

The background of the cover is a still life photograph. It features several bright orange carrots with green leafy tops, a cluster of brown-shelled eggs, and a slice of dark, textured bread. The items are arranged on a light-colored, woven burlap fabric. The lighting is warm, highlighting the textures of the food.

OHFOOD

An Ohio Food Industries
Input-Output Model

Version 4.0

The Ohio State University
Income Enhancement Study Series

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November 1997

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Income Enhancement Program
The Ohio State University

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OHFOOD: An Ohio Food Industries Input-Output Model (Version 4.0, November 1997)

by
Thomas L. Sporleder¹

Abstract

OHFOOD, an acronym for **Ohio food**, is a sophisticated input-output model. The model is designed specifically to capture the inter-dependencies and linkages among various sectors and industries composing the complex economy of Ohio. The input-output model of Ohio's economy also maintains substantial detail on the food and agricultural sectors. The interindustry model describes the linkages among various sectors of the economy and provides estimates of the economic importance of the agricultural and food sectors, along with the general manufacturing and service sectors, of the economy. Also, **OHFOOD** may be used to investigate the economic influence of "shocks" to the economy, such as entry of new firms into the state.

This documentation provides a succinct analysis of the importance of food and agriculture to the state's economy, based on the interindustry model. The analysis indicates that for 1994 the food and agricultural sectors of Ohio's economy contribute approximately 13 percent of the output, 11 percent of the value added, 16 percent of the total employment, and 11 percent of total income. In 1994, the Ohio economy generated a gross domestic product (GDP) of \$275.1 billion, and the food and agricultural share of this GDP was \$31.3 billion, or \$11.38 of each \$100 in GDP for Ohio.

Of the 5 basic components within the food and forestry production and distribution chain, the processing sectors of food and forestry products are the largest in terms of output, but the food and forestry wholesaling and retailing sectors and the food service sector are the most significant in terms of employment. The entire food and agricultural complex accounted for over one million jobs in Ohio in 1994, or about 1 of every 6 jobs.

Keeping this model updated with the latest data available is an on-going task of the Farm Income Enhancement Program and the Agribusiness Research Group within the Department of Agricultural Economics of The Ohio State University.

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OHFOOD: An Ohio Food Industries Input-Output Model

Introduction

Measuring production in an economy can be insightful in terms of relationships among various industrial groups. A technique known as input-output modeling endeavors to account for the interdependence of production activities of many different industries comprising the economy. The interdependence captured in the model arises because each industry employs the outputs of other industries as its raw materials. In addition, its output may be used by other producers or industries as a factor of production.

To illustrate these economic linkages and interdependencies, consider corn production. Some output from this production activity is input into dry and wet corn milling. Some co-product output from milling is input into livestock feed (e.g. corn gluten feed) as is some output directly from corn production. Moving closer to the consumer level, some output from the milling industry is high-fructose corn syrup (HFCS) which in turn is input into the soft drink manufacturing industry. Measuring these interdependencies and linkages can reveal how much of each industry's output is consumed by other industries and how much is available for final consumption.

The food marketing system may be viewed as consisting of five basic components which are vertically linked and interdependent, in an economic sense. The five basic components are farm inputs and machinery, farm production, processing of food and forestry products, wholesaling and retailing of food

and forestry products, and ultimately the food service sector. A diagram of the simplified economic linkages among the five food and agriculturally-related components is provided in Figure 1. The four elliptical shapes of the diagram represent final demand components for the output of the other five stages. The arrows indicate economic flows, in terms of dollars of output, from one sector that becomes input to another sector¹.

For each industry or sector of the economy, estimates of the amount of direct purchases per dollar of output are obtained from the interindustry model. In addition, other economic measures of interest derived for each sector of the economy from the input-output model include total employment, value added, and the total dollar value of output. Each of these economic indicators measures different, yet related, linkages among the various sectors of the economy.

Another useful indicator from input-output analysis is the "multiplier." An output multiplier for a sector, for example, measures the additional value of production of all sectors of the economy necessary to satisfy an extra dollar demanded from that specific sector. Output multipliers can be useful for analyzing the importance of each industry in terms of its overall influence on the economy.

Other multipliers include income and employment. An income multiplier is a measure

¹ For an excellent illustration of vertical linkages among the food processing, wholesaling and retailing, and food service sectors for the economy, see a recent article by John Siebert.

of the intuitive notion that income earned by one individual or industry is spent and becomes income to a second individual or industry. In turn, the second individual spends a portion of that income so that it becomes income to yet another individual. The income multiplier relates an increment in the income of one sector to an increment of income of other sectors. In essence, when expenditures from one sector increase, the income of other sectors will increase in some multiple of the original increment. Employment multipliers are derived from output multipliers simply by converting from an output to employment base.

Analysis of the economic impact of new firms or changes in existing firms within an industry is one of the most powerful features of an input-output model. New firms may occur either through new plants or facilities that represent net additions to the industry or by firms relocating to Ohio from outside Ohio. The model allows the Ohio economy to be "shocked" by adding a new firm of a specific output size. The influence of such an event on the entire economy can then be traced, sector by sector. Such a simulation provides useful information for judging priorities on economic development within a geographic area. The input-output model enables "what-if" scenarios to be analyzed in terms of tracing the effects of changes in one sector on other sectors.

An Ohio Model: OHFOOD

Sector Definition

An input-output model of the state's economy captures interindustry economic relationships and provides information on the relative importance of various sectors of the economy. **OHFOOD**, an acronym for **Ohio**

Food, is an input-output model composed of 43 sectors defined in a manner to emphasize agriculture and processed food and forestry products, distribution and retailing of food and forestry products, and food consumption. Many of the 43 sectors are defined based upon the aggregation of similar industries. For example, the "Nursery/Horticulture" sector of **OHFOOD** is defined to include the grass seeds industry, the greenhouse and nursery products industry, and the landscape and horticultural services industry.

The specific definition of sectors within **OHFOOD** was accomplished by maintaining substantial detail among the agricultural production and food-forestry processing/distribution sectors, but aggregating many other non-food industries into relatively large composite sectors. The specific food and related agricultural sectors of **OHFOOD** are farm inputs and machinery production, dairy farm products, poultry and egg production, cattle feeding, miscellaneous livestock (including sheep, goats, horses, and other livestock), swine production, food grain production, feed grain production, hay/sugar/nut crop production (and other miscellaneous crops), fruits and vegetables, oil bearing crops, forestry and fishing production, nursery and horticulture production, meat and egg processing, dairy processing, processed food and kindred products, wood processing and paper production and wood furniture manufacturing, grain milling and flour production, beverage processing (mostly soft drink and liquor production), fats and oils production, food and forestry wholesaling and retailing, and finally away-from-home food service (restaurants; institutions such as schools, hospitals, and prisons; and other retail food service; excluding hotel and motel food service). **OHFOOD** is comprised of 22 sectors related to food and agriculture and 21 sectors which are based on the general

manufacturing and service sectors of the entire economy. The precise and detailed four-digit 1994 Standard Industrial Classification (SIC) definition of each sector defined within **OHFOOD** is provided in Appendix Table A-1.

Methods

The **OHFOOD** model is based on *IMPLAN*, an input-output algorithm for the national economy using non-survey based data (University of Minnesota). *IMPLAN* is based on a procedure developed by the U.S. Forest Service for estimating input-output models for the United States or subregions (Alward). Estimates of sectoral activity for final demand, final payments, industry output, and employment for the Ohio economy are based on the latest data available for 528 sectors of the United States economy. All information within the model is in 1994 dollars. Detail of the methods of input-output modeling for an economy and the methods used for calculations of multipliers may be found in Miller and Blair.

Analysis of the Ohio Economy

Basic Economic Linkages

An overview of the Ohio economy in 1994 is shown by the total output, value added, income and employment for each of 43 sectors, Table 1. The total economic output for Ohio in 1994 was \$525.3 billion, with total employment of over 6.2 million persons. The 1994 Ohio economy generated a gross domestic product (GDP) of \$275.1 billion, and the food and agricultural share of this GDP was \$31.3 billion. This means that the food and agricultural components of the

Ohio economy generate approximately \$11.38 of each \$100 in Ohio GDP.

The output of food and related agricultural sectors was \$67.7 billion, or about 13 percent of Ohio's total economy, Figure 2. The \$67.7 billion represents about \$1 of every \$8 in output for the entire Ohio economy. The total output of \$67.7 billion may be divided among the five basic components of the food chain, Figure 2. The largest component is processed food and processed forestry products, accounting for just over \$27 billion of this output, or 40 percent of the total \$67.7 billion food and agricultural output. This \$27.0 billion is composed of \$16.9 billion from food processing and another \$10.1 from value added forestry processing which includes wood processing, paper, and wood furniture manufacturing. Thus, food processing accounts for about 63 cents of every \$1 in output from the total food and forestry processing sector.

Agricultural production adds over \$5.4 billion in output, or about 8 percent of the total output from the food and related agricultural sectors of the Ohio economy. The largest component within the agricultural production sector is the nursery and horticultural industries, accounting for over \$1.1 billion in output, or about \$1 of every \$5 in output generated by the farming sector. However, the oil bearing crops production sector, primarily soybeans, is a close second in terms of output. This sector accounts for over \$1 billion in sector output.

The Ohio livestock sectors combined account for over \$1.4 billion in output, or approximately 28 percent of the \$5.4 billion total agricultural production output, excluding forestry production and fishing, Figure 3. Crop and horticultural industries account for the other 72 percent of the total output from

the primary agricultural production sectors of livestock, crops, and horticulture, or some \$5.1 billion in output, Figure 4. The largest component of the field crop sectors is oil bearing crops at over \$1 billion in output. However, the feed grain industries in the farm production sector also contribute another \$889.8 million in output.

Value added is another significant measure of economic activity and is a useful measure in comparison of the relative importance of one sector to another. Value added for the total economy is approximately equivalent to the measure called gross domestic product (GDP). As stated earlier, the 1994 Ohio economy generated a gross domestic product (GDP) of \$275.1 billion and the food and agricultural share of this GDP was \$31.3 billion, Table 1. This means that the food and agricultural components of the Ohio economy generated approximately \$11.38 of each \$100 in Ohio GDP. Of the \$31.3 billion value added by food and agriculture, 31 percent is attributable to the total food and forestry processing sector while another 32 percent is from the wholesaling and retailing of food and forestry products, Figure 5. Food service accounts for almost \$5.2 billion value added, or about one-sixth of the total value added from all food and related agricultural sectors combined. Finally, the farming sector and the farm inputs and machinery sector account for another 10 and 11 percent, respectively, of the value added. Each sector accounts for over \$3 billion in value added.

The food and related agricultural component of the state's economy contributes over one million jobs, or nearly 1 in every 6 employed in Ohio, Figure 6. The wholesaling and retailing of food and forestry products combined with the food service sectors account for 7 of every 10 jobs in the food and related agricultural sectors, or over 705,000 jobs in total. The food and value added forestry

processing sectors account for nearly 136,000 jobs, or nearly 14 percent of the total food and related agricultural sector employment. Farm production accounts for nearly 135,000 jobs and about 1 of every 7 persons employed in the food and related agricultural sector. The smallest sector in terms of employment within the food and related agricultural component is farm inputs and machinery, yet this sector employs over 32,000 persons in Ohio, Table 1.

The food and agricultural complex accounts for about 11 percent of total income in the entire state's economy, Figure 7. The food and forestry product processing sector accounts for about \$9.6 billion of a total food and related agricultural sector income of \$29.3 billion, or nearly 33 percent of the total food and related agricultural sector income. Food and forestry wholesaling and retailing accounts for another \$8.5 billion, while farm production income is \$3.2 billion, Table 1.

Ohio livestock sectors combined account for about \$626 million in income, or approximately one-fifth of the \$3.1 billion total farming income, Figure 8. Dairy farms account for 40 percent of total livestock sector output, while poultry and egg farms account for another 24 percent of the total income from the livestock sector. Cattle feeding accounts for another 18 percent of the total livestock sector income in Ohio.

Of the total Ohio livestock, crop and horticultural income of \$3.1 billion for 1994, crops and horticulture account for 79 percent, or \$24 billion, Figure 9. Nursery and horticulture accounts for 31% of the total crops and horticulture income. The feed grains and oil bearing crop sectors each account for one-half of the total crops and horticulture income.

Another significant aspect of the food and agricultural component of Ohio's economy is its contribution to exports. **OHFOOD** tracks exports to other states separately from exports to foreign countries, Table 2. Total food and related agricultural sector exports from Ohio to other states were \$17.9 billion in 1994, or over 11 cents of every dollar of domestic exports from the entire Ohio economy. Nearly 32 cents of every dollar of output from the food and related agricultural sectors was exported, compared to nearly 36 cents of every dollar of output for the entire Ohio economy.

Of the five major components of the food and agriculture complex, exports are most important to processing, Table 3. Examination of the food and agriculture component of exports to other states reveals that the processing sector exports \$11.5 billion, or 64 percent of the total food and related agricultural domestic exports of \$17.9 billion, Figure 10. Farm production exports around \$2.5 billion, or about 8 percent of the domestic export total.

Exports to foreign countries are largest for the processing sector at about \$1.1 billion, or 30 cents of every foreign export dollar from the food and agricultural component of Ohio's economy, Figure 11. Farming and the farm input and machinery sectors combined account for another 58 cents of every foreign export dollar from Ohio's food and related agricultural sectors.

The Impact Multipliers

Impact coefficients or multipliers are quantitative and summary measures of the total effects that a change in the final demand for a particular sector has on the output, value added, total income, or employment of the Ohio economy.

The output multiplier of a particular sector measures the total change in output generated by a \$1.00 change in final demand for the product of a particular sector (Table 3).

Other multipliers are calculated for value added, income and employment. For example, a \$1.00 change in final demand for feed grain products generates total economy-wide income of \$1.6969, Table 3. Similarly, the employment multiplier for the feed grains sector is 1.3893. The total employment effect for a \$1 million change in final demand is about 1.4 person-years.

In Table 3, the dairy production income multiplier is 1.6152. It means that each \$1.00 of income from dairy farms resulting from a change in final demand generates about \$1.62 in total economy-wide Ohio income. The employment multiplier of 2.1029 means that each \$1 million change in Ohio dairy farm output resulting from a change in final demand generates approximately 2.1 person-years change in total employment in Ohio.

Conclusions

OHFOOD, an acronym for **Ohio food**, is a sophisticated input-output model. The model is designed specifically to capture the inter-dependencies and linkages among various sectors and industries composing the complex economy of Ohio. The input-output model of Ohio's economy also maintains substantial detail on the food and agricultural sectors. The interindustry model describes the linkages among various sectors of the economy and provides estimates of the economic importance of the agricultural and food sectors, along with the general manufacturing and service sectors, of the economy. Also, **OHFOOD** may be used to investigate the economic influence of

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Table 1. Ohio Output, Value Added, Income and Employment, 1994

	Total Output	Value Added	Income	Employment
	Millions	Millions	Millions	Person Years
<u>Food and Related Agricultural Sectors</u>				
Farms Inputs & Machinery	8,136.2	3,305.2	3,241.0	32,005
Farming	5,442.9	3,220.0	3,179.5	134,604
Dairy Farms	512.3	249.4	252.8	5,344
Poultry & Egg	333.5	147.0	150.1	1,925
Cattle Feeding	254.9	118.6	114.6	4,788
Swine	270.2	83.2	78.9	4,567
Miscellaneous Livestock ^a	49.9	29.9	30.0	3,669
Food Grains	177.7	106.5	101.3	5,441
Feed Grains	889.8	579.2	554.2	18,091
Nursery & Horticulture	1,162.1	731.9	749.7	38,706
Fruits & Vegetables	154.1	132.7	133.3	2,171
Oil Bearing Crops	1,005.9	691.1	669.7	25,506
Hay/Sugar/Nut Crops	285.9	244.8	239.2	17,605
Forestry/Fishing/Ag Services	346.7	105.8	105.7	6,791
Food and Forestry Processing	27,021.1	9,665.9	9,555.6	135,920
Food Processing	16,945.1	5,535.5	5,453.9	60,310
Meats & Eggs Processing	2,055.1	244.3	246.6	8,132
Dairy Processing	3,778.1	1,020.2	1,031.9	10,113
Processed Food & Kindred Products	7,168.9	3,077.0	3,115.7	31,714
Grain Milling & Flour Milling	626.3	114.0	112.4	1,525
Fats & Oils Processing	1,184.2	243.8	244.7	2,115
Beverage Processing	2,132.5	836.2	702.5	6,711
Wood/Paper/Furniture Manufacturing	10,076.0	4,130.3	4,101.7	75,610
Food & Forestry Wholesaling & Retailing	15,152.6	9,927.5	8,544.0	343,977
Food Service ^b	11,907.2	5,195.9	4,775.2	361,060
Food & Ag Subtotal	67,660.1	31,314.5	29,295.1	1,007,566
<u>General Manufacturing & Service Sectors</u>				
Mining	2,326.0	1,251.0	1,158.7	16,718
Construction	31,256.7	17,305.3	17,598.3	390,590
Apparel/Yarn/Leather	2,103.3	815.8	827.1	22,075
Motor Vehicle Equipment	41,771.0	11,699.4	11,523.9	129,411
Metal Industries	40,791.4	15,764.1	15,580.8	226,139
Chemicals & Petroleum	36,157.8	14,496.1	13,707.6	152,138
Publishing	8,477.4	4,640.3	4,649.3	82,243
Stone/Clay/Glass	5,943.1	3,016.3	3,019.6	44,917
Machinery & Equipment	26,620.1	12,220.5	12,297.0	191,450
Technology Industries	10,104.2	4,773.1	4,822.2	72,076
Misc. Services	19,257.0	11,922.7	12,126.0	525,517
Transportation & Communication	27,880.2	12,059.1	11,176.4	267,953
Electricity/Gas/Sanitation	10,266.0	5,004.7	4,532.9	33,773
Wholesale & Retail	47,536.2	31,407.6	26,803.7	838,274
Financial & Legal	32,646.5	16,852.4	13,263.4	346,641
Real Estate & Development	41,682.7	28,096.3	22,629.8	121,177
Recreation & Amusement	4,083.8	2,213.3	2,213.8	94,483
Health Services	29,970.9	20,215.7	20,598.2	539,411
Education Services	4,241.8	2,021.6	2,076.8	114,657
Government & Non-Profit	34,251.5	27,788.0	28,473.2	975,983
Others	252.4	245.7	252.4	35,419
Manufacturing & Service Subtotal	457,619.9	243,809.0	229,331.0	5,221,045
Total Economy	525,280.0	275,123.6	258,626.2	6,228,611

Note: Each sector's output, value added, income, and employment are provided through U. S. Census information. The wholesaling and retailing sector is treated as one sector for purposes of the input-output model definition, but this sector is disaggregated for purposes of Table 1. The disaggregation procedure used is to estimate the percentage of all wholesale/retail payroll and employment solely from food wholesale/retail in Ohio using data published by County Business Patterns, 1994. The percentage of payroll (24.17%) is used to estimate the proportion of agriculture and food output, value added, and income. The percentage of employment (29.1%) is used to adjust employment in a similar fashion.

a Sheep, goats and horses

b Excludes hotel/motel food service.

Table 2. Contributions of Food and Agriculture to Exports, Domestic and Foreign, Ohio, 1994

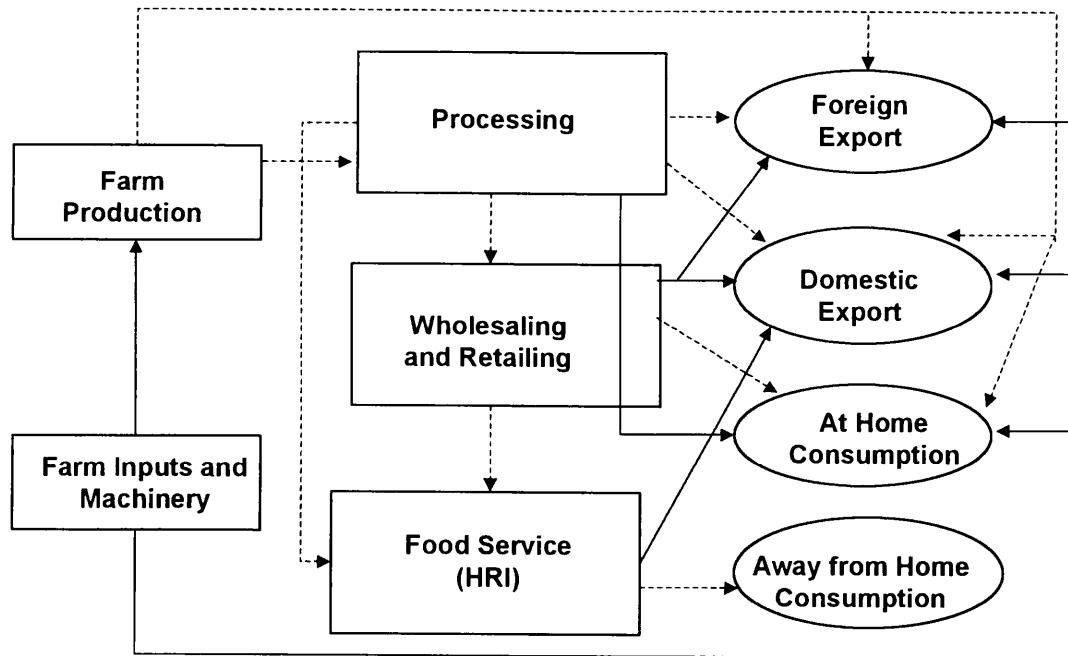
Sector	Total = Domestic + Foreign			Domestic	Exports as
	Exports	Exports	Exports	Share of	Total Food
	----- \$ million -----			----- Percent -----	
Farm Inputs & Machinery	1,367	0	1,367	0	6.3
Farming	3,249	2,459	790	75.7	15.0
Dairy Farms	1	0	1	0.0	0.0
Poultry & Egg	4	0	4	0.0	0.0
Cattle Feeding	1	0	1	0.0	0.0
Swine	90	1	89	1.1	0.4
Miscellaneous Livestock	7	0	7	0.0	0.0
Food Grains	198	120	78	60.6	0.9
Feed Grains	1,145	908	237	79.3	5.3
Nursery & Horticulture	763	742	21	97.2	3.5
Fruits & Vegetables	58	41	17	70.7	0.3
Oil Bearing Crops	512	224	288	43.8	2.4
Hay/Sugar/Nut Crops	145	122	23	84.1	0.7
Forestry/Fishing/Ag Services	325	301	24	92.6	1.5
Processing	12,591	11,528	1,063	91.6	58.3
Food Processing	5,780	5,259	521	91.0	26.7
Meats & Eggs Processing	143	143	0	100.0	0.7
Dairy Processing	1,426	1,318	108	92.4	6.6
Processed Food & Kindred Products	1,145	937	208	81.8	5.3
Grain Milling & Flour Milling	599	535	64	89.3	2.8
Fats & Oils Processing	563	461	102	81.9	2.6
Beverage Processing	1,904	1,865	39	98.0	8.8
Wood/Paper/Furniture Manufacturing	6,811	6,269	542	92.0	31.5
Food & Forestry Wholesaling & Retailing	2,042	1,563	479	76.5	9.4
Food Service^a	2,360	2,338	22	99.1	10.9
Total Food and Ag Economy	21,609	17,888	3,721	82.8	100.0
Total Economy	188,813	156,150	32,663	82.7	

a Excludes hotel/motel food service.

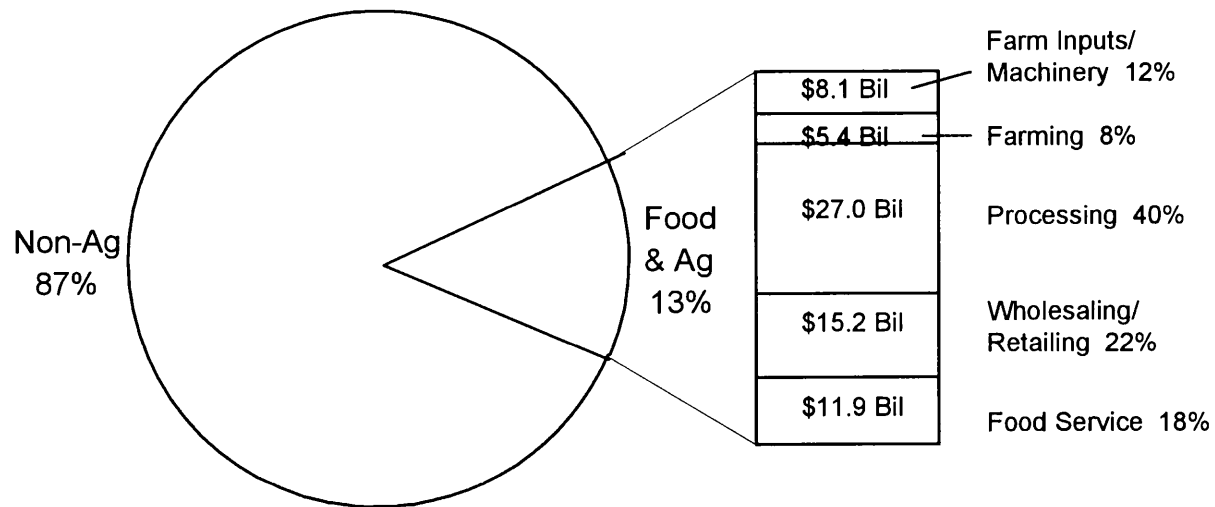
Table 3. Output, Value Added, Income and Employment Multipliers, Ohio, 1994

Sector	Multipliers			
	Output	Value Added	Income	Employment
Food and Related Agricultural Sectors				
Farm Inputs & Machinery	1.9799	2.2538	2.4330	3.8180
Dairy Farms	1.7151	1.8466	1.6152	2.1029
Poultry & Egg	1.8946	2.0124	2.2882	2.6114
Cattle Feeding	1.6476	1.7906	1.7482	1.5397
Swine	1.7689	2.2928	2.3141	1.7383
Miscellaneous Livestock	1.7310	1.6754	1.6337	1.1536
Food Grains	1.6641	1.6173	1.8021	1.2610
Feed Grains	1.6266	1.5388	1.6969	1.3893
Nursery & Horticulture	2.0413	1.9331	1.6543	1.4416
Fruits & Vegetables	1.4734	1.3096	1.4727	1.4522
Oil Bearing Crops	1.6916	1.5745	1.7087	1.3552
Hay/Sugar/Nut Crops	1.4953	1.3269	1.4839	1.1078
Forestry/Fishing/Ag Services	1.7458	2.2935	1.9545	1.4896
Meats & Eggs Processing	1.9525	4.8562	3.3846	4.2219
Dairy Processing	1.9183	2.6791	3.2734	4.8713
Processed Food & Kindred Products	1.7309	1.9174	2.3884	3.1693
Grain Milling & Flour Milling	1.5818	2.8483	2.9402	5.1955
Fats & Oils Processing	2.2072	4.2406	4.5601	11.6497
Beverage Processing	1.6483	1.8951	2.4845	3.5766
Wood/Paper/Furniture Manufacturing	1.8087	2.0609	1.9811	2.3429
Food & Forestry Wholesaling & Retailing Sector	1.9345	1.8178	1.7391	1.6993
Food Service Sector	2.0580	2.3053	2.0082	1.4344
General Manufacturing & Service Sectors				
Mining	1.8310	1.8743	2.0314	2.4208
Construction	1.8119	1.8226	1.7656	1.9067
Apparel/Yarn/Leather	1.8216	2.1150	2.0144	1.9742
Motor Vehicle Equipment	1.6975	2.3524	2.1465	3.8330
Metal Industries	1.7547	2.0852	1.9185	2.7842
Chemicals & Petroleum	1.8831	2.1568	2.3268	3.3484
Publishing	1.7920	1.8040	1.8336	2.0756
Stone/Clay/Glass	1.8010	1.8676	1.8469	2.3488
Machinery & Equipment	1.8252	1.9956	1.9055	2.4925
Technology Industries	1.8553	1.9909	1.9702	2.4991
Miscellaneous Services	2.0377	1.9587	1.7495	1.5485
Transportation & Communication	1.9999	2.2680	2.3501	2.3714
Electricity/Gas/Sanitation	1.7407	1.8435	2.4541	3.7798
Wholesale & Retail	1.9345	1.8178	1.7391	1.6993
Financial & Legal	2.0662	2.1785	1.9824	2.4014
Real Estate & Development	1.4217	1.3683	6.1032	2.7241
Recreation & Amusement	2.1660	2.2303	1.8626	1.7543
Health Services	2.0647	1.8966	1.6204	1.7841
Education Services	2.1699	2.4089	1.8558	1.5737
Government & Non-Profit	2.1240	1.7885	1.4900	1.5421
Others	2.0958	1.6442	1.3954	1.1089

**Figure 1. Major Linkages in Food System
Economic Transaction Flows Among Sectors**



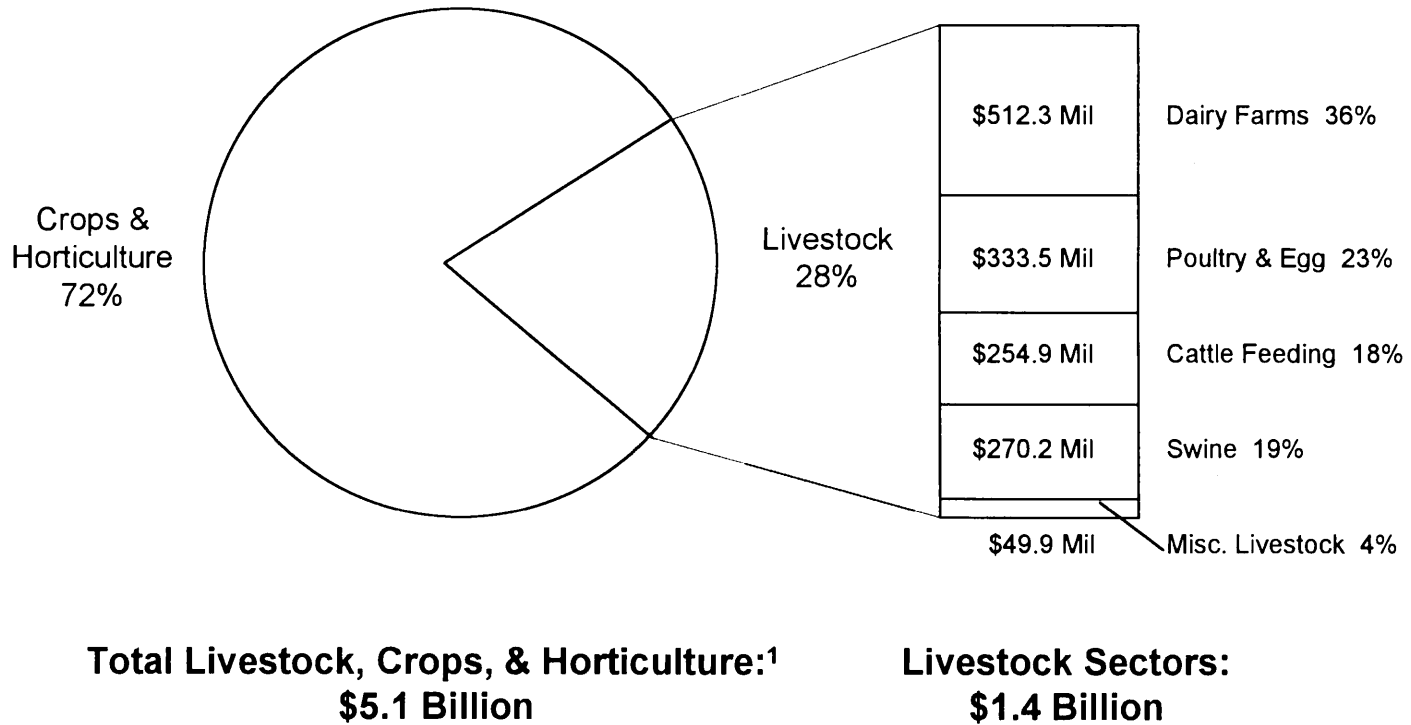
**Figure 2: Ohio Economic Output
Food & Agriculture, 1994**



Total Output: \$525.3 Billion

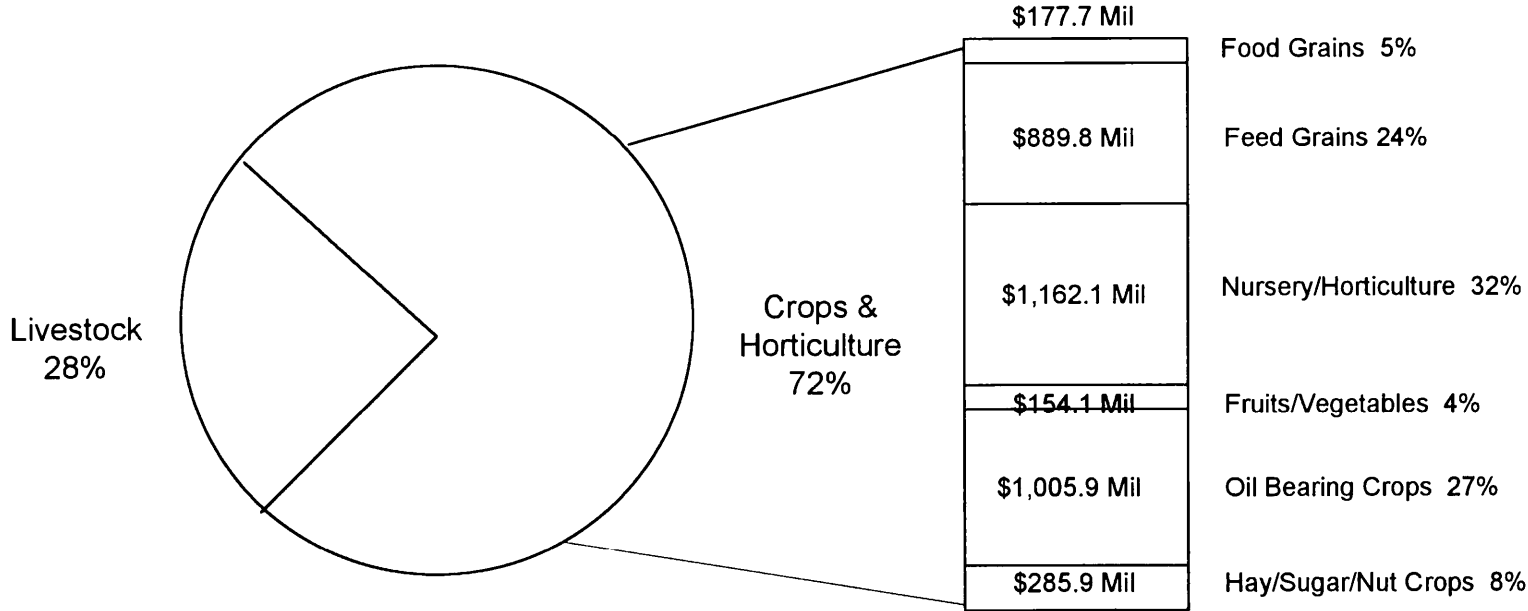
Food & Ag Sectors: \$67.7 Billion

**Figure 3: Ohio Agricultural Output
Livestock Sectors, 1994**



¹ Total Livestock, Crops & Horticulture figures exclude output derived from the Forestry/Fishing/Ag Services sector.

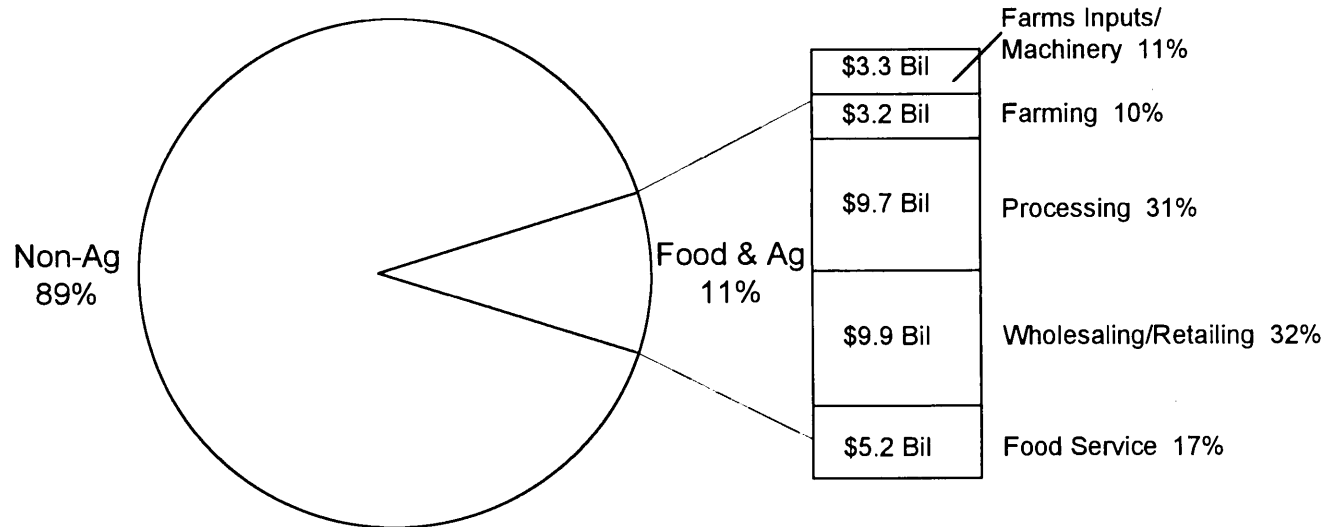
**Figure 4: Ohio Agricultural Output
Crops & Horticulture Sectors, 1994**



Total Output--Livestock, Crops & Horticulture:¹ \$5.1 Billion

¹ Total Livestock, Crops & Horticulture figures exclude output derived from the Forestry/Fishing/Ag Services sector.

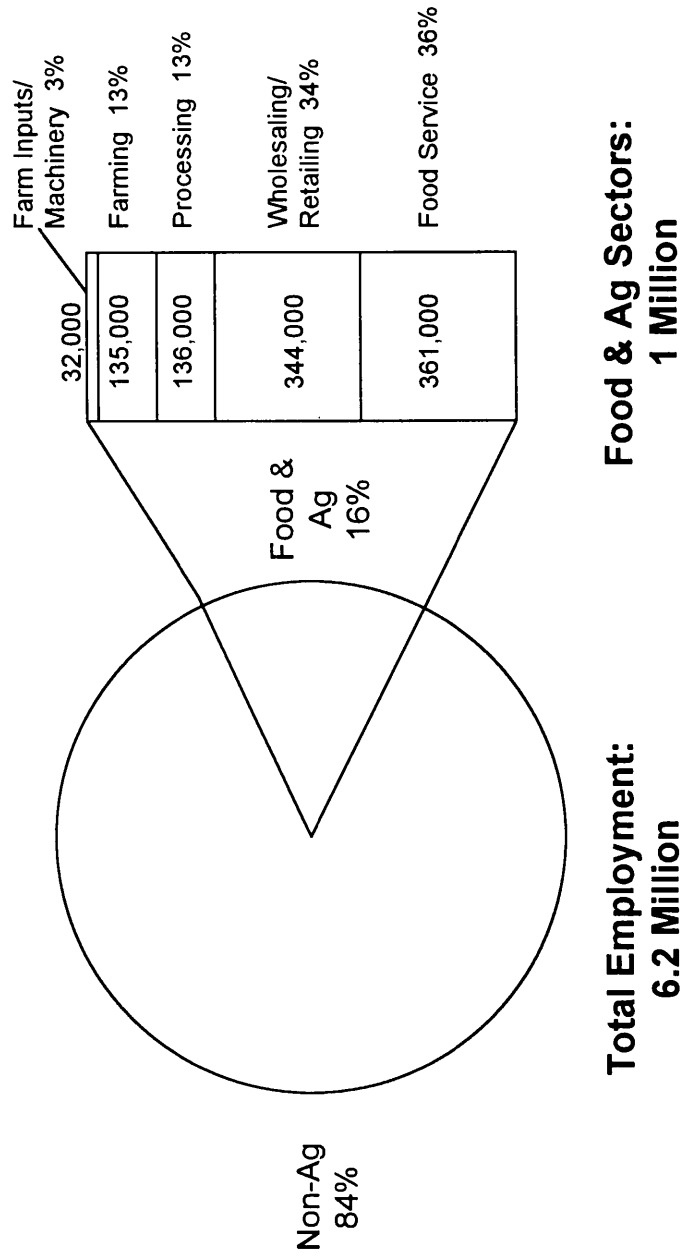
**Figure 5: Ohio Value Added
Food & Agriculture, 1994**



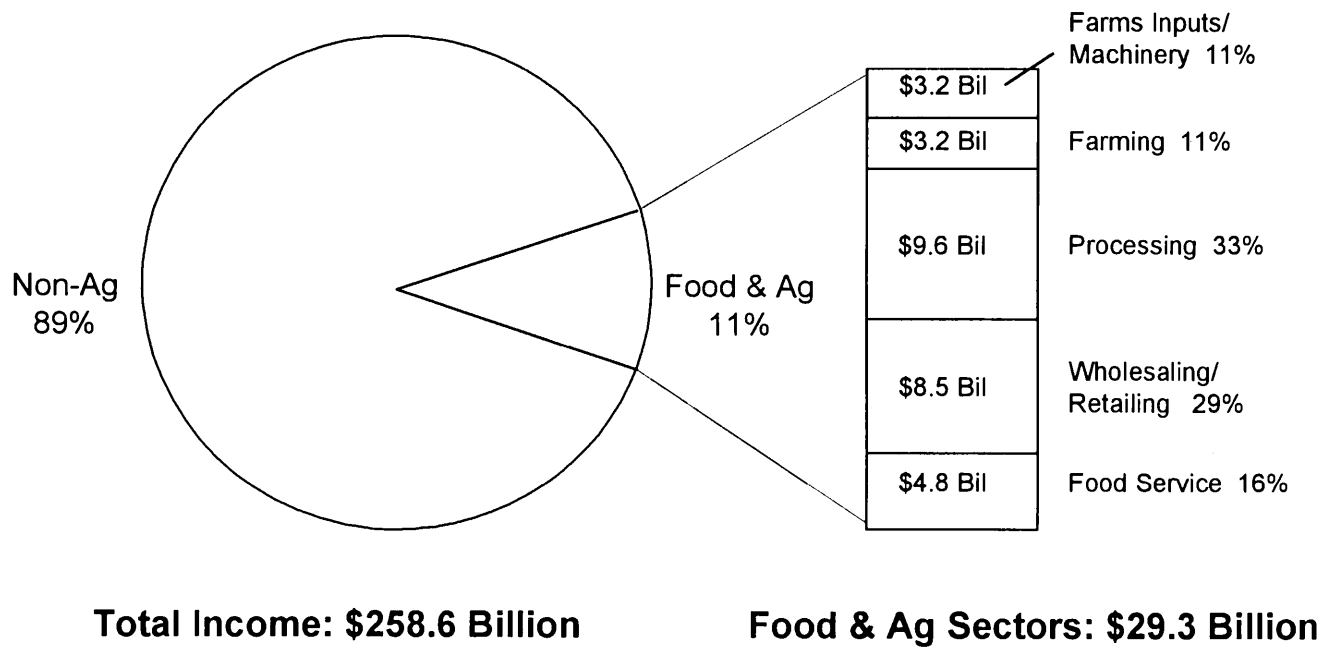
**Total Value Added:
\$275.1 Billion**

**Food & Ag Sectors:
\$31.3 Billion**

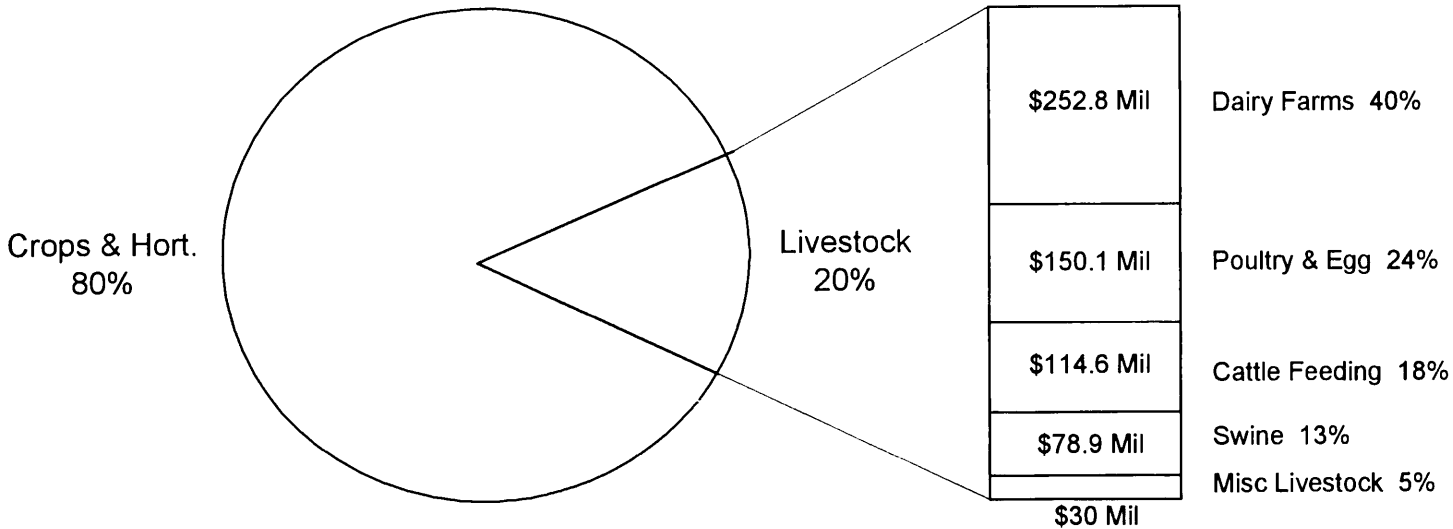
**Figure 6: Ohio Employment
Food & Agriculture, 1994**



**Figure 7: Ohio Income
Food & Agriculture, 1994**



**Figure 8: Ohio Agricultural Income
Livestock Sectors, 1994**

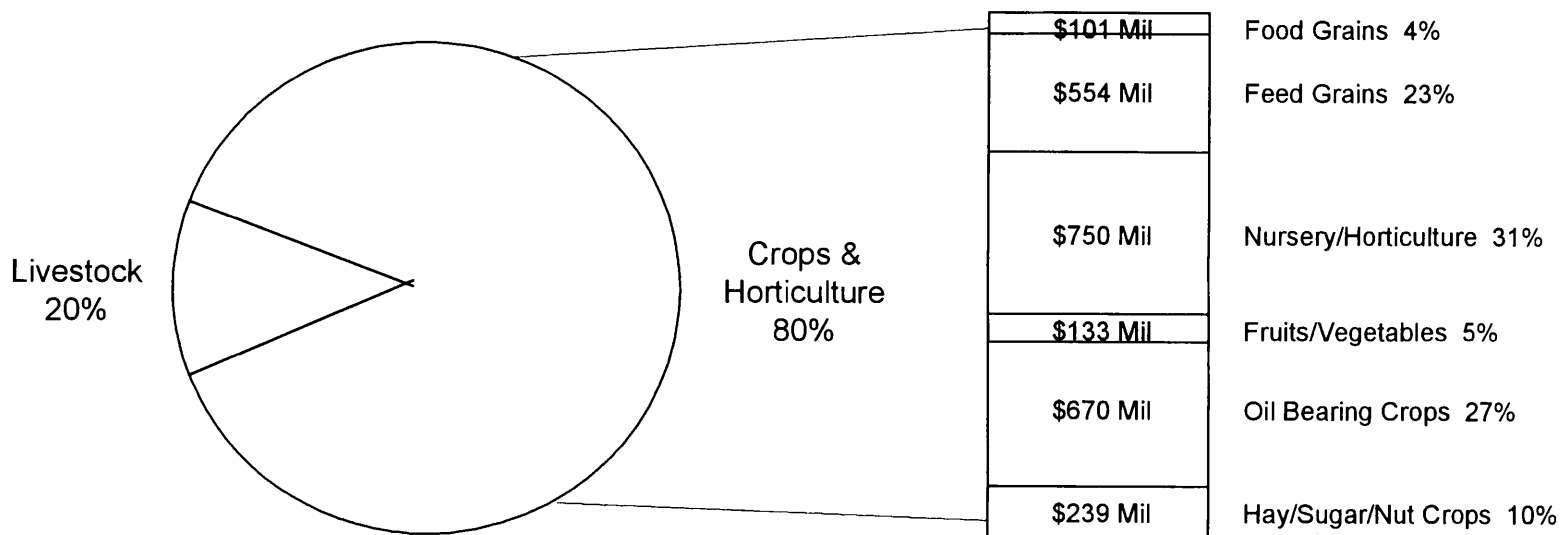


**Total Livestock, Crops, & Horticulture:¹
\$3.1 Billion**

**Livestock Sectors:
\$626.4 Million**

¹ Total Livestock, Crops & Horticulture figures exclude income derived from the Forestry/Fishing/Ag Services sector.

**Figure 9: Ohio Agricultural Income
Crops & Horticulture Sectors, 1994**

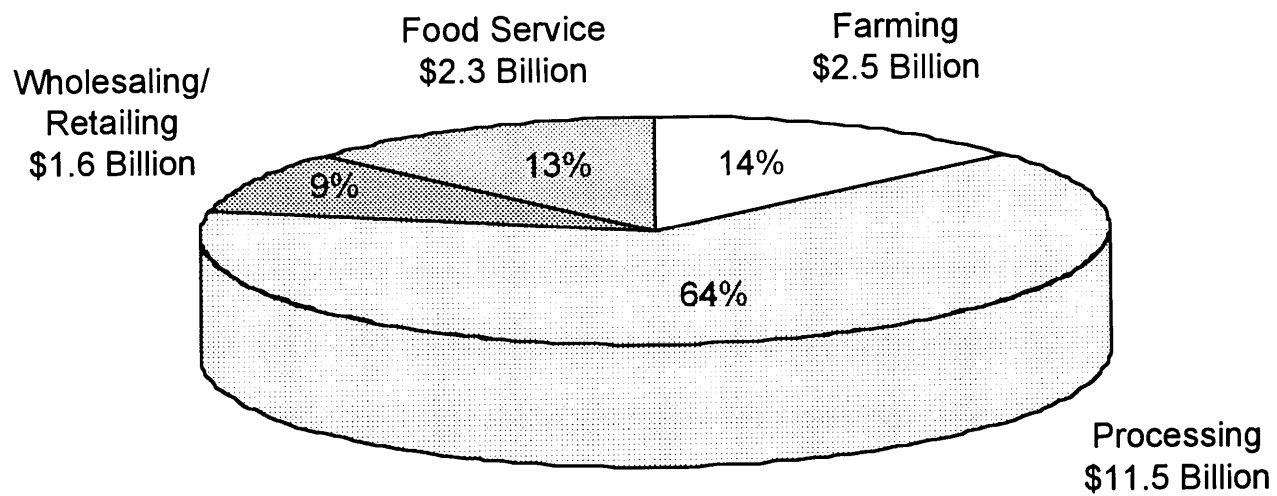


**Total Livestock, Crops, & Horticulture:¹
\$3.1 Billion**

**Crops & Horticulture Sectors:
\$2.4 Billion**

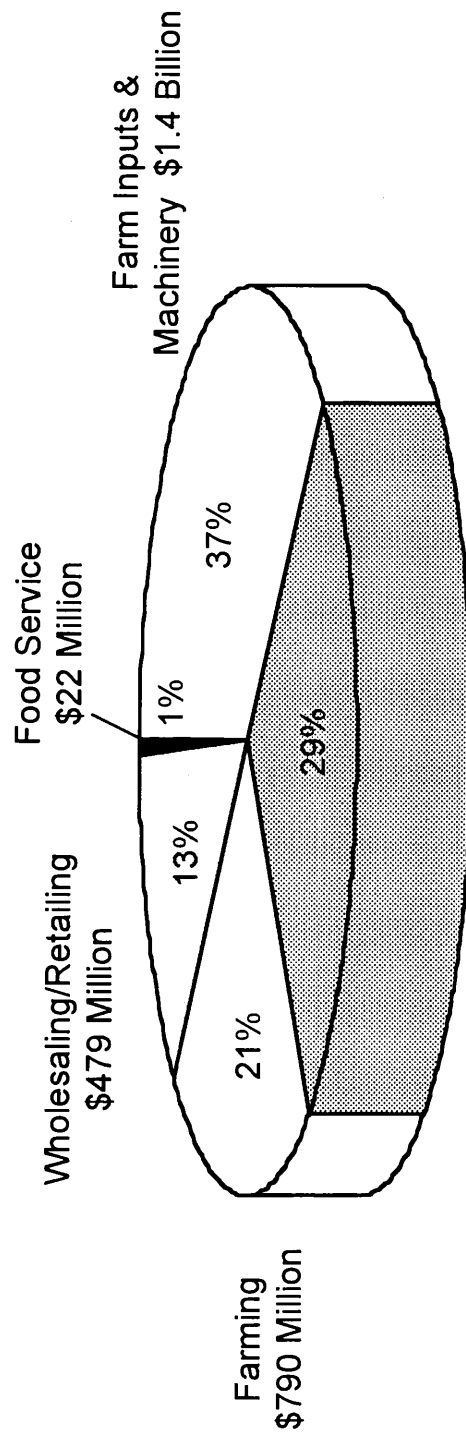
¹ Total Livestock, Crops & Horticulture figures exclude income derived from the Forestry/Fishing/Ag Services sector.

**Figure 10: Ohio Domestic Exports
Food & Agriculture, 1994**



Total Domestic Exports: \$17.9 Billion

**Figure 11. Ohio Foreign Exports
Food & Agriculture, 1994**



Processing
\$1.1 Billion

Total Foreign Exports: \$3.7 Billion

References

- Alward, G.S. *IMPLAN Version 2.0: Methods Used to Construct the 1982 Regional Economic Data Base*. U.S. Department of Agriculture, General Technical Report R-000. Rocky Mountain Forest and Range Experiment Station, Ft. Collins, Colorado, 1987.
- Miller, R. and P. Blair. *Input-Output Analysis: Foundations and Extensions*. Englewood, New Jersey: Prentice-Hall, Inc. 1985
- Minnesota IMPLAN Group. *IMPLAN Software Manual*. Stillwater, Minnesota, February, 1997.
- Office of Management and Budget, *Standard Industrial Classification Manual*, Washington, DC, 1987.
- Richardson, H.W. *Input-Output and Regional Economics*. New York: Halstead, 1972.
- Siebert, John W. "Pizza: A Delivery Vehicle to Illustrate the Role of Food and Non-Food Suppliers Serving the FAFH Industry," *Agribusiness: An International Journal*. Volume 13, Number 1, January/February 1997, pp. 85-92.
- U.S. Department of Commerce, Bureau of the Census, 1992, *Census of Manufactures*, U.S. Government Printing Office, Washington, D.C.
- U.S. Department of Commerce, Bureau of the Census, 1994, *County Business Patterns*, U.S. Government Printing Office, Washington, D.C.
- U.S. Department of Commerce, Bureau of the Census, *Numerical List of Manufactured and Mineral Products Reference Series*, 1992 Census of Manufactures and Census of Mineral Industries, MC 92-R-1, Washington, DC, May 1983.
- U.S. Office of Management and Budget, *Standard Industrial Classification Manual, 1987*, National Technical Information Service, Washington, DC, 1988.

Appendices



Table A-1. OHFOOD: Ohio Input-Output Model Sector Definitions

Sector Name	Standard Industrial Classification (SIC)
Food and Related Agriculture Sectors	
1. Farm Inputs/Machinery	Industrial Inorganic; Nitro. Fertilizer; Agricultural Chemicals; Farm Machinery (2812-13; 2816; 2819; 2865; 2869; 2873-75; 2879; 3523-24; 3535; 3556)
2. Dairy Farms	0241; part of 0191, 0259, and 0291
3. Poultry and Egg	0251-0253; part of 0191, 0219, 0259, and 0291
4. Cattle Feeding	Ranch Fed Cattle; Range Fed Cattle; Cattle Feedlots. (0211; part of 0191, 0212, 0219, 0259, and 0291)
5. Swine	0213; part of 0191, 0219, 0259, and 0291
6. Other Livestock	Sheep, Lambs and Goats; Other Meat Animal Products; Misc. Livestock. (0214; 0271-72; part of 0191, 0219, 0259, 0273, 0279 and 0291)
7. Food Grains	0111; 0112; part of 0191, 0219, 0259, and 0291
8. Feed Grains	0115; part of 0139, 0191, 0219, 0259, and 0291
9. Other Crops	Cotton; Hay and Pasture; Tobacco; Tree Nuts; Sugar Crops; Misc Crops. (0131-33; part of 0119, 0139, 0173, 1079, 0191, 0219, 0259, and 0291)
10. Nursery/Horticulture	Grass Seeds; Greenhouse & Nursery Products; Landscape & Hort. Services. (0182; 0189; 0780; part of 0139, 0191, 0219, 0259, and 0291)
11. Fruits and Vegetables	Fruits; Vegetables. (0134; 0161; 0171-72; 0174-75; part of 0119, 0139, 0179, 0191, 0219, 0259, and 0291)
12. Oil Bearing Crops	0116; part of 0119, 0139, 0173, 0219, 0259, and 0291
13. Forestry/Fishing/ Ag Services	Forest Products; Forestry Products; Commercial Fishing. (0710; 0720; 0750; 0760; 0254; 0810; 0830; 0850; 0910; 0920; 0970; part of 0279)
14. Processed Meats/Eggs	Meat Packing Plants; Sausages & Other Prepared Meat; Poultry Dressing Plant; Poultry & Egg Processing; Fresh or Frozen Packaged Fish. (2011; 2013; 2015; 2092)
15. Dairy Processing	Creamery Butter; Cheese, Natural and Processed; Condensed & Evaporated Milk; Ice Cream & Frozen Desserts; Fluid Milk. (2021-2024; 2026)
16. Processed Food and Kindred Products	Canned & Cured Sea Foods; Canned Specialties; (2032-2035; 2037-2038; 2047-2048; 2051-2052; 2061-2063; 2065-2068; 2087; 2091; 2095; 2097; 2098-2099; 2110-2140)
17. Grain Milling/Flour	Flour & Other Grain Mill Prod.; Cereal Preparations; Rice Milling; (2041; 2043-2046)
18. Beverage Processing	Malt Liquors; Malt; Wines; (2082-2086)
19. Fats/Oils	Cottonseed Oil Mills; Soybean Oil Mills; Vegetable Oil Mills, N.E.C.; ... (2074-2077; 2079)
20. Food Services	5800
21. Wood/Paper	2410; 2421; 2426; 2429; 2431; 2434-2436; 2439; 2441; 2448-2449; 2452; 2491; 2493; 2499; 2511-2512; 2517; 2519; 2521; 2530; 2541; 2610-2630; 2650; 2671-2672; 2674-2679

Table A-1. OHFOOD: Ohio Input-Output Model Sector Definitions (Continued)

Sector Name	SIC
<u>Non-Agricultural Sectors</u>	
22. Mining	1010-1030; 1041; 1044; 1060; 1080; 1094; 1099; 1200; 1310; 1320; 1410; 1420; 1440; 1450; 1474; 1475; 1479; 1480; 1490
23. Construction	1380; part of 15, 16, 17
24. Metal Industries	2514-2515; 2522; 2542-2599; 3312-3313; 3315-3317; 3320; 3331; 3334; 3339; 3340; 3261; 3353-3357; 3363-3366; 3369; 3398; 3399; 3411; 3412; 3421; 3423; 3425; 3429; 3431-3433; 3441-3444; 3446; 3448-3450; 3462-3466; 3469; 3471; 3479; 3482-3484; 3489; 3491-3494; 3498; 3495-3497; 3499; 3761; 3795
25. Apparel/Yarn/Leather	2210-2240; 2251-2254; 2257-2259; 2261-2262; 2269-2270; 2281-2284; 2295-2299; 2310-2380; 2391-2397; 2399; 3110; 3130; 3142-3144; 3149-3150; 3160; 3171-3172; 3190; 3965; 3991; 3996; 3999
26. Publishing	2410; 2421; 2426; 2429; 2431; 2434-2436; 2439; 2441; 2448; 2449; 2452; 2491; 2493; 2499; 2511; 2512; 2514; 2515; 2517; 2519; 2521; 2522; 2530; 2541; 2542; 2591; 2599; 2610-2630; 2650; 2710; 2720; 2731; 2732; 2671-2679; 2740-2770; 2782; 2789; 2791; 2796
27. Chemical/Petroleum	2673; 2821-2824; 2830; 2841-2844; 2850; 2861; 2891-2893; 2895; 2899; 2910; 2951; 2952; 2992; 2999; 3010-3030; 3052-3053; 3080
28. Stone/Clay/Glass	3210; 3221; 3229; 3230; 3240; 3251; 3253; 3255; 3259; 3261-3264; 3269; 3271-3275; 3280; 3291-3293; 3295-3297; 3299
29. Machinery and Equipment	3511; 3519; 3531-3534; 3536-3537; 3541-3549; 3552-3555; 3559; 3561-3569; 3581-3582; 3585; 3586; 3589; 3592; 3599; 3612-3613; 3621; 3625; 3629; 3631-3635; 3639; 3641; 3643-3648; 3825
30. Technology Industries	3571-3572; 3575; 3577-3579; 3596; 3593; 3594; 3651-3652; 3661; 3663; 3669; 3671-3679; 3691-3694; 3699; 3812; 3821-3827; 3829-3830; 3841-3845; 3850-3870; 3911; 3914-3915; 3930; 3942; 3944; 3949; 3951-3953; 3955; 3961
31. Motor Vehicle Equipment	2451; 3711; 3713-3716; 3721; 3724; 3728; 3731; 3732; 3740; 3750; 3764; 3769; 3792; 3799
32. Misc. Services	3993; 3995; 7000; 7210-7260; 7290; 7310-7320; 7331; 7334-7336; 7338; 7381-7383; 7389; 7340-7370; 7620-7640; 7690; 7510; 8710; 8730; 8740
33. Transportation/Communication	4010; 4040; 4100; 4200; 4400; 4500; 4720; 4730; 4783; 4785; 4810-4840; 4890; 7520; 7530; 7542; 7549; part of 4789
34. Electricity, Gas and Sanitary	4600; 4910; 4920; 4940; 4952-4953; 4959-4960; 4970; part of 493
35. All Wholesale/Retail Trade	5000-5570; 5900
35a. Food Wholesale/Retail Trade	5030; 5083; 5110; 5130; 5140; 5150; 5180; 5190; 5400; 5600
36. Financial/Legal	6000; 6100-6400; 6710; 6720; 6733; 6790; 8110; 8720; 8910; 8930; 8990
37. Real Estate/Development	6500
38. Recreation and Amusement	7800; 7910-7930; 7941; 7948; 7992-7993; 7996; 7997; 7999
39. Health Services	0740; 8010-8090; 8360
40. Education Services	8210-8240; 8290; 8230; 8350
41. Government and Nonprofit	4311; 6732; 8320; 8390; 8400; 8610-8660; 8690; 8922; part of 4100, 4190
42. Others	8800

Note: Food and non-food wholesale/retail trade are grouped together as Wholesale/Retail Trade in Tables 2-5. Food and non-food wholesale/retail trade are presented as separate categories in Table 1.

Appendix A-2

STANDARD INDUSTRIAL CLASSIFICATION CODES

A Brief Explanation

The Standard Industrial Classification, or SIC, code is a commonly accepted means of classifying industries and is a federal government classification scheme. SIC's were developed under the direction of the Office of Management and Budget by the Technical Committee on Industrial Classification. The SIC code classifies establishments to the four-digit industry level by their primary type of activity. An additional four digits in the code narrows the classification down to a type of product. For example, in Sector 16 of Table A-1, processed food and kindred products, an eight digit SIC code identifies the industry group, industry, product class, and product. This is illustrated as follows:

<u>SIC Code</u>	<u>Level</u>	<u>Description</u>
20	Major Group	Food & Kindred Products
203	Industry Group	Canned Frozen & Preserved Fruits, Vegetables, & Food Specialties
2032	Industry	Canned Food Specialties
203202	Product Class	Ethnic Foods, canned & jarred
203202 12	Product	Tamales, packed in cans, jars

This study aggregates industries based on their four digit SIC definitions. Further detail, as shown above, is not necessary since this study aggregates on an industry basis. A particular item's location in the aggregation scheme can be identified by searching by its first four digits. The Standard Industrial Classification Manual can be found in any major library or is available from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC.

Appendix B

Industry Interdependence - Dollar Flows

Input-output models provide information on: the transaction flows table and the technical coefficients for each sector. The transaction flows table (Table B-1) shows all the transactions between the various sectors in an economy. This table can be used to produce a table of technical coefficients (Table B-2) which indicate the amount of each input required to produce one unit of output. The derivations and analysis of these tables follow.

The transactions flow table (Table B-1) is the core of the input-output model. Information in this table is used to derive the other tables. The economy is divided into processing or production sectors, final demand sectors (household consumption and exports), and primary input sectors (labor and imports). The flow table is a matrix where each row shows the sales by the sector on the left side to each sector composing the columns of the table. Similarly, each column of the table shows the purchases by the sector of that column from each of the other sectors (comprising the rows of the table).

The Ohio transactions flow is in Table B-1. An example of the interpretation of selected transaction flows recorded in Table B-1 illustrates the meaning of the numbers in this table. To illustrate, the second column shows that dairy farms buy \$6,730 of inputs from other dairy farms, \$21.21 million worth from the hay/ sugar/nut crops sector (primarily hay), \$18.05 million from the feed grains sector, \$249.4 million of labor, and \$155.1 million of imports to produce \$512.3 million in output. Imports are inputs purchased outside the region.

Interpretation of selected numbers from the second row of Table B-1 shows that dairy farms' product sales are distributed as follows: \$6,730 sold to other dairy farms, \$83,590 to the cattle feeding sector, \$1.1 million to the feed grains sector, \$443.95 million to the dairy processing sector, \$9.0 million to food service, and \$182.1 million to exports (outside Ohio) in the final demand sectors. In general, the columns provide the purchases from each sector of the economy while the rows provide the amount of output sold from the individual sector to each of the other sectors of the economy.

Finally, transactions within the transaction flows table are constrained by linear fixed coefficient production functions, so that total output is equal to total input for each processing sector. In most cases, exports or imports are treated as residual amounts so that this equality constraint is satisfied. The methods of input-output analysis require the exact sum of outputs to equal inputs for all 43 sectors.

Industry Interdependence - Purchases Per Dollar of Output

The technical coefficients table is based on a fixed coefficient production function for each of the processing or production sectors. The table has estimates of the amount of input from each sector required to produce one unit of output. Technical coefficients are ratios of input from each sector to total inputs from all sectors, derived from the flow table. For example, in column two of Table B-2, the coefficient of labor input for dairy farms, 0.48679, is the ratio of \$249.38 million in labor input expenditures from column two of Table B-1 to the \$512.28 million total input expenditures by Ohio dairy farms.

The coefficients of Table B-2 are the value of input required from each sector to produce \$1.00 of output in each of the other sectors. For example, to produce \$1.00 in output from the Ohio cattle feeding sector requires about \$0.03 of expenditures in the cattle feeding sector, another \$0.03 in the Ohio feed grains sector and \$0.47 of labor. In the context of the input-output model, these technical coefficients are called the "direct" requirements for the production of each \$1 of output. This direct purchase of inputs from other sectors is an increase in demand for the output of the other sectors. This increase in demand, in turn, generates the "indirect" effects over several "rounds" of economic activity. That is, the direct effect generates first-round indirect effects, which generate second-round indirect effects, and so on.

Table B-1. Transactions Flows for Ohio, 1994

	Farm Inputs & Machinery	Dairy Farms	Poultry & Egg	Cattle Feeding	Swine	Sheep & Goats	Food Grains	Feed Grains	Nursery & Horticulture	Fruits & Vegetables	Oil Bearing Crops
Food & Related Agricultural Sectors:											
Farm Inputs & Machinery	1,164.18100	17.84690	73.92670	10.20642	12.59503	2.79260	8.26159	35.47811	40.78891	1.69359	32.59755
Dairy Farms	0.03895	0.00673	0.02167	0.08359	0.10315	0.00168	0.01942	1.13803	0.01519	0.00526	0.30879
Poultry & Egg	0.00013	0.00420	0.01249	0.00111	0.00137	0.00015	0.24978	1.19369	0.00949	0.00875	1.44576
Cattle Feeding	0.00156	0.00476	0.01415	6.82830	0.00162	0.00017	0.29819	0.88669	0.01075	0.00364	0.58171
Swine	0.00165	0.00505	0.01500	0.00139	37.43998	0.00018	0.17945	0.53419	0.01140	0.00370	0.35577
Sheep & Goats	0.00695	0.00922	0.02739	0.02407	0.02971	0.90134	0.10129	0.52931	0.18006	0.01539	0.38072
Food Grains	0.57804	0.04709	0.20374	0.08168	0.10079	0.01524	1.88775	0.01096	0.01732	0.00426	0.02201
Feed Grains	14.72424	18.04543	1.87756	7.15160	8.82529	0.83777	0.01139	14.72511	0.06756	0.01505	0.07872
Nursery & Horticulture	0.17044	0.00327	0.00971	0.00086	0.00106	0.00012	0.00150	3.68793	46.25739	0.15915	0.01140
Fruits & Vegetables	0.00596	0.00759	0.02203	0.00384	0.00473	0.00030	0.00339	0.01207	0.01671	0.02018	0.02581
Oil Bearing Crops	0.00033	0.04905	0.14569	0.02827	0.03488	0.00198	0.02244	0.07998	0.11074	0.03389	41.61396
Hay/Sugar/Tobacco/Nut Crops	17.23496	21.21253	2.16089	8.40845	10.37627	0.98488	0.00467	0.20971	0.02469	0.00675	0.03448
Forestry, Fishing, Ag Svcs	0.00571	0.93128	2.76624	0.24586	0.30340	0.03292	0.42612	1.51853	2.10229	0.64353	3.24800
Processed Meat & Eggs	3.45063	0.02598	0.08978	0.05838	0.07205	0.01041	0.00039	0.00174	0.00193	0.00011	0.00153
Dairy Processing	3.15101	0.01723	0.13937	0.01035	0.01277	0.01141	0.00241	0.01003	0.01184	0.00049	0.00915
Processed Food & Kindred Products	8.54601	0.21811	0.17825	0.09587	0.11830	0.02119	0.00481	0.01992	0.02367	0.00104	0.01816
Grain Milling & Flour	5.73821	0.07288	0.26708	0.03450	0.04257	0.01305	0.02477	0.10650	0.12233	0.00508	0.09787
Fats & Oils	131.77490	1.64382	5.75069	0.51379	0.63403	0.62306	0.00577	0.02473	0.02848	0.00118	0.02271
Beverage Processing	0.19884	0.00192	0.00356	0.00061	0.00076	0.00035	0.00020	0.00073	0.00106	0.00004	0.00065
Wood/Paper/Furniture Manufacturing	23.19614	0.18779	0.79657	0.04086	0.05043	0.00630	0.06905	0.24492	0.42092	0.44809	0.47551
Food Services	4.34345	0.00547	0.00584	0.00408	0.00504	0.00058	0.00500	0.02019	0.76272	0.00145	0.02308
General Manufacturing & Service Sectors:											
Mining	73.07456	0.09731	0.29920	0.04508	0.05563	0.01272	0.12115	0.48353	0.35391	0.01612	0.28278
Construction	68.85113	1.07827	0.52042	0.80716	0.99606	0.06584	1.54618	6.25503	12.68896	0.22919	7.29072
Apparel, Yarn & Leather	1.05135	0.05000	0.00802	0.00235	0.00291	0.06189	0.00380	0.09430	0.03850	0.03113	0.01216
Motor Vehicle Equipment	4.33032	0.04413	0.16631	0.02923	0.03607	0.00818	0.03468	0.15569	0.19534	0.00704	0.15738
Metal Industries	31.78489	0.16340	0.60910	0.09069	0.11192	0.02420	0.08608	0.41351	0.41873	0.02267	0.33869
Chemical & Petroleum	353.07440	3.15749	12.27776	1.88386	2.32474	0.47478	2.78534	9.08206	13.31099	0.55838	7.78663
Publishing	22.51213	0.31207	0.15724	0.16483	0.20341	0.02070	0.22244	0.85123	2.93101	0.06003	0.90211
Stone & Clay & Glass	2.45186	0.01168	0.04551	0.00654	0.00808	0.00186	0.00859	0.03357	0.03569	0.00245	0.02618
Machinery & Equipment	97.99283	0.31367	0.96346	0.21757	0.26848	0.05294	0.28423	1.23183	1.34380	0.06022	1.30878
Technology Industries	10.01234	0.08739	0.14584	0.09219	0.11376	0.02415	0.21749	0.98261	0.72943	0.03689	1.06979
Misc. Services	153.89570	0.23816	0.20391	0.31551	0.38936	0.08257	0.84111	3.84832	9.66463	0.13666	4.23429
Transportation & Communication	206.58690	4.33635	3.39445	2.19490	2.70857	0.34138	2.36454	8.26347	28.13766	0.47877	6.50821
Electrical, Gas & Sanitary	211.32060	1.30455	1.54529	0.38648	0.47693	0.13010	0.98424	3.54013	7.36012	0.25295	4.96839
Wholesale & Retail Trade	361.24110	5.97037	2.85510	3.12611	3.85772	0.38418	4.23606	16.19905	54.58478	1.10612	17.10870
Financial & Legal	57.45541	1.46764	0.55904	1.13193	1.39683	0.09642	2.07268	6.45227	8.87499	0.32277	13.77859
Real Estate & Development	25.58367	2.51921	0.75777	3.40088	4.19678	0.20779	10.29107	31.41615	15.05369	1.01425	50.34575
Recreation & Amusement	0.59486	0.00020	0.00010	0.00011	0.00013	0.00001	0.00014	0.00055	0.03654	0.00004	0.00058
Health Services	0.06431	0.46187	1.23925	0.69684	0.85992	0.07148	0.00034	0.00159	0.00394	0.00005	0.00175
Education Services	0.34810	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Government & Non-Profit	53.73099	0.35762	0.35793	0.15499	0.19126	0.03501	0.35314	1.23355	3.30994	0.07389	1.71577
Others	0.70935	0.00000	0.00000	0.00000	0.00000	0.00000	0.00319	0.00000	0.00000	0.00000	0.00000
Primary Input:											
Labor	3,305.23158	249.37710	146.96226	118.64140	83.16427	29.92397	106.50439	579.19133	731.87870	132.68533	691.05946
Imports:											
Total Imports	1,567.37600	155.13470	64.57729	76.35204	83.43079	9.89044	29.03061	135.59730	158.41980	10.23612	90.01649
Institutional Purchases:											
Purchases from Gov't, Inventory, etc.	149.55814	25.45420	7.41161	11.31118	14.61854	1.74350	4.14763	24.02857	21.74228	3.71623	25.59233
Total Inputs:	8,136.18164	512.28369	333.49124	254.87576	270.16537	49.90980	177.71852	889.78870	1,162.09888	154.11795	1,005.85883

Table B-1. Transactions Flows for Ohio, 1994 (continued)

	Hay/Sugar/ Tobacco/Nut Crops	Forestry, Fishing, Ag Svc's	Processed Meat & Eggs	Dairy Processing	Processed Food & Kindred Products	Grain Milling & Flour	Fats & Oils	Beverage Processing	Wood/Paper/ Furniture Manufacturing	Food Services
Food & Related Agricultural Sectors:										
Farm Inputs & Machinery	3.88048	19.69439	1.74665	5.91288	37.47761	0.57443	1.24253	5.32967	128.95360	5.25864
Dairy Farms	0.06101	0.07838	0.01932	443.94730	0.78115	0.00000	0.00134	0.00000	0.34175	8.97029
Poultry & Egg	0.07675	3.77605	200.88470	0.00003	7.98340	0.00014	0.00100	0.00000	0.21359	18.08115
Cattle Feeding	0.04865	0.13709	238.90730	1.14234	0.04082	0.00199	0.00341	0.00000	0.24203	0.39887
Swine	0.03136	0.10784	143.03260	0.68361	0.04327	0.00210	0.00361	0.00000	0.25655	0.42279
Sheep & Goats	0.08214	0.18415	6.59792	0.01691	1.69256	0.00007	0.00191	0.00000	0.46842	0.07595
Food Grains	0.00632	0.07136	0.02114	0.00391	15.91288	20.86470	0.00372	0.04960	0.34161	0.06660
Feed Grains	0.02238	0.25137	0.08108	0.02104	6.48398	14.85395	0.01781	3.18798	1.26026	0.27573
Nursery & Horticulture	0.18066	1.00818	0.01724	0.01021	1.67486	0.00118	0.00328	0.02416	0.37655	0.17718
Fruits & Vegetables	0.00756	0.08659	0.02513	0.06587	16.46089	0.00368	0.00147	2.48799	0.37602	7.67508
Oil Bearing Crops	0.05013	0.57136	0.14092	0.00036	74.05574	25.76458	394.07800	0.00002	2.49214	0.36128
Hay/Sugar/Tobacco/Nut Crops	0.35321	0.11351	0.03072	2.00783	65.35558	17.62693	7.65126	5.24677	0.51852	0.08853
Forestry, Fishing, Ag Svc's	0.95184	10.83855	2.67681	0.01508	1.80335	0.00039	0.18540	0.00164	47.42905	6.28314
Processed Meat & Eggs	0.00024	0.36669	120.97210	0.59743	31.88195	1.95510	4.85603	0.27640	0.06728	337.18970
Dairy Processing	0.00111	0.01179	0.18849	532.88040	45.71900	0.09878	0.99979	1.86921	0.08471	460.29350
Processed Food & Kindred Products	0.00221	0.37348	4.67856	66.67062	409.23700	3.77473	2.77742	118.26710	0.39031	640.79080
Grain Milling & Flour	0.01164	0.06160	0.01516	1.49024	14.04577	2.04307	0.61776	5.71889	1.47271	6.23411
Fats & Oils	0.00271	0.01451	0.57076	26.11077	107.77210	7.27857	170.42350	0.35779	1.88984	9.36780
Beverage Processing	0.00008	0.00204	0.01882	0.25643	1.57139	0.01367	0.00183	3.22795	0.03775	20.46278
Wood/Paper/Furniture Manufacturing	0.15989	1.82993	8.15161	49.01583	85.78314	2.29754	1.71783	9.77307	674.57760	36.91072
Food Services	0.00252	0.11428	0.39277	0.91871	2.84924	0.10569	0.09399	0.94901	6.53782	14.56990
General Manufacturing & Service Sectors:										
Mining	0.04509	0.09629	0.31463	0.81306	1.99806	0.26677	0.29230	0.57913	10.63249	4.17224
Construction	0.70264	4.03095	6.26052	14.43777	30.03570	1.19279	1.87231	21.46182	80.24887	205.98900
Apparel, Yarn & Leather	0.05918	0.73084	0.03096	0.11400	0.82681	0.14343	0.08386	0.09843	35.90449	2.07982
Motor Vehicle Equipment	0.01901	0.14033	0.06627	0.16370	0.82057	0.01143	0.02511	0.21383	1.54479	0.54706
Metal Industries	0.04414	0.66736	0.65088	3.13556	13.48158	0.09728	0.24025	17.82563	23.84110	1.78509
Chemical & Petroleum	1.10561	7.68766	14.19088	71.58429	178.03100	3.14547	20.03085	92.49337	387.18230	106.03900
Publishing	0.11285	0.72728	8.66008	18.33700	40.62474	1.79385	2.81051	12.13394	29.96331	45.15103
Stone & Clay & Glass	0.00382	0.02152	0.03516	0.22955	0.87794	0.01215	0.03180	0.94765	2.36754	0.43359
Machinery & Equipment	0.15759	1.88052	0.51966	3.28566	6.53280	0.20276	0.41185	2.71128	32.47502	15.72515
Technology Industries	0.13146	0.25567	0.49396	1.07819	2.75208	0.12599	0.21344	0.87754	6.14299	7.43410
Misc. Services	0.51610	3.36847	4.36125	16.11465	54.80617	1.45527	2.38261	15.05341	77.99448	366.40120
Transportation & Communication	0.87289	4.48108	29.97728	34.21357	175.11860	17.48909	19.99678	40.85348	259.52230	184.34490
Electrical, Gas & Sanitary	0.46672	0.73729	12.85221	31.57901	66.45471	6.36889	10.47696	13.50235	209.72570	198.97400
Wholesale & Retail Trade	2.13611	9.27109	110.47670	227.03560	481.90630	31.89931	49.27910	154.70010	485.97290	771.76730
Financial & Legal	0.87255	6.29036	4.47544	15.05337	47.72357	1.59116	3.72306	18.83738	75.77058	240.35800
Real Estate & Development	3.82641	0.43894	3.78637	10.32854	23.58507	0.80142	0.72467	4.16585	30.92849	544.53390
Recreation & Amusement	0.00007	1.22900	0.01246	0.03714	0.15290	0.00256	0.00167	0.05751	0.40879	75.04099
Health Services	0.00021	0.00140	0.00150	0.00612	0.02176	0.00052	0.00085	0.00590	0.03160	0.15340
Education Services	0.00000	1.73920	0.00000	0.00293	0.22535	0.12959	0.00000	0.01297	1.15480	4.39551
Government & Non-Profit	0.15648	1.03036	4.32355	12.07038	30.67922	1.97044	2.75288	6.83038	65.75586	80.52967
Others	0.00000	0.00295	0.29482	0.15707	3.22418	0.02036	0.03443	0.04912	0.90233	0.07915
Primary Input:										
Labor	244.83453	105.76271	244.33089	1,020.16986	3,077.01812	114.00095	243.80746	836.22106	4,130.31013	5,195.94659
Imports:										
Total Imports	16.89734	151.51920	833.61330	1,130.16300	1,787.54500	313.39400	173.00260	705.28700	3,106.11700	2,115.10700
Institutional Purchases:										
Purchases from Gov't, Inventory, etc.	7.00583	4.93620	46.19518	36.17564	215.87983	32.92726	67.33024	30.84681	152.76330	166.24431
Total Inputs:	285.89954	346.73981	2,055.09375	3,778.05347	7,168.94775	626.30402	1,184.20850	2,132.53320	10,075.98926	11,907.18652

Table B-1. Transactions Flows for Ohio, 1994 (continued)

	Mining	Construction	Apparel, Yarn & Leather	Motor Vehicle Equipment	Metal Industries	Chemical & Petroleum	Publishing	Stone, Clay & Glass	Machinery & Equipment	Technology Industries	Misc. Services
Food & Related Agricultural Sectors:											
Farm Inputs & Machinery	13.99936	26.11208	20.51412	49.63717	321.60510	2,089.11900	29.77759	120.67490	97.92212	49.25172	89.33129
Dairy Farms	0.00001	0.00022	0.00386	0.00086	0.00026	0.01425	0.00018	0.00001	0.00021	0.00029	0.00087
Poultry & Egg	0.00000	0.00009	0.00281	0.00035	0.00011	7.52754	0.00007	0.00000	0.00030	0.00018	0.00035
Cattle Feeding	0.00001	0.00015	0.83841	0.00066	0.00024	0.01023	0.00012	0.00001	0.00307	0.00108	0.00062
Swine	0.00001	0.00016	0.50563	0.00070	0.00026	0.01085	0.00013	0.00001	0.00326	0.00115	0.00065
Sheep & Goats	0.00000	0.00007	0.01772	0.00027	0.00008	0.29063	0.00005	0.00000	0.03436	0.00012	0.26417
Food Grains	0.00428	0.07187	0.00607	0.12872	0.12481	0.10389	0.02101	0.04052	0.05224	0.01577	0.04809
Feed Grains	0.02307	0.38770	0.02616	0.69394	0.67345	0.54097	0.11322	0.21869	0.28174	0.08481	0.25864
Nursery & Horticulture	0.01780	51.88549	0.01047	0.29570	0.18093	1.46389	0.03268	0.05912	0.81453	0.07861	0.70420
Fruits & Vegetables	0.00001	0.00018	0.00425	0.00070	0.00025	0.01476	0.00014	0.00020	0.00019	0.00024	0.00071
Oil Bearing Crops	0.00005	0.00110	0.02817	0.00439	0.00133	0.08480	0.00090	0.00006	0.00120	0.00150	0.00445
Hay/Sugar/Tobacco/Nut Crops	0.00330	0.05555	10.34685	0.09976	0.09641	3.43166	0.01630	0.03126	0.29594	0.01232	0.03757
Forestry, Fishing, Ag Svcs	0.00028	0.08816	0.53527	0.03025	0.01860	1.62332	0.05738	0.00739	0.02047	0.00607	0.00399
Processed Meat & Eggs	0.00184	0.01401	5.47987	0.23589	0.10115	3.40052	0.00433	0.01323	2.72248	0.83195	0.02373
Dairy Processing	0.00691	0.09402	0.03083	0.20327	0.18101	1.68644	0.03319	0.04925	0.09663	0.05149	0.04647
Processed Food & Kindred Products	0.01756	0.31601	0.10739	0.53131	0.45628	5.54367	0.13300	0.29265	0.26626	0.13031	0.10634
Grain Milling & Flour	0.04064	0.04184	0.05522	0.06738	0.95956	6.71042	0.07999	0.42879	0.25571	0.13380	0.25934
Fats & Oils	0.01020	0.03256	0.25850	0.06556	0.23956	96.83237	0.02506	0.32722	0.11271	0.27394	0.06575
Beverage Processing	0.00361	0.03571	0.00985	0.08990	0.10219	0.21157	0.02578	0.03010	0.08270	0.02448	0.03262
Wood/Paper/Furniture Manufacturing	1.69483	513.19760	5.39357	184.59350	111.97790	180.76520	333.59940	43.16423	77.54262	40.35399	25.12347
Food Services	0.51689	11.66404	1.27701	18.63512	24.25008	15.43229	11.35508	3.85333	24.54507	8.67416	35.79743
General Manufacturing & Service Sectors:											
Mining	29.19241	48.71091	0.89483	9.85928	218.72170	1,140.68400	1.45790	60.56568	7.26768	3.31552	2.36541
Construction	265.21690	19.01260	9.08478	381.03800	729.08920	228.30040	36.50551	69.23505	320.02210	95.76714	142.38800
Apparel, Yarn & Leather	0.29563	13.89350	169.28140	186.88800	34.78154	47.23693	3.22657	3.76220	12.40765	12.46262	19.62348
Motor Vehicle Equipment	0.57705	10.12650	0.57811	338.54140	14.49712	9.19058	1.45809	0.83348	28.47169	19.84197	8.20070
Metal Industries	2.80698	150.40260	2.09290	358.55200	672.96070	60.59988	7.76506	6.66456	271.82970	49.52496	11.96516
Chemical & Petroleum	30.76605	815.01370	176.45010	1,778.30900	902.65240	4,040.32400	238.32700	130.00110	642.98230	346.40670	220.08270
Publishing	2.84014	100.40020	5.11844	143.60320	140.09590	94.01459	216.74840	14.05024	95.70974	31.43577	86.29153
Stone & Clay & Glass	0.66430	14.92480	0.56773	7.95571	8.55896	28.74371	1.08818	6.72847	4.42663	2.75109	1.09052
Machinery & Equipment	34.24828	495.39040	8.31657	1,264.82000	513.30640	95.48666	18.47239	21.15000	1,595.58000	115.47530	113.16150
Technology Industries	0.79351	77.72282	1.65004	802.25290	47.09230	33.05114	31.87044	4.87256	263.51110	948.16040	248.08280
Misc. Services	21.56437	1,105.38000	20.02946	283.18570	454.54200	477.46280	117.81070	46.29840	287.31040	106.28300	1,359.98600
Transportation & Communication	33.86680	574.58320	21.38666	1,016.55100	1,000.23400	740.91960	164.58200	310.84280	429.21770	128.74980	372.63850
Electrical, Gas & Sanitary	48.61759	37.70757	21.21621	244.45720	903.89200	682.33160	40.68357	168.56290	235.96640	70.16663	82.64034
Wholesale & Retail Trade	47.60862	1,881.02100	82.56931	2,674.79800	2,481.03900	1,448.34900	379.14070	247.88570	1,728.22400	531.86770	785.22360
Financial & Legal	17.89981	304.59910	12.07000	302.30700	394.80080	421.07470	100.89060	48.99781	272.45910	114.97130	508.28640
Real Estate & Development	137.17190	55.50669	7.70109	107.75760	148.64290	141.61650	85.05015	23.79042	144.09270	64.27144	423.27170
Recreation & Amusement	0.13208	2.74604	0.04156	10.83255	3.34209	2.17157	2.20954	0.16000	2.01912	3.67570	10.90866
Health Services	0.00902	0.46420	0.00825	0.11180	0.18536	0.19844	0.04885	0.01890	0.11663	0.04348	0.57607
Education Services	0.46729	0.00000	0.79029	16.11111	13.94812	25.82478	1.45419	0.31175	5.03242	6.38453	7.16855
Government & Non-Profit	13.38521	28.17885	9.49637	137.21420	263.76230	188.91170	84.15396	49.23618	107.34180	39.00110	245.08660
Others	0.13798	0.01284	0.09328	3.60397	15.60061	4.32309	0.29660	0.45870	1.54319	1.23745	1.00132
Primary Input:											
Labor	1,251.01025	17,305.28958	815.83023	11,699.38331	15,764.06510	14,496.13822	4,640.31981	3,016.32711	12,220.47001	4,773.10741	11,922.68647
Imports:											
Total Imports	329.98100	7,099.04200	656.88250	19,275.95000	14,773.11000	8,693.57200	1,783.68800	1,441.25800	7,330.00900	2,353.41800	2,151.75500
Institutional Purchases:											
Purchases from Gov't, Inventory, etc.	40.42204	512.57935	35.69326	471.63683	831.49274	642.46835	144.84336	101.85759	409.06795	185.97665	380.38284
Total Inputs:											
	2,326.01587	31,256.70703	2,103.29541	41,771.03516	40,791.38281	36,157.81250	8,477.36719	5,943.06055	26,620.13281	10,104.22363	19,256.97461

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Table B-1. Transactions Flows for Ohio, 1994 (continued)

	Transportation & Communication	Electrical, Gas & Sanitary	Wholesale & Retail Trade	Financial & Legal	Real Estate & Development	Recreation & Amusement	Health Services	Education Services	Government & Non-Profit	Others
Food & Related Agricultural Sectors:										
Farm Inputs & Machinery	16.70790	40.39693	24.62986	0.48375	36.72935	0.57153	350.08240	11.63116	39.01984	0.00000
Dairy Farms	0.03186	0.00006	0.02196	0.00210	0.00114	0.07679	0.36240	0.21028	0.05420	0.00000
Poultry & Egg	0.05281	0.00002	0.08626	0.00084	0.00046	0.04503	2.99990	0.02761	0.54080	0.00000
Cattle Feeding	0.01782	0.00007	0.01187	0.00149	0.00081	0.02786	0.03356	0.00540	0.00657	0.00000
Swine	0.01889	0.00007	0.01259	0.00157	0.00086	0.02953	0.03557	0.00572	0.00696	0.00000
Sheep & Goats	0.00742	0.00002	0.01111	0.00065	0.00035	0.14740	0.01543	0.13807	0.12623	0.00000
Food Grains	0.53862	0.02303	0.19144	0.09943	0.02965	0.03045	0.03589	0.01016	0.06567	0.00000
Feed Grains	2.88227	0.12427	1.01381	0.53450	0.15884	0.12522	0.19118	0.05288	0.35241	0.00000
Nursery & Horticulture	0.41340	0.35740	5.63811	0.44525	104.46030	3.59843	2.57977	4.48068	2.09667	0.00000
Fruits & Vegetables	0.03721	0.00009	0.03680	0.00171	0.00093	0.06779	0.90796	0.06535	0.13511	0.00000
Oil Bearing Crops	0.12125	0.00028	0.08857	0.01071	0.00582	0.18857	0.01135	0.00954	0.00978	0.00000
Hay/Sugar/Tobacco/Nut Crops	0.42855	0.01780	0.15698	0.07785	0.65861	0.04391	0.02887	0.13330	0.05170	0.00000
Forestry, Fishing, Ag Svcs	0.01089	0.00150	0.88331	0.00280	0.00247	0.02697	0.12886	0.00367	0.05204	0.00000
Processed Meat & Eggs	0.96990	0.02891	1.36968	0.00351	0.00219	1.65726	30.10058	3.82681	4.97082	0.00000
Dairy Processing	0.54352	0.02313	0.47944	0.00223	0.01699	2.16625	19.58134	10.85122	2.88363	0.00000
Processed Food & Kindred Products	4.48580	0.09755	3.18559	0.00816	0.03878	9.62380	74.34086	21.24688	13.07990	0.00000
Grain Milling & Flour	0.05072	0.11679	0.07189	0.00015	0.10778	0.02989	1.48760	0.24791	0.19703	0.00000
Fats & Oils	0.10298	0.03004	0.10817	0.00056	0.02670	0.17821	3.38719	0.08201	0.59202	0.00000
Beverage Processing	0.39471	0.00948	0.98893	0.01093	0.02117	0.28495	0.74474	0.10169	0.16434	0.00000
Wood/Paper/Furniture Manufacturing	12.34547	9.08889	197.67410	17.24785	14.64159	6.33101	41.51934	16.63917	14.95912	0.00000
Food Services	77.14610	3.47881	190.63750	84.00596	78.79204	5.90850	33.37294	6.58604	12.56904	0.00000
General Manufacturing & Service Sectors:										
Mining	5.92004	312.98550	13.41250	1.81195	0.75333	0.56389	6.89393	0.86679	29.00685	0.00000
Construction	1,124.75500	874.97260	916.13200	211.08460	2,201.38600	57.23109	288.40130	363.11380	1,415.80900	0.00000
Apparel, Yarn & Leather	8.02190	1.21293	19.64169	3.37985	0.51790	4.06621	15.49609	1.17193	5.95709	0.00000
Motor Vehicle Equipment	23.71718	4.59740	8.99108	4.40917	0.97867	0.65873	7.06737	1.28601	6.86491	0.00000
Metal Industries	30.61555	4.71118	19.78700	4.15462	3.01050	0.74814	11.93556	2.72740	5.49347	0.00000
Chemical & Petroleum	549.81630	113.37690	463.71690	19.95456	68.87231	21.11480	1,070.36100	48.94756	178.66220	0.00000
Publishing	107.40140	12.95772	294.77860	180.12350	62.03576	11.58692	99.96603	42.36890	150.65270	0.00000
Stone & Clay & Glass	1.28210	6.04570	1.93660	0.28087	0.19306	0.07056	2.44765	0.28717	0.90069	0.00000
Machinery & Equipment	144.91130	36.36642	84.73939	18.00540	16.48302	3.70499	28.09549	10.76918	53.69499	0.00000
Technology Industries	201.61450	27.26436	204.99020	87.09101	16.02845	11.51720	244.09720	39.58198	49.58898	0.00000
Misc. Services	622.10580	80.94633	2,560.62500	1,014.57800	753.51400	139.83740	700.40990	153.89770	314.49670	0.00000
Transportation & Communication	3,948.24000	190.93250	1,431.18800	770.17910	229.76630	64.30318	281.20580	71.63735	494.05890	0.00000
Electrical, Gas & Sanitary	241.42310	709.59190	614.64900	90.41424	24.88124	26.16297	184.93790	33.17898	282.93760	0.00000
Wholesale & Retail Trade	1,595.50300	203.69100	3,411.25300	1,753.16000	648.66380	149.21930	968.00660	172.88000	336.23760	0.00000
Financial & Legal	549.84330	181.59430	1,534.21600	4,700.72800	1,395.63400	92.14353	245.05480	81.06544	158.64550	0.00000
Real Estate & Development	654.53240	32.48840	1,774.84900	727.66140	3,662.47100	144.19910	1,277.79100	356.92980	294.75380	0.00000
Recreation & Amusement	295.36760	0.69697	107.26880	26.25221	14.25665	457.80640	12.03490	23.21351	17.53870	0.00000
Health Services	0.25953	0.03378	1.07842	0.42599	0.31851	0.05901	411.07610	0.06491	0.13269	0.00000
Education Services	4.02807	4.32536	6.45041	2.59702	0.14821	0.00000	0.78081	0.19679	3.15516	0.00000
Government & Non-Profit	198.41550	172.09430	486.46170	536.51340	111.33570	47.44696	256.17110	60.77870	187.86980	0.00000
Others	10.89322	0.02271	3.60578	4.55422	0.07794	0.11895	0.05872	0.05024	1.31932	0.00000
Primary Input:										
Labor	12,059.06200	5,004.69036	31,407.64121	16,852.43390	28,096.28062	2,213.33719	20,215.65424	2,021.63875	27,787.97514	245.69867
Imports:										
Total Imports	4,777.51600	2,071.93900	5,959.95000	4,946.50200	3,353.37600	526.70150	2,453.21400	616.47340	1,580.38700	0.00000
Institutional Purchases:										
Purchases from Gov't, Inventory, etc.	607.60924	164.66040	10,934.13977	587.22199	786.05067	79.99752	627.82056	62.27306	803.47031	6.70122
Total Inputs:	27,880.16211	10,265.99316	62,688.80000	32,646.45898	41,682.73047	4,083.75488	29,970.92578	4,241.75488	34,251.54297	252.39989

Table B-1. Transactions Flows for Ohio, 1994 (continued)

	Consumption	Investment	Government	Domestic Exports	Foreign Exports	Total Outputs
Food & Related Agricultural Sectors:						
Farm Inputs & Machinery	219.43	1,224.92	189.17	1,809.25	1,222.15	8,136.18
Dairy Farms	22.30	1.03	1.85	182.13	3.39	512.28
Poultry & Egg	77.45	1.37	4.29	65.58	4.15	333.49
Cattle Feeding	1.65	0.00	0.06	77.48	1.51	254.88
Swine	1.75	0.00	0.06	167.32	0.70	270.17
Sheep & Goats	26.89	1.43	0.24	12.08	6.77	49.91
Food Grains	1.22	0.08	0.12	111.04	52.34	177.72
Feed Grains	7.13	0.41	1.10	754.11	161.08	889.79
Nursery & Horticulture	103.30	13.04	58.20	891.85	20.74	1,162.10
Fruits & Vegetables	62.23	1.06	1.36	54.18	16.94	154.12
Oil Bearing Crops	3.19	0.01	0.02	298.49	253.95	1,005.86
Hay/Sugar/Tobacco/Nut Crops	5.37	0.70	0.48	104.03	16.55	285.90
Forestry, Fishing, Ag Svcs	20.36	0.28	0.31	373.92	17.48	346.74
Processed Meat & Eggs	1,288.77	1.84	55.01	842.64	142.81	2,055.09
Dairy Processing	1,122.08	46.80	95.03	2,450.12	109.64	3,778.05
Processed Food & Kindred Products	4,414.87	58.85	118.73	2,764.33	209.49	7,168.95
Grain Milling & Flour	28.78	3.78	1.21	795.26	61.09	626.30
Fats & Oils	55.00	1.90	4.36	628.46	99.92	1,184.21
Beverage Processing	257.85	2.27	1.62	2,508.06	38.85	2,132.53
Wood/Paper/Furniture Manufacturing	384.93	157.64	65.92	9,275.27	554.34	10,075.99
Food Services	8,785.79	0.30	169.09	4,361.58	25.32	11,907.19
General Manufacturing & Service Sectors:						
Mining	89.24	40.01	39.23	358.04	140.18	2,326.02
Construction	0.00	12,565.86	7,632.34	7,942.44	0.00	31,256.71
Apparel, Yarn & Leather	1,238.34	26.14	36.85	669.83	184.26	2,103.30
Motor Vehicle Equipment	265.89	685.63	99.21	52,499.29	6,997.35	41,771.04
Metal Industries	147.97	328.55	43.49	50,325.02	2,945.27	40,791.38
Chemical & Petroleum	6,254.36	931.71	1,049.27	20,317.23	3,154.47	36,157.81
Publishing	1,616.18	216.13	264.54	5,828.52	254.86	8,477.37
Stone & Clay & Glass	16.09	10.83	11.74	6,744.12	502.99	5,943.06
Machinery & Equipment	554.59	5,186.50	255.94	18,265.73	4,847.26	26,620.13
Technology Industries	1,858.28	2,172.44	417.48	2,499.98	2,135.61	10,104.22
Misc. Services	2,764.44	547.37	1,876.69	4,662.93	220.73	19,256.97
Transportation & Communication	7,594.16	639.29	941.25	8,620.96	1,554.73	27,880.16
Electrical, Gas & Sanitary	3,809.30	4.80	897.83	2,073.81	24.38	10,265.99
Wholesale & Retail Trade	23,833.91	3,616.56	3,135.47	11,918.22	1,823.13	62,688.80
Financial & Legal	10,910.10	4.59	805.88	12,888.00	1,038.80	32,646.46
Real Estate & Development	20,230.12	734.85	424.32	11,785.92	828.44	41,682.73
Recreation & Amusement	2,956.15	0.12	9.70	526.90	47.33	4,083.75
Health Services	25,934.72	0.22	76.02	5,993.01	1.32	29,970.93
Education Services	4,084.17	0.00	48.01	616.47	2.39	4,241.75
Government & Non-Profit	6,235.57	30.36	19,620.03	6,161.39	294.11	34,251.54
Others	71.31	7.89	20.79	0.00	97.93	252.40

Table B-2. Technical Coefficients for Ohio, 1994

	Farm Inputs & Machinery	Dairy Farms	Poultry & Egg	Cattle Feeding	Swine	Sheep & Goats	Food Grains	Feed Grains	Nursery & Horticulture	Fruits & Vegetables	Oil Bearing Crops
Food & Related Agricultural Sectors:											
Farm Inputs & Machinery	0.14309	0.03484	0.22168	0.04004	0.04662	0.05595	0.04649	0.03987	0.03510	0.01099	0.03241
Dairy Farms	0.00000	0.00001	0.00006	0.00033	0.00038	0.00003	0.00011	0.00128	0.00001	0.00003	0.00031
Poultry & Egg	0.00000	0.00001	0.00004	0.00000	0.00001	0.00000	0.00141	0.00134	0.00001	0.00006	0.00144
Cattle Feeding	0.00000	0.00001	0.00004	0.02679	0.00001	0.00000	0.00168	0.00100	0.00001	0.00002	0.00058
Swine	0.00000	0.00001	0.00004	0.00001	0.13858	0.00000	0.00101	0.00060	0.00001	0.00002	0.00035
Sheep & Goats	0.00000	0.00002	0.00008	0.00009	0.00011	0.01806	0.00057	0.00059	0.00015	0.00010	0.00038
Food Grains	0.00007	0.00009	0.00061	0.00032	0.00037	0.00031	0.01062	0.00001	0.00001	0.00003	0.00002
Feed Grains	0.00181	0.03523	0.00563	0.02806	0.03267	0.01679	0.00006	0.01655	0.00006	0.00010	0.00008
Nursery & Horticulture	0.00002	0.00001	0.00003	0.00000	0.00000	0.00000	0.00001	0.00414	0.03981	0.00103	0.00001
Fruits & Vegetables	0.00000	0.00001	0.00007	0.00002	0.00002	0.00001	0.00002	0.00001	0.00001	0.00013	0.00003
Oil Bearing Crops	0.00000	0.00010	0.00044	0.00011	0.00013	0.00004	0.00013	0.00009	0.00010	0.00022	0.04137
Hay/Sugar/Tobacco/Nut Crops	0.00212	0.04141	0.00648	0.03299	0.03841	0.01973	0.00003	0.00024	0.00002	0.00004	0.00003
Forestry, Fishing, Ag Svcs	0.00000	0.00182	0.00829	0.00096	0.00112	0.00066	0.00240	0.00171	0.00181	0.00418	0.00323
Processed Meat & Eggs	0.00042	0.00005	0.00027	0.00023	0.00027	0.00021	0.00000	0.00000	0.00000	0.00000	0.00000
Dairy Processing	0.00039	0.00003	0.00042	0.00004	0.00005	0.00023	0.00001	0.00001	0.00001	0.00000	0.00001
Processed Food & Kindred Products	0.00105	0.00043	0.00053	0.00038	0.00044	0.00042	0.00003	0.00002	0.00002	0.00001	0.00002
Grain Milling & Flour	0.00071	0.00014	0.00080	0.00014	0.00016	0.00026	0.00014	0.00012	0.00011	0.00003	0.00010
Fats & Oils	0.01620	0.00321	0.01724	0.00202	0.00235	0.01248	0.00003	0.00003	0.00002	0.00001	0.00002
Beverage Processing	0.00002	0.00000	0.00001	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000
Wood/Paper/Furniture Manufacturing	0.00285	0.00037	0.00239	0.00016	0.00019	0.00013	0.00039	0.00028	0.00036	0.00291	0.00047
Food Services	0.00053	0.00001	0.00002	0.00002	0.00002	0.00001	0.00003	0.00002	0.00066	0.00001	0.00002
General Manufacturing & Service Sectors:											
Mining	0.00898	0.00019	0.00090	0.00018	0.00021	0.00025	0.00068	0.00054	0.00030	0.00010	0.00028
Construction	0.00846	0.00210	0.00156	0.00317	0.00369	0.00132	0.00870	0.00703	0.01092	0.00149	0.00725
Apparel, Yarn & Leather	0.00013	0.00010	0.00002	0.00001	0.00001	0.00124	0.00002	0.00011	0.00003	0.00020	0.00001
Motor Vehicle Equipment	0.00053	0.00009	0.00050	0.00011	0.00013	0.00016	0.00020	0.00017	0.00017	0.00005	0.00016
Metal Industries	0.00391	0.00032	0.00183	0.00036	0.00041	0.00048	0.00049	0.00046	0.00036	0.00015	0.00034
Chemical & Petroleum	0.04340	0.00616	0.03682	0.00739	0.00860	0.00951	0.01567	0.01021	0.01145	0.00362	0.00774
Publishing	0.00277	0.00061	0.00047	0.00065	0.00075	0.00041	0.00125	0.00096	0.00252	0.00039	0.00090
Stone & Clay & Glass	0.00030	0.00002	0.00014	0.00003	0.00003	0.00004	0.00005	0.00004	0.00003	0.00002	0.00003
Machinery & Equipment	0.01204	0.00061	0.00289	0.00085	0.00099	0.00106	0.00160	0.00138	0.00116	0.00039	0.00130
Technology Industries	0.00123	0.00017	0.00044	0.00036	0.00042	0.00048	0.00122	0.00110	0.00063	0.00024	0.00106
Misc. Services	0.01891	0.00046	0.00061	0.00124	0.00144	0.00165	0.00473	0.00432	0.00832	0.00089	0.00421
Transportation & Communication	0.02539	0.00846	0.01018	0.00861	0.01003	0.00684	0.01330	0.00929	0.02421	0.00311	0.00647
Electrical, Gas & Sanitary	0.02597	0.00255	0.00463	0.00152	0.00177	0.00261	0.00554	0.00398	0.00633	0.00164	0.00494
Wholesale & Retail Trade	0.04440	0.01165	0.00856	0.01227	0.01428	0.00770	0.02384	0.01821	0.04697	0.00718	0.01701
Financial & Legal	0.00706	0.00286	0.00168	0.00444	0.00517	0.00193	0.01166	0.00725	0.00764	0.00209	0.01370
Real Estate & Development	0.00314	0.00492	0.00227	0.01334	0.01553	0.00416	0.05791	0.03531	0.01295	0.00658	0.05005
Recreation & Amusement	0.00007	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00003	0.00000	0.00000
Health Services	0.00001	0.00090	0.00372	0.00273	0.00318	0.00143	0.00000	0.00000	0.00000	0.00000	0.00000
Education Services	0.00004	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Government & Non-Profit	0.00660	0.00070	0.00107	0.00061	0.00071	0.00070	0.00199	0.00139	0.00285	0.00048	0.00171
Others	0.00009	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00000	0.00000	0.00000	0.00000
Primary Input:											
Labor	0.40624	0.48679	0.44068	0.46549	0.30783	0.59956	0.59929	0.65093	0.62979	0.86093	0.68703
Imports:											
Total Imports	0.19264	0.30283	0.19364	0.29957	0.30881	0.19817	0.16335	0.15239	0.13632	0.06642	0.08949
Institutional Purchases:											
Purchases from Gov't, Inventory, etc.	0.01838	0.04969	0.02222	0.04438	0.05411	0.03493	0.02334	0.02700	0.01871	0.02411	0.02544
Total Inputs:	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

Table B-2. Technical Coefficients for Ohio, 1994 (continued)

	Hay/Sugar/ Tobacco/Nut Crops	Forestry, Fishing, Ag Svcs	Processed Meat & Eggs	Dairy Processing	Processed Food & Kindred Products	Grain Milling & Flour	Fats & Oils	Beverage Processing	Wood/Paper/ Furniture Manufacturing	Food Services
Food & Related Agricultural Sectors:										
Farm Inputs & Machinery	0.01357	0.05680	0.00085	0.00157	0.00523	0.00092	0.00105	0.00250	0.01280	0.00044
Dairy Farms	0.00021	0.00023	0.00001	0.11751	0.00011	0.00000	0.00000	0.00000	0.00003	0.00075
Poultry & Egg	0.00027	0.01089	0.09775	0.00000	0.00111	0.00000	0.00000	0.00000	0.00002	0.00152
Cattle Feeding	0.00017	0.00040	0.11625	0.00030	0.00001	0.00000	0.00000	0.00000	0.00002	0.00003
Swine	0.00011	0.00031	0.06960	0.00018	0.00001	0.00000	0.00000	0.00000	0.00003	0.00004
Sheep & Goats	0.00029	0.00053	0.00321	0.00000	0.00024	0.00000	0.00000	0.00000	0.00005	0.00001
Food Grains	0.00002	0.00021	0.00001	0.00000	0.00222	0.03331	0.00000	0.00002	0.00003	0.00001
Feed Grains	0.00008	0.00072	0.00004	0.00001	0.00090	0.02372	0.00002	0.00149	0.00013	0.00002
Nursery & Horticulture	0.00063	0.00291	0.00001	0.00000	0.00023	0.00000	0.00000	0.00001	0.00004	0.00001
Fruits & Vegetables	0.00003	0.00025	0.00001	0.00002	0.00230	0.00001	0.00000	0.00117	0.00004	0.00064
Oil Bearing Crops	0.00018	0.00165	0.00007	0.00000	0.01033	0.04114	0.33278	0.00000	0.00025	0.00003
Hay/Sugar/Tobacco/Nut Crops	0.00124	0.00033	0.00001	0.00053	0.00912	0.02814	0.00646	0.00246	0.00005	0.00001
Forestry, Fishing, Ag Svcs	0.00333	0.03126	0.00130	0.00000	0.00025	0.00000	0.00016	0.00000	0.00471	0.00053
Processed Meat & Eggs	0.00000	0.00106	0.05886	0.00016	0.00445	0.00312	0.00410	0.00013	0.00001	0.02832
Dairy Processing	0.00000	0.00003	0.00009	0.14105	0.00638	0.00016	0.00084	0.00088	0.00001	0.03866
Processed Food & Kindred Products	0.00001	0.00108	0.00228	0.01765	0.05708	0.00603	0.00235	0.00546	0.00004	0.05382
Grain Milling & Flour	0.00004	0.00018	0.00001	0.00039	0.00196	0.00326	0.00052	0.00268	0.00015	0.00052
Fats & Oils	0.00001	0.00004	0.00028	0.00691	0.01503	0.01162	0.14391	0.00017	0.00019	0.00079
Beverage Processing	0.00000	0.00001	0.00001	0.00007	0.00022	0.00002	0.00000	0.00151	0.00000	0.00172
Wood/Paper/Furniture Manufacturing	0.00056	0.00528	0.00397	0.01297	0.01197	0.00367	0.00145	0.00458	0.06695	0.00310
Food Services	0.00001	0.00033	0.00019	0.00024	0.00040	0.00017	0.00008	0.00045	0.00065	0.00122
General Manufacturing & Service Sectors:										
Mining	0.00016	0.00028	0.00015	0.00022	0.00028	0.00043	0.00025	0.00027	0.00106	0.00035
Construction	0.00246	0.01163	0.00305	0.00382	0.00419	0.00190	0.00158	0.01006	0.00796	0.01730
Apparel, Yarn & Leather	0.00021	0.00211	0.00002	0.00003	0.00012	0.00023	0.00007	0.00005	0.00356	0.00017
Motor Vehicle Equipment	0.00007	0.00040	0.00003	0.00004	0.00012	0.00002	0.00002	0.00010	0.00015	0.00005
Metal Industries	0.00015	0.00192	0.00032	0.00083	0.00190	0.00016	0.00020	0.00836	0.00237	0.00015
Chemical & Petroleum	0.00387	0.02217	0.00691	0.01895	0.02483	0.00502	0.01691	0.04337	0.03843	0.00891
Publishing	0.00039	0.00210	0.00421	0.00485	0.00567	0.00286	0.00237	0.00569	0.00297	0.00379
Stone & Clay & Glass	0.00001	0.00006	0.00002	0.00006	0.00012	0.00002	0.00003	0.00044	0.00023	0.00004
Machinery & Equipment	0.00055	0.00542	0.00025	0.00087	0.00091	0.00032	0.00035	0.00127	0.00322	0.00132
Technology Industries	0.00046	0.00074	0.00024	0.00029	0.00038	0.00020	0.00018	0.00041	0.00061	0.00062
Misc. Services	0.00181	0.00971	0.00212	0.00427	0.00764	0.00232	0.00201	0.00706	0.00774	0.03077
Transportation & Communication	0.00305	0.01292	0.01459	0.00906	0.02443	0.02792	0.01689	0.01916	0.02576	0.01548
Electrical, Gas & Sanitary	0.00163	0.00213	0.00625	0.00836	0.00927	0.01017	0.00885	0.00633	0.02081	0.01671
Wholesale & Retail Trade	0.00747	0.02674	0.05376	0.06009	0.06722	0.05093	0.04161	0.07254	0.04823	0.06482
Financial & Legal	0.00305	0.01814	0.00218	0.00398	0.00666	0.00254	0.00314	0.00883	0.00752	0.02019
Real Estate & Development	0.01338	0.00127	0.00184	0.00273	0.00329	0.00128	0.00061	0.00195	0.00307	0.04573
Recreation & Amusement	0.00000	0.00354	0.00001	0.00001	0.00002	0.00000	0.00000	0.00003	0.00004	0.00630
Health Services	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
Education Services	0.00000	0.00502	0.00000	0.00000	0.00003	0.00021	0.00000	0.00001	0.00011	0.00037
Government & Non-Profit	0.00055	0.00297	0.00210	0.00319	0.00428	0.00315	0.00232	0.00320	0.00653	0.00676
Others	0.00000	0.00001	0.00014	0.00004	0.00045	0.00003	0.00003	0.00002	0.00009	0.00001
Primary Input:										
Labor	0.85637	0.30502	0.11889	0.27003	0.42921	0.18202	0.20588	0.39213	0.40992	0.43637
Imports:										
Total Imports	0.05910	0.43698	0.40563	0.29914	0.24935	0.50039	0.14609	0.33073	0.30827	0.17763
Institutional Purchases:										
Purchases from Gov't, Inventory, etc.	0.02450	0.01424	0.02248	0.00958	0.03011	0.05257	0.05686	0.01446	0.01516	0.01396
Total Inputs:	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

Table B-2. Technical Coefficients for Ohio, 1994 (continued)

	Mining	Construction	Apparel, Yarn & Leather	Motor Vehicle Equipment	Metal Industries	Chemical & Petroleum	Publishing	Stone, Clay & Glass	Machinery & Equipment	Technology Industries	Misc. Services
Food & Related Agricultural Sectors:											
Farm Inputs & Machinery	0.00602	0.00084	0.00975	0.00119	0.00788	0.05778	0.00351	0.02031	0.00368	0.00487	0.00464
Dairy Farms	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Poultry & Egg	0.00000	0.00000	0.00000	0.00000	0.00000	0.00021	0.00000	0.00000	0.00000	0.00000	0.00000
Cattle Feeding	0.00000	0.00000	0.00040	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Swine	0.00000	0.00000	0.00024	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Sheep & Goats	0.00000	0.00000	0.00001	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00001
Food Grains	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000
Feed Grains	0.00001	0.00001	0.00001	0.00002	0.00002	0.00001	0.00001	0.00004	0.00001	0.00001	0.00001
Nursery & Horticulture	0.00001	0.00166	0.00000	0.00001	0.00000	0.00004	0.00000	0.00001	0.00003	0.00001	0.00004
Fruits & Vegetables	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Oil Bearing Crops	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hay/Sugar/Tobacco/Nut Crops	0.00000	0.00000	0.00492	0.00000	0.00000	0.00009	0.00000	0.00001	0.00001	0.00000	0.00000
Forestry, Fishing, Ag Svcs	0.00000	0.00000	0.00025	0.00000	0.00000	0.00004	0.00001	0.00000	0.00000	0.00000	0.00000
Processed Meat & Eggs	0.00000	0.00000	0.00261	0.00001	0.00000	0.00009	0.00000	0.00000	0.00010	0.00008	0.00000
Dairy Processing	0.00000	0.00000	0.00001	0.00000	0.00000	0.00005	0.00000	0.00001	0.00000	0.00001	0.00000
Processed Food & Kindred Products	0.00001	0.00001	0.00005	0.00001	0.00001	0.00015	0.00002	0.00005	0.00001	0.00001	0.00001
Grain Milling & Flour	0.00002	0.00000	0.00003	0.00000	0.00002	0.00019	0.00001	0.00007	0.00001	0.00001	0.00001
Fats & Oils	0.00000	0.00000	0.00012	0.00000	0.00001	0.00268	0.00000	0.00006	0.00000	0.00003	0.00000
Beverage Processing	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00001	0.00000	0.00000	0.00000
Wood/Paper/Furniture Manufacturing	0.00073	0.01642	0.00256	0.00442	0.00275	0.00500	0.03935	0.00726	0.00291	0.00399	0.00130
Food Services	0.00022	0.00037	0.00061	0.00045	0.00060	0.00043	0.00134	0.00065	0.00092	0.00086	0.00186
General Manufacturing & Service Sectors:											
Mining	0.01255	0.00156	0.00043	0.00024	0.00536	0.03155	0.00017	0.01019	0.00027	0.00033	0.00012
Construction	0.11402	0.00061	0.00432	0.00912	0.01787	0.00631	0.00431	0.01165	0.01202	0.00948	0.00739
Apparel, Yarn & Leather	0.00013	0.00044	0.08048	0.00447	0.00085	0.00131	0.00038	0.00063	0.00047	0.00123	0.00102
Motor Vehicle Equipment	0.00025	0.00032	0.00028	0.00811	0.00036	0.00026	0.00017	0.00014	0.00107	0.00196	0.00043
Metal Industries	0.00121	0.00481	0.00100	0.00859	0.01651	0.00168	0.00092	0.00112	0.01021	0.00491	0.00062
Chemical & Petroleum	0.01323	0.02607	0.08389	0.04257	0.02213	0.11174	0.02811	0.02187	0.02415	0.03428	0.01143
Publishing	0.00122	0.00321	0.00243	0.00344	0.00343	0.00260	0.02557	0.00236	0.00360	0.00311	0.00448
Stone & Clay & Glass	0.00029	0.00048	0.00027	0.00019	0.00021	0.00079	0.00013	0.00113	0.00017	0.00027	0.00006
Machinery & Equipment	0.01472	0.01585	0.00395	0.03028	0.01259	0.00264	0.00218	0.00356	0.05994	0.01143	0.00588
Technology Industries	0.00034	0.00249	0.00078	0.01921	0.00115	0.00091	0.00376	0.00082	0.00990	0.09384	0.01288
Misc. Services	0.00927	0.03536	0.00952	0.00678	0.01114	0.01320	0.01390	0.00779	0.01079	0.01052	0.07062
Transportation & Communication	0.01456	0.01838	0.01017	0.02434	0.02452	0.02049	0.01941	0.05230	0.01612	0.01274	0.01935
Electrical, Gas & Sanitary	0.02090	0.00121	0.01009	0.00585	0.02216	0.01887	0.00480	0.02836	0.00886	0.00694	0.00429
Wholesale & Retail Trade	0.02047	0.06018	0.03926	0.06403	0.06082	0.04006	0.04472	0.04171	0.06492	0.05264	0.04078
Financial & Legal	0.00770	0.00975	0.00574	0.00724	0.00968	0.01165	0.01190	0.00824	0.01024	0.01138	0.02639
Real Estate & Development	0.05897	0.00178	0.00366	0.00258	0.00364	0.00392	0.01003	0.00400	0.00541	0.00636	0.02198
Recreation & Amusement	0.00006	0.00009	0.00002	0.00026	0.00008	0.00006	0.00026	0.00003	0.00008	0.00036	0.00057
Health Services	0.00000	0.00001	0.00000	0.00000	0.00000	0.00001	0.00001	0.00000	0.00000	0.00000	0.00003
Education Services	0.00020	0.00000	0.00038	0.00039	0.00034	0.00071	0.00017	0.00005	0.00019	0.00063	0.00037
Government & Non-Profit	0.00575	0.00090	0.00451	0.00328	0.00647	0.00522	0.00993	0.00828	0.00403	0.00386	0.01273
Others	0.00006	0.00000	0.00004	0.00009	0.00038	0.00012	0.00003	0.00008	0.00006	0.00012	0.00005
Primary Input:											
Labor	0.53783	0.55365	0.38788	0.28008	0.38646	0.40091	0.54738	0.50754	0.45907	0.47239	0.61914
Imports:											
Total Imports	0.14187	0.22712	0.31231	0.46147	0.36216	0.24043	0.21041	0.24251	0.27536	0.23291	0.11174
Institutional Purchases:											
Purchases from Gov't, Inventory, etc.	0.01738	0.01640	0.01697	0.01129	0.02038	0.01777	0.01709	0.01714	0.01537	0.01841	0.01975
Total Inputs:	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000

Table B-2. Technical Coefficients for Ohio, 1994 (continued)

	Transportation & Communication	Electrical, Gas & Sanitary	Wholesale & Retail Trade	Financial & Legal	Real Estate & Development	Recreation & Amusement	Health Services	Education Services	Government & Non-Profit	Others
Food & Related Agricultural Sectors:										
Farm Inputs & Machinery	0.00060	0.00394	0.00039	0.00002	0.00088	0.00014	0.01168	0.00274	0.00114	0.00000
Dairy Farms	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00001	0.00005	0.00000	0.00000
Poultry & Egg	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00010	0.00001	0.00002	0.00000
Cattle Feeding	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000
Swine	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000
Sheep & Goats	0.00000	0.00000	0.00000	0.00000	0.00000	0.00004	0.00000	0.00003	0.00000	0.00000
Food Grains	0.00002	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000
Feed Grains	0.00010	0.00001	0.00002	0.00002	0.00000	0.00003	0.00001	0.00001	0.00001	0.00000
Nursery & Horticulture	0.00001	0.00003	0.00009	0.00001	0.00251	0.00088	0.00009	0.00106	0.00006	0.00000
Fruits & Vegetables	0.00000	0.00000	0.00000	0.00000	0.00000	0.00002	0.00003	0.00002	0.00000	0.00000
Oil Bearing Crops	0.00000	0.00000	0.00000	0.00000	0.00000	0.00005	0.00000	0.00000	0.00000	0.00000
Hay/Sugar/Tobacco/Nut Crops	0.00002	0.00000	0.00000	0.00000	0.00002	0.00001	0.00000	0.00003	0.00000	0.00000
Forestry, Fishing, Ag Svcs	0.00000	0.00000	0.00001	0.00000	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000
Processed Meat & Eggs	0.00003	0.00000	0.00002	0.00000	0.00000	0.00041	0.00100	0.00090	0.00015	0.00000
Dairy Processing	0.00002	0.00000	0.00001	0.00000	0.00000	0.00053	0.00065	0.00256	0.00008	0.00000
Processed Food & Kindred Products	0.00016	0.00001	0.00005	0.00000	0.00000	0.00236	0.00248	0.00501	0.00038	0.00000
Grain Milling & Flour	0.00000	0.00001	0.00000	0.00000	0.00000	0.00001	0.00005	0.00006	0.00001	0.00000
Fats & Oils	0.00000	0.00000	0.00000	0.00000	0.00000	0.00004	0.00011	0.00002	0.00002	0.00000
Beverage Processing	0.00001	0.00000	0.00002	0.00000	0.00000	0.00007	0.00002	0.00002	0.00000	0.00000
Wood/Paper/Furniture Manufacturing	0.00044	0.00089	0.00315	0.00053	0.00035	0.00155	0.00139	0.00392	0.00044	0.00000
Food Services	0.00277	0.00034	0.00304	0.00257	0.00189	0.00145	0.00111	0.00155	0.00037	0.00000
General Manufacturing & Service Sectors:										
Mining	0.00021	0.03049	0.00021	0.00006	0.00002	0.00014	0.00023	0.00020	0.00085	0.00000
Construction	0.04034	0.08523	0.01461	0.00647	0.05281	0.01401	0.00962	0.08560	0.04134	0.00000
Apparel, Yarn & Leather	0.00029	0.00012	0.00031	0.00010	0.00001	0.00100	0.00052	0.00028	0.00017	0.00000
Motor Vehicle Equipment	0.00085	0.00045	0.00014	0.00014	0.00002	0.00016	0.00024	0.00030	0.00020	0.00000
Metal Industries	0.00111	0.00046	0.00032	0.00013	0.00007	0.00018	0.00040	0.00064	0.00016	0.00000
Chemical & Petroleum	0.01972	0.01104	0.00740	0.00061	0.00165	0.00517	0.03571	0.01154	0.00522	0.00000
Publishing	0.00385	0.00126	0.00470	0.00552	0.00149	0.00284	0.00334	0.00999	0.00440	0.00000
Stone & Clay & Glass	0.00005	0.00059	0.00003	0.00001	0.00000	0.00002	0.00008	0.00007	0.00003	0.00000
Machinery & Equipment	0.00520	0.00354	0.00135	0.00055	0.00040	0.00091	0.00094	0.00254	0.00157	0.00000
Technology Industries	0.00723	0.00266	0.00327	0.00267	0.00038	0.00282	0.00814	0.00933	0.00145	0.00000
Misc. Services	0.02231	0.00788	0.04085	0.03108	0.01808	0.03424	0.02337	0.03628	0.00918	0.00000
Transportation & Communication	0.14161	0.01860	0.02283	0.02359	0.00551	0.01575	0.00938	0.01689	0.01442	0.00000
Electrical, Gas & Sanitary	0.00866	0.06912	0.00980	0.00277	0.00060	0.00641	0.00617	0.00782	0.00826	0.00000
Wholesale & Retail Trade	0.05723	0.01984	0.05442	0.05370	0.01556	0.03654	0.03230	0.04076	0.00982	0.00000
Financial & Legal	0.01972	0.01769	0.02447	0.14399	0.03348	0.02256	0.00818	0.01911	0.00463	0.00000
Real Estate & Development	0.02348	0.00316	0.02831	0.02229	0.08787	0.03531	0.04263	0.08415	0.00861	0.00000
Recreation & Amusement	0.01059	0.00007	0.00171	0.00080	0.00034	0.11210	0.00040	0.00547	0.00051	0.00000
Health Services	0.00001	0.00000	0.00002	0.00001	0.00001	0.00001	0.01372	0.00002	0.00000	0.00000
Education Services	0.00014	0.00042	0.00010	0.00008	0.00000	0.00000	0.00003	0.00005	0.00009	0.00000
Government & Non-Profit	0.00712	0.01676	0.00776	0.01643	0.00267	0.01162	0.00855	0.01433	0.00549	0.00000
Others	0.00039	0.00000	0.00006	0.00014	0.00000	0.00003	0.00000	0.00001	0.00004	0.00000
Primary Input:										
Labor	0.43253	0.48750	0.50101	0.51621	0.67405	0.54199	0.67451	0.47660	0.81129	0.97345
Imports:										
Total Imports	0.17136	0.20183	0.09507	0.15152	0.08045	0.12897	0.08185	0.14533	0.04614	0.00000
Institutional Purchases:										
Purchases from Gov't, Inventory, etc.	0.02179	0.01604	0.17442	0.01799	0.01886	0.01959	0.02095	0.01468	0.02346	0.02655
Total Inputs:	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000	1.00000