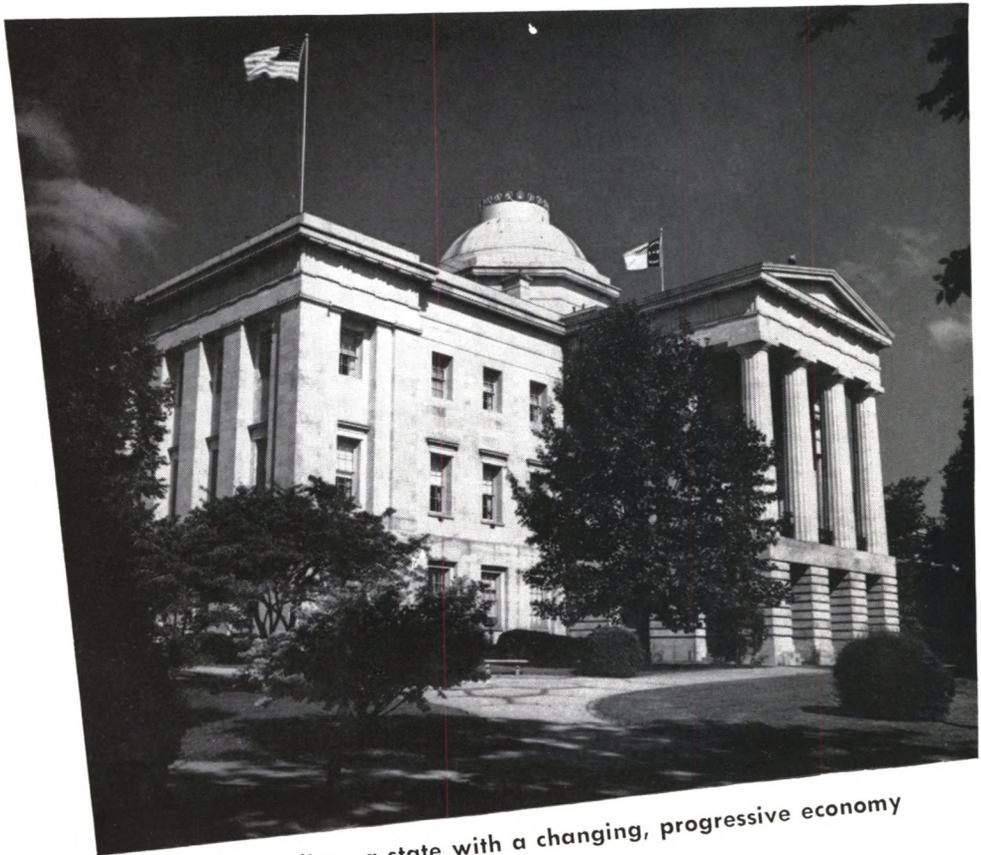


# MONTHLY REVIEW



North Carolina—a state with a changing, progressive economy

FEDERAL RESERVE BANK OF RICHMOND

NOVEMBER 1962



# NORTH CAROLINA

## An Economic Profile

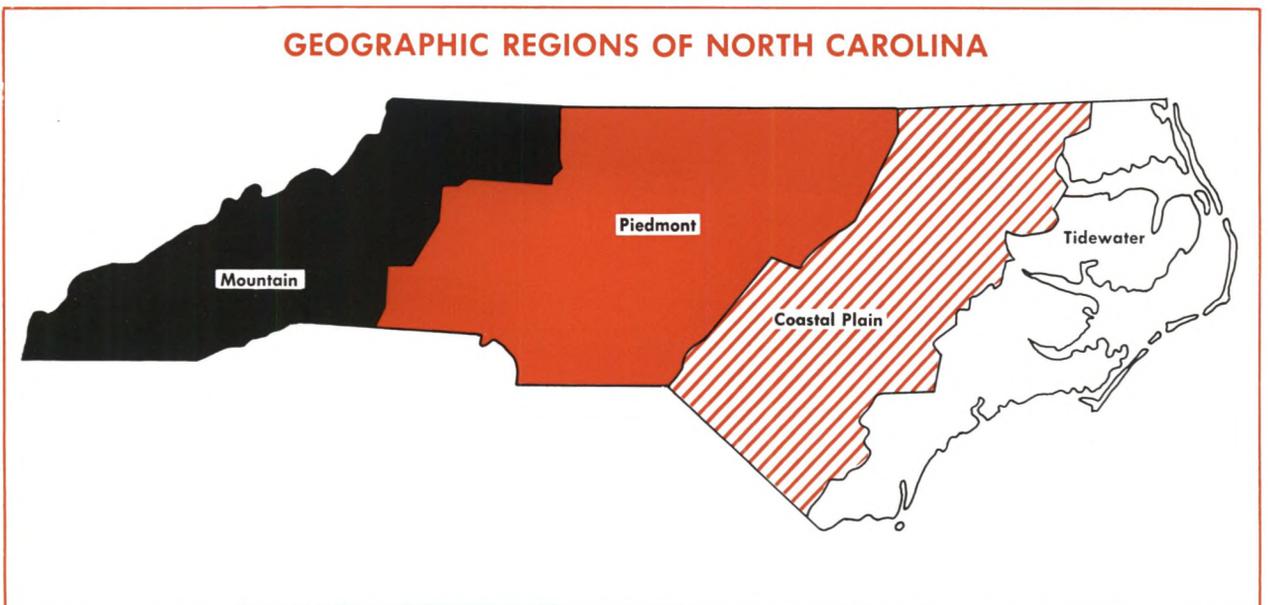
North Carolina, largest of the Fifth District states and a leader in the South, is the subject of this month's economic profile. The article develops some general background material on the State's economy and notes its relative progress.

**FOUR REGIONS** For purposes of analysis the State is often divided into four regions: the Tidewater, the Coastal Plain, the Piedmont, and the Mountain. The Tidewater has the smallest share of the population and the lowest population density. For income its residents depend mainly on farming, lumbering, fishing, and tourism. The Coastal Plain is the great agricultural region of the State, and ranks as one of the most important tobacco growing areas in the nation. The Piedmont is the largest and most prosperous region. Here are located most of the manufacturing industries, with textiles, tobacco products, and furniture predominating. The Mountain Region

contains Mt. Mitchell, the highest peak in the Appalachian Chain. In this area, the principal sources of income are agriculture and tourism.

**PEOPLE** Nationwide, North Carolina ranks twelfth in size of population, and in the South Atlantic region only Florida is more populous. Between 1950 and 1960, the State gained nearly a half million residents for a 12% increase. Though substantial, this gain was well below the nation's 19%. During the 1950's as in previous years, North Carolina's birth rate was higher than the national average, but net out-migration (the excess of persons leaving over those entering) was considerable. It averaged 90 persons per day for a total of 328,000 over the ten years, an even larger number than the previous record exodus which occurred during the 1940's. The two leading causes of the outflow were a superabundance of labor in rural areas and the continued movement of nonwhites

### GEOGRAPHIC REGIONS OF NORTH CAROLINA



from rural areas of the South to the urban North.

The recent population changes were not distributed equally among the regions. During the Fifties, the Tidewater and Piedmont increased about 18%, while the Coastal Plain grew by half as much and the Mountain Region remained nearly static. All the regions experienced net out-migration in this period, but four-fifths of the total occurred in the nonindustrial Mountain Region and Coastal Plain.

About one-half of the population now lives in the Piedmont, a fourth in the Coastal Plain, a seventh in the Mountain Region, and the remaining tenth in the Tidewater. Since 1900 the industrial Piedmont has shown the fastest growth.

Although the State has more than 4½ million residents, it has no very big cities. The largest, Charlotte, has slightly over 200,000 people within its corporate limits. Six other cities, five of them in the Piedmont, have populations ranging from 67,000 to 128,000.

The rural population is sizable, accounting for more than half of the total. Contrary to popular belief, a majority of the rural residents are not farm people. They live either in very small towns or on land which is no longer farmed.

Though predominately rural, the State is becoming increasingly urban. In every decade of this century the urban population grew faster than the rural because of migration to the cities. More than four-fifths of the total growth in the 1950's occurred in urban areas.

North Carolina's nonwhite population now represents about one-fourth of the total. Nonwhites

are most numerous in the Piedmont, but comprise a greater part of the population in the Coastal Plain. They had a majority in nine of the 23 counties in the latter region in 1960.

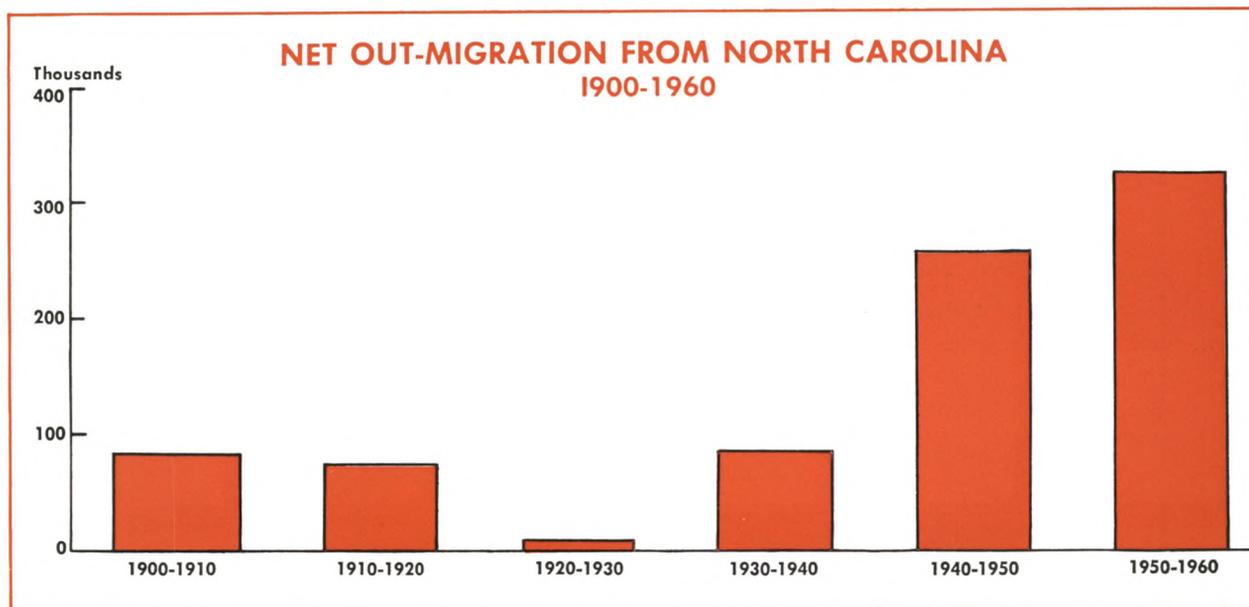
Through a higher rate of out-migration, due primarily to the attractions of greater economic opportunity elsewhere, the proportion of nonwhites in the population has declined steadily over the past several decades. Net out-migration of nonwhites during the Fifties is estimated at 185,000—about 14% of the nonwhite population at the beginning of the period.

**LABOR FORCE UTILIZATION** According to the recent census, 56 out of every 100 North Carolinians over 13 years of age are in the labor force, a ratio slightly above the nation's 55% because more of the women work. Led by the trend toward working wives, who today outnumber single working girls, the number of women in the labor force rose by 36% during the 1950's—ten times the relative gain for males, but men still outnumber women by nearly two to one. The percentage of women who work is highest in urban areas. It is also higher among nonwhites than whites, whereas among men this situation is reversed.

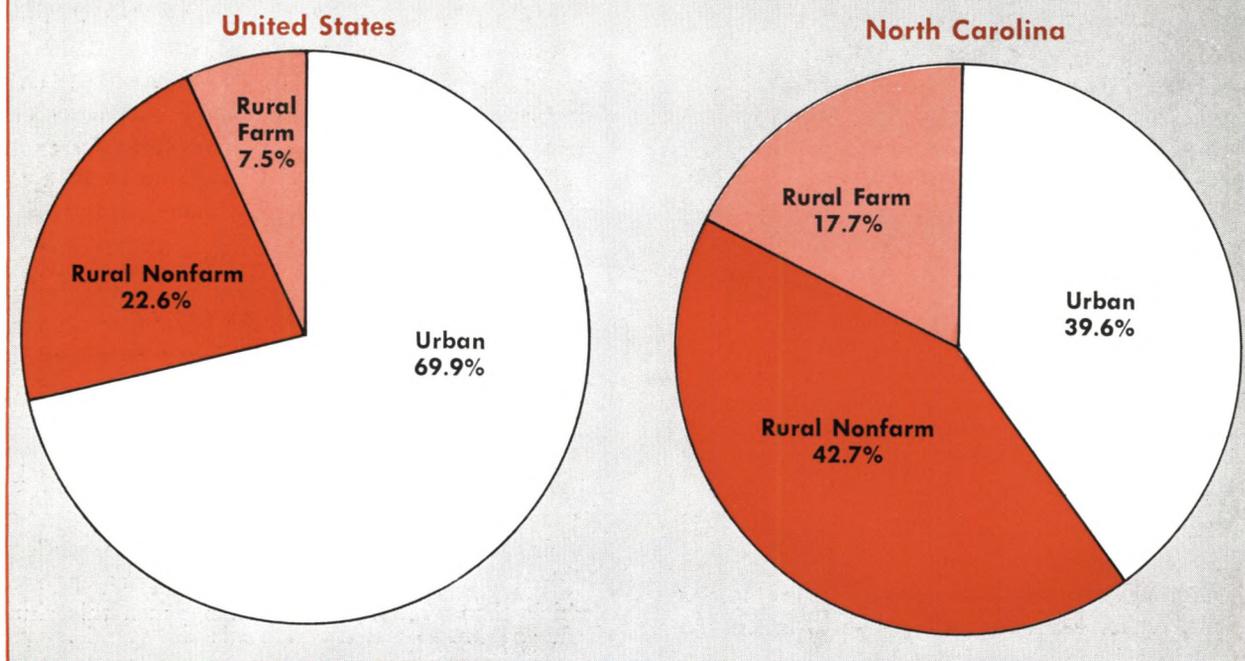
The diversity of jobs is great, but to generalize, the majority are for blue collar and farm workers. This distribution is likely to change in a few decades since white collar job openings are mushrooming. During the 1950's the number of jobs using professional, technical, and clerical skills grew about five times as fast as the State average for all jobs.

The importance of blue collar jobs highlights the

In every decade of this century the State has been an exporter of population. During the 1950's the exodus was larger than ever before.



## POPULATION DISTRIBUTION, 1960



Unlike the nation, which is predominantly urban, the State has a larger rural population. Many of the rural residents are not farmers.

leading role of manufacturing. North Carolina leads the South in number of manufacturing employees, and nationally it ranks tenth.

Agriculture follows manufacturing as a major employer. In 1961 only Texas had a larger agricultural work force. However, because North Carolina farms are typically small, low-income units, many of the operators depend on part-time nonfarm jobs to supplement their income. The 1959 Census of Agriculture showed that more than one-fourth of North Carolina's farmers spent at least 100 days per year at jobs away from the farm, and that a third of all farm families received over half of their income from nonfarm sources. Part-time farming is most prevalent in the Mountain Region and the Piedmont.

Government—Federal, State, and local—ranks third in employment. More than half of all government employees work for the State and local units, a good portion of these persons being teachers. Federal civilian employees are relatively small in number, but this is not true for the military. North Carolina is one of the nation's leading defense areas, only four states having larger military populations in 1961. The largest installation is Fort Bragg, located close to Fayetteville. This post, home of the Strategic Army Corps, has over 30,000 troops, a number close to the population of Rocky Mount. The Marine

Corps is represented by the Camp Lejeune amphibious training base and the Cherry Point Air Base. The Air Force operates two bases—Pope, adjoining Fort Bragg, and Seymour Johnson, located near Goldsboro.

If self-employed individuals, unpaid family workers, and domestic servants are grouped together, the estimated total of 229,000 ranks below that for government employment and just ahead of the number of jobs provided by wholesale and retail trade combined. A final major, and rapidly growing, source of employment is in the provision of various services to both persons and business.

**EMPLOYMENT TRENDS** The most reliable employment data are for persons in nonagricultural industries covered by Social Security. This series excludes farm workers, the military, the self-employed, domestic servants, and unpaid family workers. Nevertheless, it covers about two-thirds of the labor force and is valuable in the study of employment trends.

According to this series, nonagricultural employment increased by 29% between 1950 and 1961. This compares with a national increase of 20% and was greater than the gain in any adjoining state except Georgia, which topped North Carolina by a hair.

Manufacturing added the largest number of em-

ployees, accounting for one-third of the 272,000 increase. The relative gain of 21% was large compared to the national average, but below the growth exhibited by many of the State's nonmanufacturing industries. Trade, government, services, contract construction, and the finance group all showed much larger percentage gains.

U. S. Department of Agriculture data on farm workers, while not comparable with the nonagricultural series, indicate that the number of farm workers in North Carolina dropped by 177,000, or 30%, between 1950 and 1961. A decline occurred each year, the greatest coming in 1956 when 42,000 workers left farms.

**PERSONAL INCOME** The major sources of personal income are the State's big employers—manufacturing, agriculture, government, and trade. Because some types of employment are more remunerative than others, however, their relative importance as income sources does not parallel their ranking as job sources. For example, in 1961 roughly 16% of the labor force was in agriculture but only 9% of personal income came from this source.

Manufacturing is the largest single source of income. In 1961 wages and salaries in this sector accounted for 24% of total personal income; for the nation as a whole the comparable share was 21%. Government ranks second as a source of income. If all types of Federal, State, and local disbursements are counted (wages and salaries, military reservists' pay, social security, and other transfer payments), government provided one-fifth of the personal income in 1961, about the same share as nationally.

**PER CAPITA INCOME** Personal income divided by population gives the per capita amount, which provides some basis for comparison with other states. In 1961 North Carolina's per capita income was \$1,642—an amount \$621 below the national average and lower than in 41 other states. Compared with the adjoining states, North Carolina ranked above Tennessee and South Carolina but below Virginia and Georgia.

A number of factors contribute to the relatively low North Carolina figure. First, agriculture, in which a great many North Carolinians are employed, is not a source of large incomes. In 1961 net income per farm was just slightly over \$3,000. Second, most of the State's manufacturing industries pay wages well below the national average for all manufacturing. In 1961 average weekly earnings were lower than in any other state except Mississippi. Third, because of the large number of children and the net out-migration of a substantial number of

## NORTH CAROLINA LABOR FORCE

Monthly Average, July 1961 to June 1962

Industry	Thousands of Persons	Per Cent of Total
<b>Total labor force</b>	<b>1,915.8</b>	<b>100.0</b>
<b>Armed forces</b>	<b>78.5</b>	<b>4.1</b>
<b>Civilian labor force</b>	<b>1,837.3</b>	<b>95.9</b>
<b>Unemployed</b>	<b>86.5</b>	<b>4.5</b>
<b>Employed</b>	<b>1,750.8</b>	<b>91.4</b>
<b>Manufacturing</b>	<b>512.6</b>	<b>26.8</b>
<b>Agriculture</b>	<b>308.8</b>	<b>16.1</b>
<b>Self-employed, unpaid family workers, and domestic servants</b>	<b>228.8</b>	<b>11.9</b>
<b>Trade</b>	<b>217.5</b>	<b>11.4</b>
<b>Government</b>	<b>175.5</b>	<b>9.2</b>
<b>State and local</b>	<b>138.1</b>	<b>7.2</b>
<b>Federal civilian</b>	<b>37.4</b>	<b>2.0</b>
<b>Services</b>	<b>130.6</b>	<b>6.8</b>
<b>Contract construction</b>	<b>64.6</b>	<b>3.4</b>
<b>Transportation, communications, and public utilities</b>	<b>63.9</b>	<b>3.3</b>
<b>Finance, insurance, and real estate</b>	<b>44.7</b>	<b>2.3</b>
<b>Mining</b>	<b>3.8</b>	<b>0.2</b>

Sources: Employment Security Commission of North Carolina; North Carolina Department of Labor; U. S. Department of Commerce, Bureau of the Census.

adults, the State has a smaller proportion of income earners than the national average. Fourth, most of the large nonwhite population hold unskilled jobs which pay poorly.

Although North Carolina per capita income is well below the national average, it has risen considerably. In 1929, the first year for which estimates were made, the State figure was less than half the national amount, whereas today it stands at nearly three-fourths. The largest relative improvement occurred during the 1930's and World War II. In the first period North Carolina's greater reliance on agriculture softened the impact of the Great Depression, and during the war the influx of the military helped to swell income. Since World War II the percentage growth of Tarheel per capita income has been only slightly above the national average, and thus the ratio of the two incomes has remained fairly stable.

Compared with the adjoining states, North Carolina matched the 1950-61 percentage gains in South Carolina, Georgia, and Tennessee and exceeded the rise in Virginia.

Per capita estimates do not give any indication of the distribution of income, but this information is found in tabulations of incomes reported on Federal income tax returns. In 1959, the most recent year for which these data have been published, three-fourths of the 1.3 million returns were filed by per-

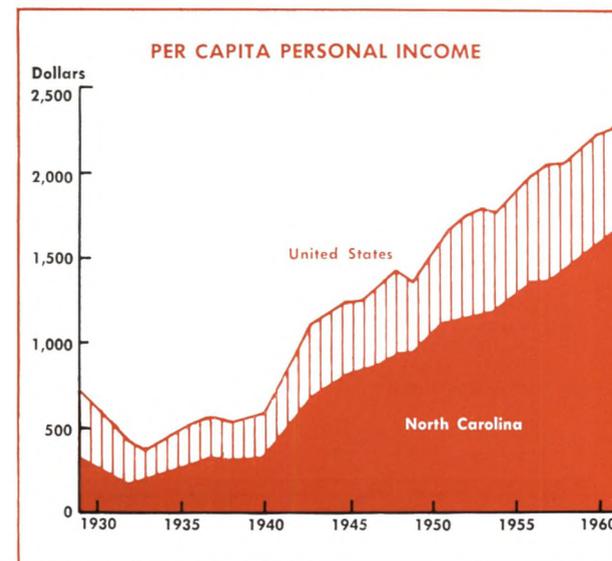
sons with adjusted gross incomes under \$5,000. About one-fifth were in the middle income group between \$5,000 and \$10,000, and the higher income brackets accounted for the remaining 4%. The concentration of returns at the low end of the income scale was much more pronounced in North Carolina than for the nation as a whole.

To complete this brief profile, a look at the more important industries and enterprises which comprise the vast manufacturing and agricultural complexes will yield a picture of the base of North Carolina's economy.

**MANUFACTURING** Textiles tower above all other manufacturers in the State. Such firms produce almost a fourth of all broad woven cotton goods made in America and more than a third of the man-made fiber products. The State's spinning mills turn out nearly half of all cotton yarn produced for sale in this country and about the same proportion of the hosiery output. In 1961 the more than 1,000 textile firms, mostly located in the Piedmont, employed over 200,000 persons and thus accounted for 43% of North Carolina manufacturing employment. Although huge, this share was below the 55% which textiles had in the early postwar period.

Other major manufacturing employers, in order of significance, are furniture, food processing, apparel, tobacco, and lumber and wood products. North Carolina is first in the nation in the manufacture of unupholstered and upholstered wood furniture. Furniture manufacturers employ about 45,000 persons, nearly all in the Piedmont. High Point is the site of one of the nation's principal furniture markets—the mammoth Southern Furniture Exhibition Build-

In spite of improvement, State income remains below average.



## MANUFACTURING IN NORTH CAROLINA, 1960

Industry	Employees		Industry	Value Added	
	Number	Per Cent of Total		Amount (\$ Thous.)	Per Cent of Total
<b>Total</b>	<b>496,559</b>	<b>100.0</b>	<b>Total</b>	<b>3,760,774</b>	<b>100.0</b>
Textile mill production	217,427	43.8	Textile mill products	1,231,464	32.7
Furniture and fixtures	45,179	9.1	Tobacco products*	650,000	17.3
Food and kindred products	34,084	6.9	Food and kindred products	276,936	7.4
Apparel and related products	34,083	6.9	Furniture and fixtures	275,782	7.3
Tobacco products**	32,300	6.5	Chemicals and allied products	200,417	5.3
Lumber and wood products	30,107	6.1	Apparel and related products	137,050	3.6
Chemicals and allied products	12,826	2.6	Paper and allied products	113,080	3.0
Paper and allied products	12,094	2.4	Lumber and wood products	108,949	2.9
Other	78,459	15.8	Other	767,096	20.4

\* This figure is for 1958 and is limited to cigarettes and tobacco coming and redrying; 1960 data are not available.

\*\* Estimate by the North Carolina Department of Labor.

Source: U. S. Department of Commerce, Bureau of the Census; North Carolina Department of Labor.

ing where four special showings are held each year.

The apparel industry has shown tremendous growth in recent years mostly because established firms in other sections have moved into the State. It accounted for 7.4% of manufacturing employment in 1961, up from 3.2% in 1950. The food processing industry also showed large gains during the 1950's, and promoters of industrial development are eagerly encouraging this growth because it is widely believed that more of the State's farm products can be profitably processed within its borders.

Tobacco, ranking fifth in employment, is probably the State's best known industry. In 1961, plants in the cities of Winston-Salem, Durham, Reidsville, and Greensboro manufactured over 300 billion cigarettes, about two-thirds of the national total.

Lumber and wood products, the last of the principal manufacturing groups, accounts for about 6% of the total manufacturing employment. However, jobs in this industry dropped by one-fourth during the 1950's as many small lumbering firms went out of business. This industry and textiles were the only major industries in which employment dropped during the decade.

Slow growth or reductions in employment by some of the principal manufacturers combined with expansions by smaller industries provide evidence of the industrial diversification that has occurred since

1950. Traditionally, producers of nondurable goods have been the State's most important manufacturing employers. Yet, in terms of percentage gains they lagged behind durables, with the result that their share of manufacturing employment declined from 76% in 1950 to 72% in 1961. Within the durables group the best relative gains were achieved in furniture; stone, clay, and glass products; fabricated metals; and machinery. Among nondurables, apparel, food processing, chemicals, and printing were the front runners.

In absolute number, the largest increases occurred in furniture, food processing, and apparel. In general, these industries do not require highly developed skills and pay wages well below the State average for all manufacturing industries.

Bureau of the Census data show that between 1950 and 1960 the value of manufacturing output grew more rapidly than employment. Part of this was due to inflation, but industry's larger investment in plant and equipment also contributed. With bigger and more efficient machines, firms were able to turn out more goods per worker.

Tarheel manufacturing industries did well during the 1950's as average annual growth rates for both production workers (1.3%) and value added (7.5%) exceeded those of the nation. North Carolina also compared well with its four neighbor states. Its

rate of growth in number of production workers was second only to Tennessee, and in value added it placed a strong third.

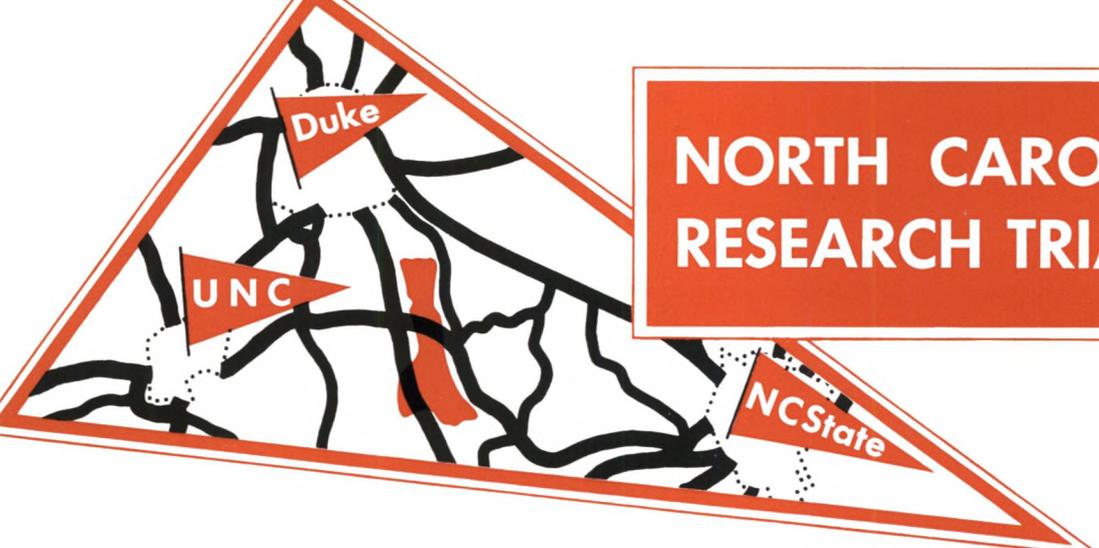
**AGRICULTURE** Crops are much more important than livestock on North Carolina farms, accounting for 71% of the cash receipts in 1961. Over the years this distribution has been shifting in favor of livestock, but the imbalance is still pronounced because of the dominance of tobacco. In 1961 the State's tobacco acreage represented 40% of the national total and was more than double that of Kentucky, the nearest competitor.

The most significant features of North Carolina farms are their small physical and economic size and high value per acre. In 1959, the year of the latest Census of Agriculture, the average size was only 83 acres, and 90% of the farms had gross sales under \$10,000. The average acreage, at one-third of the national figure, was the smallest in the country. In contrast, value per acre was considerably higher than in most other states. Both of these conditions are primarily a result of the nature of the tobacco and cotton crops, which require relatively large amounts of labor per acre and are subject to Government programs which have restricted acreage, maintained prices, and thus made land with allotments more valuable.

Many of the farmers are not owners. Approximately three out of every ten are tenants and about half of these are sharecroppers. Tenancy is most significant among nonwhites, who work on a majority of the tenant farms yet represent less than a fourth of the farm operators.



This article is the third of a series of economic profiles of states in the Fifth Federal Reserve District. Booklets describing the Virginia and Maryland economies are now available on request, and a similar study of North Carolina will be published early in 1963.



# NORTH CAROLINA'S RESEARCH TRIANGLE

Research is a dynamic word. It is associated with subjects such as space exploration, nuclear physics, miracle drugs, and synthetic fibers. Because it is so important for our health, comfort, and, above all, our national survival, literally billions of dollars are being spent for research. Many of these dollars are funneled into the traditional research centers—Boston, New York City and adjacent areas in New Jersey, and the Washington-Baltimore region—but now other parts of the nation are awakening to the attractions of research. Among them is the Research Triangle in North Carolina.

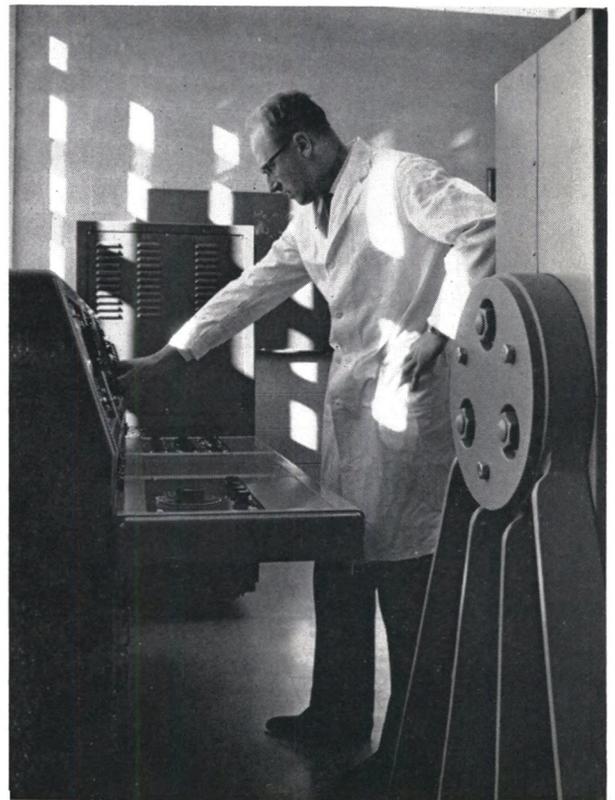
In 1955 a group of prominent North Carolinians, including the governor, made plans to establish what is now called the Research Triangle. The founders of the Triangle saw that research facilities can be just as much of a drawing card for industry as location, markets, raw materials, labor supply, power, and climate. They also saw that North Carolina was blessed with several large, closely situated academic institutions which could provide the foundation for a carefully planned research community. These schools, the University of North Carolina at Chapel Hill, Duke University at Durham, and North Carolina State College at Raleigh, form the vertices of a triangle whose center is no further than 15 miles from any of the three institutions. Together they employ some 2,000 faculty members and have libraries containing over 2½ million books. All branches of learning are represented with medicine, statistics, chemistry, biology, and engineering being particularly important.

In addition to furnishing instruction for thousands of students, these institutions are important research centers. Work now in progress has an annual contract value of more than \$24 million and employs roughly 1,200 professional and technical researchers.

The persons who spearheaded the Triangle idea began their work by forming the nonprofit Research

Triangle Committee, Inc., which enlisted the cooperation of cities, schools, and other public and private groups to found an industrial park designed for research and located close to the center of the Triangle. A fund-raising campaign secured donations totaling \$1.5 million from private persons and institutions. With this money, the Committee—which later changed its name to Research Triangle Foundation—purchased a 4,600-acre tract of land to be administered by Research Triangle Park, Inc., a wholly owned subsidiary of the Foundation. The corporation is responsible for the development of the Park, the sale or lease of land, and promotional programs. The Park has special zoning restrictions which govern architecture and land usage. Small pilot plants are permitted, but large-scale operations are forbidden.

A scientist works with nuclear magnetic resonance equipment.



The Park is envisioned as an "industrial campus," not a second Ruhr.

The Foundation donated land and funds to a newly formed nonprofit research organization—the Research Triangle Institute. The State legislature also participated by appropriating \$200,000 as a special grant for the purchase of equipment. The Institute does contract research for industry, government, educational institutions, and foundations. It is not a part of the University of North Carolina, Duke, or State College, but it shares a close association with them. The heads of these schools serve on its Board of Governors, and its research personnel are often in contact with their university counterparts. In some cases research conducted under the supervision of the Institute is accredited toward advanced degrees at the universities.

Thus, the Research Triangle is actually three organizations: the Research Triangle Foundation, the Research Triangle Park, Inc., and the Research Triangle Institute. The Foundation, which bears some similarity to a holding company, has acted as the over-all directing force. It provided the funds to purchase the land, owns the corporation which administers the Park, and uses its profits to make research grants to the Institute, the colleges, and other research organizations. The other two Triangle institutions, Research Triangle Park, Inc., and the Institute, are operating organizations.

**THE RESEARCH TRIANGLE PARK** The Park now has

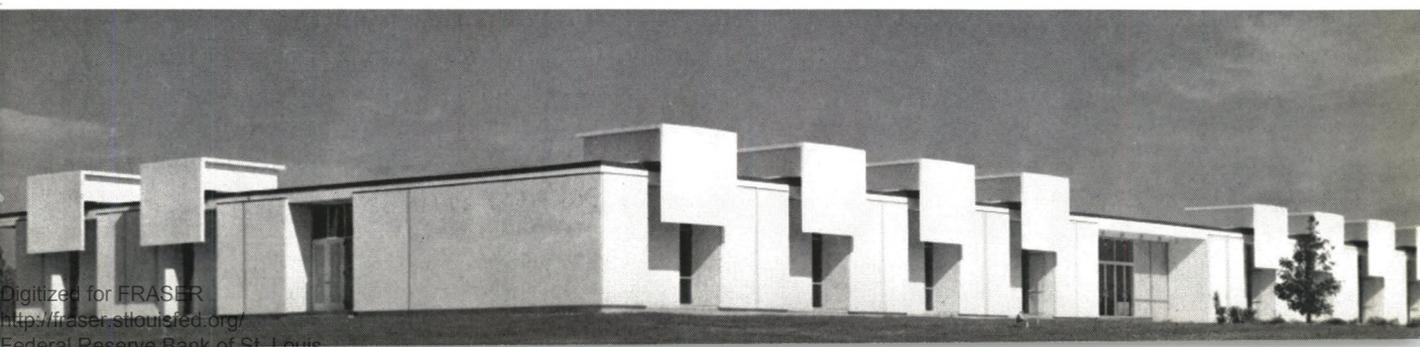
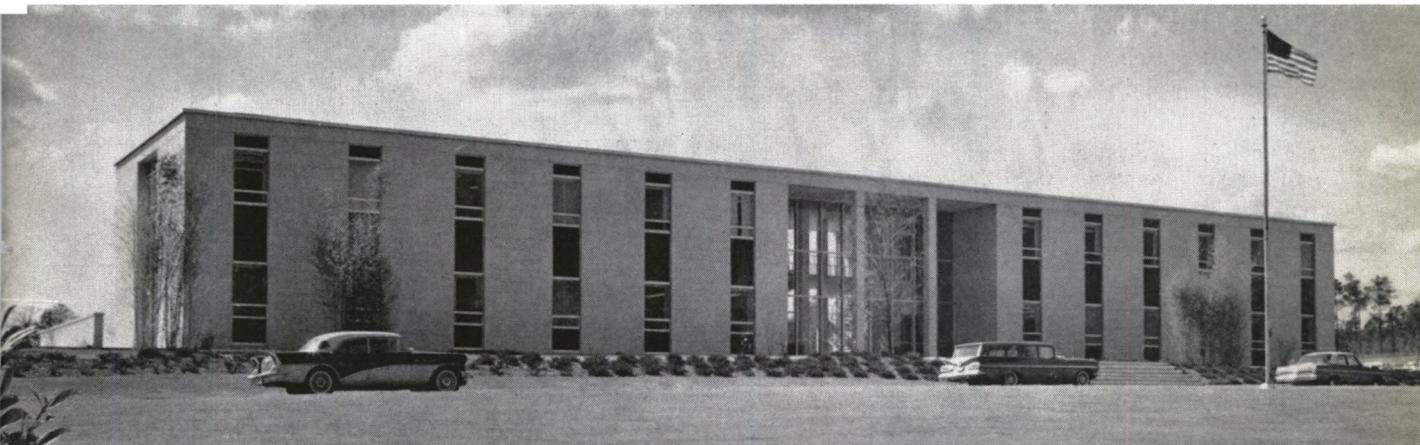
three resident research organizations occupying five buildings, the oldest of which was opened in 1960. The administrative staffs of Research Triangle Park, Inc., and the Institute share the Robert M. Hanes Memorial Building, a handsome brick and glass structure located close to the \$600,000 Camille Dreyfus Laboratory. The Laboratory, which is the present home of most of the Institute's professional personnel, is designed for studying the structure and physical properties of high polymers, the compounds from which synthetic fibers and plastics are produced.

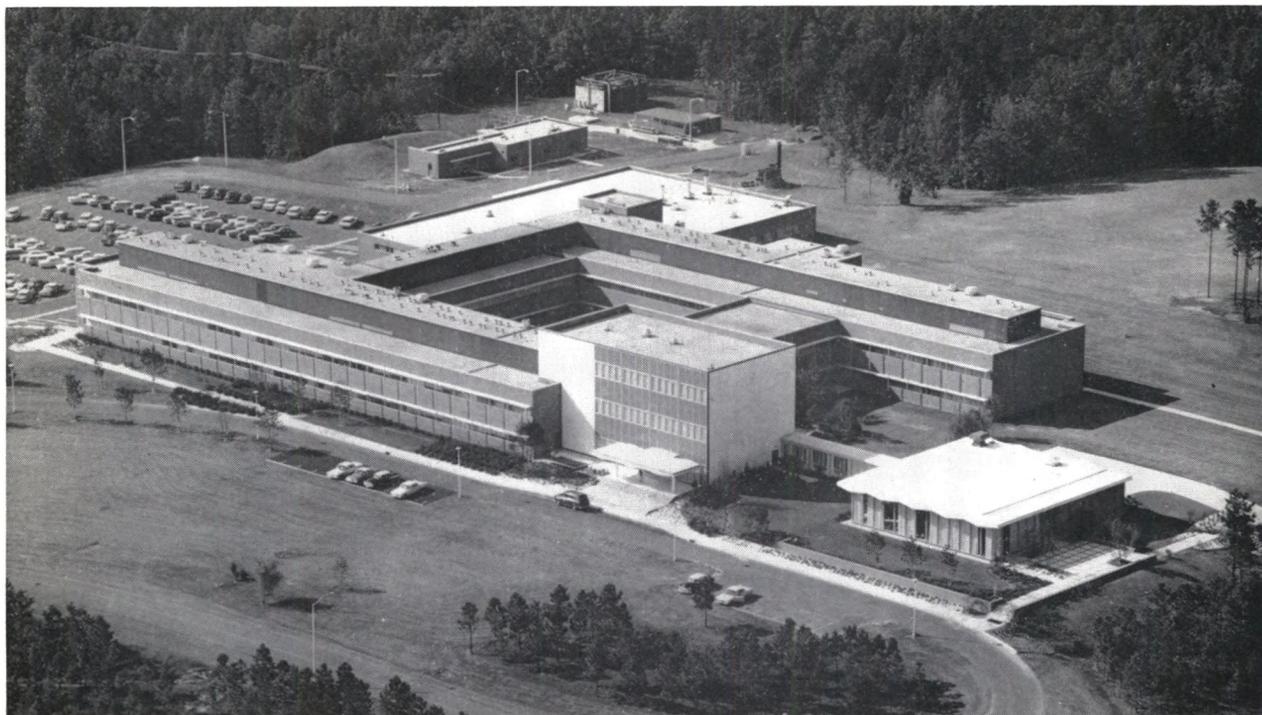
The multi-million dollar Chemstrand Research Center, Inc., is the largest structure in the Park, occupying over 175,000 square feet. The Center, which is designed for theoretical and applied research in chemical textile fibers, employs over 400 persons with an annual payroll exceeding \$3 million. In addition to its well-equipped laboratories, it houses a 37,000-volume technical library.

The United States Forest Service has built a \$1 million insect and disease laboratory on a 26-acre plot donated by the Foundation. A smaller structure—the J. B. Wilson Building—was built by Research Triangle Park, Inc., for lease to research groups. Presently it is occupied by an electronics group employed by the Corning Glass Company.

Although much of the Park land is still wilderness, the area is fast being developed to service the facilities of the future. It now has an 18-inch water line, connecting roads, and a major gas supply line.

Top: The administrative offices of the Park and the Institute are located in the impressive Robert M. Hanes Memorial Building. Bottom: The strikingly modernistic Camille Dreyfus Polymer Research Laboratory is the first building in a planned industrial campus.





The sprawling multi-million dollar Chemstrand Research Center, Incorporated, is located on a 105-acre tract in a natural park setting.

Also, plans are moving forward for an electric power substation.

**THE RESEARCH TRIANGLE INSTITUTE** Starting with a staff of one in January 1959, the Institute now has more than 130 employees. Roughly 70% of them are professionals; of these, nearly one-half hold a Ph.D. degree. Since its beginning, the Institute has doubled its contract earnings every year, and in 1962 it expects them to reach \$1.6 million.

There are six divisions and laboratories which do work in operations research, statistics, measurement and controls, solid state physics, organic and biochemistry, and polymers. The Institute's work is presently conducted in the two buildings in the Park and a leased laboratory in Durham, but within a decade it hopes to construct separate quarters for each of the major research divisions.

Financially, the Institute appears to have turned the corner. Until 1962 it had anticipated deficits because of high development and overhead costs. Now operations are in the black, and with a healthy contract backlog they are expected to stay there. As profits are earned they will be reinvested in buildings and equipment.

**ADVANTAGES AND PROSPECTS** The Research Triangle was only an idea less than ten years ago. Today it is an operating research center, not yet big, but certainly well out of the idea stage.

The Triangle is a new concept. There are sev-

eral other areas where famous colleges and universities have attracted industrial research organizations—the Harvard-MIT complex is a good example—but the Triangle was the first successful venture in which an area has consciously designed a research park to complement the facilities of existing schools. Now that it has been done in North Carolina, many other areas are following the State's lead. A recent count indicated that no less than 13 areas were developing similar organizations.

In a broader context, the Triangle represents an important new adjunct to the area's already well-developed facilities for higher education. This in turn provides a drawing card for technical industries eager to find educational opportunities for the skilled people they employ.

The Triangle also serves as a source of jobs for graduates of the three schools. Currently, half of the Institute's professional employees hold a degree from one of them, and the schools are well represented on the staffs of the other organizations in the Park. As the Triangle expands, the opportunities for local graduates will undoubtedly keep pace.

Finally, the Triangle's principal feature is important for the State, the region, and the nation. Its "product" is knowledge. As the institutions in the North Carolina Research Triangle increase the flow of this valuable asset, the well-being of all areas will be improved.

# THE FIFTH DISTRICT



Developments reported during the past month seem to indicate some slackening in the pace of Fifth District business. In September seasonally adjusted bank debits dropped 9% from August's all-time high to the year's lowest level to date. Before the September decline bank debits had risen 19% since the start of the current upswing in early 1961. In seasonally adjusted nonfarm employment an almost imperceptible August decrease was followed by a small gain in September. So far this year the number of jobs in the Fifth District has advanced in every month but March and August. Employment gains have been so gradual, however, that the increase during the first nine months of 1962 was only 2%, and the total rise since early 1961 only 5%.

**FACTORY JOBS REACHED A PEAK IN JULY** Non-manufacturing jobs continued to increase slightly in August and September. But manufacturing employment receded slightly in both of these months after rising steadily since last November. The gain since February 1961, which amounted to 6% in July, was cut to 5% by the August and September declines. After July durable goods, which had gained 9% during the upswing, dropped more sharply than non-durables, which had gained only 5%.

**CONSTRUCTION, GOVERNMENT LEAD** There were, in terms of seasonally adjusted figures, 244,500 more nonfarm jobs in the Fifth District in September than in February 1961, when recovery began. About one-third of the increase was contributed by manufacturing—some 42,000 in durables and 33,000 in non-durables. Contract construction posted the largest relative gain with a rise of 40,000 or 16%. Except for manufacturing, the biggest absolute gain over the 19-month period was the addition of 70,000 workers to Federal, State, and local government payrolls—an increase of nearly 8%. The remaining growth in employment was contributed by trade, up 25,000 or 2%; services, up 23,000 or 4%; finance, insurance, and real estate, up 10,000 or 5%; and transportation, communication, and public utilities where 3,000 workers were added for a gain of 1%.

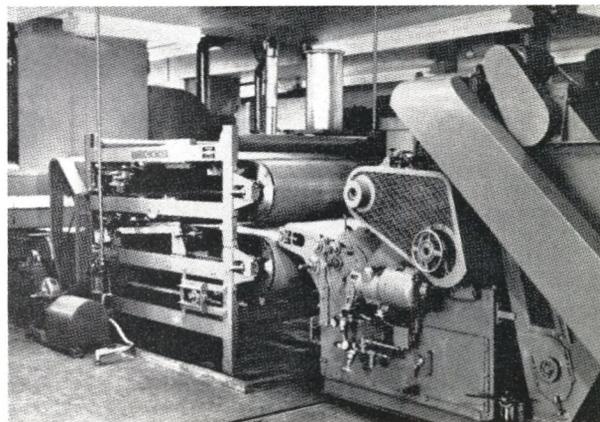
**MAN-HOURS IN DECLINE SINCE MAY** Seasonally adjusted factory man-hours in September were 2%

below their all-time high reached in May. Thus, the summer, which began with man-hours 11% above the February 1961 cyclical low, ended with the cumulative gain reduced to 9%. Durable goods man-hours reached an all-time high in July but dropped back in August and September to approximately the May level, 13% above the February 1961 low. Nondurable goods man-hours, comprising about two-thirds of the total, reached an all-time high in May—10% above the trough of early 1961. Subsequent declines through September amounted to nearly 3%. Man-hours in food industries, paper and printing, and chemicals actually continued to rise during the summer but turned down in September. Textile and apparel industry man-hours dropped steadily after May. Man-hours in tobacco manufacturing also declined during most of the summer but turned up sharply in September.

**DOWNTURN BROADENS IN TEXTILES** Declining activity has been apparent since May in the District's extensive textile complex. A 3% decline between May and August in seasonally adjusted textile mill man-hours substantially reduced the industry's 15% advance from the cyclical low of early 1961. National data show a weakening since early summer in most phases of the industry's operations.

During the summer the cotton processing segment of the national industry took a distinct turn for the

Webbing and bonding machines to make fabric directly from fiber are radically different from traditional textile equipment.



worse. The index of daily average cotton consumption, after reaching its highest level since 1959, dropped 5% in July and 3% in August. Production of cotton grey goods maintained a high and fairly stable level during the first six months, then declined almost one-fourth between June and July. "Offtake" of cotton grey goods (production adjusted for the change in inventories) actually reached this year's peak in March, then declined a few percentage points each month until July, when a sudden drop of 19% occurred. Inventories of cotton broad woven goods in April were at their lowest levels since 1960, but the rise that followed lifted inventories 11% by August. Changes in production and "offtake" of synthetic grey goods so far this year substantially paralleled those of cotton, although the volume of synthetics is only one-fourth as great.

**PRICES FIRM, PROFITS UP** Despite ample evidence of declining activity after the middle of the year, some aspects of the current textile situation are slightly encouraging. The industry's price structure has remained firm. The wholesale price index for textile products (1957-59=100) climbed gradually from 98.5 in January to 99.2 in May and remained at that level through June and July before moving down to 99.0 in August. The principal declines occurred in man-made fiber woven and knitted goods and in cotton yarns, with cotton cloth prices easing only slightly and woolens unchanged or stronger.

Income statements of textile firms show 1962 shaping up as a more profitable year than 1961. First quarter profits after taxes amounted to 2.2% of sales compared with 1.2% in 1961. Second quarter profits were 2.5% this year compared with 1.8% the year before. If profits in the third and fourth quarters follow the usual seasonal rise, and third quarter reports released so far suggest that they will, second half earnings may be high enough to make 1962 the industry's best year in a decade or more.

**DEMAND SEEMS STRONGER** Market reports on textiles, cottons in particular, have indicated a nearly static situation for many weeks. Converters, apparel manufacturers, and other users of textile products have been content to work their inventories down, buying additional goods only as needed and from any source offering the most favorable price. Forward buying has been viewed as more risky than usual. The principal reason has been the expected elimination of the 8½-cent price differential which has for years given foreign users of American cotton an advantage over domestic purchasers. Textile leaders have been expecting this change and apparently still feel that it could occur at virtually any moment. So

sharp a drop in the cost of this most important fiber would entail significant adjustments, surely in prices and probably in production, throughout the textile industry.

Nevertheless, a few flurries of forward buying have occurred and some textile market observers believe that a move toward significant volume is currently in the making. The spring outlook for textile products is thought to be generally favorable. On this basis there does seem to be some current strengthening in the demand for textiles, particularly the higher quality lines.

**LOOKING AHEAD** In recent years textile firms have increased their spending for new plant and equipment at a faster rate than most other industries. Based on statistics for past years and surveys of the present, textile mills raised such expenditures an average of 23% per year from 1959 through 1962 compared with 6% for all nondurables and 7% for all manufacturing. According to the latest estimates, 1962 expenditures will be 26% above 1961 and 19% above 1960, previously the peak year.

Research in new products, methods, and machines is also progressing at a fast pace. The illustration accompanying this article shows a new piece of equipment (roughly resembling a paper-making machine) which makes a textile fabric directly from fiber. The machine employs a flow of air to achieve a random but highly uniform web of fiber which is chemically bonded directly into a fabric. Less than 2% of all textile fiber consumed went into these non-woven fabrics in 1960. But the volume grows and both versatility and the means of production improve each year.

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*National indexes of industrial production have recently been revised and published in the booklet, **Industrial Production, 1957-59 Base**. Copies may be obtained from the Division of Administrative Services, Board of Governors of the Federal Reserve System, Washington 25, D. C., for \$1.00 per copy up to ten copies and 85 cents each for ten or more copies in a single shipment.*

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