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THE FEASIBILITY OF MANUFACTURING HAND AND EDGE TOOLS IN GEORGIA

by George A. Morelos

INDUSTRIAL DEVELOPMENT DIVISION



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Engineering Experiment Station

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Summary

A hand tools manufacturer that is interested in capturing a larger share of the growing southern hand tools market, or that is faced with an increasing cost-profit squeeze in his present location, would do well to take a close look at the possibility of setting up a plant in the state of Georgia. Georgia is situated in the midst of the 12-state primary market area, offering immediate access to the market at relatively low transportation costs. Skilled production workers can be made available through the state's "Quick Start" program of training tailored to individual plant requirements, and the labor costs also are comparatively low.

The U. S. hand and edge tools industry (SIC 3423) has been growing at a healthy rate; in the 1958-1968 decade, value of shipments rose an average of \$45.9 million annually to a total of \$932.4 million in the latter year. Today there are approximately 249 hand tools manufacturing firms with 20 or more employees in the United States. Although the 12-state South contains one-fourth of the U. S. population, only 15 plants, employing less than 7% of the hand tools production workers in the U. S., are located in the region.

Industry is by far the largest buyer of hand tools, accounting for about two-thirds of the volume purchased, and the South has been undergoing a tremendous industrial expansion over the past 10 years. The region also contains more than its proportionate share of the types of industrial establishments that are among the principal buyers of hand tools. The volume of retail sales of all goods in the South is rapidly becoming the largest in the nation, with growth rates exceeding those of all other regions. Those service industries which are important customers of the hand tools industry also have been growing faster in the South than in the nation as a whole.

Accompanying the increase in the southern regional markets for hand tools has been a similar growth in the sales outlets for these items. The South's gain in the number of hardware wholesalers, industrial suppliers, and automotive equipment distributors ranged from nearly one-third to over one-half the national increase between 1963 and 1967. Approximately 10% of the retail establishments in each of the 12 states handle hardware and gardening equipment, including hand tools.

Georgia is strategically located to serve this promising market area from within. Its transportation cost advantages have long made it the distribution center of the South. The existence of supporting industries in Georgia and the surrounding states would assure a steady supply of raw materials to a hand tools manufacturer.

Georgia also offers attractive labor conditions. Its outstanding "Quick Start" program is designed to provide a new plant with trained personnel the day the facility is opened, and the cost of labor is generally lower than in the areas where the hand tools industry presently is concentrated. Not only are the average hourly wage rates paid in Georgia to production workers in the durable goods industries as a whole and the fabricated metal products industry in particular below the national averages, but the rates of increase during the last 20 years also have been lower in Georgia than in the U. S.

INTRODUCTION

Prior to the actual preparation of this report, a number of people within the hand tools industry were contacted for the purpose of identifying those elements which these industry people considered to be important factors in the economical operation of a hand tools manufacturing facility, particularly in the case of the operation of a hand tools plant in the South. Some of the elements most often mentioned by the persons interviewed were proximity to and size of regional market, existence of supporting industries, and availability, cost, and quality of local labor.

This preliminary survey also revealed that there is a general lack of familiarity within the industry with the important criteria involved in locating a hand tools manufacturing plant in a new region. This lack of actual experience in plant location is the result of a dominant pattern of single-plant manufacturing firms -- most of which were established a long time ago. In addition, very few new firms have entered the industry within the last 10 years. Based on these preliminary findings, this report is structured under the framework of initial and survival plant location factors.^{1/}

Initial Location Factors

Initial location factors are those conditions which influence the establishment of a factory in a particular location. Perhaps the availability of a specific raw material convinces local entrepreneurs of the worth of processing it on the spot. Perhaps local power sources (such as the mill races in many New England cities) initially lure several factories to their sites.

The initial location factors that influenced the hand tools industry (hardware) are rooted in the history of the industrialization of this country. This explains why people familiar with the hand tools industry often refer to it as an "old-line industry," meaning, of course, that the history and background of a great many of the hand tools manufacturing firms of today are tied to the early agricultural and industrial expansion of this nation.

^{1/} See John W. Alexander, Economic Geography, Prentice-Hall, Inc., Englewood Cliffs, N. J., 1963, p. 351, for discussion of these factors.

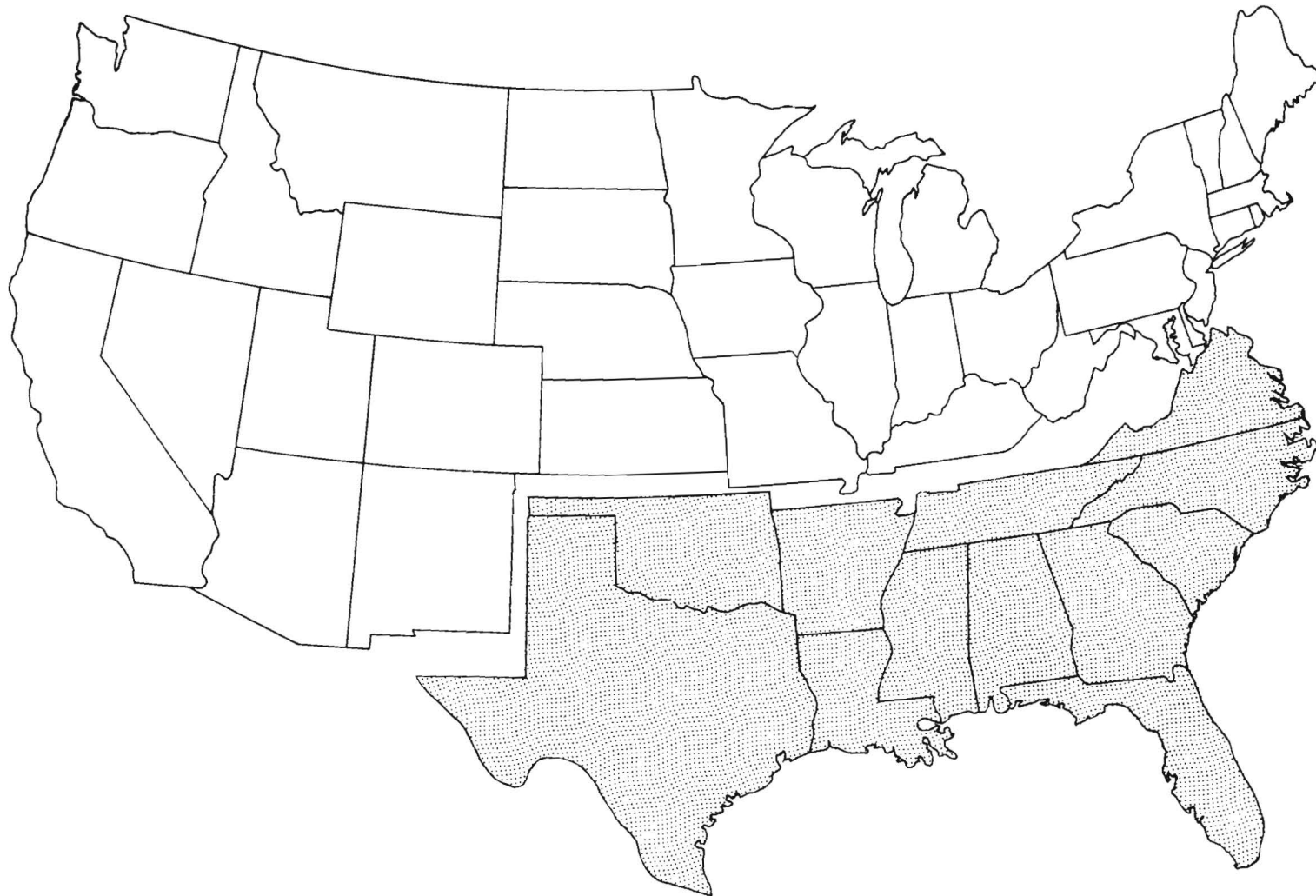
Paramount among the initial location factors were the existence of skilled artisans and the farsighted talent of local entrepreneurs in midwestern and New England settlements, who recognized and exploited the hardware market. This latter factor, which might be termed "whim," is one of the most difficult influences to study scientifically, but there is no doubt that it is operative.

Many hand tools and other "hardware" items are produced in large cities, but a large volume of them comes from smaller settlements, such as New Britain and Hartford, Connecticut, and Rockford, Illinois. Many of these locations produce no steel, but if the following three initial factors are considered in addition to the two mentioned above, all of which existed at the time these plants were established, it might help explain why plant locations took place in these smaller settlements. In the first place, tools, cutlery, and other hardware items used to be highly valuable relative to their weight, so that a few extra miles did not price factories in these cities out of competition with hardware producers who had the locational advantage of being near steel mills or markets. Secondly, many of these towns, those in the Connecticut Valley in particular, got an early start in making not only tools, but also firearms, clocks, and many other kinds of hardware. An early start provides a powerful impetus for perpetuating an industry in any region. Thirdly, manufacturing costs, such as expenses for labor, rent, and municipal taxes, were slightly lower in small cities than in large ones, an advantage that helped neutralize some of the drawbacks of higher freight costs.

Survival Location Factors

Survival location factors deal with costs; they explain how a factory continues to exist where it is. After it is in operation, a plant, to survive, must be favorably located relative to two kinds of costs: (a) overhead costs (such as real estate taxes), which continue regardless of whether the factory is operating at full capacity, at half capacity, or is idle, and (b) production costs (such as labor, freight charges, and income taxes), which vary with the quantity of products that are manufactured. In order to determine why a particular hand tools plant is located where it is, it is necessary to examine both initial and survival factors. And that examination requires extensive digging into the past history of the individual hand tools manufacturing firm and its present circumstances.

FIGURE 1
TWELVE – STATE PRIMARY MARKET AREA



Primary Market Area

In this report the "primary market area" is the 12-state region shown in Figure 1. It has been defined as a primary market area because logistically it is the area that can most efficiently and readily be served by a hand tools manufacturing firm locating a plant within the state of Georgia. This area covers some 822,348 square miles, including a coastline of approximately 2,911 miles, and contains approximately 25.5% of the United States population. It comprises 12 of the 16 states in the South, as defined by the U. S. Bureau of the Census. These states, grouped by census division, are as follows:

<u>West South Central</u>	<u>East South Central</u>	<u>South Atlantic</u>
Arkansas	Alabama	Georgia
Louisiana	Mississippi	Florida
Oklahoma	Tennessee	North Carolina
Texas		South Carolina
		Virginia

Southern states not included in the primary market area are Kentucky, Delaware, Maryland, and West Virginia.

THE HAND AND EDGE TOOLS INDUSTRY

Approximately 249 firms^{1/} in the U. S. are identified by the Standard Industrial Classification (SIC) Code^{2/} 3423. This category includes establishments primarily engaged in manufacturing files and other hand and edge tools for metalworking, woodworking, and general maintenance, such as mechanics' hand service tools, hand-operated edge tools, files, rasps, and file accessories.

The value of the industry's shipments in 1968 was approximately \$932.4 million,^{3/} and it is very likely that the value of shipments by the end of 1970 will surpass \$1 billion. Figure 2 presents an 11-year history of the industry's value of shipments and its trend. (See also Appendix 1.) It can be observed that the value of shipments has been increasing by an average annual increment of \$45.9 million. This relatively rapid growth rate reflects a favorable environment where the industry has benefited by the increase in the mechanization and complexity of the automotive, industrial, military, and office and household equipment industries. Another important factor has been the growth in the "do-it-yourself" trend for the past 10 years within the consumer sector. The influence of this latter factor, according to informed industry sources, is particularly favorable during periods of economic slowdown.

Practically all of the above-mentioned 249 firms -- there are a few exceptions -- manufacture their products in a single production facility. Table 1 gives a state-by-state breakdown of the number of hand and edge tools manufacturing plants and their employment. A heavy concentration of plants exists in the midwestern and northeastern states, while there is an obvious dearth of them in the southern states.

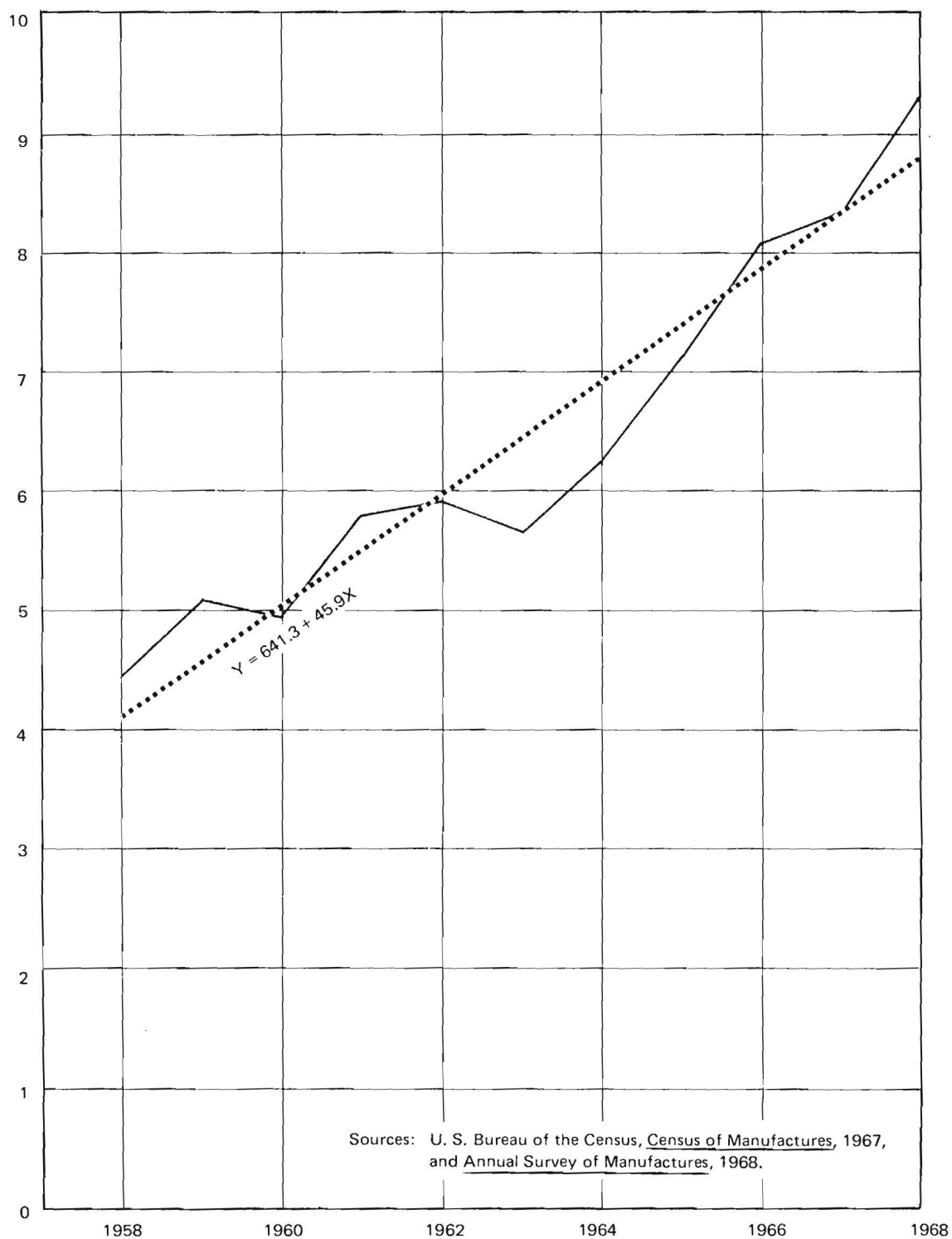
^{1/} With 20 employees or more.

^{2/} Much of the data throughout this report is presented within the framework of the Bureau of the Budget Standard Industrial Classification (SIC) system. The purpose of the SIC is to provide a means for classifying establishments according to their primary activities for the purpose of collection, tabulation, presentation, and analysis of data relating to these establishments.

^{3/} U. S. Bureau of the Census, Annual Survey of Manufactures, 1968.

FIGURE 2
TREND OF U. S. VALUE OF SHIPMENTS OF
HAND AND EDGE TOOLS

MILLIONS OF DOLLARS



Sources: U. S. Bureau of the Census, Census of Manufactures, 1967,
and Annual Survey of Manufactures, 1968.

..... TREND
 $Y = A + BX$

Table 1
LOCATION OF HAND AND EDGE TOOLS MANUFACTURING PLANTS^{a/} BY STATE
(SIC 3423)

<u>State</u>	<u>Total Plants</u>	<u>Total Employees</u>	<u>State</u>	<u>Total Plants</u>	<u>Total Employees</u>
Alabama	0	0	Montana	0	0
Alaska	0	0	Nebraska	4	368
Arizona	0	0	Nevada	0	0
Arkansas	1	25	New Hampshire	1	40
California	15	1,963	New Jersey	14	1,618
Colorado	3	429	New Mexico	0	0
Connecticut	12	1,464	New York	30	2,942
Delaware	1	35	North Carolina	3	164
Florida	1	25	North Dakota	0	0
Georgia	0	0	Ohio	34	5,473
Hawaii	0	0	Oklahoma	0	0
Idaho	0	0	Oregon	1	200
Illinois	24	2,903	Pennsylvania	18	2,379
Indiana	6	1,485	Rhode Island	0	0
Iowa	3	312	South Carolina	1	600
Kansas	4	310	South Dakota	0	0
Kentucky	2	70	Tennessee	2	170
Louisiana	1	95	Texas	3	376
Maine	4	116	Utah	1	48
Maryland	0	0	Vermont	1	150
Massachusetts	21	2,673	Virginia	2	460
Michigan	12	788	Washington	0	0
Minnesota	6	1,044	West Virginia	3	1,205
Mississippi	1	200	Wisconsin	7	969
Missouri	7	615	Wyoming	0	0
U. S.	249	31,744			

^{a/} Includes plants with 20 employees or more and whose primary manufactured products are within the SIC 3423 classification.

Source: Various 1970 directories of metalworking plants and manufacturers.

THE MARKETS

Industrial Markets

Industry is by far the largest buyer of hand tools. A close examination of the Input-Output Structure of the U. S. Economy: 1963^{1/} permits the identification of 293 categories of industrial buyers of hand and edge tools, including saws (SIC 3423 and SIC 3425, respectively).^{2/} Two-thirds of the \$770.4 million of total output went to satisfy industrial (intermediate) demand; the rest went to personal consumption and state and federal government purchases. While present-day output of both of these industries is over \$1.08 billion,^{3/} the above figures serve to emphasize the relative importance of the industrial markets.

The aggregate demand of 22 of the 298 industrial categories that are identified by the input-output analysis as industrial buyers of hand tools and saws constitutes approximately one-third (\$255 million) of the purchases of total output and approximately one-half of the total intermediate (industrial) purchases of \$526.8 million. Table 2 presents an inventory of these 22 "principal" industrial categories in terms of both the nation and the 12-state southern primary hand tools market area. The number of employees within each category is an excellent indicator of either the market potential or present market share of the products manufactured by the reader's own hand tools firm.

Southern Industrial Expansion

During the last decade, a tremendous number of new plants have located in southern states. Texas, Georgia, and North Carolina, in particular, for the past few years have ranked among the top states in the U. S. in the number of new plant locations and expansions that have taken place. Every available projection seems to indicate that this trend will continue at an even more accelerated pace. This rapid industrial expansion in the South should be of

^{1/} Published in 1969 by the U. S. Department of Commerce.

^{2/} The input-output analysis unfortunately does not segregate these two industrial categories.

^{3/} U. S. Bureau of the Census, Annual Survey of Manufactures, 1968.

Table 2
INVENTORY OF SELECTED CATEGORIES OF LARGE INDUSTRIAL BUYERS OF HAND TOOLS AND FILES

SIC ^{a/}	Industry Description	12-State Southern Market Area		United States		Southern Share of National Total	
		No. of Employees	No. of Establishments	No. of Employees	No. of Establishments	% of Emp.	% of Establishments
2511}	Wood Household Furniture, Exc. Upholstered	88,822	762	161,766	2,785	54.9	27.3
2512}	Wood Household Furniture, Upholstered	47,743 ^{d/}	600	85,022	1,557	56.1	38.5
2489	Wood Products, N.E.C.	19,779	595	75,864	2,988	26.0	19.9
3391	Iron and Steel Forgings	2,662 ^{e/}	31	62,950	268	4.2	11.5
3599	Miscellaneous Machinery	24,147	480	165,763	2,462	14.5	19.4
3544}	Special Dies & Tools, Die Sets & Jigs	3,660 ^{e/}	80	103,242	1,596	3.5	5.0
3545}	Machine Tools Assemblies & Measuring Devices	2,951 ^{e/}	26	50,023	512	5.8	5.0
3499	Fabricated Metal Products, N.E.C.	6,149 ^{e/}	62	73,760	645	8.3	9.6
23 ^{c/}	Apparel Made from Purchased Material	421,880	2,553	1,223,367	18,422	34.4	13.8
2431	Millwork	19,013	771	73,242	2,963	25.9	26.0
50	Wholesale Trade	928,764 ^{e/}	73,575	3,920,611	298,427	23.6	24.6
3621	Electric Motors & Generators	6,187 ^{e/}	27	102,871	282	6.0	9.5
1311}	Crude Petroleum & Natural Gas	58,426 ^{d,e/}	4,352	96,613	7,816	60.4	55.6
1321}	Natural Gas Liquids	8,367 ^{e/}	290	10,895	384	76.7	75.5
201	Meat Products	98,396 ^{d/}	1,534	313,789	4,518	31.3	33.9
281	Industrial Inorganic & Organic Chemicals	83,828 ^{d/}	586	257,903	2,146	32.5	27.3
3536	Hoists & Industrial Cranes	338 ^{d,e/}	8	17,622	84	1.9	9.5
3643}	Current-Carrying Wiring Devices	1,502 ^{e/}	12	54,074	224	2.7	5.3
3644}	Noncurrent-Carrying Wiring Devices	1,212 ^{e/}	7	14,233	98	8.5	7.1
331	Blast Furnace & Basic Steel Products	67,974	85	516,337	701	13.1	12.1
3541	Machine Tools, Metalcutting Types	5,101 ^{e/}	17	103,450	448	4.9	3.7
265	Paperboard Containers & Boxes	39,382 ^{e/}	510	225,569	2,719	17.4	18.7

^{a/} The selection of these categories is based on purchases (\$7 million or more) made in 1963, these industries being the largest buyers, in descending order of importance.

^{b/} The input-output analysis classifies both of these industries into a single category.

^{c/} Excluding SIC 239.

^{d/} One or more states withheld information. See Appendix 2.

^{e/} One or more states do not have the industry. See Appendix 2.

Sources: U. S. Department of Commerce, County Business Patterns, 1969, and various 1970 manufacturers' and metalworking directories.

considerable interest to manufacturers of hand tools because every time a new plant locates in an area, it purchases thousands of dollars' worth of hand tools. Subsequently, these same plants become an excellent replacement market because of production expansion, breakage, and even pilferage. Another important factor to consider is that while it is true that the giants of American industry are opening branch plants in the South in a greater proportion than in the rest of the country, the bulk of the plants that are being located in the South are either small or medium-sized. These small and medium-size plants invariably purchase most of their required services and industrial supplies (e.g., hand tools) from local or regional sources.

Consumer Markets

The South is rapidly becoming the region with the largest volume of retail sales in the United States. Presently, its approximate retail sales level of \$98 billion is surpassed only by the Midwest's \$100 billion. The growth rates for the past 10 years, as outlined in Table 3, give a good indication of the leading position that the South will assume in the near future. Effective buying income, which is a household's disposable income and which is to marketers what net earnings per share is to financial men,^{1/} also has grown at a faster rate -- though from an admittedly small base -- in the South than in the rest of the nation.

Population figures for the 12-state primary market area are presented in Table 4. Examination of the percentage changes shown in Table 4-A reveals that the rates of population growth after 1960 in the subject area exceed those in both the rest of the country (38 states) and the country as a whole (50 states). Most important, Table 4-A also indicates that as the subject area's population changes, it grows at an increasing rate despite the fact that the base becomes broader.

Table 5, which lists some selected population characteristics, shows that 33% of the metropolitan areas in the United States are contained within the 12-state region. It also reveals that, contrary to the general belief concerning the South's relatively low degree of urbanization, the 12-state area, in

^{1/} Sales Management, July 15, 1970, p. 38.

Table 3
REGIONAL GROWTH OF EFFECTIVE BUYING INCOME
AND RETAIL SALES

<u>Region</u>	<u>Effective Buying Income</u>		<u>Retail Sales</u>	
	<u>1969</u> <u>(000)</u>	<u>% Increase</u> <u>1969/1960</u>	<u>1969</u> <u>(000)</u>	<u>% Increase</u> <u>1969/1960</u>
Northeast				
New England	\$ 38,954,081	65.6	\$ 20,969,588	55.3
Middle Atlantic	128,264,473	61.8	64,699,048	47.4
Midwest				
East North Central	132,495,675	72.8	71,625,514	54.1
West North Central	48,182,736	66.5	28,919,932	48.1
South				
South Atlantic	83,248,686	82.5	49,393,982	74.0
East South Central	29,788,148	84.2	17,799,857	64.4
West South Central	51,706,845	84.0	30,958,771	63.9
West				
Mountain	22,627,127	71.1	13,563,194	53.3
Pacific	90,951,920	77.1	49,653,185	68.3
U. S.	\$626,219,691	72.6	\$347,583,071	58.1

Source: Copyright 1970, Sales Management, "Survey of Buying Power"; further reproduction is forbidden.

Table 4
POPULATION IN THE TWELVE-STATE AREA, 1950-1985
(in thousands)

	<u>1950</u>	<u>1960</u>	<u>1970^{a/}</u>	<u>1975^{b/}</u>	<u>1985^{b/}</u>
Alabama	3,061	3,266	3,373	3,922	4,550
Arkansas	1,909	1,786	1,886	2,184	2,552
Florida	2,771	4,951	6,673	7,720	10,535
Georgia	3,444	3,943	4,492	5,142	5,961
Louisiana	2,683	3,257	3,564	2,184	2,442
Mississippi	2,178	2,178	2,158	2,560	2,918
North Carolina	4,061	4,556	4,961	5,596	6,386
Oklahoma	2,233	2,328	2,498	2,655	2,934
South Carolina	2,117	2,382	2,522	2,865	3,265
Tennessee	3,291	3,567	3,838	4,345	4,920
Texas	7,711	9,579	10,981	12,482	14,733
Virginia	<u>3,318</u>	<u>3,966</u>	<u>4,543</u>	<u>5,234</u>	<u>6,175</u>
Total	38,777	45,759	51,489	58,876	69,840
Rest of U. S.	112,548	133,564	149,811	163,926	193,784
U. S. Total	151,325	179,323	201,300	222,802	263,624

a/ 1970 Census of Population, Preliminary Report.

b/ These projections include interstate migration assumptions based on gross migration patterns of the 1955-1960 period. They also represent Series A computation of fertility of all women by the "Cohort" method.

Source: U. S. Bureau of the Census, Current Population Reports, Series P-25, No. 375.

Table 4-A
PERCENTAGE CHANGES IN POPULATION

<u>Comparison Period</u>	<u>12-State Area</u>	<u>Rest of U. S. (38 states)</u>	<u>U. S. Total</u>
1950/1960	18.0	18.6	18.5
1960/1970	12.5	12.1	12.2
1970/1975	14.3	9.4	10.6
1975/1985	18.6	18.2	18.3
1970/1985	35.6	29.3	30.9

Table 5
SELECTED POPULATION CHARACTERISTICS, TWELVE-STATE AREA

	Statewide		Metropolitan Areas ^{a/}		
	No. of Households	Urban Pop.	No. of Metro Areas	No. of Households	Metro Pop.
Alabama	1,017.5	2,091.7	8	600.3	2,086.3
Arkansas	613.2	955.9	4	214.1	688.9
Florida	2,130.9	4,885.8	14	1,748.8	5,242.8
Georgia	1,310.8	2,570.5	6	697.7	2,377.9
Louisiana	1,074.7	2,451.0	7	647.6	2,207.3
Mississippi	643.5	988.2	3	135.2	488.0
North Carolina	1,426.4	2,154.9	11	693.9	2,431.1
Oklahoma	828.3	1,676.0	3	393.0	1,212.0
South Carolina	709.3	1,137.9	5	336.6	1,232.4
Tennessee	1,171.3	2,140.6	5	697.2	2,358.0
Texas	3,392.5	8,838.0	25	2,495.3	8,349.8
Virginia	<u>1,325.5</u>	<u>2,748.1</u>	<u>8</u>	<u>672.7</u>	<u>2,369.6</u>
Total	15,643.9	32,638.6	99	9,332.4	31,044.1
U. S. Total	62,318.9	144,357.5	300	46,319.5	149,404.9
12-State % of National Total	25.1	22.6	33.0	40.0	20.7

^{a/} Sales Management Definition: A group of contiguous counties featuring at least one central city of 50,000 inhabitants or more or "twin cities" with a combined population of 50,000.

Source: Copyright 1970, Sales Management, "Survey of Buying Power"; further reproduction is forbidden.

which approximately 25% of the population in the U. S. resides, maintains a rather equitable share (22.6%) of the nation's urban population.

Motor vehicle registrations are shown in Table 6. Figures on motor vehicle registrations are often used by mechanics' hand tools manufacturers (SIC 34231) as indicators of market potentials.

Table 6
MOTOR VEHICLE REGISTRATIONS^{a/}
1955-1968
(in thousands)

	1955	1960	1965	1968			% Change 1960- 1968	1968 Motor- cycles
				Total	Private & Commercial Automobiles (incl. taxicabs)	Trucks & Buses		
Alabama	1,041	1,282	1,663	1,806	1,440	339	40.8	27.3
Arkansas	584	708	914	1,023	714	297	44.4	16.1
Florida	1,616	2,367	3,037	3,628	3,153	424	53.2	64.7
Georgia	1,239	1,512	1,990	2,324	1,867	431	53.7	33.3
Louisiana	952	1,177	1,442	1,662	1,311	330	41.2	25.1
Mississippi	637	723	921	1,061	789	255	46.7	12.2
North Carolina	1,437	1,720	2,156	2,573	2,020	483	49.5	32.8
Oklahoma	1,026	1,184	1,438	1,610	1,151	436	35.9	34.7
South Carolina	782	879	1,094	1,250	1,015	212	42.2	12.5
Tennessee	1,102	1,307	1,655	1,907	1,537	341	45.9	30.0
Texas	3,869	4,457	5,610	6,180	4,773	1,317	38.6	93.8
Virginia	<u>1,243</u>	<u>1,426</u>	<u>1,800</u>	<u>2,048</u>	<u>1,711</u>	<u>299</u>	43.6	<u>25.1</u>
Total	15,528	21,204	23,720	27,072	21,481	5,164	27.6	407.6
U. S. Total	62,870	73,869	90,358	101,048	83,281	16,282	36.7	2,100.9
12-State % of National Total	24.6	28.7	26.2	26.7	25.7	31.7	-	19.4

^{a/} Excluding vehicles owned by military services.

Source: U. S. Bureau of the Census, Statistical Abstract of the United States: 1969.

Service Markets

The service industry also is a vital segment of the hand tools market. Professional mechanics and other types of repairmen, such as electrical equipment and furniture repairmen, are important customers of the hand tools industry. Tables 7, 8, 9, and 10 summarize the number of establishments and the total receipts of the various automobile repair shops, gasoline service stations, electrical repair shops, and furniture repair shops, respectively, within the 12-state area. It might be observed that sales in the area have grown at a faster rate than in the nation as a whole. The number of establishments in the 12-state area also has increased at a faster rate than in the nation, with the exception of electrical repair shops, where the area rate has decreased more slowly than the national rate. The tables also show that the 12-state area's share of the national totals, in terms of both the number of establishments and receipts, increased during the period from 1963 to 1967 in all four of these service markets.

Table 7

SUMMARY OF AUTOMOBILE REPAIR SHOPS
(SIC 753)

	1967		1963		Percent Change, 1963-1967	
	<u>No. of Establishments</u>	<u>Receipts (000)</u>	<u>No. of Establishments</u>	<u>Receipts (000)</u>	<u>Establishments</u>	<u>Receipts</u>
Alabama	1,841	\$ 59,922	1,971	\$ 55,370	- 7.0	8.2
Arkansas	1,520	33,825	1,370	33,225	10.9	1.8
Florida	3,572	133,197	3,516	106,902	1.5	40.4
Georgia	2,875	94,387	2,690	77,413	6.8	21.9
Louisiana	1,869	62,179	1,465	49,624	27.5	25.3
Mississippi	1,290	34,905	1,240	28,479	4.0	22.5
North Carolina	3,582	118,549	3,526	101,741	1.5	16.5
Oklahoma	2,341	51,709	1,971	48,124	18.7	19.8
South Carolina	1,626	45,688	1,439	37,953	12.9	20.4
Tennessee	2,248	69,432	2,372	62,390	- 5.5	11.3
Texas	8,551	243,291	8,134	211,032	5.1	15.3
Virginia	<u>1,927</u>	<u>78,616</u>	<u>2,022</u>	<u>68,451</u>	- 4.9	14.9
Total	33,242	\$1,025,700	31,716	\$ 880,704	4.8	16.4
U. S. Total	109,946	\$4,085,540	114,459	\$3,588,120	- 4.1	13.9
12-State % of National Total	30.2	25.1	27.7	24.5		

Source: U. S. Bureau of the Census, Census of Business, 1967.

Table 8

SUMMARY OF GASOLINE SERVICE STATIONS
(SIC 554)

	1967		1963		Percent Change, 1963-1967	
	No. of Establishments	Sales (000)	No. of Establishments	Sales (000)	Establishments	Sales
Alabama	4,238	\$ 323,464	4,071	\$ 264,664	4.1	22.2
Arkansas	3,008	206,356	2,500	154,106	20.3	33.9
Florida	8,194	763,670	7,782	605,480	5.2	26.1
Georgia	5,986	522,682	5,662	399,004	5.7	30.9
Louisiana	3,790	337,876	3,207	248,557	18.1	35.9
Mississippi	2,700	210,101	2,525	165,982	6.9	26.5
North Carolina	7,010	563,604	6,662	421,058	5.2	33.8
Oklahoma	4,416	324,448	3,645	257,596	21.1	25.9
South Carolina	3,374	272,036	3,119	148,487	8.1	37.0
Tennessee	4,633	431,540	4,448	335,789	4.1	28.5
Texas	16,632	1,340,843	16,069	1,023,328	3.5	31.0
Virginia	<u>4,390</u>	<u>472,921</u>	<u>4,624</u>	<u>375,523</u>	- 5.3	25.9
Total	68,371	\$ 5,769,541	64,314	\$ 4,449,574	6.3	29.6
U. S. Total	216,059	\$32,709,373	211,473	\$17,759,917	2.1	27.8
12-State % of National Total	31.6	25.4	30.4	25.0		

Source: U. S. Bureau of the Census, Census of Business, 1967.

Table 9
SUMMARY OF ELECTRICAL REPAIR SHOPS
(SIC 762)

	1967		1963		Percent Change, 1963-1967	
	<u>No. of</u> <u>Establishments</u>	<u>Receipts</u> <u>(000)</u>	<u>No. of</u> <u>Establishments</u>	<u>Receipts</u> <u>(000)</u>	<u>Establishments</u>	<u>Receipts</u>
Alabama	725	\$ 23,417	863	\$ 12,843	-19.0	82.3
Arkansas	572	23,928	529	6,155	8.1	31.8
Florida	1,941	59,965	2,385	43,372	-22.8	38.3
Georgia	963	29,310	1,176	23,551	-22.1	24.5
Louisiana	1,006	26,047	831	16,792	21.0	55.1
Mississippi	477	9,725	602	8,082	-26.2	20.3
North Carolina	1,148	24,599	1,427	18,403	-24.3	36.9
Oklahoma	832	14,177	779	10,421	6.8	36.0
South Carolina	560	11,138	686	9,378	-22.5	18.8
Tennessee	959	18,039	1,204	15,905	-25.5	13.4
Texas	3,364	77,544	4,076	63,737	-21.1	21.7
Virginia	<u>813</u>	<u>28,878</u>	<u>1,006</u>	<u>23,528</u>	-23.7	22.7
Total	13,360	\$ 346,767	15,564	\$ 252,167	-16.4	37.5
U. S. Total	47,886	\$1,328,884	61,186	\$1,115,770	-27.7	19.1
12-State % of National Total	27.8	26.9	25.4	22.6		

Source: U. S. Bureau of the Census, Census of Business, 1967.

Table 10

SUMMARY OF REUPHOLSTERY AND FURNITURE REPAIR SHOPS
(SIC 764)

	1967		1963		Percent Change, 1963-1967	
	<u>No. of</u> <u>Establishments</u>	<u>Receipts</u> <u>(000)</u>	<u>No. of</u> <u>Establishments</u>	<u>Receipts</u> <u>(000)</u>	<u>Establishments</u>	<u>Receipts</u>
Alabama	269	\$ 4,827	279	\$ 3,778	- 3.7	27.8
Arkansas	206	2,002	129	1,309	59.6	52.9
Florida	799	13,394	690	10,151	15.7	31.9
Georgia	487	7,531	418	5,357	16.5	40.6
Louisiana	297	4,074	164	2,195	81.0	85.6
Mississippi	177	1,977	161	1,365	9.9	44.8
North Carolina	657	9,734	543	7,766	20.9	25.3
Oklahoma	369	3,607	222	2,743	66.2	31.5
South Carolina	251	3,629	182	3,094	37.9	17.3
Tennessee	447	6,369	395	4,966	13.1	28.3
Texas	1,310	19,106	967	14,730	35.4	29.7
Virginia	<u>400</u>	<u>7,004</u>	<u>336</u>	<u>5,274</u>	19.0	32.8
Total	5,669	\$ 83,254	4,486	\$ 62,728	26.3	32.7
U. S. Total	19,418	\$349,482	17,880	\$293,469	8.6	19.1
12-State % of National Total	29.1	23.8	25.0	21.3		

Source: U. S. Bureau of the Census, Census of Business, 1967.

DISTRIBUTION CHANNELS

Wholesalers

Wholesale establishments are the main distribution channels for most hand tools manufacturers, the two principal ones being hardware and industrial supplies distributors. Tables 11 and 12 list the number of establishments and their sales in the 12-state area and the United States, for both types of distributors. The same statistics are presented in Table 13 for automotive equipment wholesalers, which distribute automotive parts and accessories and filling station and garage service equipment. The sales volumes of hardware wholesalers and industrial suppliers showed larger percentage increases from 1963 to 1967 in the southern area than in the nation as a whole, and the South's gain in number of establishments for all three outlets ranged from nearly one-third to over one-half the national increase.

Retail Outlets

Hand tools are sold in many types of retail outlets. The number of different kinds of retail outlets that sell hand tools within the 12-state area varies between 30 and 40, depending on the individual states. Appendix 2 gives statistics for each state on nine types of retail outlets that appear to be the major sellers of hand tools. Table 14 summarizes the total number of retail establishments and their sales in each state. It also lists the aggregate sales and the number of establishments selling merchandise line code (MLC) 320. Hand tools fall under this code classification. The items classified under MLC 320 are the following: hardware, tools, power tools, electric supplies, gardening equipment and supplies (including power mowers), and plumbing supplies.

Sales figures as presented in this report are not adjusted for changes in the various price indexes. In order to get a more accurate picture of the true impact of sales growth, the reader might want to adjust the wholesale and retail sales figures based on the following indexes:

	<u>1963</u>	<u>1967</u>
Consumer price index	106.7	116.3
Wholesale price index	100.3	106.1
	1957-59 = 100	

Table 11
HARDWARE WHOLESALERS
(SIC 5072)

	1967		1963		Sales % Change 1963-1967	Change in No. of Establishments 1963-1967
	<u>No. of Establishments</u>	<u>Sales (000)</u>	<u>No. of Establishments</u>	<u>Sales (000)</u>		
Alabama	61	\$ 76,857	37	\$ 73,256	4.9	24
Arkansas	16	22,715	18	18,306	24.0	- 2
Florida	140	78,308	126	60,218	30.0	14
Georgia	99	128,154	71	75,385	69.9	28
Louisiana	58	56,709	42	31,220	81.6	16
Mississippi	20	23,886	18	18,654	28.0	2
North Carolina	73	82,812	59	53,778	53.9	14
Oklahoma	29	19,275	21	12,867	49.8	8
South Carolina	29	34,062	24	24,412	39.5	5
Tennessee	62	122,126	53	96,380	26.7	9
Texas	244	253,324	188	162,404	55.9	56
Virginia	<u>48</u>	<u>57,398</u>	<u>47</u>	<u>46,914</u>	22.3	<u>1</u>
Total	879	\$ 954,626	704	\$ 673,794	41.6	175
U. S. Total	4,438	\$4,439,146	3,894	\$3,278,151	35.5	544
12-State % of National Total	19.8	21.5	18.0	20.5	-	32.1

Source: U. S. Bureau of the Census, Census of Business, Wholesale Trade, 1967.

Table 12
INDUSTRIAL SUPPLIERS
(SIC 5085)

	1967		1963		Sales % Change 1963-1967	Change in No. of Establishments 1963-1967
	No. of Establishments	Sales (000)	No. of Establishments	Sales (000)		
Alabama	126	\$ 111,387	112	\$ 83,217	33.8	14
Arkansas	48	28,442	40	19,233	47.8	8
Florida	242	141,170	207	116,043	21.6	35
Georgia	202	338,169	184	166,251	103.4	18
Louisiana	121	160,857	176	111,648	44.0	36
Mississippi	48	26,265	44	20,554	27.7	4
North Carolina	214	196,199	163	117,487	66.9	51
Oklahoma	138	71,880	136	61,143	17.5	2
South Carolina	78	52,177	67	38,352	36.0	11
Tennessee	154	117,021	123	96,405	21.3	31
Texas	667	619,995	556	402,672	53.9	111
Virginia	<u>103</u>	<u>97,837</u>	<u>91</u>	<u>54,034</u>	81.0	<u>12</u>
Total	2,232	\$ 1,960,399	1,899	\$1,287,039	52.3	333
U. S. Total	10,169	\$10,734,679	9,466	\$7,423,997	44.5	703
12-State % of National Total	21.9	18.2	20.0	17.3	-	47.3

Source: U. S. Bureau of the Census, Census of Business, Wholesale Trade, 1967.

Table 13

AUTOMOTIVE EQUIPMENT WHOLESALERS
(SIC 5013)

	1967		1963		Sales % Change 1963-1967	Change in No. of Establishments 1963-1967
	<u>No. of Establishments</u>	<u>Sales (000)</u>	<u>No. of Establishments</u>	<u>Sales (000)</u>		
Alabama	459	\$ 109,819	438	\$ 93,779	17.1	21
Arkansas	312	69,048	284	59,064	16.9	28
Florida	870	283,790	829	223,450	27.0	41
Georgia	656	330,697	622	225,551	46.6	34
Louisiana	439	153,220	398	105,646	45.0	41
Mississippi	313	96,108	291	74,163	29.5	22
North Carolina	596	250,804	595	188,680	32.9	1
Oklahoma	438	141,146	416	113,962	23.8	22
South Carolina	268	56,680	247	43,603	29.9	21
Tennessee	555	302,866	506	187,184	61.8	49
Texas	1,674	736,898	1,631	595,340	23.7	43
Virginia	<u>439</u>	<u>172,970</u>	<u>408</u>	<u>127,176</u>	36.0	<u>31</u>
Total	7,019	\$ 2,704,046	6,665	\$2,037,598	32.7	354
U. S. Total	23,317	\$11,614,177	22,673	\$8,644,232	34.3	644
12-State % of National Total	30.1	23.2	29.3	23.5	-	54.9

Source: U. S. Bureau of the Census, Census of Business, Wholesale Trade, 1967.

Table 14
1967 SUMMARY OF RETAIL OUTLETS^{a/}

<u>States</u> ^{c/}	Retail Trade		(MLC 320) ^{b/} Retail Outlets Handling Hardware-Gardening Equip.		% of Total Establishments Handling MLC 320	Sales of MLC 320 as % of Retail Sales
	<u>No. of Establishments</u>	<u>Sales (000)</u>	<u>No. of Establishments</u>	<u>Sales (000)</u>		
Alabama	18,655	\$ 3,837,785	2,009	\$ 56,623	10.7	1.4
Arkansas	12,894	2,313,064	1,388	36,547	10.7	1.5
Florida	40,612	9,837,160	3,301	130,674	8.1	1.3
Georgia	25,558	5,820,165	2,550	88,411	9.9	1.5
Louisiana	18,543	4,403,357	1,724	60,021	9.2	1.4
Mississippi	12,494	2,287,953	1,416	34,603	11.3	1.5
North Carolina	27,963	6,119,132	2,818	84,211	10.0	1.4
Oklahoma	17,446	3,335,380	1,849	50,371	10.5	1.5
South Carolina	13,902	2,830,675	1,439	40,070	10.3	1.4
Tennessee	22,299	4,974,543	2,439	88,201	10.9	1.8
Texas	71,318	15,504,314	6,601	192,352	9.2	1.2
Virginia	<u>22,445</u>	<u>5,927,676</u>	<u>2,454</u>	<u>99,214</u>	10.9	1.5
Total	304,129	\$67,191,204	29,988	\$961,298	9.8	1.4

^{a/} Includes only establishments with payroll.

^{b/} Merchandise line code 320 (Hardware-Gardening Equipment) includes: hardware, tools, gardening equipment and supplies, electrical supplies.

^{c/} See Appendix 2 for a more specific breakdown.

Source: U. S. Bureau of the Census, Census of Business, "Merchandise Line Sales (Retail Trade)," 1967.

MANUFACTURING ECONOMIES IN THE STATE OF GEORGIA

Among the southern states, Georgia is a natural choice for the location of a hand tools manufacturing facility in the South since it provides immediate access to the expanding hand tools markets of the 12-state primary market area outlined in the previous section of this report. Georgia offers several manufacturing advantages, some of which can be labeled "inherited" advantages due to Georgia's strategic geographic location, and some that can be labeled "acquired" advantages which are the product of the dynamic industrial development efforts undertaken by both the public and private sectors of the state.

Logistical Benefits

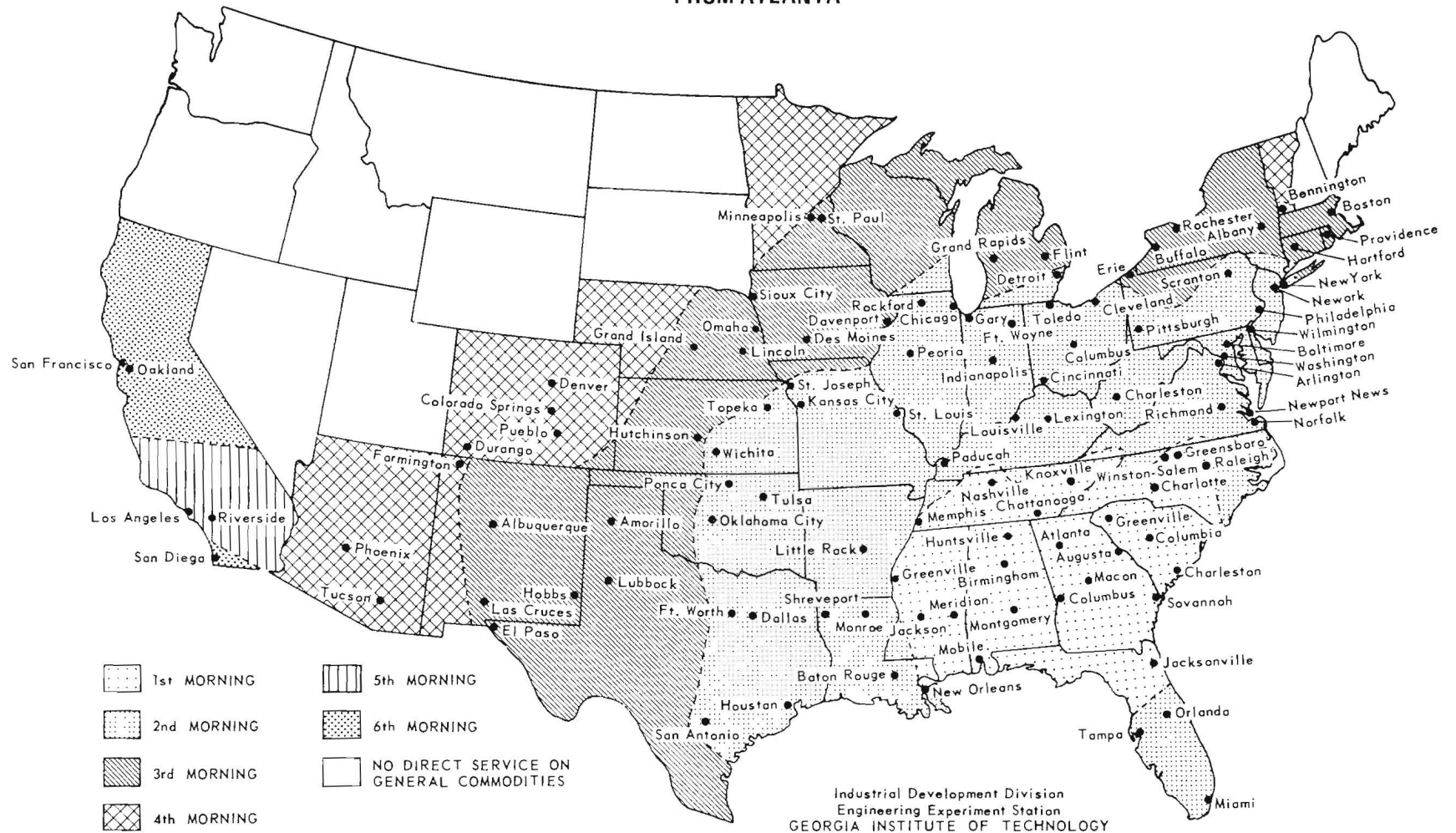
The state of Georgia for a long time has been the distribution center of the South because of its strategic geographic location. Figures 3 and 4 show transit times on direct truckload and less-than-truckload shipments from Atlanta. Figure 5 indicates the areas receiving service from six other Georgia cities.

Presently, the economical and efficient servicing of the principal southern hand tools markets by manufacturers that are located outside the southern states is being impaired by rising transportation costs. The competitive position of these "outside" manufacturers could be placed under even greater jeopardy as the various regional proposals dealing with rate increases for small shipments (due to the so-called "Small Shipments Problem") come into effect.

The actual freight savings that can be derived by shipping hand tools to some selected major southern markets from a plant located in the market area are indicated in Tables 15 and 16. These tables show freight costs in two different weight ranges for shipments originating in Atlanta^{1/} and four major hand tools producing cities. These same two tables were instrumental in determining the primary market area which is one of the bases of this report. Table 17 shows the mileages or rate bases that are applicable to the calculation of the freight charges listed in the above-mentioned tables.

^{1/} Atlanta has been chosen as the reference point within the state of Georgia for demonstration's sake; of course, other cities within the state offer the same relative advantages.

FIGURE 3
TRANSIT TIMES ON DIRECT TRUCKLOAD SHIPMENTS
FROM ATLANTA

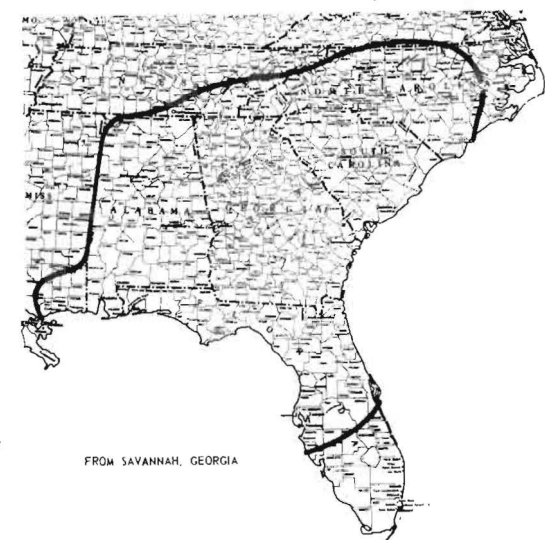
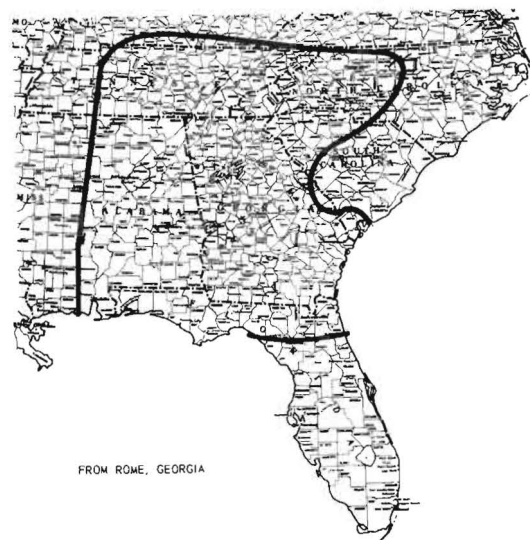
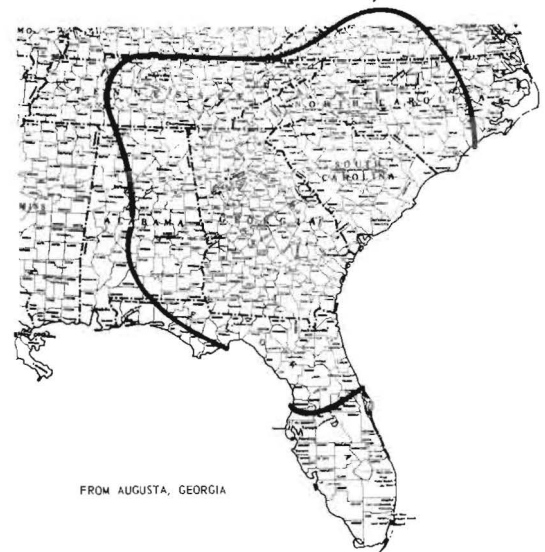
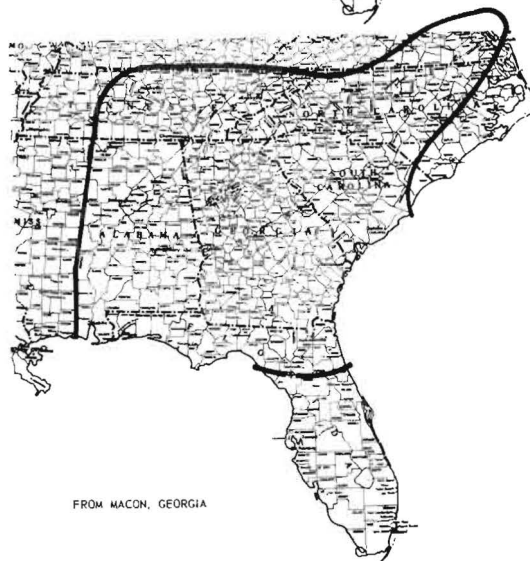
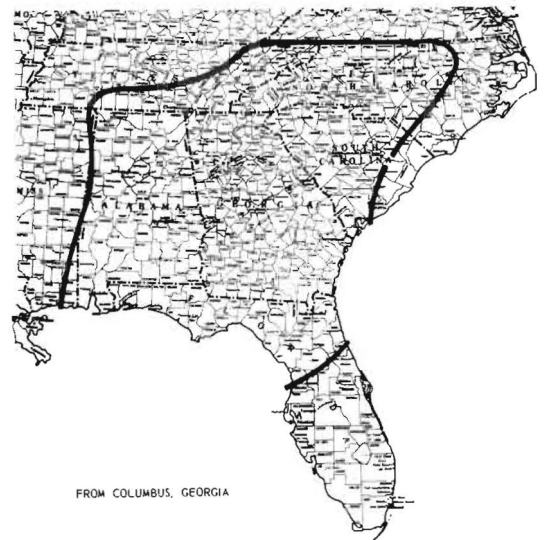
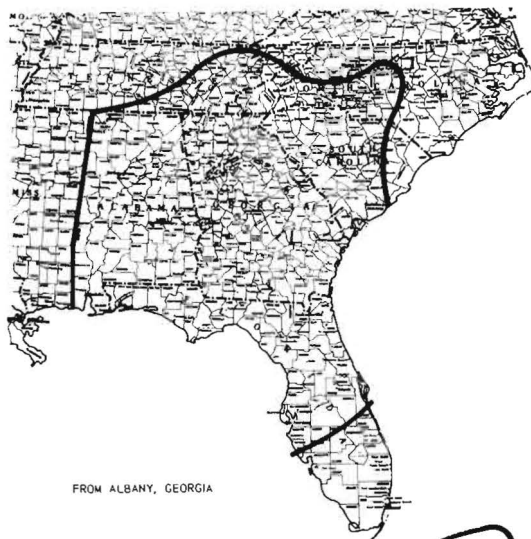


Industrial Development Division
 Engineering Experiment Station
 GEORGIA INSTITUTE OF TECHNOLOGY

FIGURE 4



FIGURE 5
ONE-DAY TRUCKLOAD SERVICE FROM SIX
GEORGIA CITIES



Industrial Development Division
Engineering Experiment Station
GEORGIA INSTITUTE OF TECHNOLOGY

Table 15
MOTOR FREIGHT CHARGES IN CENTS PER 100 POUNDS
FOR SHIPMENTS WITHIN THE 500 TO 1000 POUNDS RANGE
(Class 70, Item 186900, NMF GA-11)

TO:	FROM:				
	<u>Atlanta, Ga.</u>	<u>Chicago, Ill.</u>	<u>Buffalo, N. Y.</u>	<u>Cleveland, O.</u>	<u>New Haven, Conn.</u>
Atlanta, Ga.	-	413	435	446	457
Baltimore, Md.	375	460	390	349	360
Birmingham, Ala.	221	427	435	446	490
Charleston, S. C.	276	527	449	500	422
Houston, Tex.	452	481	552	504	735
Little Rock, Ark.	363	358	441	402	630
Memphis, Tenn.	312	379	435	446	528
Miami, Fla.	392	640	604	634	576
New Orleans, La.	336	500	537	547	583
Winston Salem, N. C.	290	474	389	418	349

Table 16

MOTOR FREIGHT CHARGES IN CENTS PER 100 POUNDS
 FOR SHIPMENTS WITHIN THE 1000 TO 2000 POUNDS RANGE
 (Class 70, Item 186900, NMF GA-11)

TO:	FROM:				
	<u>Atlanta, Ga.</u>	<u>Chicago, Ill.</u>	<u>Buffalo, N. Y.</u>	<u>Cleveland, O.</u>	<u>New Haven, Conn.</u>
Atlanta, Ga.	-	359	406	389	428
Baltimore, Md.	350	405	358	306	328
Birmingham, Ala.	202	371	406	389	458
Charleston, S. C.	254	461	421	438	395
Houston, Tex.	398	472	542	494	647
Little Rock, Ark.	315	352	432	394	553
Memphis, Tenn.	286	330	406	389	495
Miami, Fla.	360	565	566	557	540
New Orleans, La.	309	438	503	479	545
Winston Salem, N. C.	266	414	363	364	327

Table 17

RATE BASES (MILEAGES) APPLICABLE TO THE CALCULATION OF FREIGHT RATE
CHARGES APPEARING IN TABLES 15 AND 16

TO:	FROM:				
	<u>Atlanta, Ga.</u>	<u>Chicago, Ill.</u>	<u>Buffalo, N. Y.</u>	<u>Cleveland, O.</u>	<u>New Haven, Conn.</u>
Atlanta, Ga.	-	615	890	709	954
Baltimore, Md.	685	767	111	444	96
Birmingham, Ala.	166	644	900	719	1,078
Charleston, S. C.	308	980	943	887	827
Houston, Tex.	841	1,035	1,426	1,245	1,760
Little Rock, Ark.	550	602	993	812	1,381
Memphis, Tenn.	417	508	891	710	1,248
Miami, Fla.	677	1,401	1,517	1,386	1,401
New Orleans, La.	490	890	1,254	1,073	1,432
Winston Salem, N. C.	341	800	728	630	620

Another important logistical factor that would have to be considered in the location of a hand tools manufacturing facility is the existence of supporting industries near the area under consideration. Nearly all sections of Georgia, particularly those close to the state of Alabama (the metal center of the South), offer the distinct advantage of a reasonable proximity to what are considered the "principal" supporting industries of the hand tools industry. The input-output analysis used to identify the major industrial markets also helped to identify 121 different industries that provide either materials or services to the hand tools and saws industries.

Ten of these industry categories produce materials that on the aggregate compose approximately 25% of the cost^{1/} of hand tools and saws. Table 18 lists the number of establishments in these "principal" supporting industry categories in Georgia and its five neighboring states. Also included are the number of metal service centers because their presence in an area often can compensate for the absence of a steel mill or foundry because of the economies in inventory and handling that can be derived by dealing directly through these types of metal suppliers.

Labor Advantages

Two aspects of labor are major factors in plant location: labor availability and labor costs. These two factors are not mutually exclusive because both of them have to be very carefully considered at the same time. The relative importance of each one depends upon the type of industry that is engaged in the plant location activity. In the case of most manufacturing firms within the hand tools industry, it is the writer's opinion that the availability of skilled labor within a particular community is equally important as labor cost.

Availability of trained personnel would present no problem to a hand tools manufacturing firm locating a plant in Georgia, due to Georgia's outstanding "Quick Start" program. "Quick Start" is designed to provide a new plant with trained personnel the day the facility is opened. If a hand tools manufacturing firm indicated a serious intention to locate a plant in Georgia, an industry specialist from the State Department of Education would contact the firm in order to analyze training needs and to formulate a master plan for

^{1/} 1963 producers' prices.

Table 18

NUMBER OF PRINCIPAL SUPPORTING INDUSTRIES WITHIN A SIX-STATE AREA

<u>SIC</u>	<u>Supporting Industry Description</u>	<u>No. of Establishments^{a/} by State</u>					
		<u>Ala.</u>	<u>Fla.</u>	<u>Ga.</u>	<u>N. C.</u>	<u>S. C.</u>	<u>Tenn.</u>
3312	Blast Furnaces, Steel Works, Rolling Mills	14	3	4	1	2	4
3316	Cold Rolled Sheet, Strip, and Bars	1	0	0	0	0	0
3322	Malleable Iron Foundries	3	1	0	0	0	0
3323	Steel Foundries	6	4	2	1	0	1
3351	Rolling, Drawing, and Extruding of Copper	0	0	2	1	0	0
3352	Rolling, Drawing, and Extruding of Aluminum	3	5	5	9	2	5
3361	Aluminum Castings	3	8	6	4	4	3
3461	Metal Stampings	8	9	8	11	2	16
3544	Special Dies and Tools, Die Sets, Jigs	3	14	9	8	3	17
3545	Machine Tool Accessories and Measuring Devices	0	3	1	3	2	4
-	Metal Service Centers	26	55	27	25	7	23

^{a/} Includes only establishments employing 20 or more (except steel service centers).

Source: Various 1970 manufacturing directories.

coordinating recruitment (of both skilled and unskilled labor), selection, and training of new employees based on the firm's plant opening and manpower build-up schedules. Each job or skill needed would be carefully scrutinized in order to determine the training required and the time needed for such training.

After the firm's Georgia site has been announced, training begins. The State provides a suitable training facility near the new plant site, equips it with production machinery, and staffs it with instructors. Both pre-employment and on-the-job training are offered. On-the-job training or equipment courses to upgrade skills can be maintained for as long as the firm deems necessary. Another feature that makes this program even more outstanding is that the State of Georgia bears the cost of recruiting, screening, and testing job applicants, pays the salaries of "Quick Start" instructors, and pays for the facilities used to train the workers. If instruction is needed in particularly specialized skills and the incoming firm can provide personnel on loan, Georgia will pay all expenses and salaries.

It is common knowledge that the cost of labor in the South is generally lower than that in other parts of the country. Table 19 lists wage rates in Georgia for selected occupations. An attempt has been made to include occupations that are similar to those in the hand tools industry. It is left up to the reader to compare the prevalent wage rates in his part of the country with those in Georgia.

Often, when a manager is investigating the possibility of locating a plant in an area where the prevalent manufacturing wage rates are lower than even the average national wage rates (such as Georgia), he asks himself, "Sure the wage rates are now lower than in other areas, but how long will they remain lower?" The answer to this perfectly valid question is almost impossible to provide with the forecasting tools that exist today. Nevertheless, by observing the trends of the wage rates paid in the past, both nationally and in Georgia, it is possible to ascertain what is likely to occur in the immediate future with a high probability of being certain that the observation is correct. Based on the data shown in Appendix 3 on the average hourly earnings of production workers of durable goods (e.g., hand tools) in both the U. S. and the state of Georgia, Figure 6 was derived. This graph, which includes a 20-year history of hourly wages, reveals an interesting characteristic: not only has the gap between the wages paid in the U. S. and those paid in Georgia

Table 19
HOURLY RATES PAID TO EXPERIENCED WORKERS
IN SELECTED OCCUPATIONS IN GEORGIA

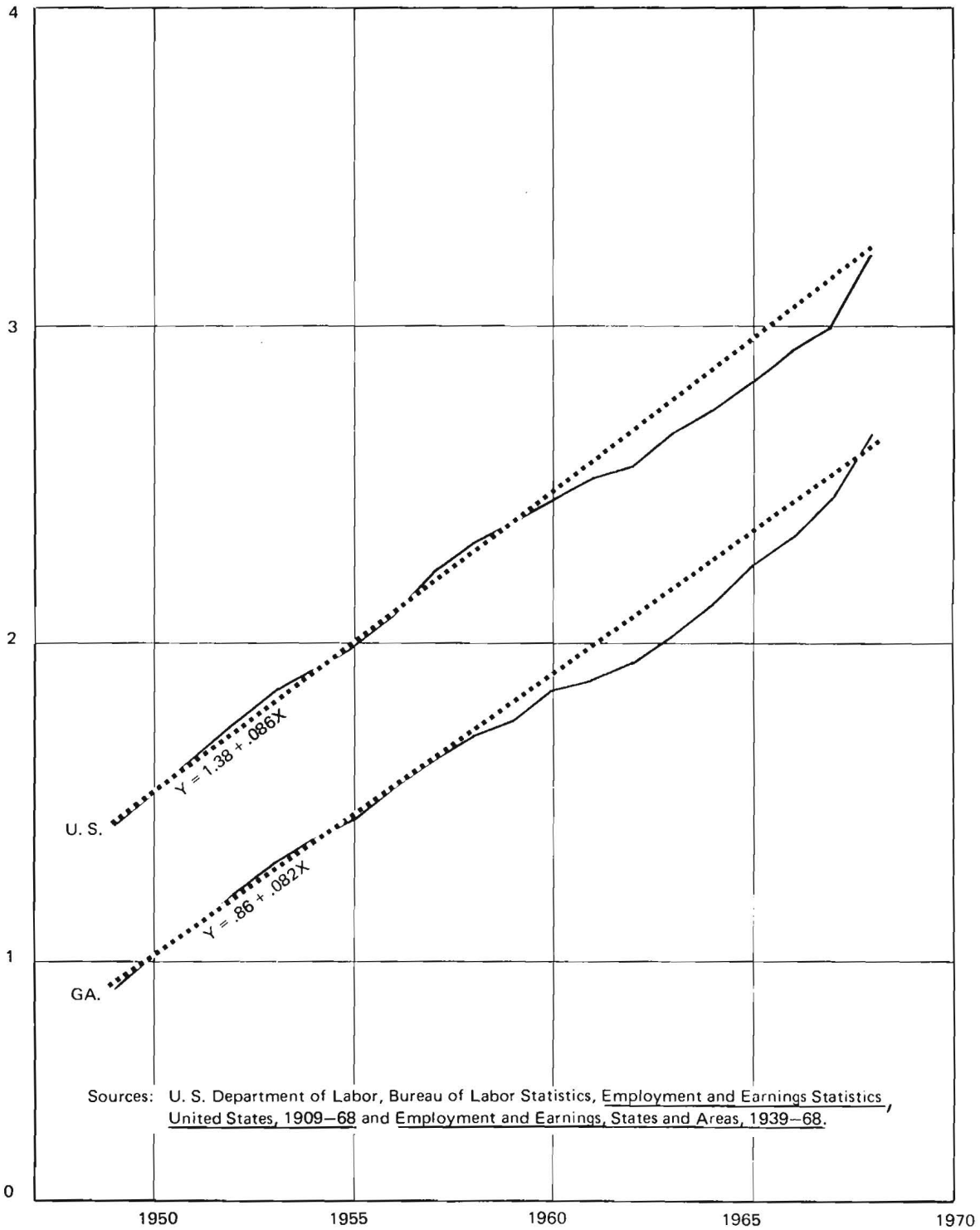
<u>Job Titles</u>	<u>Most Prevalent Wage Rates^{a/}</u>		<u>State-wide Average</u>
	<u>Rate Range</u>		
	<u>From</u>	<u>To</u>	
Boring Machine Operator	\$2.20	\$2.20	\$2.20
Brake Operator, Sheet Metal I	1.60	3.30	2.45
Brazer-Assembler	2.08	2.95	2.11
Brazing Machine Operator	1.65	2.45	2.01
Casting Inspector	1.75	3.25	2.41
Die Maker, Die Casting & Plastic Molding	3.05	4.00	3.50
Drill-Press Set-up Operator, Multiple Spindle	1.65	3.00	2.50
Drill-Press Set-up Operator, Single Spindle	1.60	3.00	2.42
Engine Lathe Set-up Operator, Tool	1.70	3.25	2.62
Foundry Worker, General	1.73	2.25	1.97
Furnace Operator	2.00	2.50	2.30
Inspector	1.65	3.70	2.27
Lathe Operator, Production	1.95	3.75	2.63
Machinist	2.10	4.69	3.23
Maintenance Man, Factory	1.75	3.23	3.12
Maintenance Mechanic	2.00	4.95	3.64
Milling Machine Operator, Produc- tion	1.80	3.50	2.61
Packager, Hand	1.45	3.28	2.18
Packager, Machine	1.30	3.45	2.34
Painter, Spray	1.70	4.11	2.80
Patternmaker, Wood	1.70	3.44	2.47
Pourer, Metal	1.75	3.34	2.17
Shear Operator II	1.70	4.95	2.55
Sheet Metal Worker	1.83	5.20	2.97
Solderer-Assembler	1.85	2.20	1.94
Tool and Die Maker	2.45	4.42	3.61
Tool Grinder Operator	1.95	3.22	2.61
Tool Machine Set-up Operator	2.70	3.30	2.96
Turret Lathe Set-up Operator	2.10	3.30	2.72
Turret Punch Press Operator	1.65	3.77	2.43
Welder, Arc	1.70	4.00	2.67

^{a/} Wage rates listed are reported as "most prevalent" minimums and maximums rather than the absolute extremes.

Source: Georgia Survey of Manufacturing Wage Rates, Research Division, Georgia Department of Industry and Trade, October 1969.

FIGURE 6
TRENDS OF THE AVERAGE HOURLY EARNINGS OF
PRODUCTION WORKERS OF DURABLE GOODS,
GEORGIA AND THE U. S.

DOLLARS



..... TREND
 $Y = A + BX$

remained constant since 1949, but close observation of the B value of the estimating equation which represents the slope of the line reveals that the gap appears to be getting even larger. The B value is .086 for the U. S. trend line and .082 for the Georgia trend line. In short, there is no empirical evidence that these two trend lines will converge in the near future.

In like manner, the same characteristic can be observed in Figure 7 (derived from the data shown in Appendix 4), which presents a 20-year average hourly earnings history and trend for production workers of fabricated metal products (SIC 34) in the U. S. coupled with a 12-year history and trend for the same type of production workers in Georgia. The slopes of the lines in this case are .083 for the U. S. and .068 for Georgia.

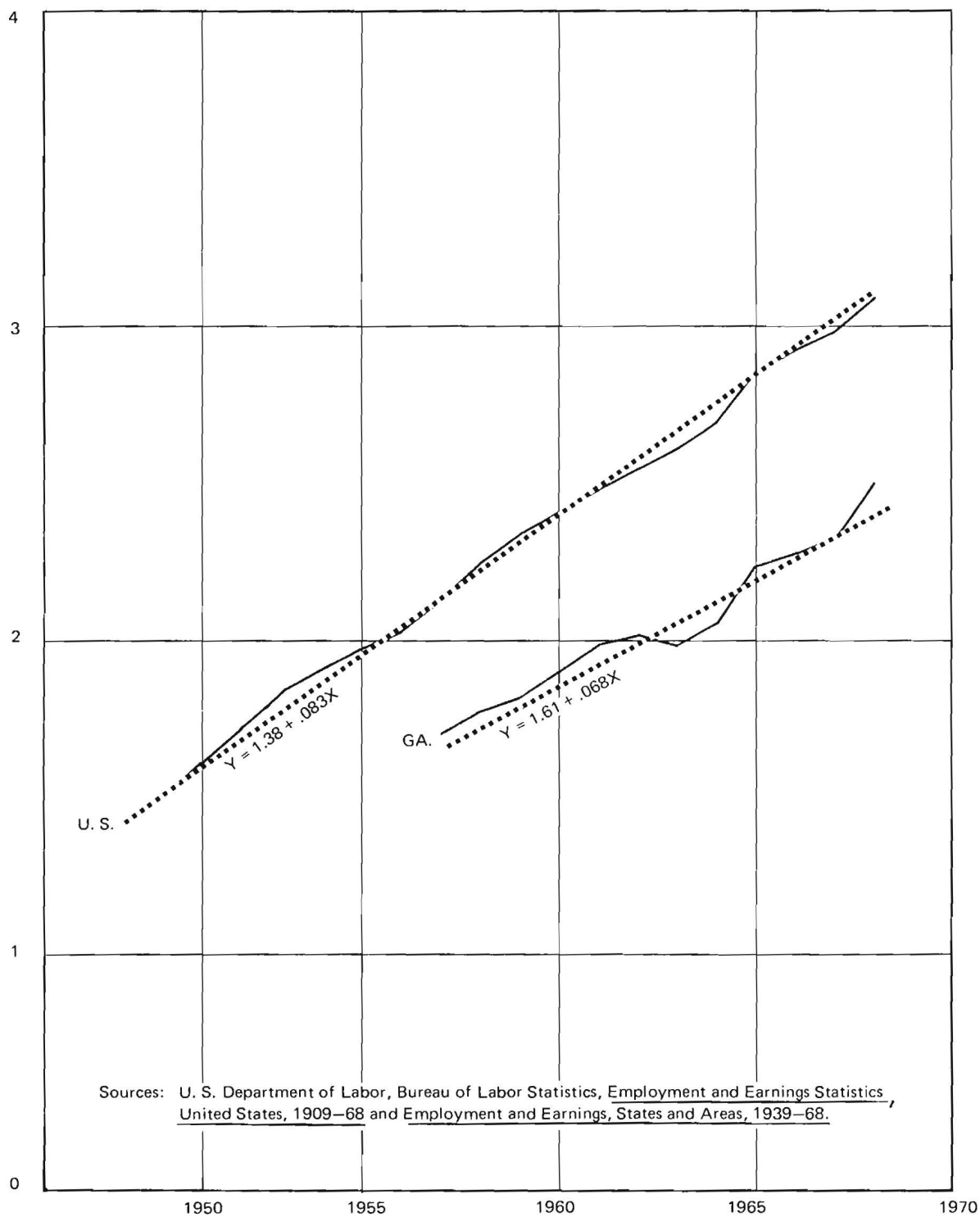
Two other labor aspects should be briefly mentioned: labor productivity and quality of labor. Even though they are not nearly as important plant location factors as the first two, they merit mentioning because plant locators^{1/} often tends to overestimate them.

Present-day methods that are used to measure productivity are somewhat useful only if employed under two situations. First, changes in productivity can be quantified by observing output in a particular plant over a period of time. Second, changes in productivity can be quantified (although somewhat less precisely) for an industry as a whole over time. But the measurement and comparison of labor productivity between regions is an almost impossible task, with the exception, perhaps, of a single company which uses the same technology and production system in two different plants which are located in two different regions. It is very difficult to measure labor productivity in a specific region by comparing it to national standards, using conventional methods, because the conventional measures of value added per dollar of wages paid and value added per man-hour worked assume equal amounts of equipment backing up each worker in each region and equal technology or production methods. These and a couple of other inherent weaknesses of these methods make it difficult for a plant locator even to talk about productivity unless the community or area he is considering contains plants similar to his own, producing the same products with the same technology. In the case of Georgia, a hand tools manufacturer

^{1/} In this case, "plant locator" refers to a person charged by his company with the responsibility of finding a suitable location for a new plant.

FIGURE 7
TRENDS OF THE AVERAGE HOURLY EARNINGS OF
PRODUCTION WORKERS OF FABRICATED METAL
PRODUCTS, GEORGIA AND THE U. S.

DOLLARS



..... TREND
 $Y = A + BX$

might note the very successful experience that high technology companies like General Motors, Lockheed, and Ford Motor Company have had with Georgia's labor force.

The other labor factor that plant locators often ask about is "quality of local labor." Quality of labor generally implies matters like absenteeism and turnover problems. Here again, as a plant location criterion, quality of labor is a rather obscure term because, as truly successful managers will testify, labor quality is not a "commodity" a firm can purchase in the market place, but rather a "commodity" that the firm itself develops.

Other Considerations

Many secondary location factors were not discussed within the contents of this report; they include cost of utilities, state and local taxes, cost of land, and construction costs. Georgia ranks very favorably in these factors as well. Further information concerning the main topics of this report or the secondary location factors mentioned above can be obtained by contacting this organization.

In addition, over 150 communities in the state have local industrial development corporations with the sole purpose of financing and building plants for responsible manufacturers. Each of these communities would be proud to assist in the establishment of a new hand tools manufacturing facility in its area.

APPENDICES

Appendix 1

CALCULATION OF THE TREND OF THE VALUE OF SHIPMENTS OF HAND AND EDGE TOOLS BY THE LEAST SQUARES METHOD

<u>Year</u>	<u>X</u>	<u>Y</u>	<u>XY</u>	<u>X²</u>
1958	-5	440.1	-2200.5	25
1959	-4	510.0	-2040.0	16
1960	-3	492.6	-1477.8	9
1961	-2	582.5	-1077.0	4
1962	-1	589.2	- 589.2	1
1963	0	565.6	0	0
1964	1	626.4	626.4	1
1965	2	714.6	1429.2	4
1966	3	808.1	2424.3	9
1967	4	836.3	3345.2	16
1968	5	<u>932.4</u>	<u>4662.0</u>	<u>25</u>
		7053.8	5052.6	110

Origin = 1963

X = number of years from origin

Y = Annual value of shipments in millions of dollars

$$Y = a + bx$$

$$Y = 641.3 + 45.9x$$

Sources: U. S. Bureau of the Census, Census of Manufactures, 1967,
and Annual Survey of Manufactures, 1968.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS
IN TWELVE SOUTHERN STATES, 1967

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of Alabama

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	Sales % Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	411	\$ 41,303	0.5	NA	NA
531	Department Stores	78	308,880	65.7	43	\$8,495
533	Variety Stores	444	89,947	22.7	369	3,506
541	Grocery Stores	6,197	960,274	19.4	143	644
553	Tire, Battery, & Acc. Dealers	788	105,571	38.7	279	3,706
572	Household Appliance Stores	431	44,018	24.8	24	523
591	Drug Stores	827 ^{b/}	125,690 ^{b/}	NA	39	421
59 (ex. 591)	Misc. Retail Stores, N.E.C.	1,542	117,345	37.6	121	5,971
532	Mail Order Houses	38	D	NA	26	D

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of Arkansas

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	260	\$ 22,585	4.3	185	\$11,282
531	Department Stores	45	109,283	52.9	30	3,472
533	Variety Stores	333	46,685	28.2	216	3,453
541	Grocery Stores	4,179	547,517	32.1	123	709
553	Tire, Battery, & Acc. Dealers	531	70,110	28.0	204	3,334
572	Household Appliance Stores	268	25,762	20.3	25	638
591	Drug Stores	496 ^{b/}	74,702 ^{b/}	NA	28	182
59 (ex. 591)	Misc. Retail Stores, N.E.C.	1,284	146,819	55.7	93	3,769
532	Mail Order Houses	62	D	NA	50	D

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of Florida

<u>SIC</u>	<u>Kind of Business</u>	<u>Retail Outlets^{a/}</u>			<u>(MLC 320) Retail Outlets Handling Hardware-Gardening Equip.^{b/}</u>	
		<u>No. of Establishments</u>	<u>Sales (000)</u>	<u>% Change 1963-1967</u>	<u>No. of Establishments</u>	<u>Sales (000)</u>
5251	Hardware Stores	819	\$ 71,737	85.5	559	\$40,969
531	Department Stores	202	1,068,622	14.4	155	32,976
533	Variety Stores	723	198,638	26.4	599	7,322
541	Grocery Stores	6,863	2,182,481	30.7	242	1,903
553	Tire, Battery, & Acc. Dealers	1,060	158,204	2.4	124	759
572	Household Appliance Stores	679	99,967	NA	44	1,280
591	Drug Stores	1,471 ^{b/}	404,080 ^{b/}	45.9	157	3,543
59 (ex. 591)	Misc. Retail Stores, N.E.C.	4,614	286,991	22.0	395	17,538
532	Mail Order Houses	159	25,402	26.1	40	880

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.

N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of Georgia

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	567	\$ 57,282	12.6	445	\$29,249
531	Department Stores	99	554,057	74.4	76	14,725
533	Variety Stores	542	120,141	17.8	432	4,778
541	Grocery Stores	7,655	1,299,743	29.6	207	661
553	Tire, Battery, & Acc. Dealers	949	130,377	31.7	377	4,607
572	Household Appliance Stores	577	67,345	36.1	41	968
591	Drug Stores	1,081 ^{b/}	199,672 ^{b/}	NA	75	846
59 (ex. 591)	Misc. Retail Stores, N.E.C.	2,266	227,601	24.5	211	13,900
532	Mail Order Houses	1,919	147,659	38.4	51	D

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2
SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of Louisiana

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	373	\$ 33,382	26.4	229	\$17,877
531	Department Stores	79	444,198	78.2	51	12,160
533	Variety Stores	376	101,739	34.9	289	4,622
541	Grocery Stores	6,002	1,129,552	44.9	118	1,340
553	Tire, Battery, & Acc. Dealers	569	80,788	39.6	216	2,553
572	Household Appliance Stores	349	49,697	35.9	35	877
591	Drug Stores	827 ^{b/}	154,427 ^{b/}	NA	57	366
59 (ex. 591)	Misc. Retail Stores, N.E.C.	1,855	134,402	39.2	155	6,779
532	Mail Order Houses	71	26,882	69.2	62	1,127

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967 State of Mississippi

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	248	\$ 22,472	- 1.4	176	\$10,362
531	Department Stores	34	91,620	88.6	25	3,413
533	Variety Stores	323	50,755	17.5	232	2,247
541	Grocery Stores	4,975	581,557	28.3	166	774
553	Tire, Battery, & Acc. Dealers	513	65,522	32.5	204	2,196
572	Household Appliance Stores	273	27,298	9.0	23	623
591	Drug Stores	565 ^{b/}	74,342 ^{b/}	NA	33	187
59 (ex. 591)	Misc. Retail Stores, N.E.C.	1,058	117,201	37.6	104	4,398
532	Mail Order Houses	45	D	NA	36	D

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of North Carolina

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	558	\$ 58,819	5.5	434	\$29,518
531	Department Stores	147	453,102	73.2	95	13,909
533	Variety Stores	622	149,349	27.0	493	5,183
541	Grocery Stores	9,547	1,417,157	25.3	218	1,343
553	Tire, Battery, & Acc. Dealers	883	126,960	38.6	344	3,521
572	Household Appliance Stores	444	65,678	32.9	24	745
591	Drug Stores	999 ^{b/}	214,280 ^{b/}	NA	49	686
59 (ex. 591)	Misc. Retail Stores, N.E.C.	2,726	236,372	29.5	331	10,742
532	Mail Order Houses	92	60,061	36.8	66	2,265

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.

N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967 State of Oklahoma

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	345	\$ 21,500	1.2	NA	NA
531	Department Stores	79	314,516	67.8	55	\$9,465
533	Variety Stores	418	78,493	43.0	354	5,344
541	Grocery Stores	3,351	779,984	22.8	NS	NS
553	Tire, Battery, & Acc. Dealers	774	89,389	20.0	293	4,843
572	Household Appliance Stores	304	29,809	- 2.9	18	422
591	Drug Stores	721 ^{b/}	103,799 ^{b/}	NA	37	536
59 (ex. 591)	Misc. Retail Stores, N.E.C.	2,111	150,289	41.5	139	5,421
532	Mail Order Houses	75	14,378	33.1	49	637

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of South Carolina

<u>SIC</u>	<u>Kind of Business</u>	<u>Retail Outlets^{a/}</u>			<u>(MLC 320) Retail Outlets Handling^{b/} Hardware-Gardening Equip.</u>	
		<u>No. of Establishments</u>	<u>Sales (000)</u>	<u>Sales % Change 1963-1967</u>	<u>No. of Establishments</u>	<u>Sales (000)</u>
5251	Hardware Stores	308	\$ 29,620	29.9	231	\$15,546
531	Department Stores	64	211,540	61.0	37	5,316
533	Variety Stores	314	71,591	21.6	280	2,958
541	Grocery Stores	5,362	720,096	29.7	124	859
553	Tire, Battery, & Acc. Dealers	495	63,883	34.4	194	2,137
572	Household Appliance Stores	229	28,160	33.3	17	264
591	Drug Stores	591 ^{b/}	97,648	NA	66	355
59 (ex. 591)	Misc. Retail Stores, N.E.C.	1,262	95,635	49.4	116	4,242
532	Mail Order Houses	31	16,912	67.8	23	D

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of Tennessee

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	467	\$ 50,424	3.3	365	\$27,430
531	Department Stores	97	464,804	54.9	68	12,466
533	Variety Stores	567	113,050	44.7	448	5,148
541	Grocery Stores	6,772	1,145,196	26.4	231	981
553	Tire, Battery, & Acc. Dealers	705	112,317	26.8	265	4,151
572	Household Appliance Stores	352	51,092	32.7	58	2,065
591	Drug Stores	958 ^{b/}	179,235	NA	92	1,117
59 (ex. 591)	Misc. Retail Stores, N.E.C.	1,868	193,910	28.5	265	15,249
532	Mail Order Houses	79	80,133	132.8	50	4,188

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of Texas

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	1,041	\$ 96,814	5.4	716	\$51,104
531	Department Stores	366	1,705,790	71.8	246	47,152
533	Variety Stores	1,327	259,223	10.3	1,135	11,563
541	Grocery Stores	15,104	3,447,881	21.9	714	7,867
553	Tire, Battery, & Acc. Dealers	2,886	392,882	29.2	1,041	13,786
572	Household Appliance Stores	1,349	146,829	31.8	107	2,397
591	Drug Stores	2,653 ^{b/}	515,370 ^{b/}	NA	207	2,229
59 (ex. 591)	Misc. Retail Stores, N.E.C.	7,983	587,816	36.0	529	18,470
532	Mail Order Houses	312	99,143	35.0	221	4,386

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 2

SUMMARY OF SELECTED RETAIL OUTLETS, 1967
State of Virginia

SIC	Kind of Business	Retail Outlets ^{a/}			(MLC 320) Retail Outlets Handling Hardware-Gardening Equip. ^{b/}	
		No. of Establishments	Sales (000)	% Change 1963-1967	No. of Establishments	Sales (000)
5251	Hardware Stores	470	\$ 60,862	5.2	407	\$35,198
531	Department Stores	147	668,161	57.1	89	19,563
533	Variety Stores	414	131,187	26.4	348	5,182
541	Grocery Stores	5,821	1,413,329	30.0	303	3,024
553	Tire, Battery, & Acc. Dealers	576	93,084	25.9	184	2,192
572	Household Appliance Stores	359	59,247	46.8	27	958
591	Drug Stores	847 ^{b/}	239,326	NA	212	2,043
59 (ex. 591)	Misc. Retail Stores, N.E.C.	2,179	173,537	30.4	192	6,806
532	Mail Order Houses	95	30,930	28.9	60	1,171

Standard Notes: D - Withheld to avoid disclosure. NA - Not available. NS - Do not sell.
N.E.C. - Not elsewhere classified, a standard industrial classification for related miscellaneous groups.

^{a/} All establishments.

^{b/} Includes only establishments with payroll.

Source: U. S. Bureau of the Census, Census of Business, Retail Trade, 1967.

Appendix 3

AVERAGE EARNINGS OF PRODUCTION WORKERS OF DURABLE GOODS, GEORGIA AND THE U. S.

Year	Average Weekly Earnings		Average Weekly Hours		Average Hourly Earnings	
	U. S.	Ga.	U. S.	Ga.	U. S.	Ga.
1949	\$ 57.25	\$ 37.81	39.4	41.1	\$1.45	\$0.92
1950	62.43	41.92	41.1	41.1	1.52	1.02
1951	68.48	44.98	41.5	40.9	1.65	1.10
1952	72.63	50.26	41.5	41.2	1.75	1.22
1953	76.63	53.71	41.2	41.0	1.86	1.31
1954	76.19	54.81	40.1	40.3	1.90	1.36
1955	82.19	59.76	41.3	41.5	1.99	1.44
1956	85.28	62.87	41.0	40.3	2.08	1.56
1957	88.26	65.57	40.3	39.5	2.19	1.66
1958	89.27	67.15	39.5	39.5	2.26	1.70
1959	96.05	70.75	40.7	40.2	2.36	1.76
1960	97.44	70.02	40.1	38.9	2.43	1.80
1961	100.35	72.83	40.3	39.8	2.49	1.83
1962	104.70	77.78	40.9	40.3	2.56	1.93
1963	108.09	83.02	41.1	41.1	2.63	2.02
1964	112.19	86.48	41.4	40.6	2.71	2.13
1965	117.18	93.15	42.0	41.4	2.79	2.25
1966	122.09	98.37	42.1	42.4	2.90	2.32
1967	123.60	99.72	41.2	40.7	3.00	2.45
1968	128.12 ^{a/}	109.18	41.0 ^{a/}	41.2	3.25 ^{a/}	2.65

^{a/} Two-month average, January and February 1968.

Sources: U. S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings Statistics for the United States, 1909-68 and Employment and Earnings, States and Areas, 1939-68.

Appendix 4

AVERAGE EARNINGS OF PRODUCTION WORKERS OF FABRICATED METAL PRODUCTS, GEORGIA AND THE U. S.
(SIC 34)

Year	<u>Average Weekly Earnings</u>		<u>Average Weekly Hours</u>		<u>Average Hourly Earnings</u>	
	<u>U. S.</u>	<u>Ga.</u>	<u>U. S.</u>	<u>Ga.</u>	<u>U. S.</u>	<u>Ga.</u>
1949	\$ 57.45	NA	39.7	NA	\$1.44	NA
1950	63.04	NA	41.5	NA	1.51	NA
1951	68.55	NA	41.8	NA	1.64	NA
1952	71.72	NA	41.7	NA	1.72	NA
1953	76.49	NA	41.8	NA	1.83	NA
1954	76.70	NA	40.8	NA	1.88	NA
1955	81.73	NA	41.7	NA	1.96	NA
1956	84.67	NA	41.3	NA	2.05	NA
1957	88.34	\$ 67.42	40.9	39.2	2.16	\$1.72
1958	89.78	70.45	39.9	39.8	2.25	1.77
1959	96.12	73.75	40.9	41.2	2.35	1.79
1960	98.42	77.30	40.5	40.9	2.43	1.89
1961	100.85	81.99	40.5	41.2	2.49	1.99
1962	104.81	84.44	41.1	41.8	2.55	2.02
1963	108.05	87.96	41.4	44.2	2.61	1.99
1964	111.76	87.15	41.7	42.1	2.68	2.07
1965	116.20	95.18	42.1	42.3	2.76	2.25
1966	122.11	100.95	42.4	43.7	2.88	2.31
1967	123.67	98.41	41.5	41.7	2.98	2.36
1968	126.48 ^{a/}	105.71	41.0 ^{a/}	42.3	3.08 ^{a/}	2.50

^{a/} Two-month average, January and February 1968.

NA - Not available.

Sources: U. S. Department of Labor, Bureau of Labor Statistics, Employment and Earnings Statistics for the United States, 1909-68 and Employment and Earnings, States and Areas, 1939-68.