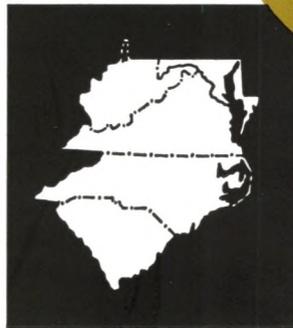


FEDERAL RESERVE BANK OF RICHMOND

# MONTHLY REVIEW

*The American Textile Industry  
State Revenues  
Research In A Triangle: Part II  
The Fifth District*



# THE AMERICAN TEXTILE INDUSTRY

The rapid rise of cotton mills in the South in the period of 1870 to 1890 signaled the establishment of textiles as a dominant industry in the region. Despite the destabilizing effect of intermittent periods of prosperity and depression in the industry, it has provided an important thrust over the past century to the South's economy, and has had a significant influence upon its culture. Northern textile men argued in the early days that the southern climate was unsuitable for spinning and that competent labor and managerial talent could never be found. But southern mill towns grew, and a unique textile economy emerged. Since the industry's emergence in the South, the agricultural basis of its origin has diminished in importance, and the closely related industries, apparels, chemicals, and textile machinery, have developed, providing economic stimulus of almost equal importance to the area.

Today, most major segments of the textile industry—both cotton and synthetic weaving mills, yarn and thread mills, and carpet mills—are principally located in the Southeast. Others, such as wool weaving and finishing, narrow fabric mills, and knitting mills, are more evenly spread over both the Southeast and the New England states.

## TEXTILES AND THE FIFTH DISTRICT ECONOMY

The historical significance of the textile industry to the Fifth District—particularly North and South Carolina—remains a fact today despite important changes which have occurred in recent years, both in the District economy and in the textile industry. The importance of the Fifth District to the textile industry is even more striking.

The textile industry occupies a unique place in the development of the Fifth District economy. From the period immediately following the Civil War to the end of World War II, in large areas of the District, industrialization was chiefly a matter of growth in textile production. Even after the industrial diversification of District states in recent years, the industry remains the District's most important manufacturing activity. In fact, much of the diversification represents the growth of textile related industries. Moreover, the southward movement of the textile industry in the postwar period has increased the degree of concentration of the industry in Fifth District states.

In 1966, the latest date for which data are available, the five states of the Fifth District contained 47% of the production workers, and accounted for

45% of the value added in the textile industry. North Carolina, by most important measures, is first in the nation in textile production. In 1966, North Carolina had 27% of the production workers, and accounted for 25% of the value added in the industry.

The textile industry accounts for 21% of the manufacturing payrolls in the Fifth District, 37% of those in North Carolina, and 46% of those in South Carolina. Of production workers in manufacturing in the Fifth District, 29% are in textiles. In North Carolina that percentage is 44, and in South Carolina, 51. Of total value added by manufacturing in the Fifth District, 19% is in textiles. In North Carolina the percentage is 32, and in South Carolina, 43.

## THE INDUSTRY'S PROBLEMS

There are a number of problems and characteristics which are unique to textile manufacturing in the United States. The American textile industry has historically been sensitive to changes in wage levels, changes in tariffs and regulations governing the import of textile products, and changes in Government price policies on cotton. The competitive nature of the industry explains the acute concern with input costs and has been an important factor in the industry's migration to the low-wage, lightly unionized southeastern states.

The textile industry has experienced more than the usual amount of difficulty in the labor relations field. Violence and bloodshed were not uncommon in the 1920's when labor unions first began major efforts to organize textile workers in what were then primarily company towns. Success of the unionization effort has been slight.

An interesting aspect of the industry has been its transition over the years from an industry characterized by a large number of small, primarily family-owned firms to a somewhat smaller number of larger firms that are more highly diversified, more capital intensive, and much more technologically sophisticated. With some notable exceptions, the ownership of most firms is now widely distributed. Over the 40-year period from 1923 to 1963, there was a 14% decline in the number of operating manufacturing establishments and a 35% decline in the number of production workers. The year 1963 is used in this comparison because it is the most recent manufacturing census year for which data are available. Value added figures are not available as far

back as 1923, but between the census years 1958 and 1963, value added increased 26% while the number of establishments and production workers continued to decline.

**Imports** Imports of textiles have been troublesome to American textile producers due to low wages abroad and the development of a large and efficient productive capacity in many foreign countries. The industry has repeatedly sought protection under peril-point, disruption of markets, and national security arguments. The United States negotiated the Long-Term Arrangement on trade in cotton textiles, through the General Agreement on Tariffs and Trade for a five-year period, beginning in October 1962. In 1967, the Arrangement (LTA) was extended to September 30, 1970. Under the LTA, provisions were made for a more orderly rate of growth of imports of cotton textiles. The LTA was an attempt to satisfy textile men who were fearful of the effect of unchecked imports upon the domestic industry, but at the same time to remain consistent with this country's overall policy of trade liberalization during the past decade. Textile spokesmen have not been completely satisfied with the result, however, and today are pressing for additional import controls. Diligent efforts have been made to expand exports through the Exporters' Textile Advisory Committee, made up of textile executives who advise the Government on programs for expanding exports. These efforts have failed to narrow the gap between imports and exports, which in 1968 showed a net import balance of \$528 million.

The import problem stems from both unfinished or semi-finished textile mill products and apparel and related products manufactured abroad. Of course, the domestic textile industry itself is a large user of imported grey goods and other unfinished mill products. Recently, Japan, Korea, Taiwan, and Hong Kong have supplied from 60% to two-thirds of the cotton, wool, and man-made fiber textile products imported by the United States. Other nations such as West Germany, Mexico, and Brazil have developed efficient textile industries, and are increasing their sales in the U. S. as well as their participation in world textile trade generally.

It is difficult to determine the effect that imported textile goods have had upon the domestic industry. In 1966, the value of imported textile mill products was 4.8% of the value of shipments of the domestic industry; in 1963, the percentage was 4.7. In the case of apparel and related products, the percentage was 3.2 in 1966, and 2.3 in 1963. For comparison, these ratios in 1966 were 3.1 for food, beverages, and

tobacco, 3.7 for chemicals and allied products, 11.7 for lumber and wood products, and 12.1 for paper and paper products.

A substantial increase in demand due to military procurement of textile goods has intensified the import problem since 1965. During that period the industry's capacity to meet total domestic demand has been severely limited. There is some evidence that a very close positive relationship exists between imports and the demand for domestically produced textiles, as well as between imports and the generally rising level of aggregate demand in recent years.<sup>1</sup> During the peak years of textile production, beginning with 1965, the productive capacity of the industry was not increased rapidly enough to meet the rising military component of demand and the increase in civilian demand due to general economic prosperity. Thus imports have had the effect, to some degree, of preventing sharp price increases. Prices of textiles and apparels indeed remained relatively stable from the Korean War until 1968.

**One- and Two-Price Cotton** A problem related to imports is that of cotton prices. During the period from 1956 through 1963, the domestic industry was required to pay a higher price for U. S. cotton than foreign purchasers paid. The two-price system resulted from surplus cotton production, and took the form of a subsidy on foreign sales of raw cotton. Imports of raw cotton were already severely restricted. The two-price system gave an added advantage to foreign manufacturers of cotton textile goods, and was widely regarded as a factor contributing to the rise in imports of textiles, and to a substantial shift by the domestic industry to synthetic fibers and blends. A one-price cotton system was restored in 1964. The immediate effect was to lower the price of raw cotton to domestic textile producers by about one-fourth, eliminating a major source of competitive disadvantage with foreign producers.

**The Textile Cycle** Cyclical fluctuations in the output of textile mill products were a distinguishing characteristic of the industry for many years. These textile cycles represented a complex set of destabilizing influences to which the industry was susceptible, and created serious problems for textile management. Research on the nature of the cycles, completed in 1958, revealed that they were evident in textile output data, in fairly regular two-year durations, over

<sup>1</sup> Wallace, William H., Naylor, Thomas H., and Sasser, W. Earl. "An Econometric Model of the Textile Industry in the United States," *Review of Economics and Statistics*, 50 (February, 1968).

the long period from 1919 to 1956.<sup>2</sup> They appeared to be applicable to all important components of textile output, and were apparently unique to the industry. Of particular interest was the consistency of the cycle in the face of a relatively stable end use demand.

The textile cycle now seems to be a thing of the past. It is important, however, in an analysis of the industry since it apparently was a significant factor in the industry's early instability. Its disappearance in fact reflects a number of fundamental changes which have occurred in the nature of the textile industry in the past 10 to 15 years.

There were a number of reasons for the existence of the textile cycle. The nature of the product was a relatively homogeneous and standardized cloth. There were large numbers of buyers and sellers. It was a matter of relative ease, compared to most manufacturing operations, to change the nature of the output by shifting looms and spindles from the production of one type of product to another. The fabrics in their various end uses were highly competitive, particularly in garment production. There was the additional destabilizing influence of the industry in the earlier years. These attributes characterize an industry which is highly competitive, and therefore very sensitive to destabilizing influences generally.

To compound the problems already mentioned, which were inherent in the nature of the industry, there was the additional destabilizing influence of the converter. The role of the converter was to buy the output of textile plants, and generally, to resell to producers of garments or other finished products. He typically placed large orders in anticipation of price rises or held back on orders in anticipation of price declines. He thus took advantage of the textile cycle and had the effect of aggravating it. There was no organized futures market in textiles which would ordinarily tend to moderate cyclical activity. The presence and persistence of the textile cycle tended to have undesirable effects upon firms in the industry, and was associated with the relatively high mortality rate of textile firms. It thus had detrimental effects upon localities in which the firms were located.

### BASIC CHANGES IN THE INDUSTRY

There have been significant changes in some basic characteristics of the textile industry in recent years

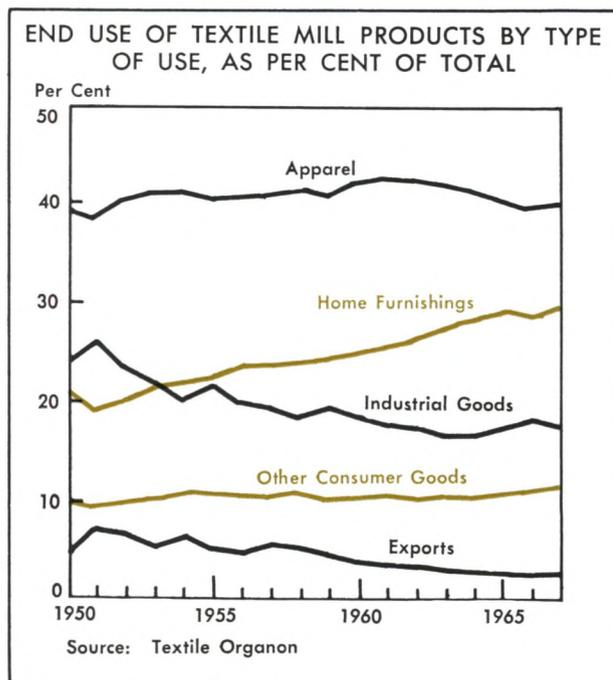
<sup>2</sup> Stanback, Thomas M., Jr. "The Textile Cycle: Characteristics and Contributing Factors," *The Southern Economic Journal*, 25 (October, 1958).

which have tended to bring about the demise of the cycle. These changes have not eliminated all the problems peculiar to this industry, but their effect apparently has been to cause greater short-run stability in the industry's level of operations. While it is not possible upon examining empirical data alone to state unequivocally that basic structural changes have occurred, it is at least true that recent data on textile production do not evince so clear a tendency toward the characteristic cycle that existed earlier.

Observable changes which have taken place in the structure of the industry, the nature of the inputs, and in technology, are the type which would be expected to lessen cyclical sensitivity. Though it is difficult to associate dates with these changes, the changes constitute important differences between the industry today and that of the 1950's and earlier.

The importance of the function of the independent converter has been substantially reduced through the process of vertical integration of manufacturing operations. This trend, as well as the emergence of larger firms, has been noticeable in the past two decades, even though today the largest firm in the textile industry accounts for less than 8% of the industry sales. Textile producers are now concerned with the production of more finished items and more distinctive fabrics. Product differentiation has had the effect of introducing a higher degree of monopolistic competition among textile producers.

Another significant change in the industry has



been the introduction of new fibers. With few exceptions, end uses of textile mill products have changed relatively little. However, the change that has occurred in the type of raw material used has been significant (Charts 1 and 2). The inroads made by man-made fibers have lessened the potential impact of changes in the price of cotton upon the textile industry, and have removed to a large degree the uncertainty surrounding cotton supply. Heavier reliance on the synthetic fibers has been a stabilizing factor. Larger varieties of the given types of outputs are, of course, now available, and quality improvements have been made. The change has been mainly a matter of substitution of inputs to produce substantially the same range of basic types of outputs.

Largely as a result of the economic prosperity of the 1960's, as well as mill liquidations, excess capacity in the textile industry has been substantially diminished. Since the late fall of 1968, a slump in industry activity has occurred, associated with a decline in military demand. However, this is probably a short-run phenomenon. Also, since 1964, due to the introduction of one-price cotton and other changes, the profitability of textile firms has increased significantly. The recent higher profits have led to greater investment, but this investment has gone primarily into modernization of plant and equipment rather than to increases in capacity as such. There has been a tendency to spend heavily on research and development, and to invest in more capital intensive manufacturing processes in order to compete with lower priced imported products.

According to Department of Commerce estimates, the net value of plant and equipment in the textile industry in 1968 was about \$4 billion, with an estimated \$790 million being added to that by investment last year.

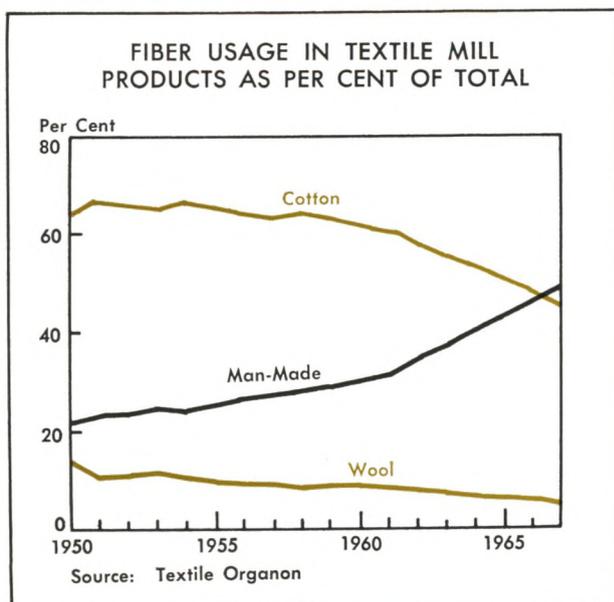
The textile industry would not be classified as a concentrated one. However, there has been an increase in the degree of concentration. Concentration ratios for the census years 1947 and 1954 indicate an increase from .243 to .265. These ratios are the percentages of the total value of shipments for the industry accounted for by the largest four firms. As such they are not perfect measures of the change in the degree of concentration, and probably understate the actual increase in concentration which has occurred. By 1958, the ratio had increased to .288. Comparable figures for later years are not available, but there is evidence that the degree of concentration is continuing to increase. Some recent research has revealed a significant correlation between the decline in employment in the textile industry and the increase in concentration.<sup>3</sup> To the extent that this relationship, which was based on the change from 1947 to 1954, remains valid, it might be expected that the continually declining textile employment would signify further increases in concentration.

There was, moreover, an average decline in the number of textile manufacturing establishments of 1.8% per year over the period 1954 to 1963, and for the same period an average decline in the number of firms of 1.6% per year. These declines were accompanied by an average increase of 3.3% per year in value added in textiles. Even though there are fewer but larger establishments producing a greater output, the average size of the nearly 7,000 which remain is still small.

The increase in concentration has been facilitated through better management skill in larger firms, as well as by the development of patents and the introduction of new techniques of production. As in most industries, breakthroughs along these lines are of necessity limited to the larger firms which can afford them. A transition from family ownership to public ownership and control of a number of textile firms has taken place.

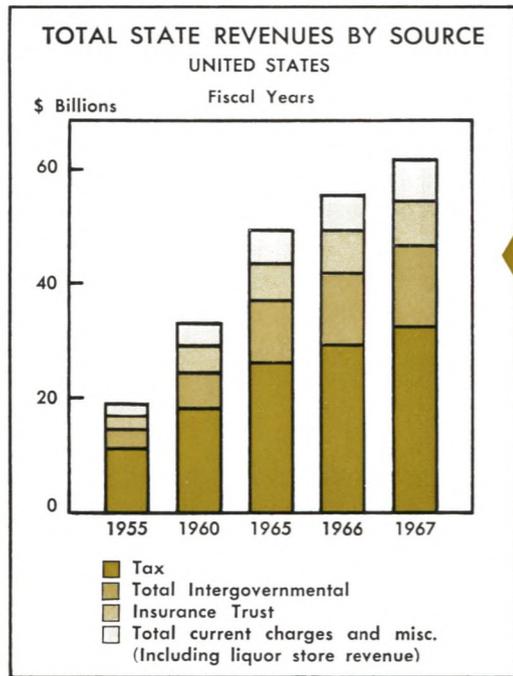
The U.S. textile industry is a fundamentally important one, which in spite of its severe problems, has remained essentially responsive to basic consumer and industry needs. While many of its difficulties persist, many have been resolved, and its resiliency today is unquestionably improved.

*William H. Wallace*

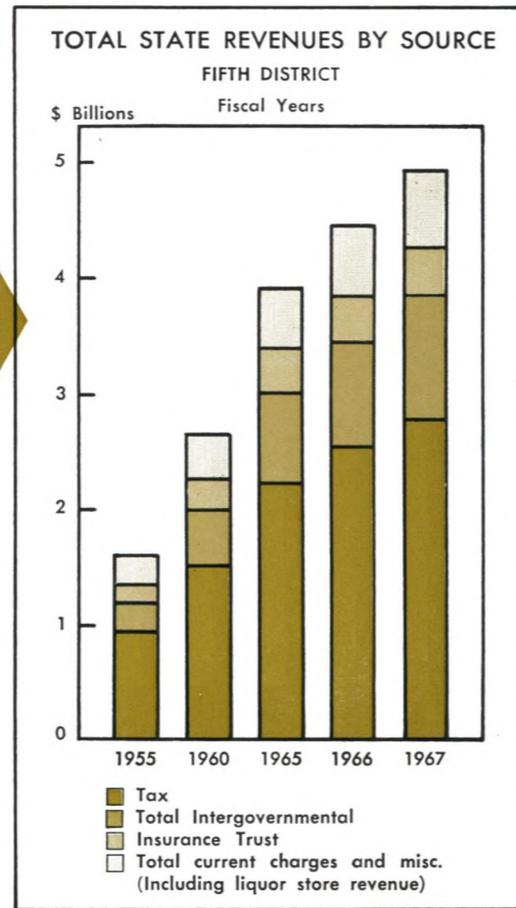


<sup>3</sup> Nelson, Ralph L. *Concentration in the Manufacturing Industries of the United States*. New Haven: Yale University Press, 1963.

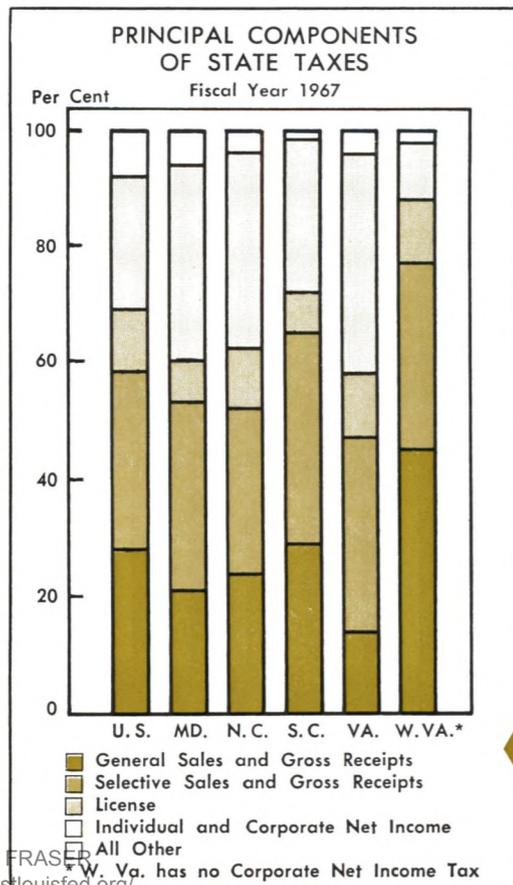
# STATE REVENUES



Total state revenues for the United States more than tripled from 1955 to 1967. Taxes comprised the largest source of revenue but as a per cent of total revenues taxes declined almost 7% during this period. Intergovernmental receipts, which are dominated by Federal grants, increased around 8% for the same period. Insurance trust revenue and total current charges as per cents of total revenues remained virtually unchanged over the period.

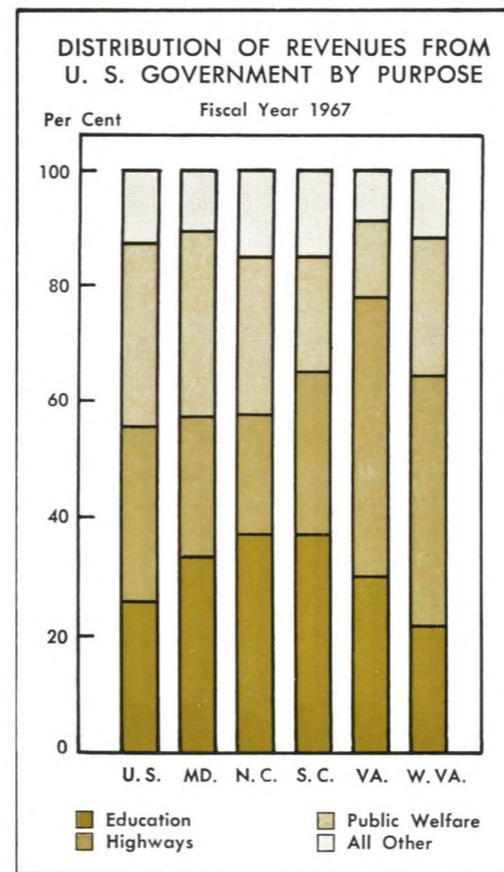
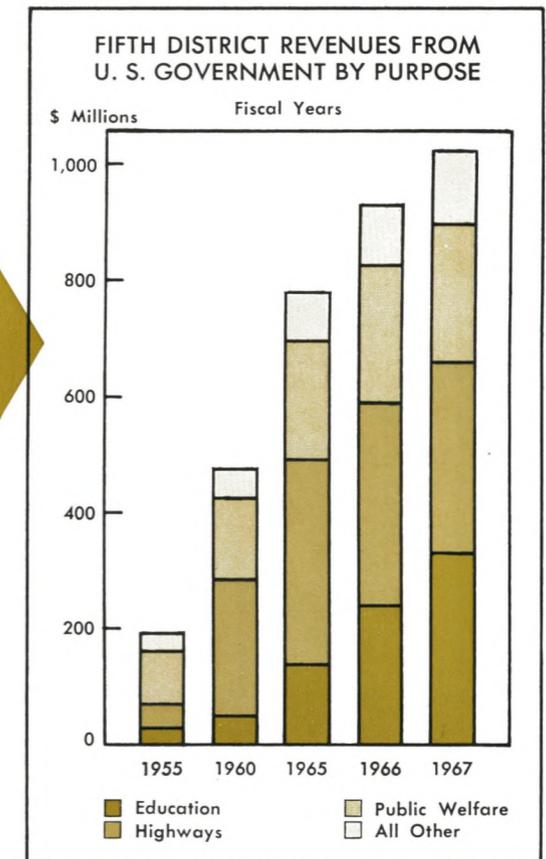


Total revenues for the Fifth District states also tripled from 1955 to 1967 with taxes comprising the major source of revenue. Taxes as a per cent of total revenue, however, declined about 5% from 1955 to 1967. As a per cent of total revenues, intergovernmental revenue increased about 8%, while insurance trust revenue stayed the same and current charges dropped slightly.



State tax receipts in the U. S. totaled nearly \$32 billion in 1967, an 8.7% increase over the previous year. Selective sales taxes yielded about \$9.7 billion. The largest single selective tax was on motor fuels and provided \$4.8 billion, followed by tobacco taxes, \$1.6 billion, and taxes on alcoholic beverages, \$1.0 billion. General sales taxes accounted for \$8.9 billion even though eight states did not have such a tax. Income taxes, totaling over \$7.1 billion, in most states were largely comprised of individual income taxes. Fourteen states, however, had no individual taxes and 12 states collected no corporate income taxes.

Federal aid to all state governments totaled \$13.6 billion in 1967, up from \$2.8 billion in 1955. Over that period allocations to District states for education rose from 12% to 32% of the District's total receipts from the Federal Government. As on the national level, the bulk of the District increase occurred very recently with the ratio rising from only 17% in 1965. District highway receipts rose from 21% of the total in 1955 to 46% in 1965, but with a hiatus in the growth of allotments across the country the District suffered reduced flows and the District ratio fell to 32% in 1967. Grants for public welfare fell from 48% to 23% of the District total despite increased outlays over the 12-year period. In both the District and the nation the large part of the decline was registered before 1960.

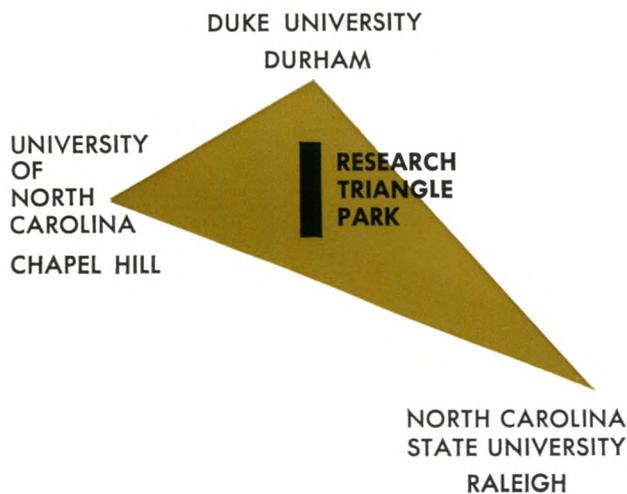


On the national level the largest part of state revenue from the Federal Government in 1967 was for public welfare, \$4.4 billion. Highways were next with \$4.0 billion, then education with \$3.5 billion. In the District, however, highways received the largest amount, \$333 million, down from \$356 million in 1965. Education received \$330 million while public welfare receipts were nearly \$100 million below those for highways. Over a third of highway revenue was accounted for by Virginia (\$122 million).

In 1967 North Carolina received \$281 million of Federal funds to lead the District. Virginia was a close second (\$254 million), followed by West Virginia and Maryland (\$175 million each) and South Carolina (\$143 million). North Carolina led the District states in Federal funds for education (\$104 million) and public welfare (\$76 million).

Dorothy E. Ferrell

Source: U. S. Department of Commerce



# RESEARCH IN A TRIANGLE: PART II

## RESEARCH ORGANIZATIONS IN THE RESEARCH TRIANGLE PARK

Research Triangle Institute

### Federal Government Research Organizations

National Institute of Environmental Health  
Sciences of the U. S. Public Health Service  
National Air Pollution Control Administration of  
the U. S. Public Health Service  
National Center for Health Statistics of the U. S.  
Public Health Service  
Forestry Sciences Laboratory of the U. S. Forest  
Service

### Textile-Oriented Research Laboratories

Chemstrand Research Center, Incorporated,  
Monsanto Company  
Beaunit Corporation  
Hercules, Incorporated  
American Association of Textile Chemists and  
Colorists

### Computer Research and Manufacturing Organizations

International Business Machines Corporation  
Technitrol, Incorporated

### Other Research Organizations

Becton, Dickinson and Company  
Richardson-Merrell, Incorporated  
Burroughs Wellcome & Company (USA)  
Incorporated  
Regional Education Laboratory for the Carolinas  
and Virginia  
Educational Testing Service  
North Carolina Science and Technology Research  
Center  
Triangle Universities Computation Center

*In last month's issue, Part I of this article offered a general outline of the history, structure, and success of the Research Triangle. This concluding portion will deal specifically with the 18 research organizations in the Research Triangle Park. The accompanying table reveals the wide diversity of the organizations and the relatively equal balance between public and private interests.*

**The Research Triangle Institute** RTI is unique among the organizations in the Park in that, unlike the other research establishments, it provides a full range of research services, making it a research center within a research center. The Institute provides research services to clients on a contract basis, with about 75% of the contract volume coming from government and the rest from industry. Over the past ten years the Institute has completed, or is in the process of completing, 440 research projects. The substantial amount of technical research done at RTI draws heavily upon the facilities of the three nearby universities and points up the vital significance of these institutions to the Triangle. The physical facilities and libraries are within easy reach of the Institute, and the many recognized specialists in numerous fields are readily available for consulting services, either on an informal or fee basis.

The Institute is located in the center of the Park and employs a staff of over 350 professional, technical, and support personnel. Sixty per cent of the employees are professionally trained and represent more than 40 different degree fields. RTI is organized into five major research groups: operations research and economics, statistics research, chemistry and life sciences, polymer research, and engineering

and environmental health. In practice, most projects raise questions and require skills that cut across the lines of several disciplines, and accordingly the groups are not functionally separate. Rather, individual research teams are usually multidisciplinary units.

The wide variety of research being done at RTI is perhaps best illustrated by two examples. Recently, scientists at the Institute have found that the rare Chinese *Camptotheca* tree may contain an alkaloid, Camptothecin, highly effective in inhibiting the growth of tumors in mice infected with lymphoid leukemia. Because Camptothecin is so difficult to extract from the plant and because it is so scarce, attempts are now being made to produce the substance synthetically. So far no evidence has been found to indicate that the substance would be effective in preventing or curing cancer in humans, but continued testing may unlock the secrets of Camptothecin and possibly uncover the promise of a cure for human cancer.

A second project involves the intensive study of witchweed, a root parasite which attacks corn, sorghum, sugar cane, and other crops in the Carolinas. The discovery of witchweed ten years ago led to expensive quarantine and control programs since its potential hazard to domestic crops was estimated to range into hundreds of millions of dollars. Scientists at RTI have succeeded in isolating the chemical which causes germination of the weed. The success in isolating the germinating factor could possibly lead to a method of eliminating the pest. The work may also provide a new opening for further studies of seed germination in general. The witchweed project exemplifies RTI's regional involvement.

Subjects slated for increased attention at the Institute are analyses of population trends, economic forecasting, civil defense, transportation, and traffic. Health-related research, however, will continue to be the area of greatest attention and growth in all Institute divisions. Educational research will also be of particular interest this year. For example, RTI was given a \$2 million contract to collect information for a nationwide survey designed to assess educational progress being made in the nation's schools. This unprecedented national study is sponsored by the Committee on Assessing the Progress of Education. The contract is the largest in RTI history and covers the first 17 months of the three-year study.

### **Federal Government Research Organizations**

The U. S. Department of Health, Education, and Welfare is the parent organization of three of the Park's largest tenants. The National Environmental

Health Sciences Center, the National Air Pollution Center, and the Data Processing Laboratory of the National Center for Health Statistics show the emphasis placed on health-oriented research at the Park. The medical schools and hospitals in the Triangle area conveniently provide personnel and facilities to supplement this type of research.

Today the National Environmental Health Services Center is located in interim facilities near the center of the Park. About 200 employees are doing basic research in environmental health sciences. By the mid-1970's the new \$25 million Center should be well established on its permanent 500 acre site. Over 1,000 employees will be working in what is envisioned to be a world center for the protection and preservation of man's health.

Headquarters for the National Air Pollution Administration will be located in interim facilities which are now under construction. By 1971 about 90% of the administrative end of the pollution control program and 50% of the research will be centered in the new facility. Employees will number around 600 and will include physicists, epidemiologists, chemists, engineers, physiologists, plant pathologists, biostatisticians, as well as economists. These specialists will be working to control air pollution—a problem of great national concern.

The National Center for Health Statistics has a permanent home in the Park and employs 140 people. Principal activities of the Center involve operations and research in processing information on health, training of health statistics personnel, and the coordination of technical assistance to states.

The U. S. Department of Agriculture's Forest Sciences Laboratory was one of the Park's earliest inhabitants. Its opening in 1962 signaled a new dimension in research on forest soils and diseases. The 45 employees at the Laboratory deal primarily with research on the life processes of trees and associated organisms, so that the Forest Service can be prepared to solve the long-term basic problems of forest production and protection. Entomology, the study of insects, is an area of prime importance.

**Textile-Oriented Research Laboratories** Considering North Carolina's history as a state long associated with the textile industry, it is not surprising to find that three of the country's largest textile corporations have research organizations in the Park. The Chemstrand Research Center, established in 1960, was the Park's first major industrial tenant. The Center acts as the basic and applied research arm of the Monsanto Company, one of the world's largest manufacturers of man-made

fibers. The 400 Chemstrand employees deal with research and development of synthetic fibers, structural materials, and other products of interest to the Monsanto Company. Beaunit Fibers, an affiliate of Beaunit Corporation, is a research organization devoted to man-made fibers research. Beaunit has two buildings in the Park; one houses executive and administrative employees, while the other is occupied by research personnel. The principal activities of the third and newest textile-oriented lab, Hercules Incorporated, are research and development for fibers, fiber sales, and technical sales service for fibers.

The headquarters and testing laboratories of the American Association of Textile Chemists and Colorists are also part of the Park's textile-research community. This technical and scientific society is concerned with the chemistry of textiles. Its 9,000 members are located in 47 states and 50 countries, and 300 companies are affiliated as corporate members.

**Computer Research and Manufacturing Organizations** International Business Machines Corporation's \$15 million product-development and manufacturing installation houses 2,800 employees. IBM is the largest employer in the Park and maintains a staff of scientists and technicians who work primarily on data communications equipment and components for IBM's 360 computer. Technitrol, the only other Park facility engaged in manufacturing, produces pulse transformers and computer components.

**Other Research Organizations** Further emphasis will be placed on health-oriented research when three nationally recognized drug companies become members of the Park's research community. Richardson-Merrell's facilities are still in the early planning stages. Construction will start late this year on Becton, Dickinson and Company's new research facilities. The Company will conduct basic and applied research in the health sciences and biological safety and control activities. The corporate headquarters and pharmaceutical research laboratories for Burroughs Wellcome and Company are now being built. The beautiful, ultramodern building will house around 250 employees.

Two of the Park's tenants function as centers of educational studies. The Regional Education Laboratory for the Carolinas and Virginia is a non-profit private corporation whose principal activity is research in education. The Educational Testing

Service, a corporate affiliate of Educational Testing Service in Princeton, New Jersey, deals primarily with educational research, test development, and consultation.

The North Carolina Science and Technology Research Center is a state government organization. Created by the North Carolina General Assembly in 1963, the Center receives appropriations from the state to distribute as grants for scientific research in North Carolina. It also serves as a regional distribution center for the findings of NASA and other Federal agencies involved in space research and exploration.

The Triangle Universities Computation Center, or TUCC, is one of the most interesting organizations in the Park. Established by the three schools, its purpose is to support the educational, research, and administrative activities of the triangle universities through the use of high-speed communications and data processing facilities. TUCC is a nonprofit corporation, and the costs of operating the facility are borne equally by the three universities. The computer, IBM's System/360 Model 75, is connected by direct lines to the schools. By using either telephones or teletype machines located at each of the three campus computer centers, operators can share the services of the giant computer which can add one million ten-digit figures in less than a second. TUCC had one of the first installations of the Model 75, and it remains one of the largest and most extensive educational computer centers in the country.

Before TUCC became fully operational a plan was developed to extend its services to other North Carolina colleges. The North Carolina Computer Orientation Project was organized to carry out this idea. The project offers the 86 eligible institutions a one-year trial period of computer service without charge. Each participating college is furnished a Model 33 Teletype terminal. A "circuit rider" is also sent to the interested schools to give instruction and assistance to their faculty members.

**Summary** The 18 institutions in the Park paint a vivid picture of the diversity and productivity of research in the 20th century. This community of thought and investigation, linked with the three universities, has created a research complex unique in both function and substance. As former Governor Hodges says, "There is nothing quite like it anywhere else, in fact, in spirit, or in purpose."

*Carla R. Gregory*

# The Fifth District



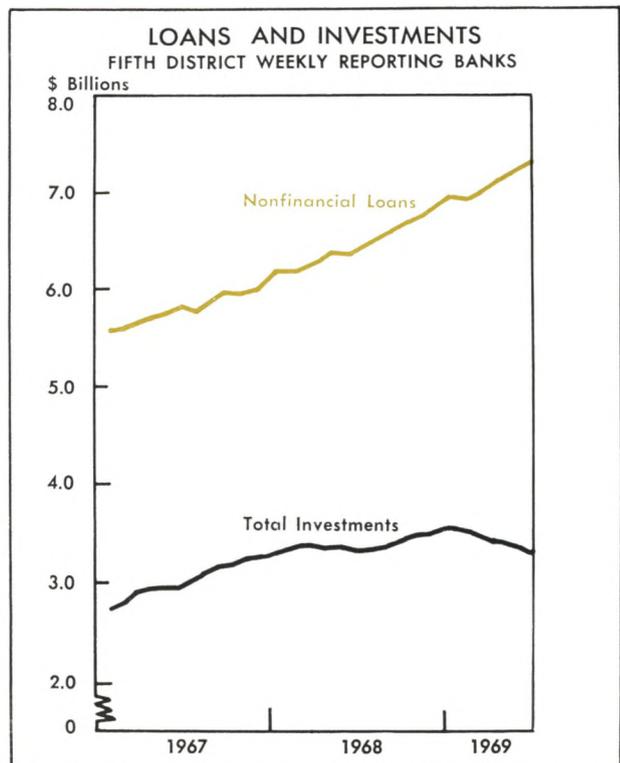
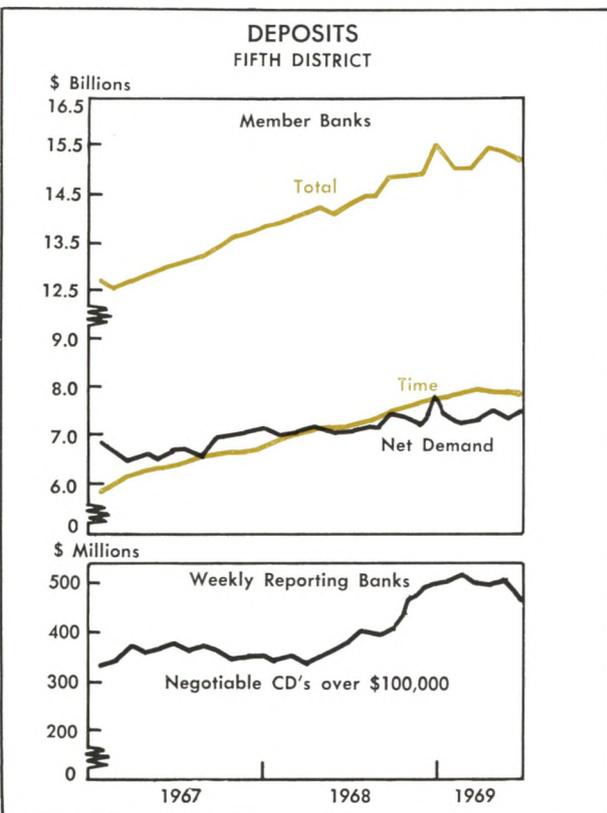
## BANKING DEVELOPMENTS

The pace of business activity in the Fifth District continued to expand throughout the first half of 1969. Construction activity increased, employment was high, retail sales were quite strong, and most manufacturing industries experienced heavy demand. Associated with this high level of business activity, Fifth District banks realized continued strong loan demand. In order to accommodate this demand in the midst of monetary restraint, banks increased their borrowings and liquidated a substantial amount of their investments.

Total deposits at Fifth District member banks fell \$156 million, or at an average annual rate of 2%. This decline was due to a \$296 million, or 7.4%, drop in demand deposits net of cash items in process of collection and demand balances due from banks. Such deposits normally drop in the first half of the

year, but the rate of decline in the first half of 1969 was exceptionally high. Furthermore, the unusually slow 3.6% rate of growth in time deposits failed to offset the decline in demand deposits. The slow growth in time deposits largely reflects the \$34 million loss of large certificates of deposit at Fifth District weekly reporting banks.

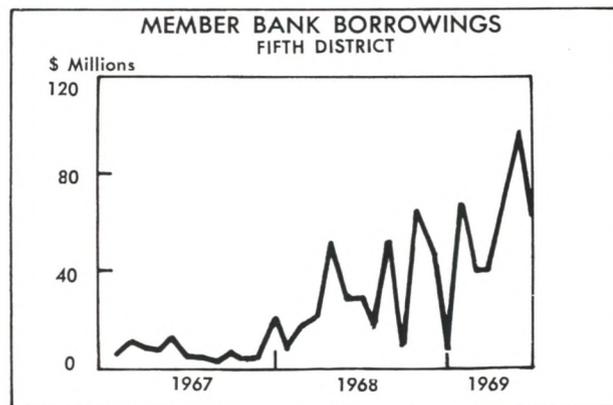
In spite of their limited deposit sources of funds banks have, to a great extent, been able to accommodate the strong loan demand prevailing in the Fifth District. Loans adjusted, which are loans net of interbank transactions, grew by \$470 million. The bulk of the advance, \$435 million, was in nonfinancial loans. This increase, at an average annual rate of 10.9%, is seasonal or a little stronger. Business loans showed exceptional strength, growing by \$212 million, or at an annual rate of 15.1%. Consumer instalment and real estate loans also showed



great strength. Financial loans, an extremely volatile series, reinforced the increases shown in nonfinancial loans.

Fifth District member banks were able to increase the volume of their loans outstanding in the midst of declining deposits by liquidating 6.5% of their investments. Weekly reporting banks' holdings of securities fell by \$246 million, or 6.9%, contrary to typical seasonal increases. Most of this decline, \$152 million, came in over-one-year Governments, which fell at a 20.2% annual rate. Short-term municipal holdings dropped significantly while short-term Governments and long-term municipals were virtually unchanged. Investments as a percentage of Fifth District bank credit fell from 30.9% to 28.5%.

The 18 largest banks in the District were large net purchasers of Federal funds, particularly in May and June, even as rates soared. For all Fifth District member banks, sales to banks outside the District exceeded purchases by Fifth District banks in the period from March through June.



Fifth District banks made frequent trips to the Federal Reserve discount window. Daily borrowings were predominantly in the \$40 million to \$100 million range, levels rarely reached in the past ten years. Borrowings reached a record high of \$138 million over the June 27-29 weekend.

*Wynnelle Wilson*