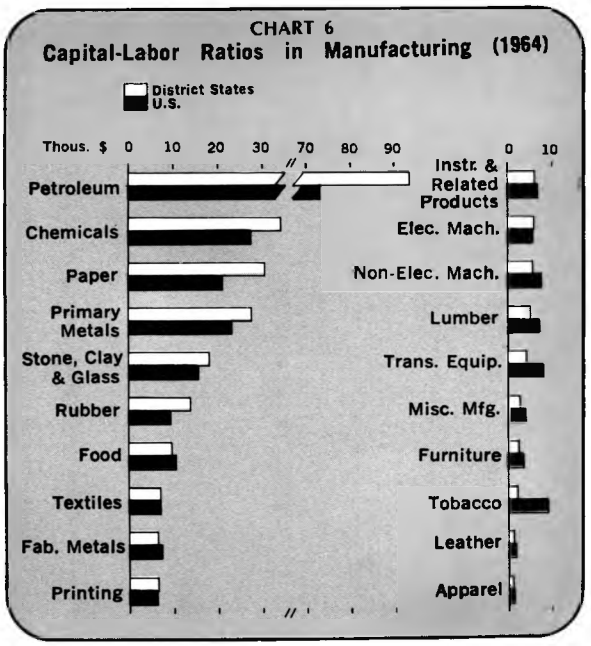
Summary and Conclusion. We have examined conventional views on the Southeast's capital investment and found some to be facts and others fiction. For the most part, we have let the actual data stand alone. They indicate that the Southeast, while underinvested in manufacturing in the past, may now be

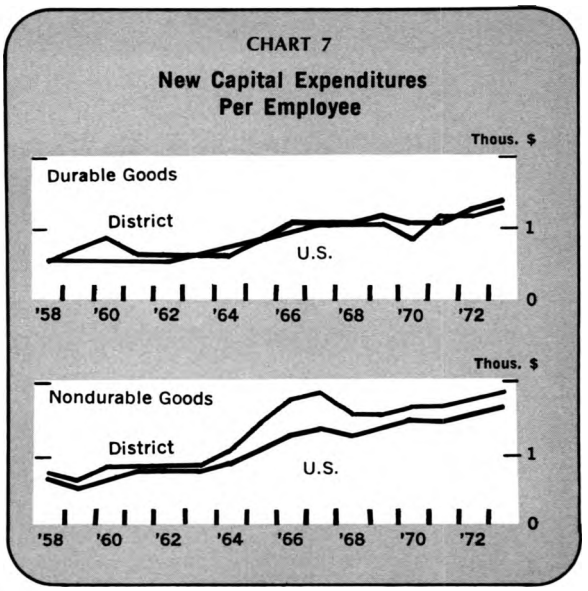
CHART 5

New Capital Expenditures per Employee in All Manufacturing



getting what would be considered as its proportionate share. However, it by no means receives the lion's portion of manufacturing capital investment. Contrary to popular opinion, we have found that much of the region's plant and equipment spending is in capital-intensive manufacturing. Furthermore, the region's manufacturing sector is generally more capital-intensive than the nation's. In several Southeastern manufacturing industries (paper, rubber, petroleum, chemicals), capital investment per worker is considerably above that of their national counterparts.





The perennial question, made popular by recent publicity about the Sunbelt economy, was not addressed. Where are the funds to finance this capital spending coming from? Or, is the Southeast a net importer of financial capital? Since little actual data are available to answer this question, we make only two general remarks on this point. First, though the Southeast's plant and equipment investment, particularly in manufacturing, is near the national scale (relative to the economy's size), available evidence indicates internal savings generation available to finance this investment still trails national levels. This suggests lower per capita personal savings in the Southeast.[3] Also, recent studies of regional commercial banks' participation in lending to Sixth District businesses cast doubt on the region's bank's self-sufficiency for financing business spending.[4] This information, though by no means conclusive, indicates that the Southeast is probably still a *net* importer of financial capital funds to support its capital spending for industrial investments. However, a more thorough examination of this question is certainly needed.

Finally, and possibly most importantly, the higher levels of capital spending per manufacturing worker in the Southeast imply future regional expansion. They are definitely a prime ingredient of the region's rapid economic growth. In a recent article, we pointed out that output per man-hour, or labor productivity, rose more rapidly in the Southeast than in the nation from 1958 to 1972.[5] It is no coincidence that Southeastern manufacturing industries with higher-than-national capital spending per worker also generally had faster rates of increase in labor productivity. New plant and equipment spending increases labor efficiency. We cannot predict that these trends will continue indefinitely. But as the Southeast has gone from a region of gross manufacturing underinvestment to its current position, the higher levels of plant and equipment spending per worker have produced faster-than-national gains in labor productivity and, consequently, a more rapid economic growth pace. ■

[3]Rough data on long-term savings also indicate lower per capita personal savings stocks and flows in the Sixth District. These data are composed of time deposits at commercial banks, savings and loan shares, life insurance equities, and credit union shares. See **Southeastern Statistics,** Federal Reserve Bank of Atlanta, December 1976, pp. 22-23.

[4]See William N. Cox, III, "Two Decades of Regional Participation in U. S. Banking Activities," and Joseph Rossman, "District Business Loan Inflows," this **Review,** March 1976.

[5]William Toal, "Productivity and Change in the Southeast's Manufacturing Sector," this **Review,** September 1976, pp. 118-127.

HIGH COTTON PRICES SPUR MORE PLANTINGS

by Gene D. Sullivan

What is likely to provide the most dramatic change in Southeastern agriculture in 1977? Recent cotton prices give a clue. By the end of 1976, Southeastern farmers were receiving prices averaging nearly 25 percent above the year-ago level and 60 percent above the March 1975 low. Because that elevated price level continued into 1977, most observers expect increased cotton plantings.

This observation prompts the following questions: "What is the basis for such an expectation?" "Do cotton producers usually change production when prices vary?" "If so, by how much?" "Where have the changes occurred?" "Is the response worldwide?"

World Cotton Production. The answers can be found by examining past relationships between cotton production and prices on a worldwide basis. A loose relationship between price and the annual production level shows up in Figure 1, which illustrates world cotton production since 1970 and the average world price for this same period. Cotton production climbed as prices rose from 1970 until 1974, but production fell when the price dropped abruptly in 1975. Both moved up again, but not in proportion, in 1976.

U. S. Ranks Second. Though world production varied from year to year, the changes did not occur uniformly among cotton-growing countries. Of the six leading producers in the world, the United States accounted for a lion's share of production response to changing prices (see Figure 2). And, unless past behavioral patterns change drastically, U. S. growers are likely to determine the majority of change in 1977 world production.

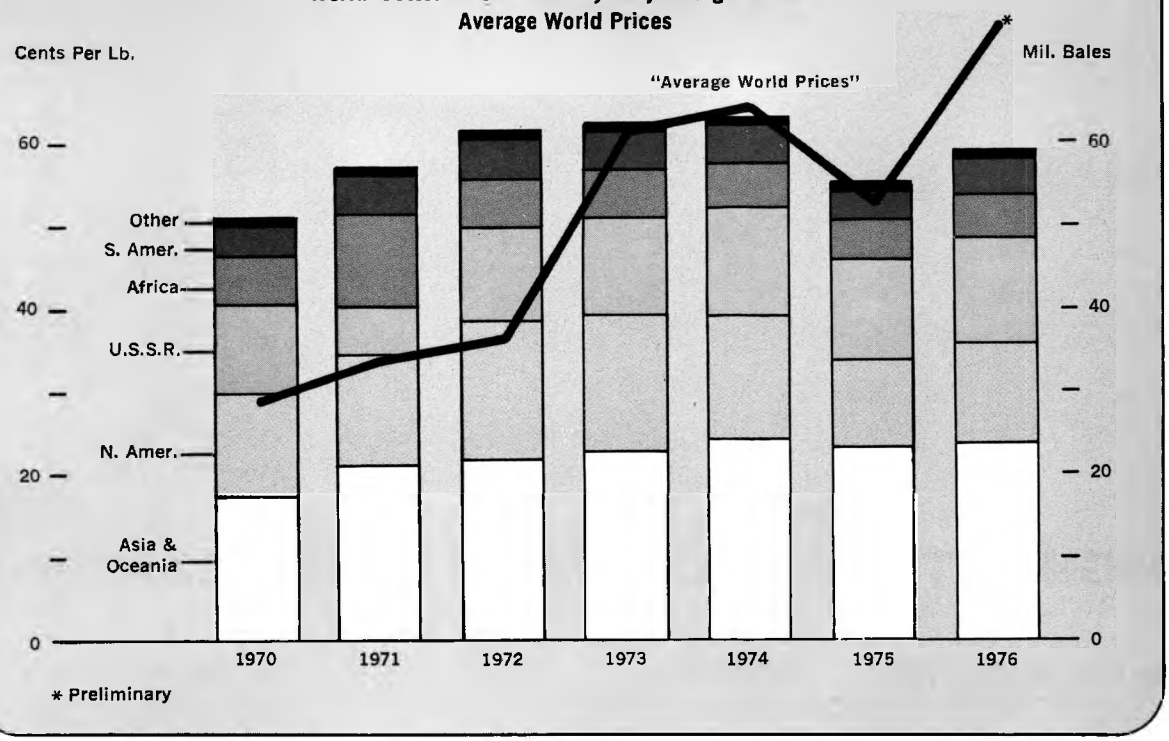
Production-Price Relationship. What do prices tell us about how U. S. producers will respond in 1977? Planted acreage reflects more accurately the farmers' intended level of production than does harvested acreage. The latter often differs from plantings because of environmental factors that cause the abandonment of some acreage as the season progresses.[1]

Planted acreage, at least since 1970, has evidently been more closely related to the annual price during the concurrent year than

[1]The majority of the U. S. cotton crop is planted during April and May. When bad weather either delays planting or makes replanting necessary to obtain a sufficient stand, acreage is often shifted to shorter season crops to avoid the increased susceptibility to frost damage that accompanies a June planting date. May plantings usually have a chance to mature prior to the advent of frosts and freezes in late October.

FIGURE 1

World Cotton Production by Major Regions and Average World Prices



* Preliminary

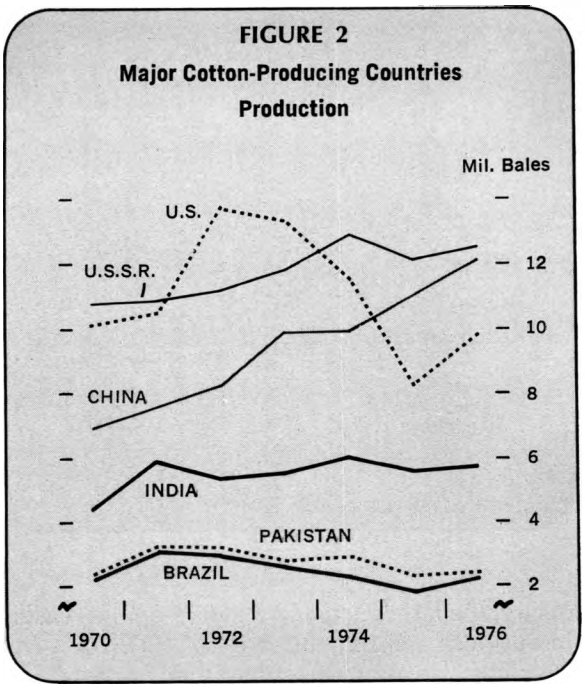
to the prior year's price (see Figure 3). Admittedly, however, that relationship has not been close. An extremely sharp drop in planted acreage accompanied the abrupt downturn in price in 1975. Both price and acreage moved up again in 1976, although acreage did not reach its pre-1975 level.

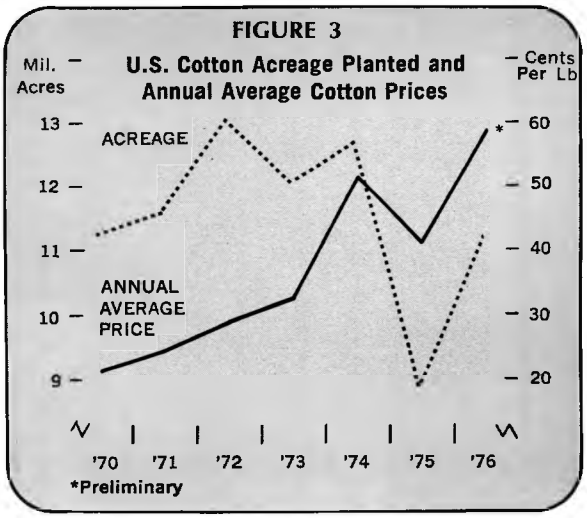
First Quarter's Price Is Key. It seems logical that farmers would be most affected by prices received in some period prior to or during the planting season. A comparison of average prices received during each quarter of the year reveals that the price during the first quarter of the calendar year is most closely related to planted cotton acreage. Movements in first-quarter prices are also more closely related to changes in planted acreage than are changes in annual prices (see Figure 4). Thus, farmers still contemplating cotton plantings for 1977 are probably giving closest study to the prices of cotton in January, February and March.

Return Over Cost Influences Most. In spite of its popularity, price alone should not play a large role in affecting planting decisions. Price rises mean nothing if costs have also risen an offsetting or even greater amount. Production costs have skyrocketed during recent years. The expected return above costs ought to be much more influential than prices on farmers' production decisions.

The relationship between planted acreage and anticipated net return per pound of cotton is shown in Figure 5. Here, net refers to the return over the average variable cost of producing cotton which includes items such as seed, fertilizer, chemicals and labor. The cost of land and other fixed items obviously would exist whether cotton or some alternative crop were produced. Such static costs can be ignored when making production decisions.

The close relationship between changes in anticipated net return and planted acreage is striking. Production costs vary widely, even from one farm to another within the same area, and there are high cost variations between the eastern and western shores of the continent. Yet, deducting an average production cost that must be atypical for many





producers from cotton prices still gives an anticipated net return that has a surprisingly strong correlation to the combined planting decisions of all cotton farmers. Each time this anticipated net return rose, planted acreage also expanded, as Figure 5 clearly demonstrates. Plantings fell each time the net declined.

Because cost is an average of such a wide range, it is incorrect to assume that all producers anticipated a loss in the years when the net was a negative number. Also, government payments to cotton producers, which were not included in these calculations, provided substantial returns to growers during the early portion of this period.

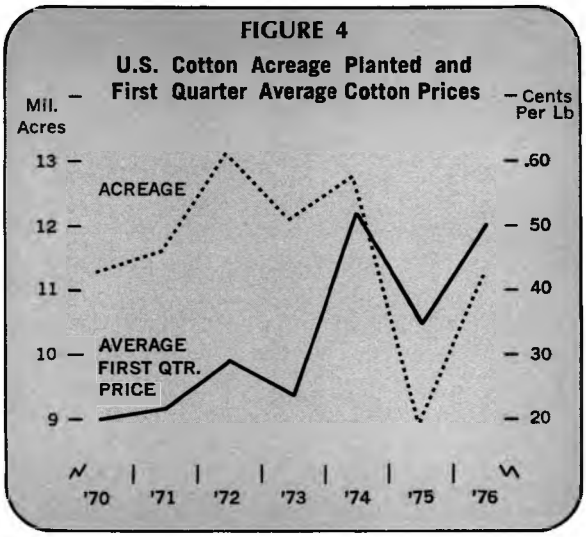
Anticipated Return Forecasts 1977 Acreage. If the observed relationship continues, what can we tell about 1977 cotton production? In December, farmers received an average of 63 cents per pound for cotton. Anticipated net return at that price would be about 19 cents per pound. Planted acreage would rise to about 13.0 million acres to match that level of return. Preliminary data show that farmers received an average price of 64 cents per pound during 1977's first quarter. The gain of one cent in projected net return would raise indicated plantings to about 13.1 million acres.

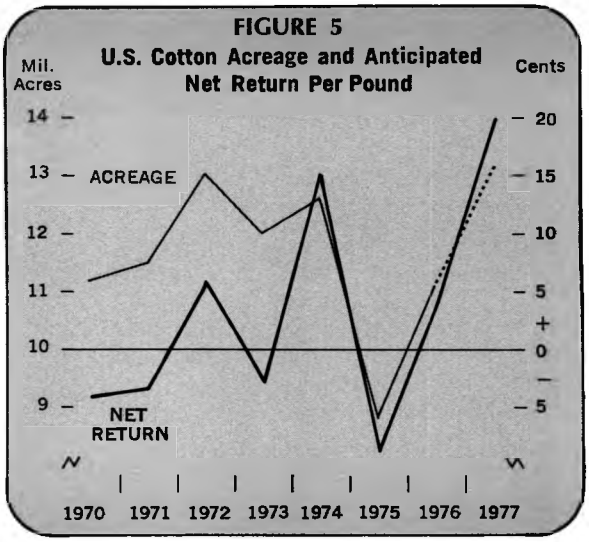
As definite as that projection seems, the final word on cotton production levels undoubtedly is influenced by still other factors. Weather conditions can alter planting decisions at the last minute. In addition, farmers can grow other crops, and prospective returns from those enterprises must also weigh on farmers' cotton planting decisions.[2]

Cotton vs. Alternative Crops. The appendix table compares projected returns from cotton with four alternative crops in the Southeast. Yields per acre are actual averages attained over the past three years in the six District states. Yields are multiplied by the most recent average prices received by farmers to obtain the anticipated gross return per acre for each crop. By subtracting variable costs per acre published either by the U. S. Department of Agriculture or other public sources, a rough indication of the anticipated net return is derived for each crop.

At the first quarter's average prices with yields as shown, cotton is the best alternative to soybean production in the Southeast. However, cotton farmers have experienced back-to-back weather problems that have sharply reduced yields in two of the past three years. The three-year average yield is probably below most growers' production expectations. With favorable weather in 1977, the average

[2]The survey of planting intentions released in January showed that farmers intended to plant 12.8 million acres of cotton in 1977. In the subsequent April survey, intentions were revised upward to 13.7 million acres. Nearly all of that revision occurred in states outside the Southeast. Planned acreages of cotton and other selected crops are shown in tabular form in the appendix following this article.





yield could easily increase by 100 pounds per acre, adding another $66 to indicated returns. Cotton would then be a clearly superior alternative to the four other crops. Should cotton prices fall during planting time while soybean prices continued to rise, the advantage of soybeans would be strengthened; cotton acreage might be diverted to soybean production. An unfavorable planting season for cotton would accentuate the move to soybeans.

In either event, both cotton and soybeans are obviously superior alternatives to the average net calculated for corn, grain sorghum and rice. It seems reasonable to expect acreage might be drawn away from all three crops to expand both cotton and soybean production in the Southeast during 1977.

Economic Impacts. A large increase in planted cotton acreage will have a sizable impact throughout the cotton belt. The table on page 73 shows that cotton is a relatively expensive crop to produce; of the five crops shown, only rice has higher per acre variable costs. So, a 1.5 million-acre increase of cotton at variable costs of $207 per acre would generate added cotton production spending of about $310 million in 1977. That would not be entirely net gain, of course, because increased cotton acreage would reduce expenditures for producing other crops. But cotton requires many specialized inputs not utilized by other enterprises. To firms that supply inputs to the cotton industry, the larger acreage means a net increase in business. Figuring the share of the Sixth District states at one-fourth of the U. S. total, cotton production expenditures of District farmers should rise by about $77 million this year.

The added gross income from cotton production would have another effect. Cotton is one of the more valuable crops grown on a large scale in the United States. An additional 1.5 million acres multiplied by 450 pounds, the most recent three-year average yield per acre for the U. S., amounts to 675 million pounds of added cotton expected in 1977. By rounding anticipated prices of growers to 65 cents per pound (a price that has frequently been available to growers who have contracted for future delivery), added revenue for the 1977 crop would be nearly $440 million. However, if the price should decline to 50 cents during the harvest season and growers have not sold in advance, the added revenue would then be less than $340 million. The one-fourth share for the District states would range from over $110 million at high price to less than $85 million at the lower 50-cents-per-pound price.

Summary. Relatively high cotton prices during the 1977 preplanting season virtually guarantee increased cotton plantings. Conservative estimates place the jump at nearly 1.5 million acres. Plantings could be substantially higher if soybean prices weaken

relative to cotton and if there is favorable weather during the cotton planting season. The anticipated increase would generate nearly $310 million of additional expenditures in producing the 1977 crop. Much of that would be net gain in business for supply firms because cotton uses many specialized inputs and is more expensive to produce than most crops it is expected to replace. The added revenue for farmers from increased production in 1977 at recent price levels could easily reach $440 million. The economies of all areas sharing the 1977 increase in cotton production will feel a business upsurge. That impact will undoubtedly be magnified for lending agencies supplying financing all along the cotton production and marketing chain. ■

APPENDIX

PROJECTED RETURNS OVER VARIABLE COSTS FOR CROP FARMERS IN SIXTH DISTRICT STATES, 1977

	3-Year Average Yield[1]	Farmers' Projected Price[2]	Anticipated Gross Return[3]	Variable Cost	Indicated "Net" Return[4]
	(per acre)	($ per unit)	($/acre)	($/acre)	($/acre)
Cotton	420 lbs. lint	.66	277	207	70
Corn	55.3 bu.	2.52	139	122	17
Soybeans	22.6 bu.	7.23	163	81	82
Grain Sorghum	21.0 cwt.	3.51	74	83	−11
Rice	38.4 cwt.	6.81	262	231	31

[1]Average of yields in District states 1974, 1975 and 1976.
[2]Average of prices received by District farmers in the first quarter of 1977.
[3]Projected price times 3-year average yield.
[4]The result of deducting only variable costs from anticipated gross return. Fixed costs are not deducted.

SUMMARY OF INTENDED PLANTING CHANGES, 1977

	Miss.	Tenn.	La.	Ga.	Fla.	Ala.	Total Sixth District States	United States
				1,000 Acres				
Cotton	−110	−95	30	30	2	0	−143	2,005
Rice	−45		−90				−135	−349
Soybeans	315	280	250	280	54	350	1,529	5,351
Sorghum	−10	−5	−12	−25		−15	−67	−2,139
Oats	10	−2	1	−50	0	5	−36	617
Rye & Barley		−2		15			13	1,637
Corn	35	10	0	0	69	20	134	−198
Total	195	186	179	250	125	360	1,295	6,924

Sources: **Prospective Plantings,** April 1977, and **Winter Wheat & Rye Seedings,** December 1976, Crop Reporting Board, SRS, USDA.

COTTON

State	Area Planted 1975	1976	Indicated 1977	1977/1976
		(1,000 Acres)		(Percent)
Alabama	400.0	480.0	480.0	100
Florida	4.0	7.4	9.0	122
Georgia	165.0	250.0	280.0	112
Louisiana	320.0	570.0	600.0	105
Mississippi	1,140.0	1,560.0	1,450.0	93
Tennessee	335.0	420.0	325.0	77
Total Sixth District States	2,364.0	3,287.4	3,144.0	95.6
Total U. S.	9,492.6	11,684.2	13,689.1	117.2

SOYBEANS

Alabama	1,350	1,250	1,600	128
Florida	305	271	325	120
Georgia	1,290	970	1,250	129
Louisiana	2,000	2,150	2,400	112
Mississippi	3,230	3,335	3,650	109
Tennessee	1,950	1,920	2,200	115
Total Sixth District States	10,125	9,896	11,425	115.5
Total U. S.	54,732	50,327	55,678	110.6

CORN

Alabama	750	880	900	102
Florida	464	571	640	112
Georgia	2,020	2,300	2,300	100
Louisiana	80	110	110	100
Mississippi	195	240	275	115
Tennessee	780	890	900	101
Total Sixth District States	4,289	4,991	5,125	102.7
Total U. S.	78,166	84,121	83,923	99.8

RICE

Louisiana	660	570	480	84
Mississippi	175	145	100	69
Total Sixth District States	835	715	580	81.1
Total U. S.	2,818	2,510	2,161	86.1

GRAIN SORGHUM

Alabama	80	80	65	81
Georgia	80	85	60	71
Louisiana	41	50	38	76
Mississippi	75	75	65	87
Tennessee	51	45	40	89
Total Sixth District States	327	335	268	80.0
Total U. S.	18,345	18,639	16,500	88.5

Source: **Prospective Plantings,** April 1977, Crop Reporting Board, SRS, USDA.

SIZE, VALUE CLIMB

FEWER FARMS PRODUCE MORE

by Gene D. Sullivan and Cheryl Odom

The number of farms in the Southeast has dropped rapidly since 1969, according to the Census of Agriculture. But existing farms are larger, more productive and more valuable than in 1969.

In the six states that make up the Sixth Federal Reserve District, the number of farms fell by more than 62,000 (15 percent) between the 1969 and 1974 Censuses of Agriculture.[1] This downward trend also was registered in the rest of the South and throughout the nation.

U. S. Census of Agriculture figures show that farms range in size from less than 10 acres to over 2,000 acres. Most of the drop in District farm numbers since 1969 has been in the category of farms between 50 to 179 acres, which also has the largest share of the total number of farms. Larger farms (2,000 acres or more) have increased both in number and percent of the total.

Changes in the number of farms by size have varied widely in the individual District states, as noted in Table 1. The smallest farms increased dramatically in Florida. Georgia and Louisiana also experienced unusual growth, while Mississippi and Tennessee had sharp declines. Figure 1 shows percentage changes in farm numbers by size of farm for the District states, compared with the U. S. Although the pattern of change was similar in all size categories, the combined District states either experienced a larger percentage reduction or grew more slowly in each category than did the nation as a whole.

Farm enlargement was widespread throughout the District and the U. S. during the past decade. The largest gains in the average farm size were in Louisiana and Mississippi, where growth was 36 percent and 18 percent, respectively (see Table 2). Enlargement often permits more efficient use of fixed capital and labor, resulting in lower average costs per acre for the total farm operation.

[1]The Sixth District includes all of Alabama, Florida and Georgia and parts of Louisiana, Mississippi and Tennessee.

TABLE 1
NUMBER OF FARMS BY SIZE

	1974	1969	Percent Change	1974	1969	Percent Change	1974	1969	Percent Change
		ALABAMA			FLORIDA			GEORGIA	
Under 10 Acres	3,862	3,711	+ 4.1	5,483	3,921	+39.8	3,614	3,309	+ 9.2
10—49 Acres	17,910	21,439	−16.5	12,095	12,413	− 2.6	12,850	13,737	− 6.5
50—179 Acres	24,107	29,610	−18.6	9,209	10,232	−10.0	23,157	27,760	−16.6
180—499 Acres	9,990	12,379	−19.3	4,649	5,168	−10.0	12,455	15,638	−20.4
500—999 Acres	2,934	3,374	−13.0	1,674	1,869	−10.4	3,905	4,546	−14.1
1000—1999 Acres	1,308	1,349	− 3.0	813	921	−11.7	1,705	1,748	− 2.5
2000 Acres & Over	645	629	+ 2.5	1,014	1,062	− 4.5	727	693	+ 4.9
TOTAL	60,756	72,491	−16.2	34,937	35,586	− 1.8	58,413	67,431	−13.4
		LOUISIANA			MISSISSIPPI			TENNESSEE	
Under 10 Acres	2,285	2,033	+12.4	2,381	2,842	−16.2	9,321	10,469	−11.0
10—49 Acres	10,779	13,610	−20.8	12,677	17,060	−25.7	29,597	35,117	−15.7
50—179 Acres	12,048	14,837	−18.8	24,901	32,330	−23.0	43,997	53,177	−17.3
180—499 Acres	6,137	7,359	−16.6	11,242	13,814	−18.6	15,599	18,592	−16 1
500—999 Acres	2,389	2,709	−11.8	3,392	3,773	−10.1	2,860	3,122	− 8.4
1000—1999 Acres	1,239	1,185	+ 4.6	1,859	1,864	− 0.3	854	717	+19.1
2000 Acres & Over	589	536	+ 9.9	923	894	+ 3.2	246	212	+16.0
TOTAL	35,466	42,269	−16.1	57,375	72,577	−20.9	102,474	121,406	−15.6

Source: USDA, 1974 Census of Agriculture

Two examples of recent changes in farmland productivity are average yields obtained from corn and soybean acreage. Corn yields in both the U. S. and District have more than doubled since 1949. Soybean yields, while growing less spectacularly, increased by 40 percent during the same time.

Brisk gains in output per acre and rapidly rising product prices reinforced farmers' strong incentives to acquire more land. Farm enlargement was the primary motivation given in 50 to 60 percent of all farm tract purchases during the last six years. So, farmers' efforts to obtain larger tracts of land have been a basic factor affecting changes in land values since the early 1950s.

Farmland values (a major component of farm assets) have risen rapidly during the 1970s, both in the U. S. and in the District (see Table 3), with the sharpest annual rise occurring in 1974. The 26-percent average increase rate for the District from 1973 to 1974 varied widely from state to state; the largest gains recorded were in Georgia (up 32 percent) and Florida (up 28 percent). Farm owners use these appreciations frequently to borrow additional money for farm operations.

The growing trends of substituting capital

TABLE 2
AVERAGE SIZE OF FARMS
(Acres)

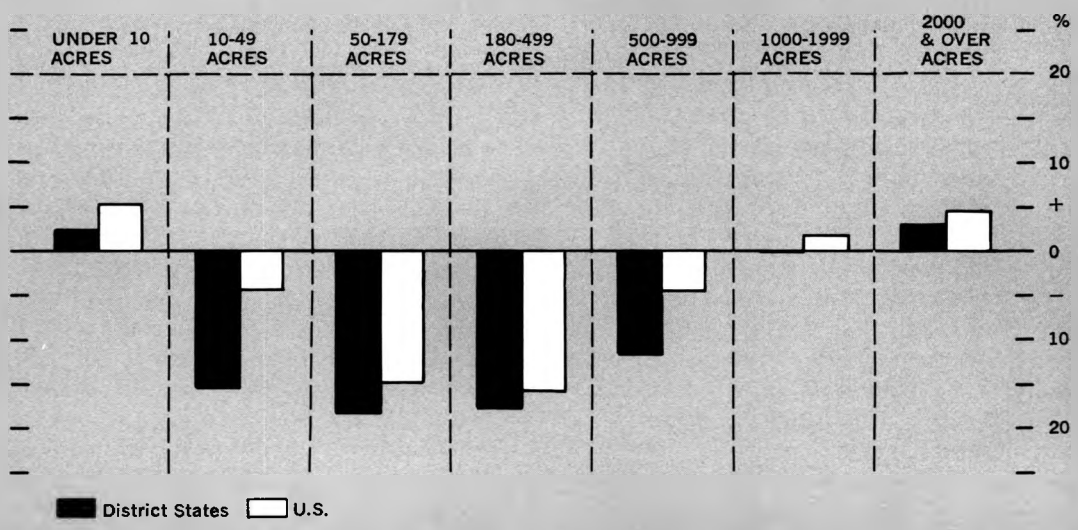
	YEAR	ALA.	FLA.	GA.	LA.	MISS.	TENN.	SIXTH DISTRICT	U. S.
	1966	165	385	223	190	173	115	183	348
	1969	176	395	226	227	193	119	195	369
	1974	187	426	227	246	202	123	203	384
	1977[1]	188	431	243	259	205	124	208	393
Percent Change	'77/'66	+13.9	+11.9	+9.0	+36.3	+18.5	+7.8	+13.7	+12.9

[1]Preliminary

Source: Statistical Reporting Service, USDA

FIGURE 1

Percentage Change in the Number of Farms, by Size (1974/1969)



for labor and adopting new technology have increased demands for more capital. Farmers have had to use credit to meet these capital requirements, and their ever-growing credit need has boosted the farm lending business in size and importance. This development has contributed significantly to the growth of a more efficient agriculture and, in turn, to economic progress. ■

FIGURE 2

Gains in Crop Yields Demonstrate Growth in Farm Productivity

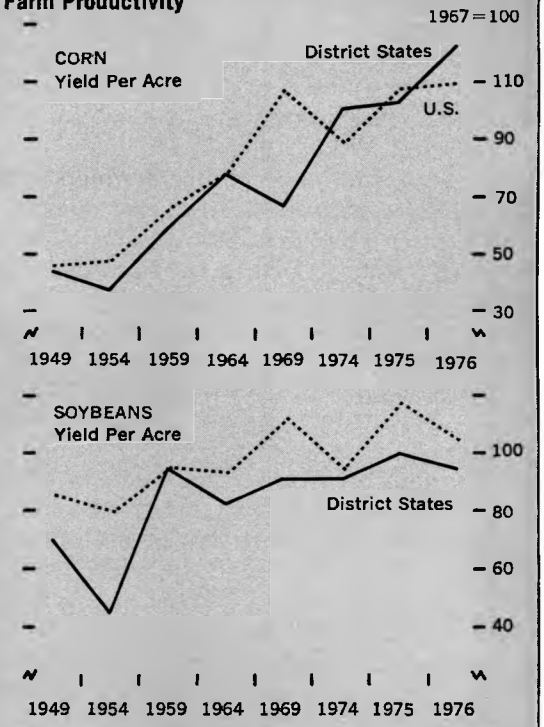


TABLE 3
FARM REAL ESTATE VALUES
(Average Per Acre)

Year	Sixth District States	Change Year Ago	United States	Change Year Ago
	$	%	$	%
1970	243	5.6	195	2.6
1971	262	7.8	202	3.4
1972	281	7.3	218	7.9
1973	317	12.8	245	12.4
1974	399	25.9	303	23.7
1975	449	12.5	343	13.2
1976	470	4.7	390	13.7
1977*	544	15.7	456	16.9

*As of February 1. Prior years are as of March 1.

BUSINESS BORROWING RECOVERS

Since late summer of 1976, commercial and industrial business borrowing from the District's largest banks has increased. Because business loan demand typically lags behind business activity changes, and the region's economic recovery began in the spring of 1975, the business loan demand pickup has been expected. Furthermore, these loans now exceed the peak reached over two and one-half years ago. The current loan growth is broad, involving different categories of business customers, and has been occurring throughout the District. A similar pattern is apparent in other parts of the nation, although the District's growth has been one and one-half times more rapid. This current expansion carries important implications for future bank earnings.

The Decline. In autumn 1974, business loans peaked at $4.8 billion at the 32 largest District banks following a five-year expansion. Then, during the next eight months, these loans tumbled $500 million, down over 15 percent on an annual basis. The large banks in Georgia, Tennessee and Florida bore the brunt of the drop.

The Trough. From mid-1975 through autumn 1976, business loans advanced only slightly. However, there were noticeable changes in loans to various industries. For example, loans to nondurable goods manufacturers, mining (including crude petroleum, natural gas firms and other extractive industries), trade firms and foreign business customers posted sizable gains. These advances, however, were offset as durable goods manufacturers, transportation, communication and other public utilities and contractors continued to reduce bank line utilization. Contractors repaid loans as they completed their projects, and few new loans were booked because of the region's widespread depressed real estate market. Loans to many of these firms continued to decline as they turned to the capital markets for long-term financing to enable them to restructure borrowings away from short-term bank loans.

The Expansion. Since last autumn, District business loans have been increasing at about a 23-percent annual rate. The strongest advances have been in Louisiana, Alabama, Georgia and Tennessee.

Nearly all categories of business borrowers at the 23 largest banks upped their usage of bank credit lines during the most recent six-month period. By far, the service firms showed the strongest rate of increase. Despite the recent borrowing upswing by service firms, total loans are still below the previous peak.

Wholesale and retail trade firms combined have accounted for nearly one-quarter of the dollar rise in business loans since September. Borrowings by wholesalers have tended to advance more than retail trade borrowings in the last six months.

Bank borrowings by trade firms generally are closely tied to changes in the economy, and while they decline sharply during a recession, they rebound quickly. Retailers' increase in borrowings, however, has been particularly noticeable since their September 1975 low. Retail trade loans have advanced $101 million, up about 30 percent.

Borrowings by nondurable goods manufacturers have continued to make above-average advances in the last six months. Chemical and rubber producers and textile and apparel goods manufacturers have led the way recently. Loans to nondurable goods manufacturers have made strong gains since the mid-1975 low.

Durable goods manufacturers' borrowings, however, exhibited a weaker pattern. These manufacturers continued repaying bank loans through late 1976 but have expanded these loans rapidly since then. This recent loan demand has centered around machinery, primary metals and "other" fabricated metals producers.

Lending to firms connected with mining and other extractive industries declined only slightly early in the recession. Since then, they have increased nearly 75 percent. Nearly half of

the recent expansion has involved term loans, which mature in over a year. This loan demand has accounted for much of the overall lending strength at the Alabama banks.

Loans to foreign businesses declined slightly in recent months as domestic demand has recovered. With weak domestic business loan demand throughout most of the last two years, however, banks greatly expanded foreign business lending until late 1976. In fact, during the last two years, foreign business loans nearly doubled.

An improving economy—and its expected continuation—has resulted in increased bank loan demand from most business sectors. This trend is likely to continue, although it may be uneven at times as different sectors experience variations in bank credit needs.

Strength in commercial and industrial loan demand—the bread-and-butter business of large banks—probably will produce significant earning improvements for many banks. With the current prime rate (in early May) of 6¼ percent, business loans offer an attractive return, compared to other short-term investments. Furthermore, the "average" business loan now carries a somewhat higher interest rate of about 7¼ percent. And since most business loans mature in much less than a year and float with changes in the prime rate, banks will not be locked into low-yielding credits should interest rates advance. The increased loan demand offers banks the ability to expand profitable earning assets now, without foregoing other lending opportunities in the future. ■

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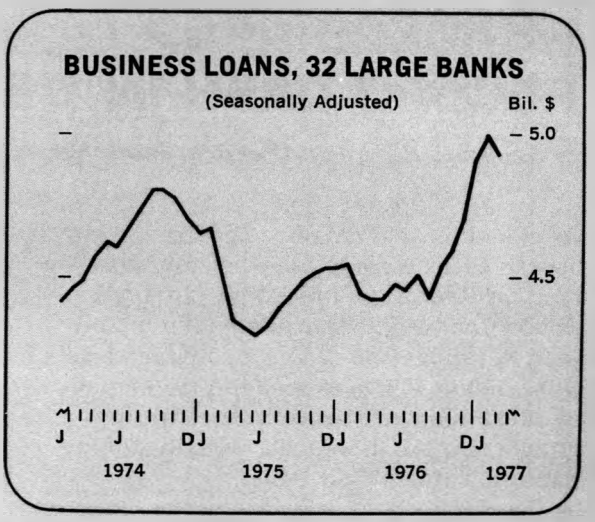

COMMERCIAL AND INDUSTRIAL LOANS BY INDUSTRY AT 23 LARGE BANKS
($ Millions)

	Total Outstanding October 1974	Change From October 1974 to June 1975	Change From June 1975 to September 1976	Change From September 1976 to March 1977
Durable Goods Manufacturing	487	+ 12	− 92	+30
Primary Metals	32	+ 9	+ 12	+10
Machinery	110	− 15	− 13	+15
Transportation Equipment	108	+ 9	− 50	+ 3
Other Fabricated Metal Products	88	+ 3	− 22	+10
Other Durable Goods	149	+ 6	− 19	− 8
Nondurable Goods Manufacturing	607	− 62	+146	+55
Foods, Liquor and Tobacco	153	− 36	+ 29	− 2
Textile, Apparel and Leather	266	− 20	+ 78	+15
Petroleum Refining	41	− 17	+ 4	+ 2
Chemicals and Rubber	61	− 3	+ 16	+16
Other Nondurable Goods	86	+ 14	+ 19	+24
Mining and Extractive Industries	105	+ 17	+ 36	+33
Trade	889	−145	+100	+79
Commodity Dealers	28	− 1	+ 20	+ 1
Other Wholesale	419	− 50	+ 10	+47
Retail	442	− 94	+ 70	+31
Transportation, Communication and Other Public Utilities	501	− 22	− 68	−14
Transportation	312	− 2	− 28	−18
Communication	56	− 16	− 13	+ 8
Other Public Utilities	132	− 4	− 27	−18
Construction Firms	503	− 75	−130	+12
Service Firms	704	−148	+ 12	+68
Foreign Commercial and Industrial Firms	68	+ 12	+ 33	+ 2

Note: Data are adjusted for revisions and structure changes when possible.

FARMERS REAP RECORD CASH IN '76

by Gene D. Sullivan and Patricia Faulkinberry

What kind of year did Sixth District farmers have in 1976? A good one when measured by farm cash receipts—the money farmers received from products marketed during the year. Revenues soared to a record high level of $10.7 billion, which topped the 1975 figure by $1.1 billion, or nearly 12 percent. The growth rate was more than twice that of the nation's farmers (see table).

The difference? Crops. Higher prices for cotton and soybeans stimulated crop receipts in the Southeast as depressed grain prices stunted national receipts. Cash income from livestock grew briskly, both within the District and nationally. The District's slightly greater-than-national percentage gains in livestock receipts reflect its greater poultry industry concentration. High prices for broilers and especially for eggs boosted incomes throughout the year.

Among the District states, Tennessee and Mississippi reported outstanding surges in farm cash receipts; only Georgia's growth lagged the U. S. pace. Though crops and livestock contributed nearly equally to overall District gains, Tennessee was the only state showing such a balance. There were marked differences in the additions to farm revenues from the two sources in other states. Higher prices for cattle and calves fueled significant advances in livestock receipts in Florida, Louisiana and Tennessee. Mississippi, the Southeast's leading producer of soybeans and cotton, led the District with a hefty $231.5-million (nearly one-third) jump in crop receipts. Those commodities also contributed to strong gains in Tennessee and Alabama and enabled Louisiana to overcome disappointing rice and sugarcane receipts as well. Reduced peanut and tobacco production without compensating price hikes explains most of the sluggishness in Georgia's crop receipts.

Preliminary U. S. data for January and February 1977 indicate some improvement in the national crop situation, with a partially offsetting decline in livestock receipts. Prices of most crops other than soybeans and cotton remained below year-ago levels; citrus fruit prices were especially depressed. The impact of the recent freeze and drought on the prices of those crops is expected to boost receipts in subsequent months unless production losses outweigh resulting price increases.

Declines in prices received by farmers for hogs, milk and eggs have dampened national livestock receipts so far in 1977. As the improving weather replenishes grazing crops, forced cattle marketings will decline. But price gains are likely to more than compensate for the volume reduction and cause higher receipts from meat production. This prod from cattle, combined with further weather-induced price hikes in the crop sector, should add another upward kick to U. S. farmers' cash receipts in the first half of 1977. ■

FARM CASH RECEIPTS
Cumulative January-December
($ Millions)

	Livestock			Crops			Total		
	1975	1976	% Change	1975	1976	% Change	1975	1976	% Change
Alabama	839.5	892.1	6.3	545.2	634.6	16.4	1,384.7	1,526.7	10.3
Florida	624.2	724.8	16.1	1,809.1	1,926.5	6.5	2,433.3	2,651.3	9.0
Georgia	1,116.4	1,191.2	6.7	1,102.5	1,119.3	1.5	2,218.9	2,310.5	4.1
Louisiana	313.8	379.8	21.0	769.8	855.0	11.1	1,083.6	1,234.8	14.0
Mississippi	667.0	741.1	11.1	707.7	939.2	32.7	1,374.7	1,680.6	22.3
Tennessee	581.1	697.2	20.0	514.1	621.0	20.8	1,095.2	1,318.2	20.4
District States	4,142.0	4,626.2	11.7	5,448.4	6,095.6	11.9	9,590.4	10,722.1	11.8
U. S.	42,901.7	46,990.8	9.5	46,661.5	47,801.8	2.4	89,563.2	94,792.6	5.8
	1976*	1977*		1976*	1977*		1976*	1977*	
U. S. Only	7,507.6	7,114.7	−5.2	7,200.2	7,993.3	11.0	14,707.8	15,108.0	2.7

*First two months