MONTHLY REVIEW

FEDERAL RESERVE BANK OF ATLANTA

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The Southern Research Institute, Created in Recognition of an Economic Opportunity

A REGION'S economic development is based primarily on its natural resources, its labor, and its capital. The presence of these factors gives private enterprise in the region an opportunity to transform them, in combinations of varying proportions, into economic values. When, as frequently happens, such economic opportunities are not obvious the region's development beyond a limited point then depends on the foresight and vision necessary to recognize them.

Management's function is, first, to see the general opportunity and, next, to convert the vision into reality. In accomplishing this conversion it must consider all possible difficulties and plan for their elimination; measure the new developments in terms of dollars and cents; set up the industrial apparatus; and perform all the organizational and directional work necessary.

A few years ago a group of Southern business leaders saw an economic opportunity that seemed to have been neglected. The numerous and manifold details they had to consider and work out in order to realize that vision illustrate some of the steps required in economic progress in general.

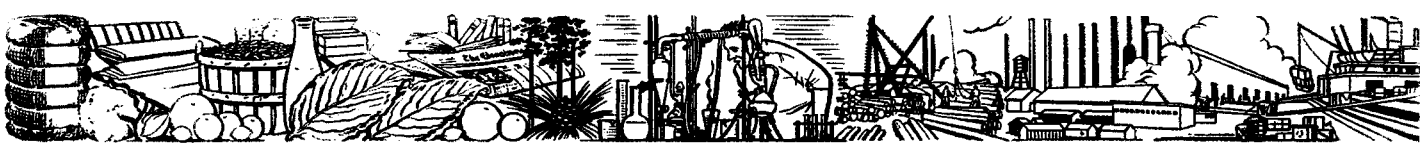
For several years prior to 1940 Dr. George D. Palmer and Dr. Stuart J. Lloyd, both of the University of Alabama, had been directing attention to the aid science could give to the industrial progress of the South. Interest in the possibilities grew, and at a meeting of the Alabama State Chamber of Commerce in that year discussions of the need for such aid and the means by which it could be made available led to the appointment of a special committee. This group was to investigate the feasibility of establishing an industrial research institute in the state. In its report submitted the next year, the committee recommended that the institute be established, stating its belief that "one of the most significant things that science has revealed is the wealth to be found in the common materials that make up our world. In the utilization of such materials, of which Alabama has an abundance, is found the secrets of progress and the power of man over environment. Research reveals these secrets; manufacture puts them to work."

To fill the need revealed by the committee's findings the Alabama Research Institute was incorporated, on August 11, 1941, as a nonprofit organization. While they were organizing the institute and raising its initial fund, the sponsors became convinced that it would be more valuable as an all Southern organization than a state organization. Consequently, the corporation's constitution and by-laws were amended on June 15, 1944, to change the name to the Southern Research Institute. The details of the organizational phases have already been discussed in the *Review*, the September 1944 issue.

At the time of organization the interested business and industrial leaders envisioned the institute as a meeting place for science and industry. It would be a laboratory where a scientific staff would perform research for industry, at only the actual cost to the institute. Through it industries, both large and small, would develop new products from basic materials and would devise improved production and new manufacturing and mechanical processes. Further, the organizers saw great potentialities in a long-term research program, to be carried on by the institute but supported by no one industry, that would prove beneficial to the South as a whole.

Shortly after organization was begun the trustees determined that the institute would study neglected possibilities of improving the South's position through the physical sciences. It was not to perform services ordinarily undertaken by a chamber of commerce, such as promoting local industry, acting as an agent to raise capital, or engaging in market and other economic research. The committee members recognized that, through the institute, private industry could perform a special service for the advancement of the South and of its own interests which could not be accomplished by existing governmental agencies. They therefore decided that the institute should be set up and financed by a pooling of private funds.

The trustees of the institute were confident that research opportunities even greater than those then apparent would unfold. They believed that, offered the chance, Southern industry would, on one hand, be glad to provide the funds for a complete general research program. On the other hand it would welcome an opportunuity to utilize the services of a scientific laboratory for its own specific needs and would readily seize the advantage and apply the benefits of research to its operations. Especially did they believe that small industries unable to afford their own scientific laboratories



would be eager to enter into the plan. And they felt that, offered proper facilities and compensation, scientists themselves would be eager to attack Southern industrial problems.

In April of last year the institute inaugurated its first project for a commercial sponsor. One year of operation has given it an opportunity to test the response of Southern industry and the wisdom of the founders' original vision.

Thomas W. Martin, chairman, is president of the Alabama Power Company. Other officers chosen by the board of trustees include Robert Gregg, president of the Tennessee Coal, Iron, and Railroad Company; George I. Pecaro of the Flintkote Company, Meridian, Mississippi; Robert Strickland, president of the Trust Company of Georgia, Atlanta; and Cecil Woods, president of The Volunteer State Life Insurance Company, Chattanooga. Milton H. Fies, consulting engineer of Birmingham, is treasurer and John A. Maguire, also of Birmingham, is secretary.

In addition to the board of trustees, an advisory council comprising 125 leaders in industry, science, and education throughout the South and other sections has been selected. Sixteen states are represented. Although the majority of the advisory council members are Southerners, membership in the council extends to several Northeastern states. Virtually every type of Southern industry is represented: public utilities; manufacturing — cotton-, tobacco-, and paper-products, lumber, chemicals, and others; petroleum; agriculture; building; transportation; mining; and so forth. Bankers and investment men represent the financial field, and lawyers, doctors, and scientists the professions. Several of the council members are connected with leading educational institutions.

In one respect especially this group of men differs from many committees composed of equally prominent persons. It functions. Mr. Martin, the chairman, has inspired the other men with the enthusiasm he himself feels. But the reason goes further than that. One of the trustees said, "I find interest all over the South. It is seldom that I go any place but that somebody will ask me about it." Another described it by saying, "We have had to combat with people who say we couldn't do it, that we couldn't make good newsprint, that our ores couldn't make good iron, and so on. We are out to combat that impression, and the institute should make it possible for us to do so."

Measured in financial terms, recognition of the opportunity by Southern industry has been real. A little less than two years ago the trustees had secured approximately $400,000. At this time the amount has grown to one of about $850,000, and by the end of July it will probably have reached one million dollars. Initial subscriptions ranged from $25 to $25,000 a year. Basic membership dues are $25 yearly.

Corporation directors have confirmed their belief in the institute by authorizing that corporate funds be appropriated for it. Two substantial contributions, one coming from an anonymous donor, accounted for $200,000 of the total. The Alabama Power Company pledged $125,000. Subscriptions have come not only from Southern industry but from national concerns with branches in the South, and a majority of the railroads entering the region have made contributions. Many of the subscriptions have been anonymous.

Contributions will bring no direct return to the donors. The institute's charter provides that the capital funds shall be used solely for the purchase of land, buildings, and equipment; for the conduct of the institute's own research program; and for the provision of initial operating expenses and contingencies. Research for an individual industry is financed by the firm itself.

The First Year's Progress

Since they received the necessary funds the trustees and director have made rapid progress in acquiring land and buildings. Initially, a large brick residence and land on South 20th Street about a half mile from downtown Birmingham was purchased. This building now contains eight modern laboratories, attractively decorated. Each of them has fluorescent lights; gas, vacuum, air, and steam facilities; and complete scientific equipment. The same building also houses the offices and library. Another building, in the rear of the lot, has been remodeled to provide specifically for metallurgical research. This structure contains a constant-temperature and humidity room and facilities for a limited amount of pilot-plant work. Later additional property was bought in the same block. Present plans call for the early remodeling of some of these buildings for temporary use and the ultimate erection of a modern building to house the institute's entire operations. A one-story commercial building was rented to house the Engineering Research Division. Exclusive of equipment and supplies, the property now held by the institute is valued at more than $150,000. The value of the laboratory, office equipment, furnishings, and other items is in the neighborhood of $125,000.

Research is not carried on by an institution. The work itself is done by trained scientists. The response of such scientists to the opportunity represented by the Southern Research Institute has justified the trustees' original belief. Wilbur A. Lazier, who is regarded as one of America's most distinguished younger scientists in the field of chemistry, accepted the directorship of the institute in August 1944. After receiving his doctorate in chemistry at the University of Wisconsin, Dr. Lazier did research and development work in the DuPont Experimental Station, Wilmington, Delaware, and for some time after 1942 served as consultant to the National Defense Research Committee. In recognition of his services to Southern science he was selected by the Georgia section of the American Chemical Society this spring to receive the Herty Award. The award is presented each year at the Georgia State College for Women in Milledgeville, Georgia, the birthplace of Charles H. Herty who laid the basis for utilization of Southern pine in pulp paper.

In response to what Dr. Lazier has termed the "homing instinct" of the Southerner, many scientists have returned to the South to join the institute's staff. Some of them had obtained their primary training in Southern colleges and after completing their graduate work at Northern institutions entered the laboratories of Northeastern corporations because of the relatively few research openings in this area. At the end of May the roster of the technical personnel at the institute contained 30 names. Among them were the names of 13 chemists with Ph.D. degrees, two with M.S. degrees, and 13 with B.S. degrees. Twenty of the technical staff and all of the administrative staff are Southerners. They have been eager for just such an opportunity as this to attack Southern problems.

A wide range of specialists is represented. Agricultural, physiological, organic, analytical, and cellulose chemists are on the staff. Some of the others are mechanical engineers, electrical engineers, and metallurgists. Dr. E. N. Kemler, recently in charge of mechanical engineering at Purdue University, was chosen in October 1945 to head the newly organized Engineering Research Division.

The institute is now working on approximately 25 projects sponsored by private industrial clients. Trade associations like the National Peanut Council; the Bituminous Research, Incorporated; and the Southeastern Electric Exchange sponsor some of them. Since the relationship between the institute and its sponsors is confidential, the names of several of the sponsoring firms cannot be revealed. Among those authorizing a release of their identity are the Bristol Myers Company of Hillside, New Jersey; Cinderella Foods, Dawson, Georgia; Waterman Steamship Corporation, Mobile, Alabama; Avondale Mills, Sylacauga, Alabama; Osmose Wood Preserving Company, Birmingham; and the Perfection Mattress and Spring Company, Birmingham.

The Sponsorship Method

Prospective sponsors have generally approached the institute with particular problems in mind. Possibly a food manufacturer wishes to improve his products or to develop new products from local raw materials. Perhaps he wants to improve the keeping qualities of his product or to devise new manufacturing methods. Other industrialists have different problems, but they are all seeking the help that scientific research can give them. A prospective sponsor discusses his problems with the director and the specialists in the particular field that appears to offer the most promising results for their investigations. After special and general objectives are set up for the project, the sponsor enters into a contract with the institute.

The sponsor agrees to pay the salary of the project director and his assistants, a prorated part of the institute's overhead, travel expenses, and any other expenses that are directly connected with the job. In return he has the use of the institute's capital equipment free of charge. The cost of the project depends upon the nature of the problem, but contracts have been made for as low as $200. In October 1945, only seven months after it began to operate, the institute became self-supporting on the basis of sponsored projects. Contracts amounting to more than $300,000 for private research have now been made by the institute and its sponsors.

Safeguards are established to insure that the sponsor's funds will be expended solely on his project. One of these is the keeping of a special account for the sponsor. Each month an invoice covering expenses for the project is submitted and the amount transferred from the sponsor's account into the general working fund.

On its part, the institute agrees to maintain a confidential relationship regarding the sponsor's work and the results of the project. All discoveries, inventions, and information derived from the project become the property of the sponsor. In the event patents are required they are obtained at his expense and also become his property. The institute agrees to prepare a technical report at the end of the period or at designated intervals, but the results of the investigation may not be published by the institute without the consent of the sponsor. In practice the institute endeavors to have at no one time more than one project supported by an industry of a similar nature.

It also undertakes projects on a contingency basis. A food manufacturer, for example, might be having difficulty with contamination or a railroad company might be encountering breakdowns in its equipment because of the failure of its materials. In such cases the sponsor engages the services of one or more of the institute's staff to solve that particular problem and agrees to pay whatever costs are necessary.

To the layman the institute's laboratory and technical apparatus may appear strange and bewildering. But when he notices the products and raw materials with which the chemists are working, he feels, if he is a Southerner, that he is on familiar ground. In one laboratory he may see peanuts in various forms. In one he will find tobacco and an ingenious device that smokes cigarettes. The tangy smell of oranges, in great contrast to the odors that are generally encountered in a chemical laboratory, greet him in another room. He also finds cotton, coal, and many of the other Southern raw materials in still other parts of the building.

This collection of materials attests the wide range of investigations made during the past year. Peanut foods, tobacco, essential oils, citrus by-products, cotton textiles, paper products, sleep equipment, marine gear, gray-iron castings, cement, domestic-heating and air-conditioning equipment, synthetic drugs, and dairy products and the fields of oil exploration and wood preserving have all shared in the study and experimentation. In each case the aim has been to eliminate waste, find substitutes, and develop quality and diversified products—in short, to make possible a greater dollar-and-cent return to the sponsor and at the same time improve Southern conditions.

Most of the interesting results obtained by the institute's investigations come from work of a confidential nature. The result of one project, however, was reported before the American Chemical Society at its meeting this spring. The medical profession had developed an effective ointment for the cleaning away of dead tissue from burns. In that it presented certain practical difficulties this ointment was unsatisfactory. The Committee on Medical Research of the Office of Scientific Research and Development assigned the institute the problem of devising a practical ointment. The institute's staff created a dry powder that could be converted into ointment form in less than one minute by merely adding water. When removed from the burn the ointment took with it all the dead tissue without harming the living tissue. It decreased the average healing time about 50 percent.

Recently the institute released a study prepared under the direction of Louis Wrenshall for the National Peanut Council. Dr. Wrenshall had made a survey of the research status of the peanut industry chiefly for the purpose of determining the present scope of knowledge, the nature of research programs in progress, and the means by which research might be advantageously directed in the future. Pointing out work in which the institute may well participate in the future, the study reveals the work done by other agencies. During the war when olive oil became scarce, for example, peanut oil was developed as a substitute textile lubricant. It was found that if the oil was hydrogenerated, part of it had the required properties. But this oil proved to be less suitable than olive oil for the necessary sulphonation. After numerous trials a product from low-grade peanut oil was developed that was excellent for sulphonation.

Despite the many advantages peanut oil has because of its high nutritive value, its ease of refinement, its low smoke point, and its low tendency to absorb flavors, it cannot be used in some types of food manufacturing. When exposed to refrigerator temperatures, the oil becomes cloudy and eventually semisolid. For that reason untreated peanut oil cannot be used for such products as mayonnaise. The Southern Regional Research Laboratory has developed a process of solvent winterization by which 80 percent of the original peanut oil can be recovered as a product suitable for use in the manufacture

of mayonnaise and salad dressing. Basing their work upon similar investigations by others and upon experiments carried on by the institute itself, the staff has been able to produce surprisingly good results for one of its sponsors.

To the scientist the work accomplished does not appear dramatic. Spectacular work is not primarily what is accomplished by industrial research. To the individual establishment research often means applying already-existing knowledge, modifying such knowledge to meet its needs, determining adaptability to its operations, and setting up controls. It is true that often in the process of attacking a particular problem valuable by-products of research are discovered, leading to further economic opportunities. But merely by utilizing present knowledge Southern industry has much to gain.

Evidently the projects' sponsors believe that the results have been worth while. With very few exceptions they have renewed their contracts and in many instances increased the size of payments and the scope of investigation. Upon the completion of work under a contract of about $3,000, one sponsor expressed his satisfaction with the results by arranging with the institute for a substantially larger project. When the new project had been under way for approximately two months he requested that it in turn be increased.

The Opportunity Ahead

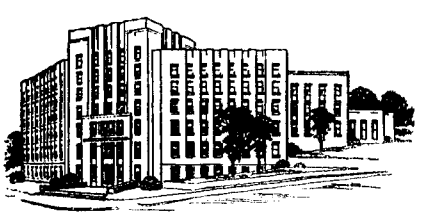
Though business and industry have taken advantage of the chance to improve the economic condition of the region through industrial research, but a small fraction of the potentialities of that opportunity has been utilized. The trustees and director of the institute see so many possibilities that they are convinced much greater progress will be required before the full mission of the institute is accomplished.

To accomplish even a small part of the industrial-research work needed in the South, the trustees believe, will necessitate great expansion of both the institute's equipment and staff. According to present plans, the institute's program will embrace at least six major phases of research: engineering research; foods, drugs, biochemistry, and bacteriology; organic and agricultural chemistry; plastics, finishes, and special products; physics and inorganic, physical, and analytical chemistry; and textile chemistry and technology.

In order to finance the future programs, the trustees believe, additional money sufficient to bring the capital funds up to at least two and a half million dollars must be subscribed. A portion of this fund will be available for financing the unsponsored research program. The remainder will be spent to purchaase additional equipment and erect buildings.

Immediate plans call for the erection of a relatively small building of the factory type to house the engineering-research laboratory. The building will probably be built of various types of the novel, experimental building materials that have been developed lately. It will in fact be an experiment in itself. In addition, the plans call for the remodeling of some of the buildings now standing on the recently acquired property.

As soon as conditions permit, the first unit of a large modern building for housing the entire research work will be erected at the corner of South 20th Street and Humboldt Avenue. The completed building will cost an estimated one and a half million dollars. It will contain the administrative offices, the library, and four floors of laboratory space in which as many as 200 research scientists can work.



Proposed Southern Research Institute building

The assembling of a staff of the caliber now at the institute in a period of only one year is in some ways rather remarkable. The magnitude of the problems facing the South, though, make the staff seem pitifully small. Thousands of industrial establishments need the services of science. The director and officers of the institute recognize these problems and expect to add at least two new researchers to the staff each month until the number reaches perhaps 200. The director of the institute has stated, however, that no one laboratory, even one completely equipped and staffed, can change the situation in such a large area. "But," he added, "it is hoped that by making its facilities and services readily available the Southern Research Institute can make its influence felt and gain a wider acceptance of research by businessmen and industrialists in the South."

"Research Mindedness"

Full utilization of the opportunity science offers industry will, according to Dr. Lazier, require the development of "research mindedness" by businessmen and industrialists. One evidence that some industrialists have that attitude is the number of institute sponsors. But most of them represent industrial firms that had already utilized the services of research and realized its potentialities. Experience has convinced them of its value and given them an understanding of its limitations. If the institute is to perform its primary function, small industries and industries that have never utilized the facilities of research must take advantage of the opportunity offered.

Research mindedness requires a realization that research is a long-range program. Even in an industry that at present seems to be assured of adequate markets and to be free of serious competition, it is often necessary to look years ahead. Investigations into the possibility of creating new products from the industry's basic materials may eventually lead to a means of preserving the corporation or small business when conditions are less favorable. Recent industrial history has given many examples.

Many business and manufacturing enterprises set up financial reserves for contingencies. Anyone familiar with the long-range aspects of industrial research could ask with reason if many firms would not be wise to invest at least a part of that reserve in research as a provision against the day when new competitive products arise, the present source of raw materials disappears or becomes uneconomical, and markets fall off. Though industrial research offers much to the solution of immediate problems, often the results are apparent only after a comparatively long period of time.

Research mindedness also implies a willingness to pay the bill. Good research workers are responsible for the success of any program. Their work is particularly specialized, and their training necessarily expensive. Very few persons start up the long road of training that leads to membership in the scientific and learned professions primarily because they hope to reap large financial rewards. An outstanding scientist cannot, however, perform at top efficiency if he is burdened with a feeling of financial insecurity.

The relative lack of scientific workers in the South is caused partly by a dearth of opportunities for advanced scientific

training in many of the South's universities. The Southern scientist has often had to go to other regions for training. Not only does he have to pay for the direct cost of his education, but during the several years required to receive his degrees he suffers a loss of earnings. The cost of an advanced education cannot be estimated exactly, because of varying circumstances, but certainly it is in thousands of dollars. If the scientist is to return to the South when he completes his training, industry must be willing to share the increase in profits by assuring him an adequate compensation.

The institute's policy has been to pay its research workers on a national scale. Under this policy Southern scientists are eager to attack the South's problems from the standpoint of industrial research. Southern industry has only to provide the opportunity.

Realization by the banker of the importance of industrial research will add another criterion for use in assessing the credit position of the industrial borrower. Many companies have found that a good research program eliminates part of the risk of obsolescence. They have also often found that their new products are the most profitable. Some persons think of research even as depression insurance. It is no panacea, but it is one element that strengthens an industrial organization. The banker by his attitude in analyzing the credit situation of a business and by his support of industrial research materially assists in creating a climate favorable to such a program.

Instituting a Research Program

Perhaps one of the best ways that the head of an industrial firm can start a research program for his business is to bring his problems to an organization like the Southern Research Institute. A sponsored program will place him in a better position to understand the potentialities of research. Quite likely new products, methods, or controls will be developed.

When the results of the sponsored project are applied to his plant, he may become convinced of the necessity for a control laboratory at his plant, since translation of industrial research into practice often involves the institution of quality control. The research institute is prepared to assist such business firms in establishing their own control laboratories. It will help in determining just what type of control laboratory is needed and will assist in securing well-trained personnel. It will even go so far as to recommend members of its staff, provided working conditions and compensation are adequate.

After a certain time the management of such an enterprise may become so convinced of the profitable nature of research that it may wish to set up a program of its own in its own laboratory, as at least 2,500 companies have already done. Here again the institute will assist the management. It will help in planning the program, equipping the laboratory, and securing the personnel. By such means the institute hopes to have an influence much greater than that measured by the size of its own facilities and staff.

The Southern Research Institute was organized in recognition of the opportunity that industrial research presents to the South. During its short period of operation it has opened the way for Southern industry to secure the benefits of research and has pointed out its full possibilities. To the extent that Southern business and industry support and utilize the facilities of the institute and similar organizations, the South may secure an increased income through the avenue of one of its most promising opportunities.

CHARLES T. TAYLOR.

Sixth District Statistics

CONDITION OF 20 MEMBER BANKS IN SELECTED CITIES
(In Thousands of Dollars)

Item	June 19 1946	May 22 1946	June 20 1945	Percent Change June 19, 1946 from: May 22 1946	June 20 1945
Loans and investments—Total	2,144,785	2,214,435	1,941,875	— 3	+ 10
Loans—total	504,761	496,305	352,311	+ 2	+ 43
Commercial, industrial, and agricultural loans	244,564	235,135	180,404	+ 4	+ 36
Loans to brokers and dealers in securities	13,668	11,353	8,669	+ 20	+ 58
Other loans for purchasing and carrying securities	116,711	124,518	59,135	— 6	+ 97
Real estate loans	30,752	28,232	24,659	+ 9	+ 25
Loans to banks	3,571	3,183	2,244	+ 12	+ 59
Other loans	95,495	93,884	77,200	+ 2	+ 24
Investments—total	1,640,024	1,718,130	1,589,564	— 5	+ 3
U. S. direct obligations	1,477,724	1,558,096	1,450,434	— 5	+ 2
Obligations guaranteed by U. S.	1,652	1,652	845	.....	+ 95
Other securities	160,648	158,382	138,275	+ 1	+ 16
Reserve with F. R. Bank	362,737	363,185	354,207	— 0	+ 2
Cash in vault	30,413	29,178	28,488	+ 4	+ 7
Balances with domestic banks	139,194	147,029	138,650	— 5	+ 0
Demand deposits adjusted	1,377,620	1,363,043	1,198,414	+ 1	+ 15
Time deposits	445,915	442,629	372,216	+ 1	+ 20
U. S. Gov't deposits	250,453	336,483	274,670	— 26	— 9
Deposits of domestic banks	478,245	490,880	503,734	— 3	— 5
Borrowings	3,000	1,500	.....	+100	.....

DEBITS TO INDIVIDUAL BANK ACCOUNTS
(In Thousands of Dollars)

Place	No. of Banks Reporting	May 1946	April 1946	May 1945	Percent Change May 1946 from: April 1946	May 1945
ALABAMA						
Anniston	3	17,967	22,356	19,429	— 20	— 8
Birmingham	6	232,949	225,572	203,706	+ 3	+ 14
Dothan	2	8,255	8,165	7,439	+ 1	+ 11
Gadsden	3	13,334	12,616	10,107	+ 6	+ 32
Mobile	4	99,520	93,908	120,566	+ 6	— 17
Montgomery	3	54,142	52,367	40,495	+ 3	+ 34
FLORIDA						
Jacksonville	3	208,626	202,061	191,798	+ 3	+ 9
Miami	7	187,208	197,419	142,630	— 5	+ 31
Greater Miami*	11	274,177	289,919	203,329	— 5	+ 35
Orlando	2	48,610	45,437	33,402	+ 7	+ 46
Pensacola	3	29,895	27,755	28,090	+ 8	+ 6
St. Petersburg	3	44,501	46,072	31,745	— 3	+ 40
Tampa	3	97,551	97,631	82,958	— 0	+ 18
GEORGIA						
Albany	2	11,290	12,092	9,150	— 7	+ 23
Atlanta	4	595,321	586,495	493,778	+ 1	+ 21
Augusta	3	43,165	45,776	34,427	— 6	+ 25
Brunswick	2	8,291	9,640	12,582	— 14	— 34
Columbus	4	43,500	42,013	36,139	+ 4	+ 20
Elberton	2	2,946	2,883	1,864	+ 2	+ 58
Gainesville*	3	11,151	9,732	* *	+ 15	* *
Griffin*	2	8,149	8,341	* *	— 2	* *
Macon	3	46,411	42,502	50,558	+ 9	— 8
Newnan	2	6,283	7,094	5,732	— 11	+ 10
Rome*	3	16,498	16,520	* *	— 0	* *
Savannah	4	74,063	78,658	81,522	— 6	— 9
Valdosta	2	9,618	9,414	7,497	+ 2	+ 28
LOUISIANA						
Baton Rouge	3	60,959	55,785	42,208	+ 9	+ 44
Lake Charles	3	20,716	20,032	16,716	+ 3	+ 24
New Orleans	7	507,946	492,438	420,388	+ 3	+ 21
MISSISSIPPI						
Hattiesburg	2	14,488	13,924	12,628	+ 4	+ 15
Jackson	4	77,035	81,935	58,169	— 6	+ 32
Meridian	3	22,884	22,184	17,981	+ 3	+ 27
Vicksburg	2	20,678	21,741	20,051	— 5	+ 3
TENNESSEE						
Chattanooga	4	106,253	100,589	90,228	+ 6	+ 18
Knoxville	4	93,925	96,423	126,237	— 3	— 26
Nashville	6	224,518	227,174	187,409	— 1	+ 20
SIXTH DISTRICT 32 Cities	108	3,032,848	3,000,151	3,637,629	+ 1	+ 17
UNITED STATES 334 Cities	...	85,898,000	87,532,000	81,724,000	— 2	+ 5

*Not included in Sixth District total **Not available

Sixth District Bank Debits

MODERN business transacts its financial affairs primarily by drawing checks against its bank deposits. Moreover, individual persons make a large portion of their payments by check. Indeed, bank deposits constitute the greater part of the nation's money supply, so much so in fact that currency and coin in circulation amounted to only 16 percent of the nation's total deposits and currency in March of this year. When carefully interpreted, a statistical series that measures the money payments made by check is therefore one of the best indicators of general business activity. Just such a measure is bank debits.

These debits represent all the charges at the reporting banks to demand and time accounts, both government and private, except those charges made to accounts of other banks and those made by certified and bank officers' checks. Thus they differ from bank clearings, which consist only of the checks that pass through the clearing houses. Clearings therefore exclude transactions that take place when checks are drawn by some depositors and then redeposited to the accounts of others in the same bank. They include, however, bank drafts, debits to Government accounts of the Federal Reserve Banks, postal money orders, and other items not included in the debits figures. The consolidation of banks in a city over a period of time reduces the amount of bank clearings but has no effect on bank debits. Normally the total of debits for the banks in a city is larger than the total of clearings.

No other current statistical series compiled by this bank on business conditions covers a greater number of individual cities in the Sixth District than does the bank-debits series. Such monthly data as those appearing on page 61 of this issue are published each month in the *Review* to show the transactions of 120 banks in 36 different cities of the District. Back figures are available on request. For 15 of the cities the series goes back to the beginning of 1919; other cities have been added from time to time.* No comparable series is maintained by this bank on bank clearings.

Although only 11 percent of the 1,074 banks in the District reported their debits on December 31, 1945, their deposits made up almost 60 percent of the total bank deposits in the District. The representation is approximately the same for each of the Six States. The national bank-debits series prepared by the staff of the Board of Governors includes the Sixth District series.

In addition to being one of the most comprehensive series, it is one for which data are reported promptly. It is used, therefore, by some analysts as a basis for estimating various aspects of economic conditions before other estimtes become available. Analysts employ the debits figures also to make comparisons of the relative degree of business activity among different communities. When no other series is available, manufacturers and retailers often use them in appraising community prospects before establishing new concerns.

The inclusiveness of the debits figures is one of their chief disadvantages in attempts to make them serve as a guide to the behavior of individual aspects of the economy. Payments reflected in the debits figures include not only those for goods but payments for wages and salaries, interest, dividends, and property and those made in the many other types of business and personal transactions. The proportion of payments for wages and salaries might be greater, for example, in one community than in another. A rise in debits in one community might be the result of land speculation that could in no sense represent an increase in either production or normal trade. During the war period, the war-bond drives resulted in large debit increases that reflected no increased payments for production or trade, and of course debits to Government deposit accounts are still substantial. The existence of such factors makes careful interpretations necessary both when using debits in city-with-city comparisons and when using them in long-term trend analyses.

Since the data are reported in dollar amounts, they offer analysts an opportunity to make estimates of various local conditions on a dollar basis rather than a percentage-change basis. Many market-research organizations base their estimates of retail sales for cities, counties, and states at least partially upon the debits figures. Retail sales are not equal to total debits in any community, for one thing because retail payments are made partly in currency and coin but primarily because other types of transactions are also included in total debits. Consequently, the accuracy of dollar estimates of retail sales hinges upon the skill and judgment of the estimator. Statement in dollar amounts does not in itself indicate accuracy.

Bank debits are ordinarily higher in certain months than in others, and these seasonal variations have to be taken into account when the data are used in making month-to-month comparisons. Ordinarily peaks for the Sixth District as a whole occur in March, May, June, October, and December. Some of these seasonal fluctuations were caused in the past by quarterly payments of income taxes. The war-bond drives have greatly influenced monthly changes in bank debits for the District during recent years. Local conditions within the District create seasonal fluctuations that vary from city to city.

For the Sixth District as a whole the general trend of bank debits broadly follows the general trend of other business indicators. Changes in bank debits and income payments were closely related between the years 1933 and 1940. In recent years, however, the relationship has not been so exact. Income payments have advanced more rapidly since 1940 than have bank debits. An index of income payments to individuals for the Sixth District states, using 1935-39 as 100, and an index of bank debits, using the same years as the base period, showed very similar increases and decreases from 1933 to 1940. The index of income payments in 1933 was 64, and the index of bank debits 62. By 1936 the index of income payments had risen to 96 percent of the 1935-39 average, and the index of bank debits to 101. In 1938 the two indexes were 103 and 101, respectively.

After 1940 the index of income payments rose much more

* The initial year of reporting for each of the cities is as follows: 1919 — Birmingham, Mobile, Montgomery, Jacksonville, Pensacola, Tampa, Atlanta, Augusta, Macon, Savannah, New Orleans, Vicksburg, Chattanooga, Knoxville, and Nashville, 1923 — Dothan, Albany, Brunswick, Columbus, Elberton, Newnan, Valdosta, Jackson and Meridian; 1927 — Miami and Hattiesburg; 1943 — Anniston, Gadsden, Greater Miami, Orlando, St. Petersburg, Baton Rouge, and Lake Charles; 1945 — Gainesville, Griffin, and Rome.

rapidly than the index of bank debits. The index for income payments in 1944 was 278 percent of the 1935-39 average, but the index of bank debits had risen to only 252 percent. Bank-debits figures alone would have served as poor guides for an exact estimate of income payments after 1940, although they would have indicated the general direction of changes in those payments.

Changes in this bank's index of department store sales and changes in the index of bank debits also were very similar from 1933 to 1940. Had an attempt been made after that period to forecast department store sales on the basis of bank debits, such estimates of sales would have been too high. In 1943, for example, the index of bank debits (1935-39 = 100) was 225, but the department store sales index was only 204. This disparity was probably caused by a decline in the proportion of payments made by check in retail trade and increases in payments for bonds and nonretail items during the war.

Similar tests have been made of the relationship between department store sales and the bank-debits series on an individual-city basis. These comparisons indicate that the bank debits series is less reliable as an indicator of sales when confined to one city. There are evidences that the larger the city is the more reliable the debits figures are as indicators.

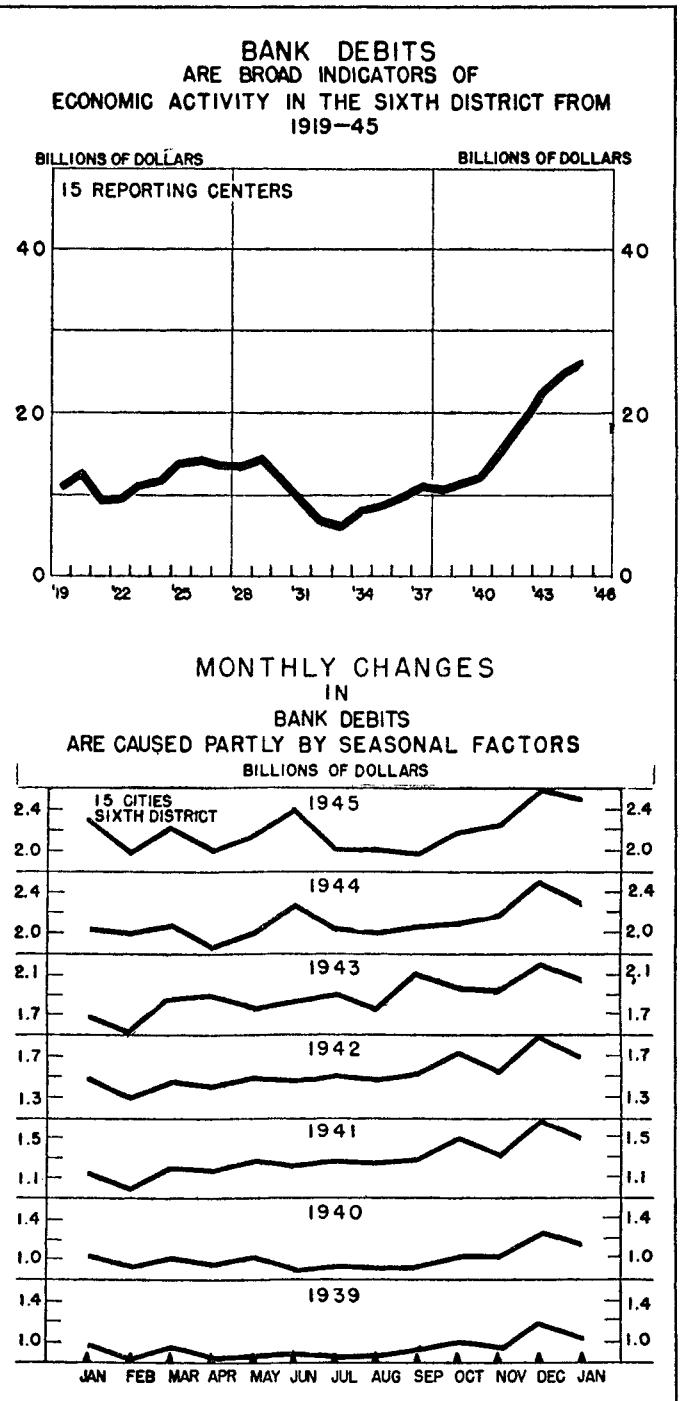
In short, the bank debits figures generally are reliable as indicators that such economic factors as income payments, pay rolls, retail trade, and others have increased or decreased. But the figures in themselves are not always accurate indicators of how much these factors increased or decreased.

INDEXES OF BANK DEBITS, DEPARTMENT STORE SALES, AND INCOME PAYMENTS IN THE SIXTH DISTRICT
(1935-39 = 100)

Year	Bank Debits	Department Store Sales	Income Payments
1929	138	98	113
1930	116	91	93
1931	95	79	77
1932	71	60	62
1933	62	62	64
1934	78	78	77
1935	84	84	85
1936	96	97	101
1937	108	105	106
1938	102	103	101
1939	110	113	108
1940	122	123	117
1941	155	145	149
1942	184	162	198
1943	225	204	258
1944	252	244	278
1945	266	275	...

Despite the criticisms made by business analysts of the bank-debits series as a tool for economic analysis, it will probably continue to be widely used. Employed in conjunction with a careful analysis of local conditions and other statistical series, the debits are a valuable aid in determining the broad trend of business conditions.

This is the second in a series of short articles that will appear from time to time in the Review, *describing the composition and possible use of some of the Sixth District statistical series.*



Normally a considerable amount of seasonal fluctuation in bank debits is caused by the concentration of payments in certain months. The chart indicates the variations that occurred in the same months each year from 1939 through 1945 for the District as a whole. The seasonal pattern differs from city to city because of the different types of industrial, business, and financial payments and the factors underlying these payments. In addition, during the war period the bond drives have concentrated payments in certain other months. The influence of these drives can be readily seen in the chart. War-bond drives took place during November 30-December 23, 1942; April 12-May 1 and September 9-October 2, 1943; January 18-February 15, June 12-July 8, and November 20-December 18, 1944; and during May 14-June 30 and October 29-December 31, 1945.

Sixth District Statistics

INSTALMENT CASH LOANS

Lender	Number of Lenders Reporting	Percent Change April 1946 to May 1946	
		Volume	Outstandings
Federal credit unions	39	+ 14	+ 9
State credit unions	20	+ 21	+ 9
Industrial banking companies	10	+ 6	+ 5
Industrial loan companies	19	+ 5	+ 3
Small loan companies	51	— 9	— 1
Commercial banks	34	+ 6	+ 11

RETAIL FURNITURE STORE OPERATIONS

Item	Number of Stores Reporting	Percent Change May 1946 from	
		April 1946	May 1945
Total sales	102	+ 7	+ 62
Cash sales	94	+ 2	+ 95
Installment and other credit sales	94	+ 10	+ 58
Accounts receivable end of month	101	+ 4	+ 22
Collections during month	101	+ 6	+ 38
Inventories, end of month	83	+ 6	+ 21

WHOLESALE SALES AND INVENTORIES*—MAY 1946

Items	SALES			INVENTORIES		
	No. of Firms Reporting	Percent Change May 1946 from		No. of Firms Reporting	Percent Change May 1946 from	
		April 1946	May 1945		April 1946	May 1945
Automotive supplies	8	+ 2	+ 65	5	+ 2	+ 24
Shoes and other footwear	3	— 11	+ 43	..	.....	.....
Drugs and sundries	10	+ 9	+ 21	4	+ 0	+ 6
Dry goods	8	+ 7	+ 40	..	.....	.....
Electrical goods	4	+ 7	+121	..	.....	.....
Fresh fruits and vegetables	6	— 18	+ 1	3	+ 82	— 9
Confectionery	6	+ 4	+ 55	..	.....	.....
Groceries—full-line wholesalers	35	+ 4	+ 16	17	— 2	+ 15
Groceries—specialty-line wholesalers	10	+ 8	+ 19	5	— 2	+ 22
Beer	3	+ 15	— 11	..	.....	.....
General hardware	10	— 4	+ 36	5	+ 7	+ 8
Machinery, equipment and supplies, except elect.	3	+ 7	+ 46	..	.....	.....
Paper and its products	3	+ 4	+ 40	..	.....	.....
Tobacco and its products	4	+ 15	+ 24	..	.....	.....
Miscellaneous	13	— 2	+ 21	20	+ 10	+ 33
Total	132	+ 1	+ 25	59	+ 4	+ 17

*Based on U. S. Department of Commerce figures.

DEPARTMENT STORE SALES AND STOCKS

Place	SALES			INVENTORIES		
	No. of Stores Reporting	Percent Change May 1946 from		No. of Stores Reporting	Percent Change May 31, 1946, from	
		Apr. 1946	May 1945		April 30 1946	May 31 1945
ALABAMA						
Birmingham	5	— 3	+ 29	4	+ 3	+ 5
Mobile	5	— 7	+ 19	..	.....	.....
Montgomery	3	— 2	+ 30	3	+ 26	+ 25
FLORIDA						
Jacksonville	4	— 11	+ 18	3	+ 15	+ 23
Miami	4	— 9	+ 34	3	+ 6	+ 10
Orlando	3	— 5	+ 41	..	.....	.....
Tampa	5	+ 2	+ 37	3	— 1	+ 2
GEORGIA						
Atlanta	6	— 3	+ 35	5	+ 7	+ 15
Augusta	4	+ 0	+ 44	3	+ 8	+ 13
Columbus	3	— 1	+ 22	..	.....	.....
Macon	4	— 8	+ 34	4	+ 7	+ 36
LOUISIANA						
Baton Rouge	4	— 5	+ 29	4	+ 7	— 4
New Orleans	4	— 7	+ 30	3	+ 1	+ 30
MISSISSIPPI						
Jackson	4	— 4	+ 30	4	+ 9	+ 11
TENNESSEE						
Bristol	3	— 9	+ 40	3	+ 7	+ 4
Chattanooga	4	— 3	+ 27	3	+ 9	+ 44
Knoxville	4	— 7	+ 15	..	.....	.....
Nashville	6	+ 2	+ 50	5	+ 8	+ 21
OTHER CITIES*	18	— 1	+ 33	22	+ 7	+ 18
DISTRICT	93	— 4	+ 31	72	+ 7	+ 16

*When fewer than 3 stores report in a given city, the sales or stocks are grouped together under "other cities."

Bank Announcements

THE Citizens State Bank, St. Cloud, Florida began remitting at par on June 1, This bank has capital of $30,000, surplus and reserves of $48,300, and deposits of $2,247,000. It is officered by G. C. Hunter, president; G. A. Peed, vice president; P. E. Kirkpatrick, vice president and cashier; Evdne Godwin, assistant cashier; and William Fletcher, assistant cashier.

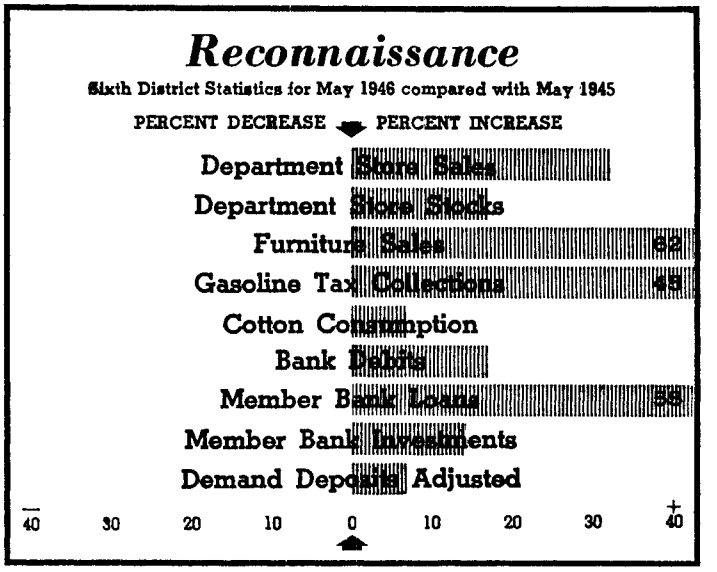
The Comptroller of the Currency issued a certificate, effective June 1, authorizing the conversion of the Broward Bank and Trust Company of Fort Lauderdale, Florida, into the Broward National Bank of Fort Lauderdale. This bank has capital of $500,000, surplus and undivided profits of $672,000, and deposits of $25,603,000. Its president is J. D. Camp. C. N. McCune is vice president and trust officer, Arthur W. Saarinen vice president, B. G. Johnson vice president and trust officer, J. N. Morris vice president and cashier, John R. Derr assistant cashier and auditor, R. H. Makemson assistant cashier, and J. Louis Moellers assistant cashier.

On June 21 the Florida State Bank, Delray Beach, Florida, converted to the First National Bank of Delray Beach. The capital of this bank amounts to $100,000, and its surplus and undivided profits to $70,000; and on December 31, 1945, its deposits totaled $3,655,000. The officers are H. A. Hubbard, president; Fred G. Benson, vice president; C. J. Manson, cashier; and George W. Strickland, assistant cashier.

Of three banks to go on the Par List on July 1, one is the Farmers and Merchants Bank, Brewton, Alabama. It has capital of $50,000, surplus and undivided profits of $61,000, and deposits of $2,067,000. The president is J. W. Adkisson, the cashier is John R. Downing, and the two assistant cashiers are T. C. Hurd and R. J. Murphy. Another is the Citizens Bank of Oviedo, Florida. This newly organized bank has capital of $50,000 and surplus of $25,000. B. F. Wheeler is president, C. R. Clonts is vice president, and Charles G. Shaffer is cashier. The third of these banks is the Merchants Bank, Hanceville, Alabama, which has capital stock of $10,000, surplus and undivided profits of $63,000, and deposits of $901,000. Its officers are George Ashwander, president; Edward Ashwander, vice president; and C. H. Gray, cashier.

Reconnaissance

Sixth District Statistics for May 1946 compared with May 1945



District Business Conditions

RETAIL and wholesale sales in the District continued during May and June to surpass in dollar volume the figures for the corresponding months of previous years. In addition, life insurance sales were so great that they broke all their past records for the section. Industrial operations in May were considerably below capacity because of the coal strike but were back to normal activity in June. The railroad strike came at a time when peaches, watermelons, truck, and other perishable food crops were moving in volume. Though it caused considerable inconvenience and some waste of foodstuff in the District, fortunately this threat to the economic life of the nation did not last long enough to cause any serious disruption of business and industry in the section.

Department Store Trade

Preliminary data indicate that June sales at Sixth District department stores were taking place at about the May daily rate. The rate is now 34 percent above the rate for June of last year. Past experience indicates that there is usually a drop of about 14 percent from the May rate to the June rate. In the first two weeks of June, however, figures reported by more than thirty stores indicate a fall in the daily rate of only three tenths of one percent, which would mean, if sales continued at that rate, a rise of about 16 percent in the index after allowance is made for the seasonal trend.

In May, department store sales declined by approximately the usual seasonal amount. They were, nevertheless, 31 percent greater than in May 1945. At all cities in the District reporting, those where three or more reporting stores are located, there were increases over the figures for May of last year. Nashville had the largest increase, a gain of 50 percent, followed by Augusta with an increase of 44 percent, Orlando with one of 41 percent, and Bristol with 40 percent. Tampa had a gain of 37 percent, Atlanta 35 percent, Miami and Macon 34 percent, Montgomery, New Orleans, and Jackson 30 percent, Birmingham and Baton Rouge 29 percent, Chattanooga 27 percent, Mobile and Columbus 19 percent, Jacksonville 17 percent, and Knoxville one of 15 percent.

The May index of daily average sales, at 313 percent of the 1935-39 average, was two and a fifth times as high as the index for May 1941. It was more than five times as high as the index for May 1932, which had the smallest volume of sales reported for the month in any of the 27 years included in the series.

At those stores that classified their sales in the May report, cash sales accounted for 57 percent of the total, against 58 percent in April and 62 percent in May last year. Open-book credit sales accounted for 40 percent of the total, compared with 38 percent in April and 35 percent in May a year ago. Instalment sales accounted for the remaining 3 percent, against 4 percent in April and 3 percent a year ago.

Inventories in May were somewhat larger than those a month earlier. At almost all the reporting cities they were well above those on hand at the end of May 1945.

Life Insurance Sales

Sales of life insurance in the six states of the District during May established a new record, of $102,680,000. This figure is a rise of 4 percent over the April total. It is, furthermore, 85 percent greater than the total for May last year. Percentagewise, the gains over sales in May 1945 ranged from 95 in Mississippi and 93 in Tennessee to 86 in Louisiana, 83 in Georgia, 71 in Florida, and 63 in Alabama. For the country as a whole May sales were 67 percent greater than they were last year.

Industry

Some improvement in the production of Southern-pine lumber in the first half of June has been indicated in recent press reports. In some parts of the Southern-pine area output in May was at a low level for the year because of almost continual rains and the long-continued difficulties resulting from labor and equipment shortages. Though, more recently, there has been an increase in the number of workers returning to the mills and the woods, the time is now approaching when there will be a movement of labor from lumbering to farming work, for the harvesting of corn, cotton, and other crops. Demand for lumber continues, of course, to be far in excess of the supply, and few retailers are able to obtain more than a small proportion of their needs. Much of the lumber being produced is moving into consumption in the vicinity of the mills. This condition adds to the difficulties of dealers farther away.

Again in May the rate of textile activity increased slightly. Cotton mills in Alabama, Georgia, and Tennessee used 11,503 bales of cotton for each of the 27 working days in May, 3 percent more than they consumed in April and 7 percent more than they used in May 1945.

Because of the strike coal production in Alabama and Tennessee declined from 2,644,000 tons in March, the largest total reported for any single month in recent years, to 165,000 tons in April. In May it amounted to 745,000 tons, about a third as large as the May 1945 production. Another result of the coal strike was a reduction in the rate of operations at the steel mills. From 95 percent of capacity during most of March, activity at steel mills in the Birmingham-Gadsden area declined to 46 percent during most of May. Upon the resumption of coal mining, operations at the steel mills improved. In the week ending June 18 the rate was again reported at 95 percent of capacity.

Employment

There was a seasonal increase in May in the number of persons working on farms. In June there were about 3 percent more farm workers than there were in the corresponding month of last year. The increase from May 1 to June 1 was 11 percent. In a statement prepared by the United States Department of Agriculture to give estimates by geographic divisions, one set of percentages is used to show changes in the estimates for the South Atlantic and the East South Central Divisions combined. States of the Sixth Federal Reserve District are included in both these divisions. According to the estimates, the number of family workers on farms increased about 7.5 percent in May, and the number of hired workers 29 percent. In comparison with the corresponding date last year the number of family workers on the farms on June 1 was up 3.5 percent and the number of hired workers 2 percent.

No information that would give, with any degree of accuracy, an over-all picture of the general employment

situation in the District is available. Reports from many localities, however, indicate recent increases. At the same time, the number of unemployed workers seems to have increased, owing probably to the return of additional men from military service. It seems to be generally true that textile mills need additional workers. At many places such workers are not available, and at some points where they are available they are unwilling to work at the rates of pay offered. Employment in construction has reportedly increased. But for the shortage of building materials and the current restrictions on most types of building, undoubtedly the increase would be much greater than it is.

Agriculture

Though in some respects weather conditions in May worked a hardship on farmers and growers in the District, they had brighter aspects. The excessive rains caused a rank growth of grains, hay, and pastures. They also resulted in the favorable development of fruits and some of the truck crops. On the other hand the efforts of farmers over most of the region to plant late crops, cultivate row crops, and harvest grains were seriously hampered. By June 1 a few of the fields had not even been plowed. In the Gulf states truck crops and grains deteriorated somewhat. Grass that overgrew the fields prevented cultivation and threatened stands of cotton and corn. As a result the planting of some acreage of row crops, such as cotton, corn, soybeans, peanuts and sorghums was impossible in some areas. With the coming of warmer weather and a lessening of the rain, farm work has more recently progressed. Farmers have made considerable headway in getting grass out of the fields, and the warm nights have promoted the growth of cotton and other crops.

Alabama crop prospects were reduced as a result of the excessive rainfall during most of May. Small grains were damaged somewhat, and the potato harvest was delayed. In fact farm work generally was behind schedule. In northern counties of the state many farmers were unable to complete their planting of cotton, corn, and annual legume hays before June 1. An estimate made at the beginning of June set the oat crop at 4,743,000 bushels. This figure is a 10 percent decrease from the 1945 crop, which was the largest in more than twenty years.

Damage from rain and winds was particularly heavy in the Black Belt counties during May. Despite the unfavorable weather, however, a good yield of wheat is in prospect. Production, it is estimated, will be 196,000 bushels, compared with a 1945 crop of 240,000 bushels. The commercial early potato crop in South Alabama turned out to be below the average, but prospects seem good in other sections of the state. Condition of the crop on June 1 was reported at a level of 76 percent, compared with 90 percent a year ago. Prospects for peaches fell off greatly in May as a result of the excessive moisture and some storm damage. The June 1 estimate of production calls for 1,922,000 bushels, about 21 percent below last year's bumper crop. Prospects for pears indicate a crop of 374,000 bushels, which though smaller than the 1945 crop of 416,000 bushels is well above the 10-year average.

Following dry cool weather during most of April, heavy rains in May aided the Florida citrus groves but caused considerable damage to field crops, vegetables, and melons in the central, northern, and western sections of Florida. Coming as they did at the time of oat and lupine-seed harvest, they reduced the production of these crops and, coupled with disease, have seriously reduced the prospective production of a large watermelon acreage. At the beginning of June pastures were in good condition and the harvesting of tobacco was underway. Melons were moving, but in smaller volume than had earlier been expected. As the end of the season approaches, marketing of the 1945-46 citrus crop shows the usual decline. The wet weather in May was ideal for the development of the 1946-47 crop, and the groves are now in excellent shape. Some late bloom is popping out in groves that had a heavy crop of late fruit. The condition of the orange crop was reported on June 1 to be 79 percent, against 52 percent at that time last year. Tangerines, it was reported, were at 72 percent, compared with 48 percent on June 1 of last year, and grapefruit at 67 percent, against 51 percent a year ago.

In Georgia, as in other states, the cultivation of crops and other farm work was seriously delayed by the frequent, and in many places, excessive, rains. Some truck crops were damaged, and the prospective yields of other truck crops were reduced. At the beginning of the month small grains were being harvested, with good yields expected. The abundance of moisture has caused lush pasture growth, which means that grazing has been unusually good all spring. Wheat production is estimated at 2,125,000 bushels this year, compared with 2,613,000 bushels harvested in 1945 and with 2,964,000 in 1944, the largest crop in more than twenty-five years. The acreage was 31,000 less this year than it was in 1945, because of unfavorable weather during the planting season. Present prospects indicate an oat crop of 12,597,000 bushels, a 16 percent reduction from the 15 million bushels produced in 1945, which was the state's largest oat crop on record. Georgia's 1946 peach crop was estimated on June 1 at 6,392,000 bushels, a decrease of 21 percent from the 1945 crop of 8,091,000 bushels. This estimate includes the total crop — peaches for commercial shipment, local sale, commercial processing, and home consumption. Heavy rains and delay in transportation caused some confusion early in the season. Through June 11, however, a total of 1,022 cars had been shipped, and peak movement was expected to occur in July.

In addition to the harm caused by rains, there was some hail and wind damage in Louisiana. The cultivation and planting of late crops was seriously delayed. Although most of the rice acreage had been planted earlier the rains may have prevented rice growers from seeding the entire acreage originally planned. The rice already planted was not injured to any great extent; a good crop is still in prospect. In southern Louisiana corn was planted at about the usual time and was not badly damaged. In the northern part of the state, however, the wet weather flooded out some acreage. Harvesting of the damaged oat crop was stopped, and threshing came almost to a standstill during the rainy period. Not only was the growth of cotton retarded, but some cotton was killed in flooded fields. The production of oats in Louisiana to be harvested for grain or cut and fed unthreshed is forecast at 3,960,000 bushels, compared with 4,248,000 bushels last year. Louisiana's peach crop is forecast at 364,000 bushels, considerably less than the 422,000 bushels produced last year.

Weather conditions in Mississippi also greatly improved in the first half of June. Farm work progressed rapidly, and all crops showed improvement. The estimated wheat crop of 300,000 bushels is smaller, by 21 percent, than last year's

crop. Oats this year are expected to total 9,639,000 bushels, a reduction of 29 percent from 1945, and peach production, estimated at 1,224,000 bushels, is down 14 percent from last year. The tomato crop is not yielding as well as had been expected as yields were reduced by disease in some fields.

The Tennessee wheat crop, estimated on June 1 at 4,628,000 bushels, is about 13 percent smaller than last year's production, and a decrease of 5 percent is expected in the oat crop. There is a small increase in barley. The peach crop in Tennessee this year is estimated at 964,000 bushels, and is not much more than half as large as that produced last year.

Finance

Between the middle of May and the middle of June the net outstanding circulation of this bank's Federal Reserve notes fluctuated within a comparatively narrow range. The five-year rise in net circulation from 196 million dollars at the end of 1940 to 1,494 million dollars just before Christmas 1945 was followed in the first four and a half months of this year by a decline of 74 million, to 1,420 million dollars. On June 19 the circulation had risen, however, to 1,426 million dollars. During the war years the continued rise involved the issuance of considerably more than two billion dollars in new Federal Reserve notes, and a result was of course a large increase in the amount of notes that wear out and become unfit for further use. The amount of this bank's notes forwarded to Washington as unfit increased from about 60 million dollars in 1940 to 278 million in 1945. For the first five months of 1946 the total was 194 million dollars.

At the weekly reporting member banks in selected cities of the Sixth District, loans, investments, and deposits continue well above the level reported a year ago. Total loans reported by these banks, which increased rather substantially between the middle of September and the middle of December, are now somewhat less than they were in December. Loans extended by these banks for commercial, agricultural, and industrial purposes increased about 80 million dollars between early September and the last of December and, following some fluctuations, on June 19 totaled about 245 million dollars. On that date the banks' security loans were very much larger than they were a year ago. Loans to brokers and dealers in securities increased from a little more than eight million dollars in October to almost 17 million dollars in December and on June 19 amounted to something less than 14 million dollars. Other loans for purchasing or carrying securities rose from about 46 million dollars in October to 166 million dollars in December. They had declined by June 19 to a little less than 117 million dollars.

Holdings of United States securities by these weekly reporting member banks have, of course, been increasing substantially in recent years. On February 12 this year these holdings amounted to 1,680 million dollars, the largest amount on record. By June 19 this total had been reduced about 200 million dollars.

The rise in deposits has been almost continuous. Amounting to $1,377,620,000 on June 19, demand deposits adjusted at these 20 banks were 15 percent greater than they were a year ago. Time deposits amounted to 446 million dollars, an increase of 20 percent over the figure reported on the same date last year. Deposits of other banks were slightly less than they were a month, and also a year, earlier.

Sixth District Statistics

RETAIL JEWELRY STORE OPERATIONS

Item	Number of Stores Reporting	Percent Change April 1946 to May 1946
Total sales	27	+ 20
Cash sales	26	+ 20
Credit sales	26	+ 22
Accounts receivable, end of month	27	+ 8
Collections during month	27	— 5

DEPARTMENT STORE SALES*

	Adjusted**			Unadjusted		
	May 1946	April 1946	May 1945	May 1946	April 1946	May 1945
DISTRICT	319	317r	243	313	336r	238
Atlanta	347	355	257	352	376	261
Baton Rouge	309	336	243	332	362	262
Birmingham	305	325	235	299	318	231
Chattanooga	316	335	250	326	350	257
Jackson	288	299	222	300	325	231
Jacksonville	348	420r	295	359	421r	305
Knoxville	305	345	267	319	355	279
Macon	287	300	213	300	337	222
Miami	345	319	260	283	324	213
Montgomery	293	292	226	302	320	233
Nashville	364	388	242	390	399	260
New Orleans	276	280	213	271	302	208
Tampa	429	373	293	414	420	283

DEPARTMENT STORE STOCKS

	Adjusted**			Unadjusted		
	May 1946	April 1946	May 1945	May 1946	April 1946	May 1945
DISTRICT	239	220	205	232	217	199
Atlanta	356	317	309	361	337	314
Birmingham	168	161	160	173	167	164
Montgomery	266	199	214	270	215	217
Nashville	368	311	304	373	345	308
New Orleans	151	145	117	156	155	120

	COTTON CONSUMPTION*			COAL PRODUCTION*		
	May 1946	April 1946	May 1945	May 1946	April 1946	May 1945
TOTAL	163	159	152	52	12	168
Alabama	173	164	158	62	14	179
Georgia	161	160	150	...	...	...
Tennessee	133	128	137	30	8	139

	MANUFACTURING EMPLOYMENT***			GASOLINE TAX COLLECTIONS		
	Apr. 1946	Mar. 1946	Apr. 1945	May 1946	Apr. 1946	May 1945
SIX STATES	127	126r	143	152	157	105
Alabama	140	139r	172	161	155	109
Florida	112	116r	140	151	164	96
Georgia	129	127	134	146	142	98
Louisiana	134	131r	150	142	137	104
Mississippi	136	138r	131	159	154	93
Tennessee	111	109r	130	158	184	131

CONSUMERS' PRICE INDEX

	Apr. 1946	Mar. 1946	Apr. 1945
ALL ITEMS	134	134	132
Food	146	145	144
Clothing	151	148	141
Rent	115	115	114
Fuel, electricity, and ice	111	111	109
Home furnishings	149	148	141
Miscellaneous	132	132	129

CRUDE PETROLEUM PRODUCTION IN COASTAL LOUISIANA AND MISSISSIPPI*

	May 1946	Apr. 1946	May 1945
Unadjusted	211	204	207
Adjusted**	214	200	210

ELECTRIC POWER PRODUCTION*

	Apr. 1946	Mar. 1946	Apr. 1945
SIX STATES	251	253	275
Hydro-generated	301	310	257
Fuel-generated	185	178	297

ANNUAL RATE OF TURNOVER OF DEMAND DEPOSITS

	May 1946	Apr. 1946	May 1945
Unadjusted	15.9	16.1	13.7
Adjusted**	16.2	16.3	14.7
Index**	62.8	63.1	56.9

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

The National Business Situation

INDUSTRIAL output declined somewhat further in May but advanced considerably in the early part of June, reflecting chiefly the settlement of the coal strike. Department store trade was maintained in record volume for this season of the year. Prices in both wholesale and retail markets continued to advance.

Industrial Production

The Board's seasonally adjusted index of industrial production was 160 percent of the 1935-39 average in May as compared with 165 in April and 168 in March. Since the resumption of bituminous-coal mining and the settlement of various other wage disputes in the latter part of May, industrial production has expanded considerably, and indications are that the Board's index in June will surpass the March level.

Output of iron and steel was especially affected by the coal shutdown, and in May steel-ingot production averaged only 52 percent of capacity as compared with 78 percent in the previous month. Steel production, however, rose rapidly in June, reaching a scheduled rate of 87 percent of capacity during the current week. Activity in other durable-goods industries was generally maintained in May at about the April level.

Output of nondurable goods continued to show a slight decline in May, after allowance for seasonal changes, largely due to further reductions in output of flour and cereal products and of meats. Despite these declines production in recent months of most nondurable goods, including many manufactured foods, cigarettes, textiles, shoes, gasoline, chemicals, and rubber and paper products, has been considerably larger than the volume produced for civilian use a year ago and also than the 1939-40 level of output.

Output of minerals rose 12 percent in May, reflecting largely the resumption of bituminous-coal production around the middle of the month. In the first two weeks of June bituminous-coal output increased sharply to a level close to the prestrike rate. Anthracite production was maintained at an exceptionally high level during most of May, and after a work stoppage during the first week of June was resumed in large volume. Output of crude petroleum continued to advance in May and the early part of June. Metals production showed much less than the usual seasonal rise in May, reflecting chiefly wage disputes in iron ore mines which were largely settled by the end of the month.

Value of construction contracts awarded, as reported by the F. W. Dodge Corporation, continued to rise sharply in May, reflecting increases in awards for most types of construction. Residential building awards were at a new record level, one fourth higher than in April. Awards for nonresidential construction advanced in May, after a drop in April. Awards for manufacturing plant and public works permitted by Federal authorities showed sharp increases.

Employment

Nonagricultural employment showed a further substantial gain in May, reflecting increases at factories and mines due to termination of work stoppages and a continued large advance in construction employment. The number of persons unemployed remained unchanged at the April level of 2.3 million.

Commodity Prices

The general level of wholesale commodity prices continued to advance from the middle of May to the third week of June. There were important increases in prices of milk, bread, coal, cotton, leather, copper, and of a number of miscellaneous products.

From the middle of April to the middle of May the consumer price index advanced another one half percent and since that time additional increases have occurred in retail prices.

Distribution

Department store sales in May and the first half of June were maintained at the high level reached earlier in the spring. Value of sales was about 34 percent larger than in the corresponding period last year, reflecting largely a considerable expansion in the volume of goods sold. Department store stocks continued to rise sharply in May, and, after allowing for seasonal changes, the value of stocks held on May 30 was one fourth larger than at the beginning of the year, although still comparatively low relative to the value of sales.

Freight carloadings during May were slightly below the April rate as increased shipments of coal and grain were more than offset by declines in loadings of most other classes of revenue freight due chiefly to the railroad strike. During the first three weeks of June carloadings increased sharply and in the week ending June 22 were as high as in the same period a year ago.

Bank Credit

Deposits subject to reserve requirements increased further in May and the first three weeks of June, reflecting primarily a shift of about 3.5 billion dollars from Treasury War Loan Accounts to accounts held by businesses and individuals, and average required reserves increased about 500 million dollars. Reserve balances increased considerably less than required reserves and excess reserves declined.

At member banks loans for purchasing and carrying government securities were further reduced in May and the first half of June. Real estate and commercial and industrial loans continued to increase at banks outside New York City. Bank holdings of Treasury certificates and bonds declined, largely as a result of Treasury debt-requirement operations.

THE BOARD OF GOVERNORS