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Studies in the Economic Structure of the State of Mississippi - Volume 2

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STUDIES IN THE ECONOMIC STRUCTURE
OF THE

STATE OF MISSISSIPPI

VOLUME II
TECHNICAL SUPPLEMENT

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AND

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PREPARED BY

MISSISSIPPI INDUSTRIAL AND TECHNOLOGICAL RESEARCH COMMISSION
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I. INTRODUCTION

The Technical Supplement provides an account of the definitions, assumptions, data sources and estimating techniques used in deriving the individual output and input estimates for construction of the Mississippi Interindustry Matrices. The mathematical formulations for the models used are presented in this supplement.

Because an important consideration was that the analysis be as current as possible, 1961 was chosen as the base year. Any improvements in accuracy which might have been gained from basing the study on 1958 data (the most current year for the Census of Manufactures) would have been lost in the study's lack of immediacy.

All values are stated in producers' values. Thus, outgoing transportation charges are excluded from output calculations.

II. AGRICULTURAL SECTORS¹

Introduction

Agricultural activities of the state's economy are divided into nine sectors: cotton, soybeans, dairy farms, eggs, broilers, beef cattle, feed grain, forests and all other agricultural crops and agricultural services. The agricultural sectors are classified on a product basis rather than on an establishment basis as was done in the non-agricultural processing sectors².

The value of output for each agricultural sector is the producer's value for the calendar year and this includes not only the value of cash marketings but also the value of on-farm consumption and inventory increases. Inputs are valued at the producer's value. To equate producer's value with the actual purchase price, "mark-up" expenses such as transportation charges and wholesale and retail margin are treated as separate input charges.

Output information for the Agricultural sector was derived mainly from Mississippi Agricultural Statistics (67). Input information was developed from a farm expense survey conducted by the Agricultural Economics Department of Mississippi State University (MSU) and various agricultural commodity production cost studies³.

¹ For a discussion of conceptual and data problems involved in constructing agricultural sectors see Input-Output Analysis: Technical Supplement (17) and Part II California Interindustry Analysis Emphasizing Agriculture (15).

² There are several important reasons for classifying the agricultural sectors on a product basis. One, a product classification coincides more closely with a basic assumption of input-output analysis that an individual sector can produce only one product. Two, published data is readily available concerning the production and distribution of specific agricultural commodities. The use of an establishment concept for the agricultural sectors would have been impractical because of the extremely limited amount of available information.

Because most farms produce more than one agricultural product, the product classification concept presents a problem of distributing shared costs. The distribution of these costs on the basis of output did not appear to distort the input structure of the agricultural sectors.

³ See for example: Economics of Beef Cattle Production in the Yazoo-Mississippi Delta Area (47).

state estimates of production expenses published in Farm Income Situation (119) served as control figures for the input estimates.

In the remainder of this section, there will be one, a discussion of the procedures used in estimating the inputs for the agricultural sectors, and two, a description of the composition and distribution of output of each agricultural sector.

Input Estimates

Agricultural Production Expense Survey

To determine the input structure of the cotton, soybean, dairy farms, beef cattle and feed grain sectors, a survey was conducted by the Agricultural Economics Department of MSU. The survey was limited to direct expense items such as seed, fertilizer, insecticides, feed and labor. Indirect expense items such as interest, depreciation, taxes and rent were estimated from published data and, to a certain extent, imputed from the direct expense survey.

Direct expense data by farm size and soil type for the Delta area of Mississippi were already available.⁴ The survey, therefore, was limited to the non-Delta area of the state. To give proper representation to the varying soil areas, a random sample of thirty-five counties was chosen for the survey.

To obtain direct expense data, a research assistant of the Agricultural Economics Department of MSU surveyed county ASC committee members. Because the county ASC committee members are usually selected from the counties' more successful farmers, it was felt that they would maintain more complete operating records. The committee members for each county were paid their usual meeting fee for traveling to their respective county seats to supply the research assistant with 1961 output and expense data.

The chief difficulty in using ASC committee members as the sample, is that they represent generally the larger and more profitable farm operations. However,

⁴See: Budgets for Major Farm Enterprises in the Mississippi River Delta of Arkansas, Louisiana and Mississippi (51).

it was possible to adjust the data to reflect the smaller and less profitable farm operations. Consequently, the use of county ASC committee members to develop direct expense input information proved to be a practical method of collecting data.

Survey of Inputs

The Farm Income Situation (119) expense estimates reproduced in Table 1, provided the basic control figures from which the inputs to the agricultural sectors were estimated. Using the survey of ASC committee members and available cost studies, the MSU research team allocated the U.S.D.A. estimates, Table 2, among the various agricultural sectors. There will be a discussion later in this section of the variations in expense totals between Tables 1 and 2. Inputs contained in the two miscellaneous categories, "Repairs and Operation of Capital Items" and "Miscellaneous Operating Costs" were distributed to various sectors by the use of survey data, cost studies and estimates arbitrarily developed by the Mississippi Industrial and Technological Research Commission (MITRC).

To equate producer's value with purchaser's value, the MITRC developed a schedule of transportation costs and wholesale and retail margins. Various trade publications (see, for example, Mail-Me-Monday Barometer of Small Business Yearbook (81)) provided partial information for those computations. However, to arrive at margin costs, some arbitrary assumptions had to be made. The problem of constructing this sector will be reviewed later in the discussion of the margin sector.

TABLE 1

U. S. DEPARTMENT OF AGRICULTURE FARM PRODUCTION EXPENSE ESTIMATES
FOR THE STATE OF MISSISSIPPI 1961
(in thousands of dollars)

Feed	90,200
Livestock	18,500
Seed ^a	8,300
Fertilizer & Livestock	38,300
Repairs & Operations of Capital Items ^b	72,700
Miscellaneous Operating Costs ^c	71,300
Hired Labor ^d	58,300
Depreciation ^e	68,200
Taxes on Farm Property	13,500
Interest on Farm Mortgage	16,000
Net Rent to non-farm landlords	16,400
Net Farm Income ^f	305,100
	776,800

Source: Farm Income Situation (119)

^a Includes bulbs, plants and trees.

^b Repairs and maintenance of buildings, repairs and operation of motor vehicles and other machinery and petroleum fuel and oil used in the farm business.

^c Includes short-term interest, pesticides, ginning, electricity and telephone, (business share), livestock marketing charges (excluding feed and transportation charges), containers, milk hauling, irrigation, grazing, binding materials, tolls for sirup, horses and mules, harness and saddling, blacksmithing and hardware, veterinary services and medicines, net insurance premiums and miscellaneous dairy, nursery, greenhouses, spray and other supplies.

^d Includes cost wages, requisitions and social security taxes paid by employers.

^e Includes depreciation and accidental damage to farm buildings and depreciation of motor vehicles and other farm machinery and equipment.

^f Includes net farm inventory increases.

TABLE 2

DISTRIBUTION OF U.S.D.A. FARM PRODUCTION EXPENSES AMONG MISSISSIPPI AGRICULTURAL SECTORS
PURCHASER'S VALUE
(in thousands of dollars)

Sector No.	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8) ^a	
ITEM	Cotton	Soybeans	Dairy Farms	Eggs	Broilers	Beef Cattle	Feed Grain	All Other Agriculture	Total
Feed, Prepared			(5,212)	(19,003)	(11,878)	(3,802)		(21,825)	(61,720)
Feed, Purch. Incred.			(25,169)	(2,557)	(18,399)	(4,813)			(50,938)
Feed, Sub Total			30,381	21,560	30,277	8,615		21,825	112,658
Roughage			11,725			8,891		2,398	23,014
Livestock			7,425	2,105	11,150	8,126		233	29,039
Seed	5,299	3,843	725			1,369	1,831	509	13,576
Fertilizer	15,880	611	2,750			4,990	11,421	3,148	38,800
Repairs & Operation of Capital Items	32,368	8,627	6,436	753	617	8,286	7,402	7,530	72,019
Miscellaneous									
Operating Costs	45,305	2,770	6,515	6,910	10,055	3,150	3,914	6,612	85,231
Hired Labor	42,596	2,513	1,857	3,652	1,854	670	1,778	3,380	58,300
Depreciation	26,522	7,172	7,018	2,155	1,765	8,589	7,331	7,648	68,200
Property Taxes	5,494	958	1,472	837	1,053	1,296	824	1,566	13,500
Interest on Farm Mortgage Debt	6,512	1,136	1,744	992	1,248	1,536	976	1,856	16,000
Net Rent to Non-Farm Landlords	6,676	1,164	1,788	1,017	1,279	1,574	1,000	1,902	16,400
Net Farm Income	121,950	24,998	3,981	6,322	- 689	7,566	9,613	24,158	197,899
Total	308,602	53,792	83,817	46,303	58,609	64,658	46,090	82,765	744,636
Output	308,602	53,792	83,817	46,303	58,609	64,658	46,090	82,765	

^aAlthough forests are included with All Other Agriculture in the matrices appearing in Volume 1, they are disaggregated in this Table in order to facilitate comparison with U.S.D.A. estimates.

Reconciliation of U.S.D.A. and M.S.U. - M.I.T.R.C. Estimates of Major Farm Production Expenses (Tables 1 and 2)

Feed: The MSU-MITRC feed estimate (both purchased feed and purchased ingredients) exceeds the U.S.D.A. estimate by \$22,458,000. This discrepancy results because the U.S.D.A. includes only the value of purchased feeds and ingredients and does not include the value of feed ingredients produced and consumed on the same farm.

Seed: The MSU-MITRC seed estimate exceeds the U.S.D.A. estimates by \$5,276,000. This discrepancy results because the U.S.D.A. includes only the value of purchased seed and not the value of seed produced and consumed on the farm.

Roughage: The U.S.D.A. considers only purchased roughage as a production expense and includes this item in the purchased feed category. From the standpoint of the input-output analysis, roughage is considered as part of the output of the All Other Agricultural Products sector and is, accordingly, charged as an input to the consuming agricultural sector.

Livestock: The MSU-MITRC livestock purchases estimates exceed the U.S.D.A. estimates by \$10,539,000. The discrepancy is the result of greater beef and dairy cattle purchase estimates by the MITRC. In order to reconcile the inter and intra state movements of beef and dairy cattle, the U.S.D.A. estimates had to be adjusted upward.

Miscellaneous Operating Costs: The MSU-MITRC estimates exceed the U.S.D.A. estimates by \$13,931,000. This discrepancy is the result of \$7,000,000 additional labor charges and \$7,000,000 additional equipment charges.

Net Farm Income: The U.S.D.A. estimate exceeds the MSU-MITRC estimate by \$107,201,000. Table 3 reconciles the U.S.D.A. and the MITRC estimates.

TABLE 3

RECONCILIATION OF U.S.D.A. AND MITRC NET FARM INCOME ESTIMATES
FOR 1961
(in thousands of dollars)

U.S.D.A. estimates of net farm income exceeds MITRC estimates by	\$107,201.
Less Farm Subsidies included in U.S.D.A. but not MITRC estimates	- 16,900.
Less Gross rental value of farm dwellings included in U.S.D.A. but not MITRC estimates	- 37,500.
Less value of feed grown & consumed on farms included in MITRC but not U.S.D.A. estimates	- 22,458.
Less value of seed grown & consumed on farms included in MITRC but not U.S.D.A. estimates	- 5,276.
Less value of roughage grown & consumed on farms included in MITRC estimates but not U.S.D.A. estimates	- 23,014.
Less additional value of livestock purchases included in MITRC estimates but not U.S.D.A. estimates	- 10,539.
Less additional value of miscellaneous operating costs included in MITRC estimates but not U.S.D.A. estimates	- 13,931.
Less additional value of fertilizer estimates included in MITRC estimates but not U.S.D.A. estimates	- 500.
Plus additional value of repair costs included in U.S.D.A. but not MITRC estimates	+ 681.
Plus additional value of farm output in MITRC estimates	+ 22,236.
	- 0 -

II. AGRICULTURAL SECTORS

1. Cotton

Composition

The Cotton sector includes cotton lint and cotton seed. It excludes cotton linters which are a product of Sector 19, Cottonseed Oil Mills.

Output and Distribution

Output is Mississippi production valued at the average price received by Mississippi planters in 1961. Data sources for cotton lint and seed production include Mississippi Agricultural Statistics (67) and Agricultural Statistics (116).

Table 4 shows the output and flow of cotton in Mississippi in 1961.

TABLE 4

OUTPUT AND FLOW OF COTTON IN MISSISSIPPI DURING 1961
(in thousands of dollars)

<u>Purchasing Sector</u>	<u>Sector No.</u>	<u>Cotton Lint</u>	<u>Cotton Seed</u>	<u>Imports</u>	<u>Total</u>
Cotton	1		2,586	2,613	5,199
Cottonseed Oil Mills	19		29,699	6,325	36,024
Textile Mills	22	3,622		3,398	7,020
Private Cap. Form.	47	7,555			7,555
Exports	53	<u>263,539</u>	<u>1,601</u>		<u>265,140</u>
		274,716	33,886	12,336	320,938
				imports	<u>- 12,336</u>
				Mississippi Output	308,602

Shrinkage and loss plus consumption of cottonseed by Mississippi cotton planters for seeding purposes was estimated from the MSU form expense survey.

Mississippi Agricultural Statistics (67) reports the tonnage of Mississippi produced cottonseed sold to oil mills. It was estimated that 2% of this tonnage (\$601,000) was exported to non-Mississippi oil mills. It was further estimated that \$1,000,000 of cottonseed was exported to non-Mississippi planters for seeding purposes.

The consumption of lint in Mississippi was derived from the MITRC's survey of Mississippi manufacturers. From this information, estimates were made of the value of intra-state sales, exports and imports of cotton lint.

Inventory increases of cotton for Mississippi were assumed to be proportional to total inventory increases for the United States.

2. Soybeans

Composition

The Soybean sector includes soybeans grown for purposes of hay, silage and beans. Excluded from this sector is soybean meal, a product of soybean oil mills (Sector 20).

Output and Distribution

Output is Mississippi production valued at the average price received by Mississippi growers in 1961. Sources for soybean production include Mississippi Agricultural Statistics (67) and Agricultural Statistics (116).

TABLE 5

OUTPUT AND FLOW OF SOYBEANS IN MISSISSIPPI DURING 1961
(in thousands of dollars)

<u>Purchasing Sector</u>	<u>Sector No.</u>	<u>Soybeans</u>	<u>Soybean Imports</u>	<u>Total</u>
Soybeans	2	3,557	0	3,557
Beef Cattle	6	160	0	160
Soybean Oil Mills	20	31,903	0	31,903
Inventory Increase	47	1,990	0	1,990
Exports	53	16,182	0	16,182
				53,792
			imports -	-0-
			Mississippi output	53,792

Shrinkage and losses plus soybean consumption by Mississippi growers for seeding purposes was estimated from the MSU farm expense survey to be \$3,557,000. It was assumed that no imports occurred.

Consumption of soybeans for feed purposes was estimated from Mississippi Agricultural Statistics (67) and the MSU survey to be \$160,000. It was assumed that no imports occurred.

Estimates of inventory increases were derived from Mississippi Agricultural Statistics (67).

Exports were estimated from data developed in a feed and grain movement study conducted by the Agricultural Experiment Station of Mississippi State University.

Sales of soybeans to Mississippi soybean oil mills were treated as a residual figure.

3. Dairy Farms

Composition

Dairy Farms include fluid milk, cream and dairy animals slaughtered for meat.

Output and Distribution

Output is defined as cash receipts for milk, cream and meat, plus the value of home consumption, plus the value of inventory changes of cattle kept for dairy purposes. Mississippi Agricultural Statistics (67) was the source of output data.

Table 6 indicates the output and flow of dairy farm products in Mississippi in 1961.

TABLE 6

OUTPUT AND FLOW OF DAIRY FARM PRODUCTS IN MISSISSIPPI DURING 1961 (in thousands of dollars)

<u>Purchasing Sector</u>	<u>Sector No.</u>	<u>Milk & Cream</u>	<u>Meat</u>	<u>Imports</u>	<u>Total</u>
Dairy Farm	3	657	4,900	2,325	7,882
Meat Packing	12		6,206	7,128	13,334
Dairy Products	14	30,707		311	31,018
Private Cap. Form.	47	1,236			1,236
Exports	53	16,583	11,871		28,454
Household	54	<u>10,822</u>	<u>835</u>		<u>11,657</u>
		60,005	23,812	9,764	93,581
				imports	<u>- 9,764</u>
				Mississippi Output	83,817

Data supplied by Mississippi Agricultural Statistics (67) and the files of the Mississippi Milk Commission indicated the amount of milk purchased by Mississippi milk processing plants from both Mississippi and non-Mississippi sources. This information was used to determine intra-state sales, imports and exports of milk and cream.

Mississippi Agricultural Statistics (67) was the data source for on farm consumption of milk by both humans and calves.

Inventory increase of milk was estimated from the Mississippi Milk Commission files.

For statistical purposes, direct retail sales of milk and cream by farmers were treated as sales to the dairy products sector, rather than to the household sector.

The output of this sector also includes the sale of dairy animals for slaughter and the value of inventory changes of cattle kept for dairy purposes.

Data supplied by the State Livestock and Sanitation Control Board, the MITRC survey of manufacturers, Mississippi Agricultural Statistics (67) and the MSU farm expense survey were used to estimate the flow of both beef cattle and milk cows in the state. From this information estimates were made of the value of intra-state sales, imports and exports of dairy cattle used for both slaughter and dairy purposes.

4. Eggs

Composition

This sector includes table and breeder eggs and slaughtered layers and roosters. Hatcheries are included in Sector 9. Broiler grow out is included in Sector 5.

Output and Distribution

Output is defined as cash receipts for breeder and table eggs, cash receipts from slaughtered chickens raised in conjunction with egg production and the value of manure, plus the value of home consumption. It was assumed that no inventory changes occurred. Mississippi Agricultural Statistics (67) was the source of output data.

The distinction maintained between Sector 4 (Eggs), Sector 5 (Broiler Grow Out), Sector 9 (Agricultural Services, which includes hatcheries), and Sector 13 (Poultry Processing) is somewhat arbitrary especially in light of the increasing vertical integration of the poultry industry. However, it was felt that this arbitrary breakdown would permit a closer analysis of the state's poultry industry.

Table 7 indicates the output and flow of eggs in Mississippi in 1961.

TABLE 7
OUTPUT AND FLOW OF EGGS IN MISSISSIPPI DURING 1961
(in thousands of dollars)

<u>Purchasing Sector</u>	<u>Sector No.</u>	<u>Breeder Eggs</u>	<u>Layer Eggs</u>	<u>Birds</u>	<u>Manure</u>	<u>Imports</u>	<u>Total</u>
All Other Ag.	8				519		519
Ag. Services (Hatcheries)	9	7,786					7,786
Fisheries	10		17				17
Poultry Processing	13		150	621			771
Local & State Govt.	51		220				220
Exports	53	79	19,784				19,863
Household	54		17,127			1,500	18,627
		7,865	37,298	621	519	1,500	47,803
						imports - 1,500	46,303
							Mississippi production 46,303

Mississippi Agricultural Statistics (67) gives the value of total egg production. This publication also cites number of checks hatched by type. Price and cost information supplied by poultry specialists, was used to allocate the state's total egg production between breeder and layer eggs. This disaggregation was necessary to compute feed inputs and to serve as the basis for the egg input figures for the hatcheries sector (Agricultural Services).

Total consumption of table eggs, at producer's value, by Mississippi households (both farm and non-farm) was estimated from information in Mississippi Agricultural Statistics (67). In addition to sales of table eggs to the household sector, allocations were made to the fisheries and state and local government sectors. Food expenses for fishing fleets were considered as an input rather than a wage perquisite. Purchases of food by state and local government institutions were considered as an input to these sectors.

Imports of table eggs were assumed to be \$1,500,000. Sales of table eggs to egg breaking plants (Sector 13) were arbitrarily assumed.

Cost information developed by the Agricultural Experiment Station at MSU was used to estimate the value of manure and slaughtered birds. Manure was arbitrarily assigned to the All Other Agricultural Products sector.

5. Broiler Grow-Out

Composition

The Broiler Grow-Out sector represents the growing out of one-day old chicks for slaughter.

Output and Distribution

Output is defined as cash receipts for grown out broilers, value of manure, plus the value of on farm consumption. It was assumed that no net inventory changes occurred.

Table 8 indicates the output and flow of broilers in Mississippi in 1961.

TABLE 8

OUTPUT AND FLOW OF BROILERS IN MISSISSIPPI DURING 1961
(in thousands of dollars)

<u>Purchasing Sectors</u>	<u>Sector No.</u>	<u>Broilers</u>	<u>Manure</u>	<u>Imports</u>	<u>Total</u>
All Other Agr.	8		803		803
Poultry Processing	13	54,973		2,255	57,228
Exports	53	1,734			1,734
Households	54	1,099			1,099
		<hr/> 57,806	<hr/> 803	<hr/> 2,255	<hr/> 60,864
				imports -	2,255
					<hr/> 58,609
				Mississippi production	58,609

Mississippi Agricultural Statistics (67) gives the value of commercial broiler production. It was assumed that 3% of this production was exported. Personnel of poultry processing plants in conversations with staff members of MITRC indicated that the plants imported 4% of their total broiler requirements.

Mississippi Agricultural Statistics (67) was the source of data for on farm consumption of broilers. The value of manure was estimated from file information supplied by poultry specialists at MSU. As in the case of the egg sector, manure was arbitrarily assigned to the All Other Agricultural Products sector.

6. Beef Cattle

Composition

This sector includes cattle and calves. Dairy animals sold for slaughter are included in Sector 3.

Output and Distribution

Output is defined as cash receipts for cattle and calves, exclusive of dairy animals, plus the value of on farm consumption. The value of farm hides was included in the meat packing sector (Sector 12).

It was assumed that net inventory changes did not occur in 1961. Although Mississippi Farm Report, February 20, 1962 (120), reported an increase in the value of cattle on hand, this increase was the result of an increase in market price of \$15.00 per head and not the result of a statistically significant change in the number of cattle on hand.

Table 9 indicates the output and flow of beef cattle in Mississippi during 1961.

TABLE 9
OUTPUT AND FLOW OF BEEF CATTLE IN MISSISSIPPI DURING 1961
(in thousands of dollars)

<u>Purchasing Sector</u>	<u>Sector No.</u>	<u>Amount Beef Cattle</u>	<u>Imports</u>	<u>Total</u>
Beef cattle	6	5,113	2,688	7,801
Meat packers	12	19,748	15,988	35,736
Grain Mill Products (for pet food)	16	350		350
Exports	53	36,791		36,791
Households	54	2,656		2,656
		64,658	18,676	83,334
			imports -	18,676
			Mississippi Production	64,658

Mississippi Agricultural Statistics (67) was the source of data for the value of beef cattle output. The MITRC's survey of manufacturers, Mississippi

Agricultural Statistics (67) and certain livestock movement information supplied by the Agricultural Experiment Station of MSU was used to allocate Mississippi production between exports, meat packers, grain mill products (pet food) and on farm consumption. This information also was used to estimate imported cattle and purchases of stock and feeder livestock.

Year	Value	Quantity	Unit	Value	Quantity	Unit
1967	100.0	100	100	100.0	100	100
1968	100.0	100	100	100.0	100	100
1969	100.0	100	100	100.0	100	100
1970	100.0	100	100	100.0	100	100
1971	100.0	100	100	100.0	100	100
1972	100.0	100	100	100.0	100	100
1973	100.0	100	100	100.0	100	100
1974	100.0	100	100	100.0	100	100
1975	100.0	100	100	100.0	100	100
1976	100.0	100	100	100.0	100	100
1977	100.0	100	100	100.0	100	100
1978	100.0	100	100	100.0	100	100
1979	100.0	100	100	100.0	100	100
1980	100.0	100	100	100.0	100	100
1981	100.0	100	100	100.0	100	100
1982	100.0	100	100	100.0	100	100
1983	100.0	100	100	100.0	100	100
1984	100.0	100	100	100.0	100	100
1985	100.0	100	100	100.0	100	100
1986	100.0	100	100	100.0	100	100
1987	100.0	100	100	100.0	100	100
1988	100.0	100	100	100.0	100	100
1989	100.0	100	100	100.0	100	100
1990	100.0	100	100	100.0	100	100
1991	100.0	100	100	100.0	100	100
1992	100.0	100	100	100.0	100	100
1993	100.0	100	100	100.0	100	100
1994	100.0	100	100	100.0	100	100
1995	100.0	100	100	100.0	100	100
1996	100.0	100	100	100.0	100	100
1997	100.0	100	100	100.0	100	100
1998	100.0	100	100	100.0	100	100
1999	100.0	100	100	100.0	100	100
2000	100.0	100	100	100.0	100	100
2001	100.0	100	100	100.0	100	100
2002	100.0	100	100	100.0	100	100
2003	100.0	100	100	100.0	100	100
2004	100.0	100	100	100.0	100	100
2005	100.0	100	100	100.0	100	100
2006	100.0	100	100	100.0	100	100
2007	100.0	100	100	100.0	100	100
2008	100.0	100	100	100.0	100	100
2009	100.0	100	100	100.0	100	100
2010	100.0	100	100	100.0	100	100
2011	100.0	100	100	100.0	100	100
2012	100.0	100	100	100.0	100	100
2013	100.0	100	100	100.0	100	100
2014	100.0	100	100	100.0	100	100
2015	100.0	100	100	100.0	100	100
2016	100.0	100	100	100.0	100	100
2017	100.0	100	100	100.0	100	100
2018	100.0	100	100	100.0	100	100
2019	100.0	100	100	100.0	100	100
2020	100.0	100	100	100.0	100	100
2021	100.0	100	100	100.0	100	100
2022	100.0	100	100	100.0	100	100
2023	100.0	100	100	100.0	100	100
2024	100.0	100	100	100.0	100	100
2025	100.0	100	100	100.0	100	100
2026	100.0	100	100	100.0	100	100
2027	100.0	100	100	100.0	100	100
2028	100.0	100	100	100.0	100	100
2029	100.0	100	100	100.0	100	100
2030	100.0	100	100	100.0	100	100

7. Feed Grains

Composition

The Feed Grain sector includes corn, oats and grain sorghum.

Output and Distribution

Output is defined as cash receipts for corn, oats and grain sorghum, plus the value of on-farm consumption plus the value of inventory increases.

TABLE 10

OUTPUT AND FLOW OF FEED GRAINS IN MISSISSIPPI DURING 1961
(in thousands of dollars)

<u>Purchasing Sector</u>	<u>Sector</u> <u>No.</u>	<u>Corn</u>	<u>Oats</u>	<u>Grain Sorghum</u>	<u>Imports</u>	<u>Total</u>
Dairy Farms	3	3,502	315	10	1,001	4,828
Eggs	4	865	72		322	1,259
Broilers	5	7,261			2,850	10,111
Beef Cattle	6	680	268	8	622	1,578
Feed Grain	7	1,611	202	18		1,831
All Other Agric.	8	16,425	683		915	18,023
Grain Mills	16	2,478	900	302	8,233	11,913
Private Cap. Form.	47	6,391	1,980	61		8,432
Exports	53	1,170	660	228		2,058
		40,383	5,080	627	13,943	60,033
					Imports -	13,943
						Mississippi production 46,090

Mississippi Agricultural Statistics (67) supplied the value of Mississippi production in 1961 of corn, oats and grain sorghum. A grain and feed movement study conducted by the Agricultural Experiment Station of MSU provided export and import data.

Input data developed in the MSU farm expense survey supplied the total feed requirements for each agricultural sector. Because farmers satisfy their feed requirements by purchasing both manufactured feeds and separate ingredients, it was necessary to distinguish for each sector: (1) the amount of manufactured feeds purchased and (2) the value of the different feed ingredients which were either purchased or grown for on farm consumption.

The MSU food and grain movement study provided information on the tonnage of feed manufactured in Mississippi imported and exported. Estimates of each sector's consumption of manufactured feeds were made from information supplied by several Mississippi feed manufacturers. The feed requirements still remaining unsatisfied were assumed to be fulfilled by purchased ingredients. Estimates of the value of different purchased feed ingredients were derived from representative feed rations supplied by Mississippi Federated Co-operatives and personnel of the Agricultural Experiment Station of MSU. This information was used to distribute corn, oats and grain sorghum to the various consuming sectors.

8. All Other Agricultural Products and Forests

Composition

The All Other Agricultural Products and Forests sector includes the following subsectors: (1) forage, (2) wheat, (3) rice, (4) peanuts, (5) vegetables, (6) nuts, (7) fruits and berries, (8) sweet and irish potatoes, (9) miscellaneous crops, (10) hogs, (11) turkey and turkey eggs and other poultry products, (12) other livestock products, (13) greenhouse and nursery products and (14) forests.

Output and Distribution

Output is defined as cash receipts plus the value of on-farm consumption plus the value of inventory increases. The output of forests is defined as the value of timber severed in 1961 before any logging or transportation charges. Although in the analysis, All Other Agricultural Products and Forests are merged into one sector, the description of their output is treated separately in this section. Table 11 indicates the output and flow of All Other Agricultural Products (exclusive of forests) in Mississippi during 1961. Table 12 shows the output and flow of Forests in Mississippi during 1961.

Mississippi Agricultural Statistics (67) supplied output and inventory data for the subsectors of All Other Agricultural products.

Forage crops (which include hay, soybeans, forage, cowpeas and other silage crops), although normally grown in conjunction with beef cattle production or dairy farms, are treated as a separate enterprise. This treatment of forage crops, although unrealistic to the farmer, is consistent with the commodity classification approach used for agricultural activities in input-output analysis.

However, an inconsistency exists concerning the treatment of pastures on which specific crops are not cultivated. Ideally, the value of output of this land should be included along with forage crops in the All Other Agricultural

Products sector (Sector 8). However, another approach was taken because of the difficulties in valuing the output. From the MSU survey of farm expenses, estimates were made of the inputs used in maintaining non-crop pastureland. These inputs were allocated directly to the various livestock sectors.

Corn, oats, and grain sorghum used for forage are excluded from sector 8 and included in sector 7 because of the nature of their inputs. The same treatment was used for soybeans which are included in Sector 2.

The MSU expense survey provided data to distribute the output of forage among consuming sectors.

It was assumed that all the wheat, rice and peanut production was exported which was not maintained in inventory.

Several sources supplied data for the allocation between intra-state sales, imports and exports of vegetables, nuts, fruits and berries, potatoes, miscellaneous crops and other livestock. Separate estimates of the output and input requirements of vegetable processing plants in the state were made by MITRC (see All Other Food and Kindred Products, Sector 21). Information was also received from Mississippi Agricultural Statistics (67); and the MITRC's estimate of food consumption by the household and state and local government sectors.

Data sources for the allocation of hogs were the same as used for beef cattle and dairy animals (see Sectors 3 and 6).

The assumption was made that the total output of turkeys was sold to in-state processors.

TABLE 11

FLOW OF ALL OTHER AGRICULTURAL PRODUCTS (EXCLUSIVE OF FOREST PRODUCTS) IN MISSISSIPPI DURING 1961
(in thousands of dollars)

<u>Purchasing Sector</u>	<u>Sector No.</u>	<u>Forage</u>	<u>Wheat</u>	<u>Rice</u>	<u>Peanuts</u>	<u>Vegetables</u>	<u>Nuts</u>	<u>Fruits and Berries</u>	<u>Sweet & Irish Potatoes</u>	<u>Misc. Crops</u>	<u>Hogs</u>	<u>Turkeys & Other Tur-key Egg Poultry</u>	<u>Other Live-stock Products</u>	<u>Green-house & Nursery Products</u>	<u>Imports</u>	<u>Total</u>
Dairy Farms	3	12,450													2,791	15,241
Eggs	4														138	138
Broiler Grow Out	5														745	745
Beef Cattle	6	10,260													451	10,711
All Other Ag. & Forests	8	2,907									233	254				3,394
Meat Packing	12									8,336					14,947	23,283
Poultry Process.	13											634				634
Grain Mill Prod.	16												200		356	556
All Other Food & Kindred Products	21					1,500	3,000								1,500	6,000
Textile Mills	22														2,491	2,491
Furniture & Fix.	28														102	102
Rubber, Plastics & Leather Goods	35														3,028	3,028
Mfg. Clay Prod.	36														4	4
Misc. Manuf.	43														152	152
Margin	44													90		90
Pr. Cap. Form.	47		100	848	10				672	21			20			1,671
Const. & Maint.	48													12	295	307
State & Local Govt.	49					25									450	475
Exports	53		1,770	7,550	368	970	4,532	364	1,587	908	10,176		858	830		29,913
Households	54					875	300	680	1,886	677	5,332		30	1,500	5,025	16,305
		25,617	1,870	8,398	378	3,370	7,832	1,044	4,145	1,606	24,077	888	1,108	2,432	32,475	115,240

DATA

The basic source of output data in the following table, was supplied by the Annual Report of the Timber Severance Tax Division (74). The Timber Tax Division reported the amount of thousand board feet of timber severed in Mississippi during 1961. Price information obtained in conversations with personnel of the Mississippi Forestry Commission, the Timber Tax Division and the U.S. Forestry Service, allowed estimates to be made of the stumpage value of timber severed during 1961. Additional output information was obtained from Southern Pulpwood Production 1961 (129).

The MITRC's survey of manufacturers permitted the determination of timber imports and allocation of Mississippi timber production between intra-state sales and exports.

TABLE 12
OUTPUT AND FLOW OF FOREST PRODUCTS IN MISSISSIPPI DURING 1961
 (in thousands of dollars)

<u>Purchasing Sector</u>	<u>Sector No.</u>	<u>Poles & Piling</u>	<u>Pulp-wood</u>	<u>Logs</u>	<u>Pine Stump-wood & Tur-pentine Gum</u>	<u>Cross-ties</u>	<u>Seed-lings</u>	<u>Imp.</u>	<u>Total</u>
All Other Agr.Prod. & Forests	8						300		300
Logging, Sawmill & Planing Mills	24			12,409		303		298	13,010
Millwork, Veneer & Plywood	25			402				679	1,081
Wooden Containers	26			508				124	632
All Other Wood.Prod.	27	2,910						670	3,580
Building Board	29		1,358					60	1,418
All Other Paper	30		2,312					514	2,826
All Other Chem.	33				529			1,092	1,621
Private Cap. Form.	47	106							106
Exports	53	72	1,697	931	468				3,168
Household	54			100					100
		<u>3,088</u>	<u>5,367</u>	<u>14,350</u>	<u>997</u>	<u>303</u>	<u>300</u>	<u>3,437</u>	<u>27,842</u>
								<u>Less imports -3,437</u>	
									<u>Mississippi production 24,405</u>

9. Agricultural Services

Composition

This sector includes the following activities: (1) aerial application of agricultural chemicals, (2) milk hauling, (3) farm management services, (4) veterinary fees which includes artificial insemination and animal husbandry services, (5) cow testing services, (6) cotton ginning, (7) custom harvesting of soybeans (8) custom harvesting of hay, (9) custom cotton picking, (10) custom corn picking (11) custom oats harvesting, (12) corn shelling and (13) hatcheries.

Output and Distribution

The value of output of the agricultural services subsector is equal to the cash receipts for their services in 1961.

With the exception of hatcheries, output estimates for all of the subsectors of agricultural services were derived from input estimates developed in MSU's survey of farm production expenses. Input information for the agricultural services sector was developed by personnel at MSU from their file data. It was assumed that there were neither imports nor exports of agricultural services during 1961.

Mississippi Agricultural Statistics (67) reports the number of chicks hatched in Mississippi by commercial hatcheries by months. Cost information supplied by several hatcheries was used to estimate output and input. It was assumed that approximately 4% of the state's broiler chicks were imported. Exports of chicks were estimated at \$1,300,000.

III. FISHERIES AND MINING SECTORS

10. Fisheries

Composition

This sector includes commercial fishing for the following types of fish (1) menhaden (2) bait and reduction fish (3) blue crabs (4) shrimp (5) oysters and (6) edible finfish.

Output and Distribution

The value of the output of the fisheries sector is the value of landings at Mississippi docks during 1961 by commercial fishermen. Imported fish is defined as fish landed at non-Mississippi docks and transported overland. Commercial fishing activities in Mississippi are conducted by both independent fishermen and seafood processors. However, all commercial fishing activities were included in the fisheries sector. This decision necessitated allocating a portion of the costs and revenue of some seafood processors to the fisheries sector (Sector 10).

It was assumed that the fisheries sector could not accumulate inventory. Any increase in the stocks of fish are reflected in inventory increases of the seafood sector (Sector 15).

Output data was obtained from records of the Mississippi Marine Conservation Commission. Certain adjustments were made to this data to reflect landings for the calendar year.

In addition to this data, a survey of Mississippi seafood processors, conducted by the Gulf Coast Research Laboratories for the MITRC, provided information which permitted the determination of the amount of fish imports and the allocation of Mississippi fish production between intra-state sale and exports.

Inputs

Estimated average operating costs by type of vessel supplied by the Gulf Coast Research Laboratories and knowledge of the number of each type of vessel operating in the Mississippi Gulf plus assumptions regarding the number of trips permitted the input structure to be estimated.

11. Mining

Composition

This sector includes (1) clays - bentonite, Fuller's earth, fire clay and ball clay, (2) sand and gravel (3) stone - sandstone, crushed stone, riprap, (4) crude petroleum, (5) natural gas, (6) natural gas and cycle products, (7) L.P. gas and (8) exported oil and gas field services.

Output and Distribution

The output of this sector is defined on a product and activity basis and is the value of production in 1961 exclusive of outgoing transportation costs. However, there is a difference between the treatment of services sold within the state and services exported. Oil and gas field services are included in the Mining Sector. Oil and gas field services consumed within the state were not treated as an intra-sectoral sale. Instead the various inputs included in oil and gas field services (such as labor) were charged directly as inputs to the Mining Sector. However, oil and gas field services conducted out of the state by Mississippi establishments were considered as output and allocated to exports.

Table 13 gives the output by subsectors of the Mining Sector (sector 11) during 1961.

TABLE 13

OUTPUT OF THE MISSISSIPPI MINING SECTOR DURING 1961
(in thousands of dollars)

<u>Clays</u>		
Bentonite	2,836	
Fuller's earth	250	
Fire clay	362	
Ball clay	935	
Miscellaneous clay	<u>651</u>	5,034
Sand & Gravel		5,903
Sandstone		100
Crushed stone		849
Riprap		5
Road Stone		1
Crude Petroleum		153,667
Natural Gas		32,093
Natural Gas & Cycle Products		1,658
L.P. Gas		503
Exported oil & gas field services		<u>4,189</u>
		\$ 204,002

The basic source of output data for this sector was Volumes I - III of the 1961 Minerals Yearbook (112). The 1958 Census of Mineral Industries (107) was used to estimate the value of oil and gas field services. In order to adopt the 1958 figure for 1961 it was assumed that the amount of oil and gas field services consumed in a year was proportional to the footage drilled in a given year.

Various data sources were used to allocate the output among Mississippi sectors and exports and to determine the amount of imports. Reports on Mississippi refineries in The State of Mississippi Oil and Gas Board Journal (71) plus data in the Minerals Yearbook (112) were used to allocate Mississippi crude between Mississippi refineries and exports.

Minerals Yearbook was used to allocate the output of natural gas and L.P. gas between Mississippi consumption and exports.

The MITRC's survey of manufacturers and the Minerals Yearbook was used to allocate the production of clay, stone and sand and gravel between Mississippi consumption and exports.

The consumption of mining products was estimated separately for each sector. Imports were considered to be the difference between the estimated consumption requirements and the estimates of Mississippi production sold to Mississippi sectors.

Inputs

Estimates of drilling costs per foot by type of expense category were used to develop the input structure for oil and gas production. 1958 Census of Mineral Industries (107) was a source of data. Information supplied by brick manufacturers and sand and gravel operators was used to estimate the input structure of the clay, stone and sand and gravel subsectors.

IV. MANUFACTURING SECTORS

Sectors 12 through 43 describe manufacturing activity. These manufacturing sectors were, with some exceptions, constructed on an establishment basis rather than the commodity or product basis used in the agricultural sectors. This procedure was facilitated by the fact that very few Mississippi manufacturers produced secondary products which required a sector classification different than their primary product line. Exceptions to this procedure were made in the seafood, cottonseed oil mill, soybean oil mill, all other wood products and furniture and fixture sectors. These sectors were all constructed on a product basis because secondary product output was a significant portion of the output of some establishments and was identifiable and measurable¹. The procedure used in these sectors was to define output in terms of "product wherever made" rather than allocating the total output of each establishment to the primary sector.

The value of output for each manufacturing sector is the producer's value for the calendar year, exclusive of outgoing transportation costs and items purchased for resale. Output also includes inventory increases of finished goods. Inputs are valued at the producer's value. To equate producer's value with the actual purchase price, "mark-up" expense such as transportation charges and wholesale and retail margin are treated as input charges.

The remainder of this section will describe one, the data collection procedure and two, discuss the composition and distribution of output and estimation of inputs for each manufacturing sector.

¹ The establishment basis was generally chosen for the manufacturing sectors because very few Mississippi manufacturers produced a significant proportion of secondary products which fell outside their primary classification. This is not surprising, because the sector definitions were so chosen as to avoid this problem where possible. It is, therefore, felt that the establishment basis very adequately describes an output of sufficient homogeneity. The exceptions are noted above. By using the establishment basis, many problems of allocated costs are avoided. See Input - Output Analysis, Technical Supplement, National Bureau of Economic Research, Inc., New York, 1954, Chapter 6, for a detailed discussion of these matters.

Data Collection Procedure

In the earliest stages² of the study, it was clear that published data was insufficient for construction of the manufacturing sectors. The possibility of obtaining a special tabulation from the Bureau of the Census was investigated and found to be unfeasible, for several reasons. One, the 1958 Bureau of Census data regarding manufacturers was already three years old. Two, a two digit S.I.C. tabulation was the greatest degree of disaggregation which Census would provide, because of disclosure problems existing in their Mississippi data. Three, the cost of such a special tabulation was estimated to be high as compared with the cost of collecting more current information through a questionnaire program which could yield information in the form desired.

In 1961 there were approximately 2200 manufacturing establishments in Mississippi. The MITRC annually collects data from these manufacturers which includes the establishments' average year round employment and detailed product description. This information is, in turn, compiled and published as the Mississippi Manufacturers Directory (20). From this list, manufacturing establishments were chosen which reflected not only a large percentage of employment in each of the input-output sectors, but also the different production processes included in each Mississippi sector. The resulting sample of approximately 300 establishments employed about 75% of total manufacturing employment in Mississippi during 1961.

Several reasons dictated collecting information through personal interviews rather than mail questionnaires in surveying manufacturers. One, in several sectors it was imperative that information be received from certain establishments because these establishments produced a major portion of the sector's output. In these cases, personal interviews gave a greater assurance of response than mail questionnaires. Two, a complete generalized input-output questionnaire is, of necessity, bulky and confusing to many respondents. Three, in personal interviews, the analyst achieves

² In the latter months of 1961.

an understanding of the particular establishment's process and accounting procedures which is not possible from the reading of a mail questionnaire. Four, the assistance provided by having an enumerator assist company personnel in providing the data is an added inducement to the company to participate. Five, although a company may refuse to complete a formal questionnaire, many will give "unofficial" verbal information to an interviewer.

As the study progressed, the initial questionnaire proved to be confusing to the respondents and consequently, was useful only as a check list to the enumerator. The initial questionnaire was an adaptation of the questionnaire developed by the National Planning Association in their study of Mobile County, Alabama. Several modifications were made in the questionnaire as the study progressed. In the latter stages of the study, questionnaires were used which asked questions about specific commodity inputs for each specific process. In essence, best results were obtained with questionnaires which were "customized" for a specific establishment. An example of these questionnaires is shown as Appendix A.

The questionnaire procedure was completed in about 6 months and required about 2½ man years. As a result, some information was received from 273 of the approximately 300 establishments contacted. The levels of response from manufacturers in each sector are summarized in Table 14.

TABLE 14

PER CENT OF TOTAL 1961 WAGES PAID BY ESTABLISHMENTS COOPERATING
IN MANUFACTURERS' SURVEY

SECTOR NO.	SECTOR TITLE	WAGES PAID BY ESTABLISHMENTS COOPERATING IN SURVEY, BY SECTOR	TOTAL 1961 WAGES, BY SECTOR	PER CENT OF TOTAL WAGES PAID BY ESTABLISHMENTS IN SURVEY	NO. OF ESTABLISH- MENTS COOPERATING IN SURVEY	NO. OF ESTABLISH- MENTS IN SECTOR (1961)
12	Meat Packing	\$ 7,558,506	\$ 9,762,000	77.4	7	28
13	Poultry Processing	--	--	--		23
14	Dairy Products	--	--	--		66
15	Seafood	771,595	1,300,000	59.4	11	21
16	Grain Mill Products	--	--	--	7	79
17	Bakery Products	2,490,126	7,313,000	34.0	6	42
18	Beverage Industry	--	--	--		95
19	Cottonseed Oil Mills	914,889	4,036,000	22.7	4}	27}
20	Soybean Oil Mills	--	--	--		
21	All Other Food Prod.	--	--	--	1	100
22	Textile Mills	12,741,994	16,634,000	76.6	10	29
23	Apparel	26,635,476	67,359,000	39.5	41	124
24	Logging, Sawmills	--	--	--	6	617
25	Millwork, Veneer	2,183,395	7,427,000	29.4	9	33
26	Wooden Containers	5,662,959	7,021,000	80.7	8	15
27	All Other Wood	3,951,807	6,981,000	56.6	11	45
28	Furniture	12,740,504	20,543,000	62.0	13	67
29	Building Board	21,417,142	22,862,000	93.7	3	7
30	All Other Paper	20,723,001	22,304,000	92.9	11	21
31	Printing, Publishing	1,896,006	10,072,000	18.8	8	127
32	Agri. Chemicals	2,909,801	6,284,000	46.3	10	27
33	All Other Chem.	4,765,209	10,948,000	43.5	13	35
34	Petroleum Refining	--	3,118,000	--		13
35	Rubber & Plastics	13,209,411	13,725,000	96.2	12	17
36	Mfg. Clay	5,827,257	12,825,000	45.4	21	107
37	Mfg. Stone & Glass	5,093,365	6,583,000	77.4	6	14
38	Primary Metals	660,000	2,265,000	29.1	1	10
39	Fab. Metals	6,910,477	14,947,000	46.2	17	72
40	Machinery	8,446,057	11,519,000	73.3	10	62
41	Elec. Machinery	11,255,156	20,831,000	54.0	10	27
42	Trans. Equip.	32,009,977	35,009,000	91.4	11	40
43	Misc. Mfg.	5,219,411	6,329,000	82.5	6	32
	TOTAL				273	

^a Questionnaire method was not used or only partially used as the primary data source to construct sectors 13, 14, 16, 21 and 24. Therefore, the percentage of wages covered is not shown for these sectors.

^b A special questionnaire was used for the Beverage Industry. In this questionnaire wages were not reported. See sector description in the Technical Supplement.

^c Wages are here combined for Sectors 19 and 20.

12. Meat Packing

Composition

This sector includes: (1) slaughtering of livestock (except poultry), (2) manufacturing sausages, cured meats, smoked meats, canned meats, frozen meats, and meat specialities, (3) tankage and (4) hides. The sector coincides with S.I.C. Groups 2011 and 2013. Poultry processing is included in Sector 13, Poultry Processing.

Output and Distribution

Farm slaughterings retailed by the farmer are included in this sector. However, the value of on farm consumption of farm slaughterings is included in the respective livestock sector.

The primary source of output and input data was the MITRC's survey of manufacturers. Information was received from meat packing plants which paid 77% of the industry's wages in 1961. Both federally and non-federally inspected plants were included in the survey. Using a ratio of wages to sales, output information received from the respondent plants was expanded to a total industry output figure. Consistency checks on the estimated total output of the meat packing industry were provided by two other sources.

One, livestock slaughter figures are given in Mississippi Agricultural Statistics (67). By assuming a ratio of livestock purchases to output, total industry output can be determined. A second check was to assume that the ratio of wages to sales as reported in the 1958 Census of Manufactures (106) would apply for 1961. There was only a 9% variance in output between the three estimates.

Because only federally inspected meat packers can engage in interstate commerce, the problem of determining exports of meat was considerably simplified.

Only three federally inspected meat packers were omitted from the survey. It was assumed that the ratio of exports to total sales was the same for both the surveyed and non-surveyed packers.

Separate estimates were made of meat consumption in Mississippi (see Sector 54, Households). It was assumed that imports accounted for the difference between the consumption estimates and estimates of Mississippi sales reported by the packers in the MITRC's survey of manufacturers. Allocation of meat consumption to the fisheries sector (Sector 10) and state and local government (Sector 49) was done in accordance with the procedures outlined in the egg sector (Sector 4).

Total hide production was allocated to exports because tanning operations were not located in Mississippi in 1961.

Inedibles were allocated to grain mill products and all other food products (reduction plants) on the basis of input information developed in those sectors.

Inputs

The surveyed companies supplied sufficient information to estimate the industry's input structure. It was assumed for certain operating expense categories such as "office supplies", and "factory repair parts" that there was a similarity among sectors as to the types of commodities included in these categories. For example, both a dairy and a tire factory consume writing paper and scotch tape. This assumption of similarity of certain standard operating costs facilitated greatly the development of input structures for each sector.

The surveyed companies were also able generally to specify whether a particular input was produced in Mississippi. In those cases, where the surveyed companies did not state the geographic origin of specific inputs, it was possible to determine whether a particular input was manufactured in the state from either the Mississippi Manufacturers Directory (20) or from information developed elsewhere in the survey.

13. Poultry Processing

Composition

This sector includes establishments primarily engaged in killing, dressing, packing and canning poultry. The sector also includes those establishments engaged in drying, freezing and breaking of eggs. Poultry processing coincides with S.I.C. Group 2015.

Output and Distribution

Two steps were involved in estimating the output of the poultry processing industry. The first step was to determine the total pounds of birds slaughtered by Mississippi processing plants in 1961. Mississippi Agricultural Statistics (67) reports the number and pounds of broilers produced annually in Mississippi. It was assumed that only 3% of this production was exported. It was also assumed that 4% of the total broiler requirements of processing plants were imported. The second step was to convert the pounds slaughtered into output figures for processed poultry and offal. Several plant operators indicated that 73% of a live bird dresses out as meat. These operators also supplied price information for dressed poultry and offal.

It was assumed that inventory changes did not occur.

The same procedure was used to estimate the output of turkeys and other fowl. It was assumed that the entire Mississippi production of turkeys and other fowl was processed in Mississippi plants.

Estimates were made of the output of egg breaking operations in Mississippi from data supplied by the Mississippi Employment Security Commission.

Consumption of processed poultry in Mississippi was estimated separately in the MITRC study of consumer expenditures (see Household Sector 54). The large size of the Mississippi poultry industry accounted for the assumption that Mississippi

households import only 2.5% of their total poultry meat requirements. Allocation of poultry consumption to the fisheries (Sector 10) and state and local government sector (Sector 49) was done in accordance with the procedures outlined in the egg sector (Sector 4).

Separate estimates were made of the consumption of offal by the egg, broiler grow out and grain mill products sectors. Mississippi production was allocated to these three sectors and the requirements still remaining unfilled by Mississippi production were assumed to be satisfied by imports.

Inputs

It was felt that because the input structure of the poultry processing industry is sufficiently homogeneous the cost structures for several processors could be used to estimate the industry's input structures.

14. Dairy Products

Composition

This sector includes establishments primarily engaged in: (1) manufacturing creamery butter; natural cheese; condensed and evaporated milk; ice cream and frozen deserts; and special dairy products such as processed cheese and malted milk; and (2) in processing (pasteurizing, homogenizing, vitaminizing, bottling) fluid milk and cream for wholesale and retail distribution. This sector coincides with S.I.C. Group 202.

Output and Distribution

Output is defined as the value of production plus home and retail store delivery charges. Although outgoing transportation charges are normally excluded from output, it was felt that the dairy products delivery man not only provides transportation services but also serves as a salesman. Because the selling activities are an integral part of the transportation activities, it was felt that the input structure of the dairy sector would be more accurately described by the inclusion of delivery expenses.

Table 15 shows the output of the sub-sectors of the Dairy Products industry. It was assumed that statistically significant inventory increases or decreases did not occur during 1961.

TABLE 15
OUTPUT OF MISSISSIPPI DAIRY PRODUCTS INDUSTRY DURING 1961
(in thousands of dollars)

Fluid Milk	35,124
Butter	4,317
Cottage Cheese	256
Cheese	7,500
Dry Milk Solids	644
Condensed Products	11,091
Ice Cream	3,774
Ice Milk	2,078
Sherbert	202
Ice Cream & Milk Mixes	541
Water Ices & Other Products	254
Total	65,781

The basic source of output data was the 1961 and 1962 Report of Mississippi Dairy Products (56) published by the Mississippi Milk Commission and the Mississippi Department of Agriculture. The Milk Commission personnel were able to supply information that allowed the Commission to allocate the output of the Mississippi dairy products industry between in-state consumption and exports.

Mississippi household consumption of dairy products was estimated separately in the MITRC study of consumer expenditures (see Household Sector 54). Imports of dairy products by Mississippi households were assumed to be the difference between the estimate of dairy products consumption by households and the estimate of sales of Mississippi produced dairy products to Mississippi households. Allocation of dairy products consumption to fisheries (Sector 10) and state and local government (Sector 49) was done in accordance with the procedures outlined in the egg sector (Sector 4).

The consumption of whey was derived from estimates of feed ration inputs for the egg, broiler grow out and grain mill sectors. It was assumed that all whey was imported.

The MITRC's survey of manufacturers indicated the meat packing and bakery sectors total dairy products requirements. The survey questionnaires indicated that Mississippi production satisfied these requirements.

Inputs

Because dairy products manufacturers were not represented in the MITRC's survey of manufacturers, recourse was made to published data for input information. Cost and Efficiency of Selected Mississippi Fluid Milk Plants (31) was the main source of operating ratios. Monthly Employment and Quarterly Wages (69) provided wage information.

15. Seafood

Composition

This sector includes those establishments primarily engaged in preparing fresh and raw or cooked frozen packaged fish and other seafood. This industry also includes establishments primarily engaged in the shucking and packing of fresh oysters in non-sealed containers. Included in this sector are establishments which are primarily engaged in cooking and canning fish, shrimps, oysters, clams, crabs, and other seafood. This sector coincides with S.I.C. Groups 2031 and 2036.

Output and Distribution

A survey of Mississippi seafood processors, conducted by the Gulf Coast Research Laboratory for the MITRC, supplied the basic output data. The survey received output and input information from processors who paid 59.4% of the industry's total wages in Mississippi during 1961. Using a ratio of wages to sales, this data was expanded to an output figure for the entire industry. A consistency check on output was supplied by the reports of Mississippi landings (see Sector 10).

The information developed from the survey of seafood processors was used to estimate exports.

The Mississippi household consumption of Mississippi and non-Mississippi produced seafood was estimated on the same basis as was the consumption of dairy products described in Sector 14.

The allocation of seafood to the fisheries and state and local government sectors was made in the same manner as eggs (Sector 4).

Input

The same procedures were used for making input estimates as was used in the meat packing sector (Sector 12).

16. Grain Mill Products

Composition

This sector includes manufactured feeds for animals and fowls. The sector also includes establishments primarily engaged in manufacturing flour, milling rice and wet corn milling. The sector coincides with S.I.C. Group 204.

Output and Distribution

The output of the manufactured feeds subsector includes both livestock feed and pet food. However, the output of the feed manufacturing subsector was defined to exclude (1) those establishments engaged in custom mixing farmers' grain and (2) those establishments whose manufacturing process is primarily one of adding grains to purchased concentrates. These mixing activities are included in the margin sector (Sector 44).

The basic data source for the output of livestock feed was the feed and grain movement study of MSU. This study reported the tonnage of feed imported, exported and manufactured in Mississippi. The feed was allocated to the various sectors in accordance with the procedures outlined in the feed grains sector (Sector 7). Typical rations and average prices supplied by personnel of Mississippi Federated Co-operative and MSU were used to extend to dollar values the tonnage estimates of the MSU feed and grain movement study.

The Mississippi Marine Conservation Commission reports of "trash fish" landings in Mississippi were used to estimate the Mississippi production of pet food with a fish base. Mississippi Employment Security wage data was used to estimate the output of establishments manufacturing pet food with a meat base.

The output of grain mill products other than feed was estimated from reports of several surveyed companies.

Inputs

The input structure of the livestock feed subsector was developed primarily from ration data supplied by MSU and the Mississippi Federated Co-operative. In addition, several surveyed feed manufacturers supplied operating cost information.

The input structure of the pet food manufacturers was derived from the MITRC survey of manufacturers.

17. Bakeries

Composition

This sector includes establishments primarily engaged in producing bread, rolls, cakes and other "perishable" bakery products. Also included in this sector is the production of "dry" bakery products such as biscuits, crackers and pretzels. This sector coincides with S.I.C. Groups 2051 and 2052.

Output and Distribution

Home and retail store delivery charges of finished baked goods are included in the output of this sector. The reasons for the inclusion are the same as was discussed in the Dairy Products sector (Sector 14).

Two sources of data were used to estimate total output. One, using a ratio of wages to output, it was possible to estimate from the 1958 Census of Manufactures (106) the 1961 output of Mississippi bakeries. Two, information was received from bakeries which paid 34% of the total industry wages in Mississippi during 1961. Using a ratio of wages to output developed from the surveyed bakeries, (with certain adjustments for the size of the bakery) it was possible to estimate the output of each bakery not included in the survey. The similarity of products for the different bakeries made this approach relatively easy. There was less than 5% difference between the two estimates of output.

The surveyed companies indicated what percentage of their sales were made to Mississippi sectors and what percentage to exports. It was assumed that the ratio of non-Mississippi sales to total sales was the same for the non-surveyed companies.

Imports of bakery products were assumed to be the difference between total Mississippi consumption, estimated separately by the MITRC, and sales of Mississippi produced baked products to Mississippi sectors.

Inputs

Input estimates were made in a similar manner to the procedure described in the Meat Packing sector (Sector 12).

18. Beverage Industry

Composition

This sector includes establishments primarily engaged in manufacturing soft drinks and flavoring extracts or sirups. This sector does not include alcoholic beverages. The sector coincides with S.I.C. Groups 2086 and 2087.

Output and Distribution

A special mail questionnaire was used for the beverage industry to determine total output for 1961. Thirty-eight percent of the state's bottling plants representing varying size plants and different brands responded to the questionnaire.

The questionnaire asked each bottler to estimate as a percent of total sales, twelve major expense items which were specified on the questionnaire. The questionnaire provided a reasonable wage to sale ratio which allowed a total output figure to be derived from Mississippi Employment Security Commission data. This output estimate agreed with the estimate of beverage consumption developed in the household sector.

Because bottlers normally operate under a franchise system which limits the geographic extent of their operations, it was assumed that only a small portion of the state's production is diverted to exports and, in like fashion, only a small amount of beverages are imported into the state.

Imports

The mail questionnaire provided information which allowed an industry input structure to be developed.

19. Cottonseed Oil Mills

Composition

This sector is defined on a product basis and includes the output of: (1) cottonseed oil (2) cottonseed meal (3) cottonseed hulls (4) cottonseed linters and (5) cottonseed notes. The products of this sector are often produced in the same establishments which produce soybean oil.

Output and Distribution

Table 16 gives the output of the cottonseed oil sector.

TABLE 16

OUTPUT OF THE MISSISSIPPI COTTONSEED OIL MILLS IN 1961
(in thousands of dollars)

Cottonseed oil	24,496
Cottonseed meal	16,235
Cottonseed hulls	1,345
Cottonseed linters	5,764
Cottonseed notes	192
Total	48,032

To determine the output of cottonseed oil mills, it was first necessary to estimate the total supply of cottonseed available for crushing in Mississippi in 1961. Mississippi Agricultural Statistics (67) gives the tonnage and value of Mississippi cottonseed sold to oil mills. Subtracted from this figure was the value of exports of Mississippi produced cottonseed to non-Mississippi mills. (See Sector 1) Estimates of cottonseed imports were made from information received from oil mill personnel.

A ratio of cottonseed purchases to sales was developed from information supplied by the surveyed oil mills. This ratio was used to expand the supply pool of cottonseed to an estimate of total output.

The surveyed oil mills supplied information which allowed output to be divided into oil, meal, hulls, linters and notes.

In 1961 there were no vegetable oil refineries or processors in Mississippi. Therefore, it was assumed that the state's total oil production was exported.

The MSU grain and feed survey (see Sectors 7 and 16) reported the amount of cottonseed meal sold, imported and exported in Mississippi. The distribution of cottonseed meal and hulls between Mississippi purchasing sectors was done in the same manner as feed grains (see Sector 7). Information supplied by the oil mills provided a consistency check on this estimate.

Separate estimates were made of the linter and mote requirements of the textile, furniture and fixtures, and miscellaneous manufacturing sectors. Information regarding the geographic origin of inputs and outputs received from the MITRC manufacturer's survey, enabled the determination of imports and the distribution of Mississippi production between Mississippi and non-Mississippi sales.

Inputs

The input structure was determined in the same manner as was done for Meat Packing, Sector 12.

20. Soybean Oil Mills

Composition

This sector is defined on a product basis and includes the output of soybean oil and soybean meal.

Output and Distribution

To determine the output of soybean oil mills it was first necessary to estimate the total supply of soybeans available for crushings in Mississippi in 1961. Mississippi Agricultural Statistics (67) reported the production of soybeans in Mississippi in 1961. Soybean production allocated to exports, hay, seed and inventory increase was subtracted from the total production figure to arrive at the amount of soybean available for crushing. A ratio of soybean purchases to sales, supplied by surveyed oil mills, was used to estimate total output for the soybean oil mills. The 1958 Census of Manufactures (106) provided a consistency check on the output estimate.

The surveyed oil mills supplied information which allowed the total output to be divided into meal and oil.

In 1961 there were no vegetable oil refineries or processors in Mississippi. Therefore, it was assumed that the state's total oil production was exported.

The MSU grain and feed survey (see Sectors 7 and 16) reported the amount of soybean meal sold, imported and exported in Mississippi. The distribution of soybean meal between Mississippi purchasing sectors was done in the same manner as feed grains (see Sector 7). Information supplied by the oil mills provided a consistency check on these estimates.

Inputs

The input structure was determined in the same manner as was done for Meat Packing, Sector 12.

21. All Other Food Products

Composition

This sector includes establishments primarily engaged in manufacturing:

(1) ice, (2) animal and marine fats and oils, (3) candy and confectionary products, and (4) canned and preserved fruits and vegetables and food preparations not elsewhere classified. This sector coincides with S.I.C. Groups 2032-2035, 2037, 206, 207, 2082-2085, 2093-2099 and S.I. C. Major Group 21¹.

Output and Distribution

The Mississippi Manufacturers Directory (20) gives a list of companies and their products included in Sector 21. Several questionnaired companies were included in this list. However, the information supplied by the questionnaired companies was not sufficient nor completely representative to derive the total output of the All Other Food Products industry. Thus, using employment data and knowledge of specific production processes of non-surveyed companies, questionnaires were estimated for the non-surveyed companies.

The consumption of All Other Food Products was estimated separately for each consuming sector. Knowledge of the specific products of the Mississippi All Other Foods industry was used to allocate Mississippi production between exports and in-state sales. The residual requirements were assumed to be satisfied by imports. Those questionnaires which stated the geographic origin of their inputs provided a partial consistency check on the distribution of outputs.

¹ The problem of including output estimates of "moonshine" whiskey production presented a special statistical problem. Although Mississippi is a legally "dry" state, it has a reportedly flourishing "moonshine" whiskey industry. However, the impossibility of obtaining even "educated guesses" as to the output of this sub-industry precluded the inclusion of moonshine activities in the All Other Food Products sector.

As a practical matter, this distribution process between Mississippi and non-Mississippi produced goods was a relatively simple task because of the few types of products produced by the Mississippi All Other Foods industry.

Inputs

An industry input structure was developed from Mississippi Employment Security Commission wage data (69), using assumed similarities among other industries and knowledge of the production processes used by the Mississippi food processors.

22. Textile Mill Products

Composition

This sector includes establishments primarily engaged in manufacturing: (1) broad woven fabrics, (2) narrow fabrics, (3) knit goods and (4) textile floor coverings. Also included are establishments primarily engaged in dyeing and finishing textiles. This sector does not make a distinction between "integrated" mills and "contract" or commission mills. This sector coincides with S.I.C. Major Group 22.

Output and Distribution

The MITRC's survey of manufacturers supplied data from textile manufacturers which paid 76.6% of the industry's total wages in Mississippi during 1961. The Mississippi Manufacturers Directory (20) provided a list of the specific products of the companies not included in the survey. The processes of the surveyed companies were assumed to be similar to the processes of the non-surveyed companies. Therefore, it was a relatively simple process to estimate the output of the non-surveyed companies.

The surveyed manufacturers estimated the distribution of their sales between Mississippi sectors and exports. The consumption of textile products was estimated separately for each consuming sector. The difference between these estimates for each sector was considered as that sector's imports of textile products.

Inputs

Input estimates were made in accordance with the procedure outlined for Meat Packing (Sector 12).

23. Apparel and Garment

Composition

This sector includes establishments primarily engaged in manufacturing:

(1) suit coats, overcoats, furnishings, work clothing for men, boys and youths, (2) outerwear, undergarments for women, girls and children and infants, (3) miscellaneous apparel and accessories such as gloves, robes and raincoats and (4) miscellaneous fabricated textile products such as canvas products. This sector includes: (1) "regular" or inside factories (2) contract factories and (3) apparel jobbers. The sector coincides with S.I.C. Major Group 23.

Output and Distribution

The MITRC's survey of manufacturers supplied data from apparel manufacturers which paid 39.5% of the industry's total wages in Mississippi during 1961. Because of the varied types of garments manufactured on both a contract and regular basis, the usefulness of the survey was limited to supplying the various ratios of cloth purchases and wage expenses to output represented in the Mississippi garment industry. This information, in addition to the Mississippi Manufacturers Directory (20), the 1958 Census of Manufactures (106), and Mississippi Employment Security Commission wage data (69), permitted output estimates to be made for subsectors of the apparel industry. The subsectors were aggregated to arrive at a total output figure. Table 17 gives the output of the subsectors of the Mississippi garment industry.

TABLE 17

OUTPUT OF THE MISSISSIPPI APPAREL INDUSTRY IN 1961
(in thousands of dollars)

Men's, youth's, boys' shirts and nightwear	42,713
" " " underwear	5,537
" " " separate trousers	39,275
Work Clothing	45,892
Men's, youth's & boys' clothing, N.E.C.	13,327
Women's, misses and juniors' outerwear	8,162
" " , children's and infant's undergarments	21,178
Girl's, children's and infant's outerwear	4,512
Dress and work gloves	9,210
Robes, dressing garments and waterproof outer garments	1,411
Apparel, N.E.C.	1,434
Miscellaneous fabricated textile products	<u>11,599</u>
	204,250

Information supplied by manufacturers plus assumptions regarding the distribution of Mississippi output permitted the distribution of Mississippi productions between in-state sales and exports. The consumption of apparel was estimated separately for each consuming sector. The difference between the estimates for each sector was considered as that sector's imports of apparel.

Input Structure

Mississippi Employment Security Commission wage data (69), and input information from surveyed manufacturers were used to develop the input structure for each garment industry sub-sector. Geographic origins of inputs were determined from information supplied by manufacturers.

24. Logging, Sawmills and Planing Mills

Composition

This sector is defined on an establishment basis and includes those establishments primarily engaged in (1) logging (2) sawing and planing rough lumber and (3) manufacturing hardwood dimension and flooring. Not included in this sector are millwork, veneer, plywood and prefab structural wood products and wooden containers. This sector coincides with S.I.C. Groups 241 and 242.

Output and Distribution

Table 18 shows the output of the subsector of the logging, sawmill and planing mill industry.

TABLE 18

OUTPUT OF MISSISSIPPI LOGGING, SAWMILLS AND PLANING MILLS IN 1961
(in thousands of dollars)

Logging	
Poles & Piling	1,029
Pulpwood	17,429
Logs	14,928
Pine stumpwood	600
Turpentine gum	300
Crossties	<u>276</u>
Total logging	34,562
Hardwood Lumber	49,007
Softwood Lumber	36,036
Chips	<u>2,778</u>
Total Output	122,383

Conversations with personnel of the Mississippi Forestry Commission, the U. S. Forest Service and the Severance Tax Division of the Mississippi State Tax Commission provided average logging costs in MBM for different types of timber. These logging costs were expanded by the Mississippi production of various types of timber (see Sector 8, All Other Agriculture and Forests) to estimate the output of the logging subsectors. Logging is considered as a service in the same fashion as is cotton ginning, and as such, this subsector does not purchase timber as an input.

Before the output of sawmills and planing mills could be estimated it was necessary first to determine the amount of logs available for processing by Mississippi mills. Sector 8 discusses how this information was obtained. Several sawmills and planing mills supplied "mark-up" information which allowed the available supply pool of hardwood and softwood logs to be expanded in order to arrive at the value of hardwood and softwood production.

It was assumed that logging services were not imported. The distribution of logging services between Mississippi sectors and exports was done on the same basis as was timber in Sector 8.

The consumption of hardwood and softwood timber was estimated separately for each consuming sector. For the sectors consuming significant amounts of lumber, the questionnaire supplied information on the geographic origin of the lumber inputs. In other sectors, where the consumption was small it was assumed that the lumber input requirement was completely satisfied by Mississippi production.

Input Structure

Questionnaires from several mills provided data to develop an industry input structure.

25. Millwork, Veneer, Plywood and Prefabricated Structure

Composition

This sector includes establishments primarily engaged in manufacturing prefabricated wooden structures, veneer, plywood and millwork. Wooden boxes are not included in this sector. Establishments that operate a veneer plant in connection with box manufacturing were separated so that the veneer operation would appear in Sector 25 and the box operation in Sector 26. This sector coincides with S.I.C. Group 243.

Output and Distribution

Table 19 gives the output of the subsectors of this industry.

TABLE 19

OUTPUT OF THE MISSISSIPPI MILLWORK, VENEER, PLYWOOD AND PREFABRICATED
STRUCTURE INDUSTRY IN 1961
(in thousands of dollars)

Millwork	11,511	
Veneer & Plywood	9,753	
Prefab Wooden Structures	3,343	
Chips/Scrap	37	
Inventory Increase	<u>2</u>	
Total Output		24,646

The MITRC's survey of manufacturers received information from companies which paid 29.4% of the industry's total wages in Mississippi during 1961. Questionnaires were received from plywood and veneer plants which paid over 90% of the subsector's wages in Mississippi during 1961. With this excellent coverage, the output estimate was basically a task of summation.

Questionnaires were not received, however, from prefabricated structure manufacturers. A cost study by A. D. Little (24) allowed the output of this subsector to be estimated from Mississippi Employment Security Commission data (69).

To determine the output of the millwork subsector, a ratio of wages to sales, developed from the questionnaires, was used to expand Employment Security Commission wage data to an output figure for the subsector.

The information supplied in the questionnaires was used to distribute the output of the plywood-veneer subsector between Mississippi sectors and exports.

A ratio of Mississippi sales to exports was arbitrarily assumed for prefabricated structures and the millwork subsectors.

Inputs

The input structure was developed from the questionnaires and the A. D. Little cost study (24).

26. Wooden Containers

Composition

This sector includes establishments primarily engaged in manufacturing wooden boxes, wirebound boxes, veneer and plywood containers and cooperage. All veneer and plywood operations, even though performed at a wooden container plant, are included in Sector 25, millwork, veneer and prefab structures. This sector coincides with S.I.C. Group 244.

Output and Distribution

The MITRC's survey of manufacturers provided data from plants which paid 80.7% of the industry's total wages in Mississippi during 1961. Because of the similarities in production processes, it was assumed that the output of the non-surveyed companies could be estimated by a wage to sales ratio developed from information supplied by the surveyed companies.

The surveyed companies provided information regarding the industrial and geographic destination of their output. It was assumed that the same pattern of output distribution which existed for the surveyed companies also existed for the non-surveyed companies. The consumption of wooden containers was estimated separately for each consuming sector. The difference between these two estimates for each sector was considered as that sector's imports of wooden containers.

Inputs

Input estimates were made in accordance with the procedures outlined for Meat Packing (Sector 12).

27. All Other Wood Products

Composition

This sector includes establishments primarily engaged in wood preserving, and manufacturing miscellaneous wood products such as picture frames, pallets, handles and water closet seats. This sector coincides with S.I.C. Group 249. Particle board which the S.I.C. manual includes in S.I.C. Group 249 has been included in Sector 29, Building Board.

Output and Distribution

Table 20 gives the output of the subsectors of the All Other Wood Products industry.

TABLE 20

OUTPUT OF THE MISSISSIPPI ALL OTHER WOOD PRODUCTS INDUSTRY IN 1961
(in thousands of dollars)

Wood Preserving	17,219
Miscellaneous Wood Products, such as picture frames, water closet seats, wooden handles, pallets, step ladders and scrap	8,284
Finished goods inventory increase	<u>2,147</u>
Total Output	27,650

The MITRC's survey of manufacturers provided data from plants which paid 56.6% of the industry's total wages in Mississippi during 1961.

Information was received from wood preserving plants which paid 50% of that subsector's total wages in Mississippi during 1961. Using a ratio of wages to sales, an output figure was estimated for both pressure treating and non-pressure plants.

Information was received from miscellaneous wood manufacturing plants which paid 76% of that subsector's total wages in Mississippi in 1961. The non-surveyed companies represented plants with relatively simple production processes thus enabling reliable output estimates to be made.

The surveyed processing plants provided information regarding the industrial and geographic destination of their output. It was assumed that the same pattern of output distribution which existed for the surveyed wood preserving plants also existed for the non-surveyed plants. The consumption of preserved wood was estimated separately for each consuming sector. The difference between these two estimates for each sector was considered as that sector's imports of preserved wood products.

The distribution of output and determination of imports of miscellaneous wood products was done in the same manner as products of wood preserving plants.

Inputs

Input estimates were made in accordance with the procedures outlined for Meat Packing (Sector 12).

28. Furniture and Fixtures

Composition

This sector includes establishments primarily engaged in manufacturing household, office, public building and restaurant furniture; and office and store fixtures. Establishments primarily engaged in manufacturing millwork are included in Sector 25, Millwork, Veneer and Prefabricated Structures. This sector coincides with S.I.C. Group 25.

Output and Distribution

Table 21 gives the output of the subsectors of the Furniture and Fixtures industry.

TABLE 21

OUTPUT OF THE MISSISSIPPI FURNITURE AND FIXTURES INDUSTRY IN 1961
(in thousands of dollars)

Wood household furniture, except upholstered	22,525
Upholstered wood household furniture	35,348
Metal household furniture	4,000
Mattresses and bed springs	3,839
Wooden office furniture	280
Public Building and related furniture	1,870
Partition, shelving, lockers and office and store fixtures, both wooden and metal	5,500
Venetian blinds and shades	251
Inventory increase	63
Less Outgoing transportation	- 408
	73,268

The MITRC's survey of manufacturers provided data from plants which paid 62.0% of the industry's total wages in Mississippi during 1961.

Output estimates for non-surveyed furniture and fixture manufacturers were made by using a ratio of wages to sales. In making these estimates a distinction was made between those plants which manufactured their frames and those plants which purchased frames.

The output of other non-surveyed companies was estimated by using wages to sales ratios developed from the questionnaires, 1958 Census of Manufactures (106) and knowledge of the production processes of unsurveyed companies.

Output was distributed among Mississippi sales, exports and imports in the same manner as was described for All Other Wood Products, Sector 27.

Inputs

Input estimates were made in accordance with the procedure outlined for Meat Packing (Sector 12).

29. Building Board

Composition

This sector includes establishments primarily engaged in manufacturing building paper and building board from wood pulp and other fibrous materials. The manufacture of particle board is included in this sector. This sector coincides with S.I.C. Group 2661.

Output and Distribution

The MITRC's survey of manufacturers provided data from plants which paid 93.7% of the industry's total wages in Mississippi during 1961. Only one plant was not included in the survey.

Output was distributed among Mississippi sales, exports and imports in the same manner as was described for All Other Wood Products, Sector 27.

Inputs

Input estimates were made in accordance with the procedures outlined for Meat Packing (Sector 12).

30. All Other Paper

Composition

This sector includes paper and pulp mills and establishments primarily engaged in converting purchased paper and pulp into paper and paperboard products such as envelopes, bags, paperboard boxes and corrugated containers. Building paper and building board are included in Sector 29, Building Board. This sector coincides with S.I.C. Groups 261 - 265.

Output and Distribution

The MITRC's survey of manufacturers provided data from plants which paid 92.9% of the industry's total wages during 1961. Information from the surveyed plants allowed output estimates to be made for the non-surveyed plants.

Output was distributed among Mississippi sales, exports and imports in the same manner as was described for the All Other Wood Products sector, Sector 27.

Inputs

Input estimates were made in accordance with the procedures followed in the Bakeries Sector, Sector 17.

31. Printing and Publishing

Composition

This sector includes establishments primarily engaged in printing, performing services for the printing trade and publishing. This sector coincides with S.I.C. Major Group 27.

Output and Distribution

The output of the printing and publishing sector includes advertising receipts. This treatment differs from the 1947 B.L.S. study (17) which considered advertising on an activity basis and, as such, segregated newspaper advertising revenues from the printing and publishing sector and included these revenues in an advertising sector.

Table 22 gives the output of the subsectors of the printing and publishing industry in Mississippi.

TABLE 22

OUTPUT OF THE MISSISSIPPI PRINTING AND PUBLISHING INDUSTRY DURING 1961
(in thousands of dollars)

Newspaper publishing (includes advertising and circulation revenues)	14,471
Commercial Printing	6,133
Miscellaneous printing and publishing	<u>753</u>
	21,357

The industry output estimate was made by using a ratio of wages to value of shipments as reported in the 1958 Census of Manufactures. The MITRC's survey of manufacturers provided data from plants which paid only 18.8% of the industry's total wages during 1961. Data from the survey was used primarily to distribute output between Mississippi sectors and exports.

Inputs

Input estimates were made in accordance with the procedures followed in the Meat Packing sector (Sector 12).

32. Agricultural Chemicals

Composition

This sector includes establishments primarily engaged in manufacturing mixed fertilizer, pesticides, defoliants, insecticides, herbicides, fungicides and rodenticides. Also included in this sector are those establishments which manufacture in conjunction with their fertilizer operation such inorganic chemicals as anhydrous ammonia, urea and sulfuric acid. However, those plants which manufacture such inorganic chemicals as urea and anhydrous ammonia independently of a fertilizer mixing operation are included in Sector 33, All Other Chemicals. Sector 32, Agricultural Chemicals, coincides with S.I.C. Group 287.

Output

The MITRC's survey of manufacturers provided data from plants which paid 46.3% of the industry's total wages in Mississippi during 1961. In addition to the survey data, output information was received from the Fertilizer Control Board of the Mississippi Department of Agriculture. The Fertilizer Control Board maintains records on the tonnage of different grades of fertilizer sold in Mississippi by Mississippi manufacturers. These two sources of information were used to estimate the state's production of fertilizer and other agricultural chemicals.

Import estimates and the distribution of output among Mississippi sectors and exports were made in the same manner as was described for the All Other Wood Products Industry, Sector 27.

Inputs

Input estimates were made in a similar manner to the procedure followed in the Meat Packing sector (Sector 12).

33. All Other Chemicals

Composition

This sector includes establishments primarily engaged in manufacturing: (1) basic chemicals such as acids, alkalies, salts and organic chemicals, (2) chemical products to be used in further manufacture such as synthetic fibers, plastic materials and (3) finished chemical products to be used for ultimate consumption such as drugs, cosmetics; or to be used as materials in other industries such as paints. Agricultural chemicals are not included in this sector but are included in Sector 32, Agricultural Chemicals. The All Other Chemicals sector coincides with S.I.C. Groups 281-286 and 289.

Output and Distribution

Table 23 gives the output of the subsectors of the All Other Chemicals sector.

TABLE 23

OUTPUT OF THE MISSISSIPPI ALL OTHER CHEMICAL INDUSTRY DURING 1961
(in thousands of dollars)

Gum and Wood Chemicals	22,865
Paints & varnishes	500
Deodorizers and disinfectants	4,882
Drugs and pharmaceutical procedures	11,698
Industrial inorganic chemicals	25,000
All Other Chemicals, N.E.C.	<u>751</u>
Total Output	65,696

The MITRC's survey of manufacturers provided data from plants which paid 43.5% of the industry's total wages in Mississippi during 1961. It was necessary to make separate estimates of the production processes for each non-surveyed company. This information, in addition to other fragmentary information was used to estimate the output of the non-surveyed plants.

The 1958 Census of Manufactures (106) provided a consistency check on the output estimates.

The determination of imports and the distribution of output between sales to Mississippi sectors and exports was done in the same manner as was described for the All Other Wood Products Industry, Sector 27.

Inputs

Input estimates were made in a similar manner to the procedures followed in the Meat Packing sector (Sector 12).

34. Petroleum Refining and Related Industries

Composition

This sector includes establishments primarily engaged in petroleum refining, manufacturing paving and roofing materials, and compounding lubricating oils and greases from purchased materials. This sector coincides with S.I.C. Major Group 29.

Output and Distribution

Unfortunately, the MITRC's survey of manufacturers was unable to secure information from Mississippi establishments included in this category. In order to estimate total output, recourse was made to data supplied by the Mississippi State Oil and Gas Board (71). The Oil and Gas Board issues monthly reports for each of the state's refineries showing the amount of barrels run to stills, reruns, blended and products manufactured. Price information published by Chemical & Engineering News (86), Oil, Paint and Drug Reporter (93), and Minerals Yearbook (112) was used to extend the production figures to a total output figure.

The output of establishments manufacturing petroleum base, paving and roofing materials and miscellaneous petroleum products was estimated from an annual report of one company and knowledge of the production processes of the remaining companies.

Data published in Minerals Yearbook (112) assisted in the distribution of Mississippi production between exports and Mississippi sales. Imports were calculated as the residual between Mississippi consumption and Mississippi production less exports.

Inputs

Input estimates were made in a similar manner to the procedures followed in the Meat Packing sector (Sector 12).

35. Rubber, Plastic and Leather Goods

Composition

This sector includes establishments primarily engaged in manufacturing (1) rubber products such as tires and inner tubes, rubber footwear, reclaimed rubber and fabricated rubber products; (2) miscellaneous molded plastic products and (3) leather and leather products such as leather footwear, luggage, gloves and handbags. Also included in this sector is leather tanning, finishing, belting and packing. This sector coincides with S.I.C. Major Groups 29 and 30.

Output and Distribution

Two major S.I.C. Groups are combined in this sector to avoid disclosure of an individual firm's operations.

The MITRC's survey of manufacturers provided data from plants which paid 96.2% of the industry's total wages in Mississippi during 1961. The production processes were known for the non-surveyed plants, thus facilitating estimates of the output of these non-surveyed plants.

The determination of imports and distribution of output between Mississippi sales, and exports was done in the same manner as was described for the All Other Wood Products Sector (Sector 27).

Inputs

Input estimates were made in accordance with the procedures followed in the Meat Packing sector (Sector 12).

36. Manufactured Clay Products

Composition

This sector includes establishments primarily engaged in manufacturing cement, structural clay products, pottery and gypsum products. Mining activities in conjunction with the manufacture of clay products are included in Sector 11, Mining. The Manufactured Clay Products sector coincides with S.I.C. Groups 324-327.

Output and Distribution

Table 24 gives the output of the subsector of the Mississippi manufactured clay products industry in 1961.

TABLE 24

OUTPUT OF MISSISSIPPI MANUFACTURED CLAY PRODUCTS INDUSTRY IN 1961
(in thousands of dollars)

Brick and ceramic wall and floor tile	9,027
Other structural clay products and cement	13,372
Concrete bricks and blocks, ready-made concrete, concrete products other than brick and blocks and agricultural lime	29,089
Inventory increase	292
Less out transportation	— 1,665
	50,115

The MITRC's survey of Mississippi manufacturers received data from plants which paid 45.4% of the industry's total wages in Mississippi during 1961. In addition to the MITRC survey, the following sources supplied output data: annual reports of several companies included in this sector; the Mississippi State Department of Agriculture; the 1958 Census of Manufactures (106) and the Minerals Yearbook (112).

The Minerals Yearbook (112) was especially useful not only for estimating output but also for determining imports and input requirements.

Information supplied from the survey and the Minerals Yearbook (112) was used to distribute output between Mississippi consuming sectors and exports.

Imports of manufactured clay products were determined by first developing the input

structure for each sector then comparing these requirements with the Mississippi production of clay products which was reported to have been sold in state. The residual requirements were considered to be satisfied of imports.

Inputs

Input estimates were made substantially in accordance with the procedures followed in the Meat Packing sector (Sector 12). Information from the Minerals Yearbook (112) and the 1958 Census of Manufactures (106) were also used in developing the input structure.

37. Manufactured Stone and Glass Products

Composition

This sector includes establishments primarily engaged in manufacturing flat glass, glass containers and products made of purchased glass. Also included in this sector are cut stone and stone products, abrasives, asbestos and miscellaneous mineral products. This sector coincides with S.I.C. Groups 321-323, 328-329.

Output and Distribution

The MITRC's survey of manufacturers provided data from plants which paid 77.4% of the total wages in Mississippi during 1961. The production processes and employment were known for the non-surveyed plants, thus facilitating estimates of the output of the non-surveyed plants.

The determination of imports and distribution of output between Mississippi sales and exports was done in the same manner as was described for the All Other Wood Products sector (Sector 27).

Inputs

Input estimates were made in accordance with the procedure followed in the Meat Packing sector (Sector 12).

38. Primary Metals

Composition

This sector includes establishments primarily engaged in the smelting and refining of ferrous and nonferrous metals from ore, pig or scrap; in the rolling, drawing and alloying of ferrous and nonferrous metals; in the manufacture of castings, forging and other basic products of ferrous and nonferrous metals; and in the manufacture of nails, spikes and insulated wire and cable. This sector coincides with S.I.C. Major Group 33.

Output and Distribution

Table 25 gives the output of the subsectors of the primary metals industry:

TABLE 25

OUTPUT OF THE MISSISSIPPI PRIMARY METALS INDUSTRY IN 1961
(in thousands of dollars)

Rolling, drawing and extrusion of aluminum	5,863
Blast furnaces, steel works, ferrous and nonferrous foundries	<u>6,572</u>
Total Production	12,435

Output was estimated from a combination of data supplied by the MITRC's survey of manufacturers, annual reports, 1958 Census of Manufactures (106) and knowledge of specific companies' production processes.

The determination of imports and distribution of output between Mississippi sales and exports was done in the same manner as was described for the All Other Wood Products Sector (Sector 27).

Inputs

Input estimates were made substantially in accordance with the procedures followed in the Meat Packing sector (Sector 12).

39. Fabricated Metal Products

Composition

This sector includes those establishments primarily engaged in fabricating ferrous and nonferrous metal products such as metal cans, tinware, hand tools, general hardware, fabricated structural metal products and metal stampings. This sector coincides with S.I.C. Major Group 34.

Output and Distribution

Table 26 gives the output of the subsectors of the fabricated metals sector.

TABLE 26

OUTPUT OF THE MISSISSIPPI FABRICATED METALS INDUSTRY DURING 1961
(in thousands of dollars)

Metal cans, cutlery, hand tools and general hardware	13,202
Fabricated structural metal products	27,237
Screw machine products and metal stampings	6,295
Coating, engraving and allied services	415
All other fabricated metal products	<u>4,871</u>
Total Production	52,020

The MITRC's survey of manufacturers provided data from plants which paid 46.2% of the industry's total wages in Mississippi during 1961.

Output was estimated from a combination of data supplied by the MITRC's survey of manufacturers, the 1958 Census of Manufactures (106) and knowledge of specific companies' production processes.

The determination of imports and distribution of output between Mississippi sales and exports was done in the same manner as was described for the All Other Wood Products sector (Sector 27).

Inputs

Input estimates were made substantially in accordance with the procedure followed in the Meat Packing sector (Sector 12).

40. Machinery Except Electrical

Composition

This sector includes those establishments primarily engaged in manufacturing machinery and equipment other than electrical equipment and transportation equipment. This sector coincides with S.I.C. Major Group 35.

Output and Distribution

Table 27 gives the output of the subsectors of the machinery except electrical industry.

TABLE 27

OUTPUT OF THE MISSISSIPPI MACHINERY EXCEPT ELECTRICAL INDUSTRY IN 1961
(in thousands of dollars)

Farm machinery and equipment	10,994
Mining & materials handling machinery & equipment	9,387
Construction machinery & equipment	5,210
Wood working machinery	8,184
Machine shops and miscellaneous machinery	5,028
All other machinery, which includes pumps, air conditioners, metal working machinery	<u>6,921</u>
Total Production	45,724

The MITRC's survey of manufacturers provided data from plants which paid 73.3% of industry's total wages in Mississippi during 1961.

Output was estimated from a combination of data supplied by the MITRC's survey of manufacturers, the 1958 Census of Manufactures (106) and knowledge of specific companies' production processes.

The determination of imports and distribution of outputs between Mississippi sales and exports was done in the same manner as was described for the All Other Wood Products sector (Sector 27).

Inputs

Input estimates were made substantially in accordance with the procedure followed in the Meat Packing sector (Sector 12).

41. Electrical Equipment

Composition

This sector includes establishments primarily engaged in manufacturing machinery, apparatus and supplies for the generation, storage, transmission and utilization of electrical energy. This sector coincides with S.I.C. Major Group 41.

Output and Distribution

Table 28 gives the output of the subsectors of the electrical equipment industry.

TABLE 28

OUTPUT OF THE MISSISSIPPI ELECTRICAL EQUIPMENT INDUSTRY DURING 1961
(in thousands of dollars)

Electric lamps, lighting fixtures and equipment	48,592
Electric household appliances	18,220
Electric transmission and distribution equipment	6,188
All other electrical equipment	<u>26,566</u>
Total Production	99,566

The MITRC's survey of manufacturers provided data from plants which paid 54.0% of the industry's total wages paid in Mississippi during 1961.

Output was estimated from a combination of data supplied by the MITRC's survey of manufacturers, 1958 Census of Manufactures (106) and knowledge of specific companies' production processes.

The determination of imports and distribution of output between Mississippi sales and exports was done in the same manner as was described for the All Other Wood Products sector (Sector 27).

Inputs

Input estimates were made in substantially the same manner as was done in the Meat Packing sector (Sector 12).

42. Transportation Equipment

Composition

This sector includes establishments primarily engaged in manufacturing equipment for transportation of passengers and cargo by land, air and water. Important products produced in Mississippi establishments include transport ships, nuclear submarines, aircraft parts, and bus and truck bodies. This sector coincides with S.I.C. Major Group 37.

Output and Distribution

This sector cannot be disaggregated into subsectors because information regarding the operation of individual companies would be disclosed.

The MITRC's survey of manufacturers provided data from plants which paid 91.4% of the industry's total wages in Mississippi during 1961.

Output estimates for the non-surveyed companies were made on the basis of assumed production processes and ratios of wages to sales.

The determination of imports and distribution of output between Mississippi sectors and exports was done in the same manner as was described for the All Other Wood Products sector (Sector 27).

Inputs

Input estimates were made in substantially the same manner as was done in the Meat Packing sector (Sector 12).

43. Miscellaneous Manufacturing

Composition

This sector includes establishments primarily engaged in manufacturing (1) professional scientific and controlling instruments and (2) miscellaneous manufactured items such as jewelry, musical instruments, toys, pencils and advertising signs. Products produced in Mississippi establishments are organs, pianos, optical products, zippers and outdoor advertising signs. This sector coincides with S.I.C. Major Groups 38 and 39.

Output and Distribution

The MITRC's survey of manufacturers provided data from plants which paid 82.5% of the industry's total wages in Mississippi during 1961.

Output estimates for the non-surveyed companies were made on the basis of assumed production, processes and ratios of wages to sales.

The determination of imports and distribution of outputs between Mississippi sales and exports was done in the same manner as was described for the All Other Wood Products sector (Sector 27).

Inputs

Input estimates were made in substantially the same manner as was done in the Meat Packing sector (Sector 12).

V. NON-PROCESSING SECTORS

44. Margin

Composition

This sector includes three distinct activities: wholesale and retail mark-up, business, professional and repair services and transportation costs. The activities of this sector are similar to those described in S.I.C. Major Groups 40-42, 44-47, 50, 52-59, 70, 72, 73, 75, 76, and 78-81.

The distinct economic activities of wholesale and retail trade, selected services and transportation were merged in this sector for several reasons. One, from data sources it was often difficult to separate trade costs and selected service costs. For example, a barber shop is engaged in both trade (selling hair lotion, etc.) and service (cutting hair). Two, the primary interest of the study was to study the processing sectors. The economic activities of trade and service were of secondary interest. Thus it was felt that little additional information of immediate interest would have resulted from the considerable additional statistical work involved in separating the two subsectors. Three, the transportation industry presented special problems to the MITRC. For example, what criteria is used to define imported and exported transportation charges? Absence of data at the state level presented estimating problems. Because there was a lack of confidence in the reliability of transportation charges, this subsector was merged with trade and selected services.

Definition of Output and Input

Output of the retail and wholesale trade subsector is defined as gross sales less cost of goods sold. Thus goods purchased for resale by retail and wholesale establishments is not included in the output of this sector. Inputs to this sector are goods and services purchased by the establishment for use in their own business.

Outputs and inputs of the business, professional and repair services are defined in the same manner as was done for Agricultural Services (Sector 9).

The value of output of the Mississippi transportation subsector suggested by the Mississippi Public Service Commission was adopted for the study.

Input and Output Estimation

Trade and Service Subsector

It was first necessary to estimate an output control total for the trade and service subsector of the margin sector, because estimates are not available of actual gross margins for the state of Mississippi.

The two basic sources of information giving estimates of sales by kind of business were the 1958 Census of Business (102) and Selected Factors Indicative of State and County Business Activities, 1961, (73) published by the Mississippi State Tax Commission. The data in these publications was used to estimate the output of the margin sector as follows:

(1) The Census of Business data was only available for the year 1958, while State Tax Commission data was available for the calendar year 1961. However, the State Tax Commission data, though up to date, was difficult to apply because it does not conform to the S.I.C. system. Therefore, the 1958 State Tax Commission data was used to estimate 1961 sales by S.I.C. classification in this manner.

$$\frac{1958 \text{ Census of Business Sales}}{1958 \text{ State Tax Commission Sales}} \times 1961 \text{ State Tax Commission Sales} \\ = \text{estimated 1961 sales by Census of Business classifications}$$

(2) After the conversion process was complete for each type of business, the total estimated sales were compared with total sales reported to the State Tax Commission and found to substantially agree.

(3) From the 1958 Census of Business (102), the proportion of sales was found by proprietorships, partnerships and corporations for each type of business. This percentage was then applied to the 1961 estimated sales by type of business to derive 1961 estimated sales by proprietorships, partnerships and corporations for each type of business.

(4) Using the U. S. business tax returns reported in U. S. Business Tax Returns (127), the available expense items were calculated as a percentage of gross sales for proprietorships, partnerships and corporations, by type of business and applied to the estimated 1961 gross sales to derive estimated expenses by type of business. The percentages were compared to expense ratios published in several other sources, such as the Accounting Corporation of America's Mail-Me-Monday Barometer of Small Business Yearbook (81). In some cases, (for instance, operating supplies) a further allocation was necessary.

(5) The total estimated expenses for each type of business were then summed by type of business to provide total expenses estimates by type of expense for the state. These grand totals were finally allocated to domestic purchases and imported goods and services.

(6) Secondary consistency checks, such as wage payments, were used to verify and, if necessary, adjust the grand totals.

Transportation Subsector

Estimates of transportation charges were made from the following sources: Waterborne Commerce of the United States (100), Transportation Lines on the Mississippi River System and the Gulf Intracoastal Waterway (99), Handbook of Airline Statistics, Annual Report on Transport Statistics in the United States for the Year Ended December 31, 1961 (128), Biennial Report of the Mississippi State Public Service Commission (72) and annual reports of railroads with mileage in Mississippi.

45. Utilities and Communication

Composition

This sector is defined on an establishment basis. The following activities are included: (1) generation and/or distribution of electricity, (2) distribution of natural gas and pipe line industrial sales, (3) revenue of telephone and telegraph companies and (4) revenue of television and radio stations. Excluded from this sector are publicly or privately owned water works.

Output and Distribution

Table 29 gives the output of the subsectors of the Mississippi utilities and communications industry.

TABLE 29

OUTPUT OF MISSISSIPPI UTILITIES AND COMMUNICATIONS INDUSTRY IN 1961
(in thousands of dollars)

Electric Utilities	96,238
Natural Gas Distribution	57,391
Telephone & Telegraph	60,332
Television & Radio	<u>13,500</u>
Total Production	227,461

Output estimates for electric utilities were derived from several sources: the 1961 annual reports of the two privately owned utilities in Mississippi, 1961 Annual Report Municipal and Cooperative Distribution of TVA Power (130), Statistics of Electric Utilities in the United States, Publicly Owned (124), Statistics of Electric Utilities in the United States, Privately Owned (123), and 1961 Annual Statistical Report, Rural Electrification Borrowers (117).

The electricity consumption figures which had been developed separately for each sector were used to distribute the output of the Electric Utilities sub-sector.

Output estimates for natural gas utilities were derived from several sources: the 1961 Annual Report of Mississippi Valley Gas Company (21), Sales by Producers of

Natural Gas to Natural Gas Pipeline Companies (126) and The Biennial Report (1961) of the Mississippi State Public Service Commission (72).

Output was distributed in the same manner as was electric utilities.

Output estimates for telephone and telegraph companies were derived from the Biennial Report (1961) of the Mississippi State Public Service Commission (72), information supplied by the companies and the 1961 Annual Statistical Report, Rural Telephone Borrowers (118).

Output was distributed in the same manner as was electric utilities.

Output data for television and radio broadcasters was not available from either individual broadcasters or published sources. However, using a wage to output ratio, output was estimated from Employment Security Commission wage data. As was done for the Printing and Publishing sector, advertising revenue was included in the output structure of the television and radio subsector. Advertising costs for each sector had already been developed. The advertising costs for each sector were allocated between types of media. The difference between the output of the Mississippi television and radio subsector and the purchase of air time of Mississippi sectors was assumed to be imported advertising.

Inputs

Inputs were estimated from the following sources: company Annual Reports (21), Statistics of Electric Utilities in the United States, Publicly Owned (124) and Statistics of Electric Utilities in the United States, Privately Owned (123).

46. Financial Charges

Composition

Three types of financial activity are included in this sector: rent, interest and insurance. The output of the rental subsector is defined as revenue received for the use of non-farm residences, non-farm non-residential property, farm residences, farm non-residential property, equipment and the services of real estate agents and brokers. It was assumed that rent could neither be imported nor exported. Payments to non-Mississippi landlords were considered as imported managerial services (Sector 52) not imported rent.

The output of the interest subsector was defined as the sum of the operating expenses, excluding profits, of the financial intermediaries included in this sector. Profits, normally earned by financial intermediaries, were considered as part of the output of the household sector. However, this distinction between operating expenses and profits was not made for imported interest. Thus, imported interest reflects not only the operating expenses of non-Mississippi financial intermediaries but also the profits of these intermediaries.

The insurance subsector is divided into life and non-life insurance. The output of the life insurance subsector is defined as the value of underwriting and investment operating expenses. It was further assumed that only the household sector could purchase life insurance. The purchase of so-called "key-man" insurance with business as the beneficiary was considered as a purchase by the household sector. This treatment is consistent with current Bureau of Internal Revenue regulations regarding premium payments on life insurance where a business is the beneficiary.

The output of the non-life insurance subsector is defined as the value of premiums earned. Agents and brokers of non-Mississippi companies were considered as part of the Mississippi insurance industry.

Output and Distribution

Table 30 gives the output of the subsectors of the Financial Charges sector during 1961.

TABLE 30

OUTPUT OF THE MISSISSIPPI FINANCIAL CHARGES SECTOR DURING 1961
(in thousands of dollars)

Rent	
Property and Buildings	184,246
Equipment	19,440
Financial Intermediaries	94,274
Insurance	<u>42,000</u>
	339,960

Output and Distribution

The output of the rent subsector is a summation of the rent estimates which were made separately for each sector.

The general sources used to estimate the output of the interest subsector were: The Biennial Report of the Department of Bank Supervision (64), annual reports of commercial banks and savings and loan associations in Mississippi, and comparative statements of all Mississippi commercial banks furnished by the Mississippi Bankers Association.

Sources used to estimate the output of the insurance subsector were annual reports of Mississippi insurance companies and the Annual Report of the Insurance Department of the State of Mississippi (68).

The determination of imports and distribution of output for both the interest and insurance subsectors were done in substantially the same manner as was done for the All Other Wood Products sector (Sector 27).

Input

Input estimates were developed from company annual reports and assumed similarities of certain types of operating expenses between manufacturing and non-manufacturing establishments.

VI. FINAL DEMAND SECTORS

47. Private Capital Formation

Composition

This sector is a final demand sector and is used: (1) to reconcile increases and decreases in the economy's stockpile of finished goods and (2) and reflect the economy's addition and depletion of capital goods. Output of the private capital formation sector includes: (1) depreciation and depletion charges, (2) corporate net profits after Federal and state income taxes and (3) finished goods inventory decreases. Inputs of the private capital formation sector include: (1) purchases of capital equipment and purchases of new construction (2) finished goods inventory increases and (3) corporate net losses after federal and state income taxes.

Output

The estimate of the depreciation and depletion charges, corporate net profits and inventory decreases was a summation of the estimates made separately for each sector.

Estimates of inventory increases and decreases presented special problems in constructing the Mississippi matrices. The first problem was to distinguish between raw materials inventory, work-in process inventory and finished goods inventory. To simplify the statistical problems it was assumed that all inventory was held as finished goods inventory by the sector which produced the item. In some sectors, it was necessary to assume, for lack of more accurate information, that neither inventory increases or decreases occurred. The net effect of these estimating difficulties is that for some sectors production which should have been treated as inventory increases was treated as exports.

Inputs

Estimates of capital equipment purchases were derived from: (1) Annual Survey of Manufactures: 1961 (108) and data supplied by manufacturers in the MITRC's survey

of manufacturers. Mississippi State University, using figures supplied by the Farmer Cooperative Service, U. S. Department of Agriculture, estimated the purchases of capital equipment by the agricultural sectors.

All new construction was charged directly to the Private Capital Formation sector. See Sector 48 for a discussion of the estimating procedures used for new construction.

The estimates of finished goods inventory increases and corporate net losses after Federal and state income taxes were a summation of the estimates made separately for each sector.

Source for output estimates was Construction Contracts Summary: Region

VI (23) and the Farmer Cooperative Service, U. S. Department of Agriculture.

Estimates of non-farm force account construction were derived from the MITRC's survey of manufacturers.

Inputs

The architectural firm of Overstreet, Ware, Ware and Lewis, Jackson, Mississippi, under a subcontract with the Mississippi Industrial and Technological Research Commission, prepared input estimates for all of the subsectors shown in Table 31 except farms, highways, sewage systems and electric light and power systems.

Input estimates for farm construction were derived from information supplied by the Farmer Cooperative Service, U. S. Department of Agriculture. Highway Statistics (113) were used for highway construction input estimates. Statistics of Electric Utilities in the United States, Privately Owned (123), were used for electric light and power system construction input estimates.

48. Construction

Composition

This final demand sector includes the value of all new construction in Mississippi during 1961. The entire output was sold to the private capital formation sector.

The construction sector does not include those maintenance charges which are normally treated as expense items rather than capital items. This distinction was made to reflect the difference between recurring maintenance expenditures which are directly related to the level of output and capital expenditures which are not directly related to the level of output. Because of this distinction those maintenance expenses which are normally expended are treated as direct inputs of the various sectors.

Output

Table 31 gives the output of the subsectors of Mississippi construction during 1961.

TABLE 31
OUTPUT OF NEW CONSTRUCTION IN MISSISSIPPI DURING 1961
(in thousands of dollars)

Streets, highways and bridges	52,385
Airports, excluding buildings	263
Sewage systems	1,770
Other public works	5,717
Electric light and power systems	1,053
Water supply system	837
Other utilities	1,507
Stores and other mercantile buildings	12,870
Office and bank buildings	9,736
Community garages and service stations	1,172
Manufacturing buildings	17,583
Educational buildings	17,128
Hospitals	7,918
Public buildings	4,402
Religious buildings, social, recreational & misc. bldgs.	16,052
Hotels, apartments and other buildings	16,698
1 & 2 family houses	74,517
Farm construction	27,127
 TOTAL NEW CONSTRUCTION	 268,735

49. State and Local Government

Composition

This sector includes state, county, city, special district and school district governments. Water utilities whether managed by public or private agencies are included in this sector.

Output and Distribution

Output is defined as the services rendered by the component governments as measured by their total receipts on current account. These receipts include taxes, licenses, fees, fines, federal grants and transfers, contributions for social insurance, receipts from sales of commodities produced at state institutions and other minor items received during 1961. Inputs to the government sector are the purchases by various divisions of state and local governments.

Sources for output estimates were: Receipts and Disbursements and Change in Debt Position of the State of Mississippi for the period of July 1, 1960 - June 30, 1962 (75), Report on Receipts and Disbursements of County School Systems for the Year 1960-1961 (63), Report on County Receipts and Disbursements for the Year of 1960-1961 (62), Report on Municipal Receipts and Disbursements for the Year 1959-1960 (60), and Compendium of State Government Finances in 1961 (103).

Separate estimates were made of state and local government taxes paid by each sector. Receipts of state and local governments were distributed on the basis of these estimates.

Inputs

Total outlays by governments, in contrast to the endogenous sectors of the economy, need not equal total output. Thus, total expenditures on current account, the definition of gross outlay by governments, required individual estimation.

Sources used for input estimates were: Report on Receipts and Expenditures of State Departments, Institutions and Boards for Years 1958-1959 (59), Report on Municipal Receipts and Disbursements for the Years 1959-1960 (60), Annual Report of the Auditor of Public Accounts of the State of Mississippi (61), Report on County Receipts and Disbursements for the Years 1960-1961 (62) and Report on Receipts and Disbursements of County School Systems for the Year 1960-1961 (63).

50. Federal Government

Composition

This sector includes all subdivisions of the Federal government.

Output and Distribution

Output is defined as total receipts on current accounts collected in Mississippi plus federal taxes chargeable to Mississippi but not collected in Mississippi. Facts and Figures on Government Finances (97) estimated federal taxes chargeable to Mississippi in 1961 but not collected in the state. It was important to include this estimate in the output structure in order to reconcile the output of the Federal Government sector with the amount of federal taxes estimated for each sector.

The source of output information was Facts and Figures on Government Finances (97). Separate estimates were made of federal taxes paid by each sector. The output of federal governments was distributed on the basis of these estimates.

Inputs

As was the case with state and local governments, the output of the federal government sector need not equal the sector's inputs.

Inputs are defined as total wage and salary payments by the federal government, transfer payments such as social security payments, farm subsidies, unemployment insurance, welfare payments, federal aid and federal retirement benefit. Because of the serious data problem, all sales to the federal government are treated as exports rather than sales to the federal government.

Inputs to the Federal Government sector are limited to the following federal payments in Mississippi: wages and salaries, transfer payments, such as social security, farm subsidies, unemployment insurance, welfare, federal grants in aid and federal retirement benefits.

Direct sales to the federal government of commodities produced by the various sectors of the Mississippi economy should normally have been included in the input structure of the Federal Government sector. However, the absence of data prevented the allocation of output between sales to federal government and exports.

52. Imported Managerial Services

Composition

This final demand sector was constructed to account for managerial services (i.e., engineering, accounting, purchasing, research, etc.) consumed by Mississippi establishments but conducted outside of the state. These managerial services are an integral part of a particular establishment's input structure. If these managerial services were not considered, the effect would be either to overstate profits or to understate output.

Determination of Imported Managerial Services

Several sources were used to estimate imported managerial services. One, the MITRC survey provided data regarding allocated overhead. Two, annual reports were used to estimate such overhead charges as selling and administrative expenses. Three, in certain sectors imported managerial services were considered a residual change after all other inputs and profits had been computed.

54. Households

Composition

The output of the Household sector includes wages, salaries, proprietors' income and transfer payments. The output of the Household sector coincides with U. S. Department of Commerce Personal Income Estimates for 1961 (121).

Inputs of the Household sector are defined as purchases of goods and services plus savings.

Estimates of Inputs to the Household Sector

A completed study of the buying habits of the Mississippi consumer would have been most valuable. Sadly, such comprehensive studies do not exist. To undertake a major study of consumer buying habits in the Mississippi economy was not possible under the restriction of time and funds available for the project.

Although there does not exist a comprehensive study of consumer buying habits in Mississippi, several sources of information were sufficient to construct a consumer profile for 1961. One, the U. S. Department of Agriculture and the Home Economics Department of the Mississippi Agricultural Experiment Station have sponsored over the years numerous random studies of Mississippi buying habits and consumer preferences. Two, there are available several studies of consumer purchasing habits at the regional and national levels, such as the Life Study of Consumer Expenditures (95). Three, the 1960 population census furnished detailed socio-economic characteristics of the Mississippi population. With these published data as a base, the following procedures were used to estimate the inputs to the Household sector.

(1) From the 1960 Census of Population, the Mississippi population was cross-tabulated into groups, using color, income and place of residence¹

¹ urban, rural farm and rural non-farm

as classifications. Because the net population increase for Mississippi during the year 1960 was estimated to be only 40,000, adjustments were not attempted to reflect this increase.

(2) Gross purchases by the resulting population groups from each of the input-output sector classifications were estimated by matching the characteristics of the group with the best available published consumer data for that group. An example of the studies used is Levels of Living of Young Negro Farm Operator Families in Mississippi (38).

(3) When purchases had been estimated for each of the population groups, the results were summed by product to give estimated total gross consumption purchases from each of the input-output sectors.

(4) These total gross purchases were then compared with sales tax data published by the Mississippi State Tax Commission.

(5) To reconcile purchase prices with producers' value, estimates were made of total margin for each commodity group. The Margin sector (Sector 44) discusses the data sources. After margins were estimated for each gross purchase, they were subtracted to give purchases at producers' value. Some consistency checks were possible by using the MITRC's survey of manufacturers. However, much work should be done in this area. Data is difficult to apply because of the lack of information concerning margins on a commodity basis.

(6) The margins were allocated to "imported" margin and "Mississippi produced" margin largely on the basis of the estimated volumes of imports and domestically produced commodities purchased by Mississippi households.

VII. Formulation of the Models

The "Mississippi" Matrices (Exhibits 4, 5 and 6)

These matrices are the familiar Leontief "open" input-output model. Exports from the Mississippi economy are distributed to a single export sector. Imports are aggregated into a single import sector, indicating the value of goods and services imported by each sector, but not the amount of each commodity. The model shows the response of Mississippi production to final demand for Mississippi products, regardless of the region from which these final demands originate.

The transactions matrix may be stated:

$$X_i = \sum_{j=1}^{46} x_{ij} + \sum_{h=47}^{54} y_{ih} \quad (1)$$

Where:

X_i = The Mississippi produced output of good "i" during the calendar year 1961.

x_{ij} = Mississippi produced output of good "i" purchased by Mississippi endogenous industry "j". The "j" industries are sectors 1 through 46.

y_{ih} = Mississippi produced output of good "i" purchased by exogenous industry "h". The "h" industries are sectors 47 through 54.

Imports are treated as follows:

$$X_{51}^I = \sum_{j=1}^{46} x_{51j}^I + \sum_{h=47}^{54} y_{51h}^I \quad (2)$$

Where:

X_{51}^I = Total producers' value of goods and services imported into Mississippi during the calendar year 1961.

x_{51j}^I = Total producers' value of all imported goods and services imported during the calendar year 1961 by Mississippi endogenous industry "j".

y_{51h}^I = Total producers' value of all goods and services imported during the calendar year 1961 by Mississippi exogenous industry "h".

Formulas (1) and (2) describe Exhibit 1, the "Mississippi Transaction Matrix", or the "Mississippi 'X' Matrix", symbol X_m .

Constant technical coefficients (a_{ij}) were computed for the endogenous sectors (numbers 1 through 46) as follows:

$$a_{ij} = \frac{x_{ij}}{X_j} \quad (3)$$

These results are tabulated in Exhibit 2, the "Mississippi Technical Coefficients" (or Mississippi "A") matrix, symbol A_m .

Interdependency coefficients were then computed as follows:

Substituting (3) into (1) gives:

$$X_i - \sum_{j=1}^{46} a_{ij} X_j = \sum_{h=47}^{54} y_{ih} \quad (4)$$

or, in matrix notation:

$$X - A_m X = Y \quad (5)$$

Where X is a 46-element column vector of total outputs, A_m is the "Mississippi A matrix" and Y is a 46-element column vector of total final demands for the output of each of the 46 endogenous sectors.

(5) is now solved by substituting "I", the identity matrix.

$$IX - A_m X = Y \quad (6a)$$

$$X = (I - A_m)^{-1} Y \quad (6)$$

By definition:

$$R_m = (I - A_m)^{-1} \quad (7)$$

The results of the matrix inversion computation are tabulated in Exhibit 3, "The Mississippi Inverse Matrix", symbol R_m . Thus, given a final demand for Mississippi products (Y), the outputs (X) from each Mississippi industry necessary to support this final demand may be calculated. In similar fashion, the effect of a change in final demand for Mississippi products may be computed.

The "Total Flows" Matrices (Exhibits 1, 2 and 3)

These matrices differ from the "Mississippi Matrices" in basic formulation. While the Mississippi matrices showed the response of Mississippi production (only) to final demand requirements for Mississippi outputs, the total flows matrices are designed to portray the total production requirements, that is, both Mississippi and non-Mississippi, required to support a given final demand for Mississippi products.

The total flows model is stated:

$$X_i = \sum_{j=1}^{46} x_{ij}^T + \sum_h y_{ih}^T - y_{i51}^T \quad (8)$$

Where:

$h = 47, 48, 49, 50, 53, 54$
 $i = 1, 2, \dots, 54$

X_i = Mississippi output of good "i" produced during the calendar year 1961.

x_{ij}^T = Total purchases (at producers' prices) of good "i" by Mississippi industry "j" during the calendar year 1961.

y_{ih}^T = Total purchases of good "i" by exogenous sector "h" during the calendar year 1961.

y_{i51}^T = Total imports into Mississippi of good "i" during the calendar year 1961.

The transactions matrix in this case is labeled the "Total Flows Matrix" (X_t) Exhibit 4.

Technical coefficients are derived from the X_t matrix as follows:

$$a_{ij}^T = \frac{x_{ij}^T}{X_j} \quad \begin{array}{l} i = 1, 2, 3 \dots 46 \\ j = 1, 2, 3 \dots 46 \end{array} \quad (9)$$

The 46 x 46 matrix of a_{ij}^T is defined as the "Total Flows 'A' Matrix" (A_t), Exhibit 5.

Substituting in (8), we have (in matrix notation):

$$X_t = A_t X_t + Y_t \quad (10)$$

Where Y_t is a 46 element column vector of net final demands of the set

$$\left(\sum_h Y_{ih}^T - Y_{i51}^T \right)$$

From (10), by substitution of the identity matrix,

$$IX_t - A_t X_t = Y_t \quad (11)$$

and

$$X_t = (I - A_t)^{-1} Y_t \quad (12)$$

by definition:

$$(I - A_t)^{-1} = R_t \quad (12a)$$

and is labelled the "Total Flows Inverse Matrix" (Exhibit 6). Thus, given a final demand (or final demand change) for Mississippi products, the total outputs required to support this final demand (change) may be estimated.

Income Coefficients (Table 10, Volume 1)

The direct and indirect income to Mississippi households per dollar output delivered to final demand was computed as follows:

$$C_j = \sum_{i=1}^{46} a_{54i} r_{ij} \quad (13)$$

Where:

C_j = Total income generated by \$1 of output of Mississippi industry "j" delivered to final demand in 1961.

a_{54i} = $\frac{\text{Purchase from Mississippi households by industry "i"}}{\text{Total 1961 output of industry "i"}}$

r_{ij} = Direct and indirect production required from Mississippi industry "i" to support \$1 sales to final demand by industry "j"

Production "Skyline" Chart - Exhibit 7

The Production Skyline Chart was computed as follows:

(1) The value of 100% "self-sufficiency" in each sector was computed by multiplying the R_t matrix by a 46 element column vector of "domestic final demands". The domestic final demand vector was computed by vectorially adding the columns 47, 48, 49 and 54.

(2) The value of "direct and indirect imports" was computed for each sector by multiplying the R_t matrix by a column vector of elements 1-46, column 51.

(3) The value of "direct and indirect exports" was computed for each sector by multiplying the R_t matrix by a column vector of elements 1-46, column 53.

(4) The values were plotted to the scale shown in Exhibit 7.

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The first part of the bibliography lists technical literature on input-output analysis. The second part presents references written exclusively about the Mississippi economy. Industry references are shown in the third part. Relevant U.S. Government publications are cited in the fourth part.

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APPENDIX A

SURVEY OF THE MISSISSIPPI ECONOMY

ALL INFORMATION GIVEN IN THIS SURVEY WILL BE HELD STRICTLY CONFIDENTIAL.
IT WILL NOT BE USED FOR PURPOSES OF TAXATION AND REGULATION.

MISSISSIPPI INDUSTRIAL AND TECHNOLOGICAL
RESEARCH COMMISSION
Jackson, Mississippi

An agency of the State of Mississippi created under House Bill No. 177
of the regular session of the 1960 State Legislature.

IDENTIFICATION:

FIRM NAME: _____

ADDRESS: _____

BY: _____
(Name)

TITLE: _____

If you operate more than one business establishment in the State of Mississippi, you may either report the combined operations in one form or use a separate form for each operation.

NUMBER OF ESTABLISHMENTS:

Number of Establishments operated in the State of Mississippi _____

Number of Establishments included in this report _____

Accounting Period covered by this Questionnaire _____

If you wish this form to be returned to you after the necessary tabulations, please check here _____.

QUESTION NO. 1

PRODUCTS SOLD DURING 1961

(1) List all the products you sell. (2) Give the net dollar sales for each product sold by your Mississippi establishment(s) for the year ending nearest December 31, 1961. (3) Give the net dollar sales for each product sold by your Mississippi establishment(s) to firms and individuals located in Mississippi for the year ending nearest December 31, 1961.

-----Products include both commodities and services sold. These should be grouped by major categories commonly used in your industry, for example, prepared feeds, men's shirts, wooden office furniture, sales engineering and installation services which are sold.

-----Sales figures should be exclusive of transportation charges or delivery charges which are charged to your customer.

-----If your firm is an affiliate of a national firm, please account for only the activity of the Mississippi firm(s).

-----Establish as many product groups as needed. If an "all other" group is unavoidable, please specify the products included in it.

(1)	(2)	(3)
<u>PRODUCTS SOLD (during 1961)</u>	<u>NET SALES (During 1961)</u>	<u>NET SALES TO FIRMS AND INDIVIDUALS LOCATED IN MISSISSIPPI (During 1961)</u>
A. _____	\$ _____	\$ _____
B. _____	\$ _____	\$ _____
C. _____	\$ _____	\$ _____
D. _____	\$ _____	\$ _____

QUESTION NO. 2

PERCENTAGE OF SALES MADE TO RETAILERS AND WHOLESALERS

IF ANY OF YOUR SALES ARE MADE TO EITHER WHOLESALERS OR RETAILERS FOR DIRECT RESALE TO OTHER CONSUMERS, PLEASE ANSWER THIS QUESTION: IF NOT, CONTINUE TO QUESTION NO. 3.

For each product group established in answering Question No. 1, estimate the percentage of your total sales for that product group which were made to all wholesalers and retailers for direct resale to other consumers. Next, for each product group estimate the percentage of total sales which were made only to Mississippi Wholesale and Retail establishments located within the State of Mississippi.

<u>PRODUCT GROUP</u>	<u>PERCENTAGE OF TOTAL SALES MADE DURING 1961 TO ALL WHOLESALERS AND RETAILERS</u>	<u>PERCENTAGE OF TOTAL SALES MADE DURING 1961 TO WHOLESALERS AND RETAILERS LOCATED IN MISSISSIPPI</u>
A. _____	_____ %	_____ %
B. _____	_____ %	_____ %
C. _____	_____ %	_____ %
D. _____	_____ %	_____ %

QUESTION NO. 3

SALES TO MISSISSIPPI ESTABLISHMENTS

DISTRIBUTE THE TOTAL SALES GIVEN ABOVE AMONG THE FOLLOWING MISSISSIPPI INDUSTRIES (WE ARE ONLY INTERESTED IN YOUR SALES TO INDUSTRIES AND INDIVIDUALS LOCATED IN MISSISSIPPI).

MISSISSIPPI INDUSTRY GROUPS WHICH PURCHASED YOUR PRODUCTS DURING 1961

	<u>PRODUCT A</u>	<u>PRODUCT B</u>	<u>PRODUCT C</u>	<u>PRODUCT D</u>
1. Retail & Wholesale Trade- (FOR THE WHOLESALE & RETAIL GROUP, SHOW ONLY THE AMOUNT PURCHASED BY THEM FOR THEIR OWN USE SUCH AS OPERATING SUPPLIES. DO NOT SHOW THE AMOUNTS PURCHASED FOR RESALE, BUT <u>RATHER</u> INDICATE THE INDUSTRIES TO WHICH THEY RESOLD THE PRODUCTS.	_____ %	_____ %	_____ %	_____ %
2. Cotton	_____ %	_____ %	_____ %	_____ %
3. Soybean	_____ %	_____ %	_____ %	_____ %

MISSISSIPPI INDUSTRY GROUPS
WHICH PURCHASED YOUR
PRODUCTS DURING 1961

	<u>PRODUCT A</u>	<u>PRODUCT B</u>	<u>PRODUCT C</u>	<u>PRODUCT D</u>
4. Dairy Farms	_____ %	_____ %	_____ %	_____ %
5. Eggs	_____ %	_____ %	_____ %	_____ %
6. Broiler Growers	_____ %	_____ %	_____ %	_____ %
7. Cattle and Calves	_____ %	_____ %	_____ %	_____ %
8. Feed Crops	_____ %	_____ %	_____ %	_____ %
9. All Other Agricultural Products and Forest Products	_____ %	_____ %	_____ %	_____ %
10. Agricultural Services	_____ %	_____ %	_____ %	_____ %
11. Fisheries	_____ %	_____ %	_____ %	_____ %
12. Mining	_____ %	_____ %	_____ %	_____ %
13. Construction & Maintenance	_____ %	_____ %	_____ %	_____ %
14. Meat Packing	_____ %	_____ %	_____ %	_____ %
15. Poultry Processing	_____ %	_____ %	_____ %	_____ %
16. Dairy Products	_____ %	_____ %	_____ %	_____ %
17. Grain Mill Products	_____ %	_____ %	_____ %	_____ %
18. Bakery Products	_____ %	_____ %	_____ %	_____ %
19. Beverage Industry	_____ %	_____ %	_____ %	_____ %
20. Cottonseed Oil Mills	_____ %	_____ %	_____ %	_____ %
21. Soybean Oil Mills	_____ %	_____ %	_____ %	_____ %
22. All Other Food and Kindred Products	_____ %	_____ %	_____ %	_____ %
23. Textile Mill Products	_____ %	_____ %	_____ %	_____ %
24. Apparel & Other Garment Products	_____ %	_____ %	_____ %	_____ %
25. Logging, Sawmills & Plan- ing Mills Products	_____ %	_____ %	_____ %	_____ %
26. Millwork, Veneer, Plywood & Prefab. Structural Products	_____ %	_____ %	_____ %	_____ %

MISSISSIPPI INDUSTRY GROUPS
WHICH PURCHASED YOUR
PRODUCTS DURING 1961

	<u>PRODUCT A</u>	<u>PRODUCT B</u>	<u>PRODUCT C</u>	<u>PRODUCT D</u>
27. Wooden Containers	_____ %	_____ %	_____ %	_____ %
28. All Other Lumber & Wood Products Except Furniture	_____ %	_____ %	_____ %	_____ %
29. Furniture & Fixtures	_____ %	_____ %	_____ %	_____ %
30. Building Paper & Build- ing Board Mills	_____ %	_____ %	_____ %	_____ %
31. All Other Paper Products	_____ %	_____ %	_____ %	_____ %
32. Printing, Publishing & Other Allied Industries	_____ %	_____ %	_____ %	_____ %
33. Industrial Organic & Inorganic Chemicals	_____ %	_____ %	_____ %	_____ %
34. Drugs	_____ %	_____ %	_____ %	_____ %
35. All Other Chemicals & Allied Products	_____ %	_____ %	_____ %	_____ %
36. Petroleum Refining & Re- lated Products	_____ %	_____ %	_____ %	_____ %
37. Rubber & Miscellaneous Plastic Products	_____ %	_____ %	_____ %	_____ %
38. Leather & Leather Goods	_____ %	_____ %	_____ %	_____ %
39. Manufactured Glass Products	_____ %	_____ %	_____ %	_____ %
40. Manufactured Clay Products	_____ %	_____ %	_____ %	_____ %
41. Manufactured Stone Products	_____ %	_____ %	_____ %	_____ %
42. Primary Metals Industries (e.g. foundries)	_____ %	_____ %	_____ %	_____ %
43. Fabricated Metal Products, except ordnance, machinery & transportation equipment	_____ %	_____ %	_____ %	_____ %
44. Machinery except Electrical	_____ %	_____ %	_____ %	_____ %
45. Electrical Lighting & Wiring Equipment	_____ %	_____ %	_____ %	_____ %
46. All Other Electrical Machinery, Equipment & Supplies	_____ %	_____ %	_____ %	_____ %

MISSISSIPPI INDUSTRY GROUPS
WHICH PURCHASED YOUR
PRODUCTS DURING 1961

	<u>PRODUCT A</u>	<u>PRODUCT B</u>	<u>PRODUCT C</u>	<u>PRODUCT D</u>
47. Ship & Boat Building & Repairing	_____ %	_____ %	_____ %	_____ %
48. All Other Transportation Equipment (Vehicles, Railroad Equipment)	_____ %	_____ %	_____ %	_____ %
49. Miscellaneous Manufacturing Industries Not Covered in the Above	_____ %	_____ %	_____ %	_____ %
50. Transportation Services	_____ %	_____ %	_____ %	_____ %
51. Communication Services	_____ %	_____ %	_____ %	_____ %
52. Electrical, Gas & Sanitary Services	_____ %	_____ %	_____ %	_____ %
53. Finance, Insurance & Real Estate	_____ %	_____ %	_____ %	_____ %
54. All Other Business and Professional Services	_____ %	_____ %	_____ %	_____ %
55. Federal Government (Both Mississippi and non-Mississippi Establishments)	_____ %	_____ %	_____ %	_____ %
56. State & Local Government	_____ %	_____ %	_____ %	_____ %
57. Individual Consumers	_____ %	_____ %	_____ %	_____ %
TOTAL	<u>100%</u>	<u>100%</u>	<u>100%</u>	<u>100%</u>

(USE ADDITIONAL SHEETS IF NECESSARY)

QUESTION NO. 4

INVENTORY CHANGES OF FINISHED GOODS

For the product groups established in answering Question No. 1, give the net inventory changes as of December 31, 1961, or the nearest applicable accounting period.

<u>PRODUCT GROUP</u>	<u>NET INVENTORY CHANGES AS OF DECEMBER 31, 1961 (Plus or Minus)</u>	
A. _____	\$ _____	+ or -
B. _____	\$ _____	+ or -
C. _____	\$ _____	+ or -
D. _____	\$ _____	+ or -

QUESTION NO. 5

NOTE: This is a suggested questionnaire to be used for Poultry Processors.

The production materials questionnaires, of course, would vary depending upon the type of establishment being interviewed.

Please give your expenditures for the following production materials during 1961.

<u>ITEM</u>	<u>COST</u>	<u>% PURCHASED IN MISSISSIPPI</u>	<u>% PURCHASED FROM WHOLESALEERS OR RETAILERS</u>	<u>NET INVENTORY CHANGES</u>
Broilers	\$ _____	_____ %	_____ %	+ or -
Hens-Chickens	\$ _____	_____ %	_____ %	+ or -
Turkeys	\$ _____	_____ %	_____ %	+ or -
Eggs	\$ _____	_____ %	_____ %	+ or -
Wirebound Boxes	\$ _____	_____ %	_____ %	+ or -
Paper Liners	\$ _____	_____ %	_____ %	+ or -
Giblet Wraps	\$ _____	_____ %	_____ %	+ or -
Paper Containers	\$ _____	_____ %	_____ %	+ or -

QUESTION NO. 5 - Continued

ITEM	COST	% PURCHASED IN MISSISSIPPI	% PURCHASED FROM WHOLESALEERS OR RETAILERS	NET INVENTORY CHANGES
Purch. Ice	\$ _____	_____ %	_____ %	\$ _____ + or -
Operating & Re- pair Supplies (Specify)				
_____	\$ _____	_____ %	_____ %	\$ _____ + or -
_____	\$ _____	_____ %	_____ %	\$ _____ + or -
_____	\$ _____	_____ %	_____ %	\$ _____ + or -
_____	\$ _____	_____ %	_____ %	\$ _____ + or -
_____	\$ _____	_____ %	_____ %	\$ _____ + or -
_____	\$ _____	_____ %	_____ %	\$ _____ + or -
_____	\$ _____	_____ %	_____ %	\$ _____ + or -
_____	\$ _____	_____ %	_____ %	\$ _____ + or -

QUESTION NO. 6

EXPENDITURES FOR DEPRECIABLE EQUIPMENT DURING 1961

-----DEPRECIABLE EQUIPMENT is defined as all tools, machinery, furniture, motor vehicles, etc., typically subject to depreciation allowances. Please OMIT from the category buildings and similar forms of construction.

- (1) In column (b) please give the approximate net cost after trade-ins and allowances of depreciable equipment purchased during 1961.
- (2) In column (c) please estimate as a percentage of column (b) depreciable equipment which was produced in Mississippi. Of the total amount of depreciable equipment which you purchased, we wish to know the percentage which was produced in the State of Mississippi.
- (3) In column (d) please estimate as a percentage of column (b) depreciable equipment which you purchased from wholesalers or retailers located within the State of Mississippi.

(4) In column (e) please estimate as a percentage of column (b) depreciable equipment which you purchased from wholesalers or retailers not located in the State of Mississippi.

(a)	(b)	(c)	(d)	(e)
Industry Groups Which Manufacture Depreciable Equipment for which your company made expenditures during 1961	Net Cost After Trade-ins & Allowances	Percentage of Total Depreciable Equipment which was produced in Mississippi (% of column (b))	Percentage of Depreciable Equipment which you purchased from wholesalers & retailers located in Mississippi (% of column (b))	Percentage of Depreciable Equipment which you purchased from wholesalers and retailers <u>not</u> located in Mississippi (% of column (b))
Furniture & Fixtures	\$ _____	_____ %	_____ %	_____ %
Fabricated Metal Products (except Ordnance, Machinery & Transportation Equipment	\$ _____	_____ %	_____ %	_____ %
Machinery (except Electrical)	\$ _____	_____ %	_____ %	_____ %
Electrical Machinery	\$ _____	_____ %	_____ %	_____ %
Electrical Lighting & Wiring Equipment	\$ _____	_____ %	_____ %	_____ %
All Other Electrical Machinery Equipment and Supplies	\$ _____	_____ %	_____ %	_____ %
All Other Transportation Equipment (Vehicles & Railroad Equipment)	\$ _____	_____ %	_____ %	_____ %
Other Equipment (Specify)				
(a) _____	\$ _____	_____ %	_____ %	_____ %
(b) _____	\$ _____	_____ %	_____ %	_____ %
(c) _____	\$ _____	_____ %	_____ %	_____ %
(d) _____	\$ _____	_____ %	_____ %	_____ %
TOTAL	\$ _____			

QUESTION NO. 7

CONSTRUCTION AND MAINTENANCE EXPENDITURES DURING 1961

-----CONSTRUCTION expenditures include expenditures for buildings, houses, land improvements, etc., done on a contract basis or by your own labor force.

-----MAINTENANCE expenditures include the general upkeep and repair of your building and plant. This category does not include repairs of production machinery.

- (1) In column (b) please give the approximate costs during 1961 for construction and maintenance performed by your own labor force and on a contract basis.
- (2) In column (c) please estimate the percentage of total construction and maintenance expenditures made to establishments located within the State of Mississippi.

(a)	(b)	(c)
<u>Construction & Maintenance Expenditures During 1961</u>	<u>Total Cost</u>	<u>Percentage of Total Construction & Maintenance expenditures made to establishments located in Mississippi (% of column (b))</u>
1. Your own labor force	\$ _____	Not Applicable
2. Contract	\$ _____	_____ %
TOTAL	\$ _____	

QUESTION NO. 8

WAGE AND SALARY EXPENDITURES DURING 1961

-----WAGE AND SALARIES should include bonus payments, commissions, overtime, sick pay, vacation pay, etc., for all employees. DO NOT deduct employee contributions, union dues, insurance payments, Federal and social security taxes, etc., which were withheld from your employees' pay check.

- (1) In column (a) please give the approximate gross wages and salaries paid during 1961 by your Mississippi establishment(s).

(2) In column (b) please estimate as a percentage of column (a) the percentage of total wages and salaries paid to employees who live within the State of Mississippi.

(a) Total Wages and Salaries Paid to All Employees During 1961	Percentage of Total Wages & Salaries Paid to Employees Living In Mississippi
\$ _____	_____ %
	(% of column (a))

QUESTION NO. 9

OTHER OPERATING EXPENSES DURING 1961

OTHER OPERATING EXPENSES ARE DEFINED AS:

RENT: All rent payments to all types of recipients.

INSURANCE PAYMENTS: All insurance payments outside of those covering social security contributions by the company. Include all employer payments to health insurance plans, retirement funds, etc.

INTEREST PAYMENTS AND FINANCIAL CHARGES: All current interest payments and charges by financial and lending institutions.

ENERGY: Purchases of energy or materials used for energy production. Includes gasoline for motor vehicles.

TRANSPORTATION CHARGES: All transportation charges paid by you to others for delivery of items to your establishment(s) and shipments from your establishment(s).

BUSINESS, PROFESSIONAL, REPAIR AND PERSONAL SERVICES: Includes all fees and charges for such services as are supplies from outside your establishment(s).

WAREHOUSING AND STORAGE CHARGES PAID: All payments made by you to others for warehousing and storage.

TAXES: All federal, state and local taxes, includes social security contributions. Please distinguish between federal taxes and all other types.

DEPRECIATION: All charges to depreciation accounts.

OTHER OVERHEAD EXPENDITURES: Any other overhead expenditures not specifically allocated in the above items.

(1) In column (b) please give the approximate expenditures during 1961 for various operating expenses shown in column (a).

(a)	(b)	(c)
<u>Class of Operating Expenses</u>	<u>Total Cost During 1961</u>	<u>Percentage of Total Operating Expenses Purchased From Establishments Located In Mississippi</u>
Rent	\$ _____	_____ %
Insurance Payments (exclude government payroll taxes)	\$ _____	_____ %
Interest Payments & Financial Charges	\$ _____	_____ %
Energy Charges		
A. Coal	\$ _____	_____ %
B. Gas	\$ _____	_____ %
C. Oil	\$ _____	_____ %
D. Electricity	\$ _____	_____ %
E. All Others (Specify)	\$ _____	_____ %
Transportation Charges Paid:		
A. Paid on Outgoing	\$ _____	_____ %
B. Paid on Incoming	\$ _____	_____ %
Business, Professional, Repair & Personal Services	\$ _____	_____ %
Warehousing & Storage (Charges Paid)	\$ _____	_____ %
Taxes (including government payroll taxes)		
A. Federal	\$ _____	_____ %
B. State & Local	\$ _____	_____ %
Depreciation	\$ _____	
Other Overhead Expenditures: (Specify)		
_____	\$ _____	_____ %
_____	\$ _____	_____ %
Office Supplies	\$ _____	_____ %
TOTAL	\$ _____	