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MINNESOTA'S FOOD SERVICE INDUSTRY SUPPLY SYSTEM

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Summary

In 1980 Minnesota commercial food services made sales of \$2.3 billion and spent \$1,240 million for food and operating supplies. About half of this sum, \$654 million, went to the estimated 700 independent Minnesota firms that are specialized in supplying food services. These firms represent part of the "backward linkage" system of food services. In this role they contribute substantially to the Minnesota economy. They employ an estimated 26,000, and purchase \$400 million of their own supplies from within Minnesota. This supply system is a net exporter of food and operating supplies, thus its second round multiplier effect in Minnesota (what the industry purchases within the State), is large relative to the scale of the food service industry. Purchases within Minnesota of labor, supplies, and return to entrepreneurs total to over \$640 million.

I. Introduction: What, Why, How

In 1980, Minnesota's commercial restaurants made an estimated \$2.3 billion of sales. In order to make these sales they purchased \$920 million of food and \$320 million of operating supplies, plus other inputs.^{1/}

The Minnesota food service supply system providing these necessary food and operating inputs for restaurants is the object of this paper. The purpose is to explain relationships of this system to the general Minnesota economy and to the food service industry.

Every industry has its suppliers or "backward linkages". The system discussed here is part of the backward linkage for commercial food service. It is part of the "first round" and "second round" in producing a multiplier effect from sales of away from home food services. This multiplier effect usually results in a dollar of sales generating more than a dollar of economic activity in the given community of which it is a part. Alternatively the food supplying firms discussed here as well as restaurants may be looked upon as part of the sales system or "forward linkage" of Minnesota's farm production and food processing sector.

The paper bases upon specific study of a sample of 24 firms drawn from the two general types: suppliers of food and vendors of equipment and operating supplies (hereafter referred to as "other" suppliers). Managers of firms in this sample were personally interviewed and asked to provide data about sales and purchases of these firms. In addition, information was used from the Minnesota Department of Revenue (sales tax data), the U.S. Census of Business, and a comprehensive study of restaurants conducted

^{1/} See The Food Service Industry: Its Anatomy and Prognosis, Staff Paper P81-8, Department of Agricultural and Applied Economics, University of Minnesota, for a detailed description of Commercial Food Industry inputs.

by the University of Minnesota. Only firms in the Minneapolis-St. Paul Metropolitan Area were directly interviewed. The estimate made is for the State of Minnesota. This extension of the estimate to include all of Minnesota weakens data reliability since only a limited basis for making this extrapolation was available. However, Minnesota data make possible a study of the relationship of the supply system to the state-wide food service industry.

The data were initially gathered and tabulated by members of the class, Agricultural Economics 3410, Economics of the Hospitality Industry, for 1981. The Minnesota Restaurant Association gave additional valuable assistance.

The user is cautioned that, while the data supplied are the best available at this time, these finds should be regarded as preliminary. They are thought to provide good general guides to the nature of this part of Minnesota's food service system. The information is made available because of need for more complete understanding of this system. This paper can provide both the theoretical and data base for further investigation.

II. The Food Service Industry System and Its Suppliers - An Overview

In 1980 Minnesota food service industry system consisted in part of an estimated 9,400 commercial operations with sales totaling to \$2.3 billion. Its function is to provide food for people away from home. In doing this the industry has an important role in tourism (an estimated 30 percent of sales are to tourists); it performs a role in the operation of many other economic, social and governmental activities; and the food service industry is a factor contributing to living quality for resident citizens.

The supply system for these operations, while less obvious to the average citizen, is also a major part of the Minnesota economy. Purchase by the food service industry of supplies and services needed to produce its output creates added economic activity. These direct purchases are called the "first round" backward linkage. Using community development terminology, five different classes of purchased inputs are noted. The food service supplying system as treated here consists of two major subparts:

- a. Food for processing and resale by restaurants makes up the largest purchased inputs by food services at \$920 million. But less than half (\$480 million) is supplied by specialized firms based in Minnesota. See discussion, figures and tables pages 6 - 10.
- b. Equipment and operating supplies (paper, linens, cleaning supplies, etc.) are purchased at the rate of \$320 million, Minnesota based firms supply just over one-half of these needs or \$180 million. These are referred to as "other" suppliers.

Other classes of input required by Minnesota food services but not treated in detail here are:

- c. Hired labor has the greatest direct impact on the Minnesota economy. Food services employ full and part-time a total of 280,000 individuals.

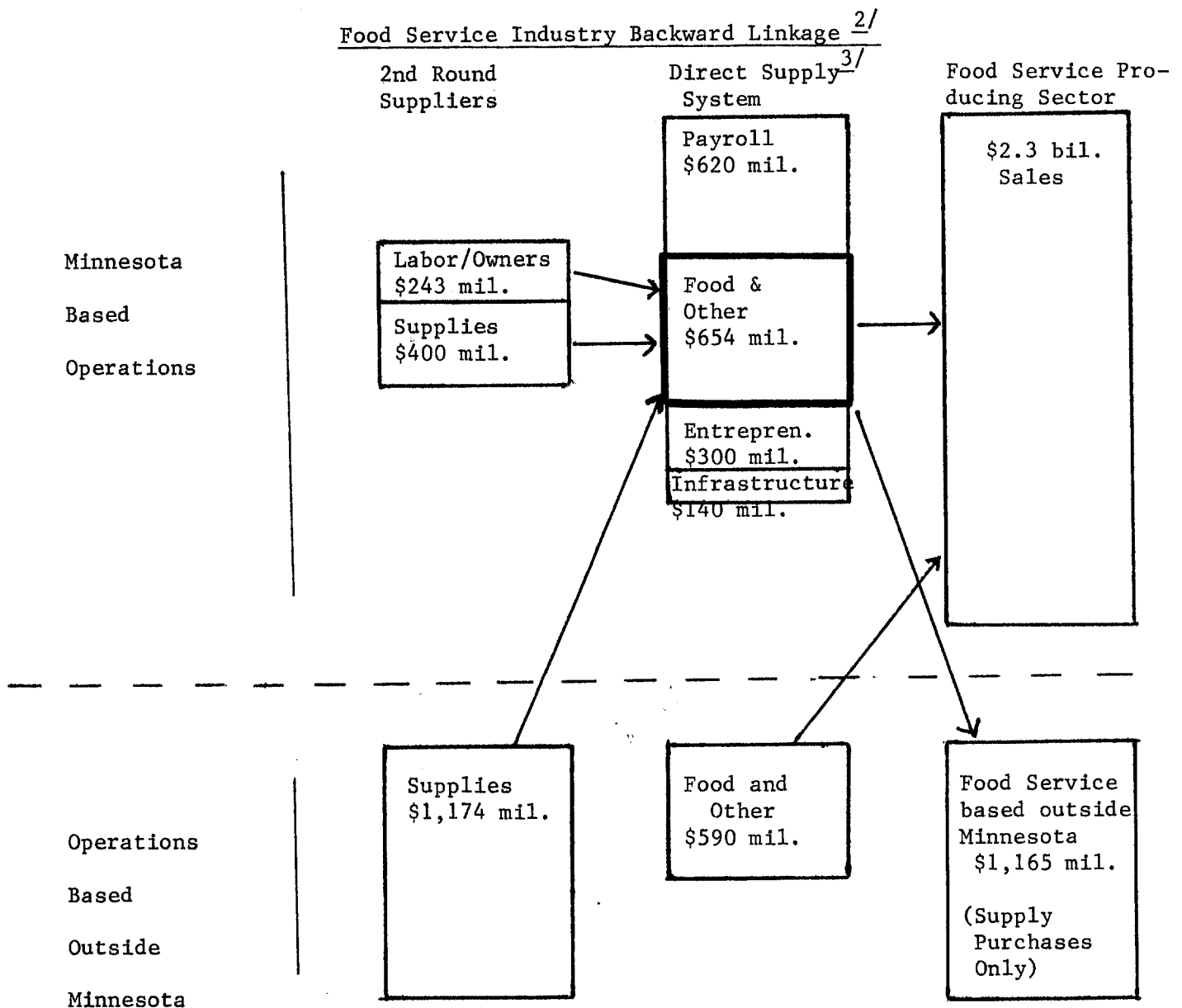
(This includes business owners, managers and family members of owners.)

The direct payroll is \$620 million.

- d. Entrepreneurship includes the functions of ownership, management and financing. These inputs total \$300 million annually and while not covered specifically in this study are thought to be largely supplied from within Minnesota.
- e. Infrastructure - is mostly supplied by the local community. These purchases total \$140 annually. Included are energy, roads, sewage and water and related items necessary for the facility to operate in the community.

Each of the above supply components, in turn, require their own inputs. This is the second round backward linkage. These "linkages" or "rounds" extend backward indefinitely, each generating economic activity as the result of sales by the food service industry until the effect for practical purposes is dissipated. In generic terms the impacts can be thought of as human (labor, management); information, (technology, communications); materials (physical supplies for operation and/or consumption); energy; and financial. Figure 1 shows the interrelationships of the "food and other" supply system to the food service industry and the Minnesota economy.

Figure 1. Relationship of Minnesota "Food and Other" Supply System to the Minnesota Economy and the Food Service Industry, 1980. 1/



NOTE: Vertical length of each component is proportional to its dollar value.

1/ "Food and other" supply system refers to the supply system for restaurants and related food services.

2/ Explanation of "linkage" terminology: the middle and left columns are backward linkages for the food service producing sector (restaurants). Respectively they are the "first round" and the "second round". Using this terminology the right hand column represents the "forward linkage" for the "food and other" supply system, and the left hand column represents its "first round backward linkage".

3/ Lines indicating linkages for only the "food and other" supply system (for restaurants) are shown in this diagram.

III. The Minnesota Based Food and Other Supply Firm Group

The Minnesota based firms that are specialized in providing food and other supplies to restaurants aggregate to a substantial industry group. As indicated in Table 1, and Figure 1, their total sales of food and other supplies are \$1,817 million.

The industry group makes substantial export-sales to other states. Almost two-thirds of this group's food and other supply sales is sold outside Minnesota. Even after considering purchases by Minnesota restaurants from non-Minnesota suppliers, the net export is well over one-half billion dollars.

This information - the scale of the specialized supplying group based in Minnesota and its "exporting" activity - are major findings of this study. Export activity is significant, it means that the group acts as a basic industry, generating primary income for Minnesota, in addition to its backward linkage role for Minnesota restaurants. This exporting function is complementary to the role of Minneapolis-St. Paul as a supply center serving a wide area of the west North Central states.

The nature of the specialized food and operating supplying group of firms is indicated by the sub-types and numbers of each that were identified within the Minneapolis-St. Paul Metropolitan Area. A total of 463 firms having major supplying interests were specialized as follows:

Food Suppliers

Wholesale Grocers	33
Fruit and Vegetable	46
Meat Purveyors	69
Poultry	12
Fish and Shellfish	11
Frozen Food and Specialties	59
Dairy Products	31
Bakery	36
Wholesale Liquors	16
Non-Alcoholic Beverages	21

Table 1

Sales Patterns of Minnesota Food and Other Supply Firms

<u>To Food Service Firms</u>	
Sales in Minnesota	\$654,000,000
Sales Outside Minnesota	1,165,000,000
	<hr/>
Total Sales to Food Service Firms	\$1,817,000,000
Total Purchases by MN Restaurants of Food and Operating Supplies	\$1,240,000,000
Sales Not Made by MN Based, Specialized, Firms (1,240,000,000 - 654,000,000)	\$586,000,000
Minimum Net "Export" by Minnesota Based Firms	\$577,000,000

Operating Supply Firms

Cleaning and Sanitation	25
Menus	5
Equipment and Design	42
Linen Suppliers	8
Paper	25
	<hr/>
	129

Those firms included in this study are the specialized operations that could be readily identified as part of the supply system to restaurants. In addition to those identified above within Minneapolis-St. Paul, it is estimated that at least as many (although of smaller average size) firms performing these supply functions are based in outstate Minnesota.

The wide ranging nature and scale of the overall restaurant servicing and supply system in the upper midwest is indicated by the mailing list of 7,000 firm names maintained by Upper Midwest Hospitality, Incorporated, a Twin City based trade show group. These operations are based in the states of Minnesota, Illinois, Wisconsin, Iowa, Nebraska and the Dakotas. While many of this number are not specialized in supplying to food services they never-the-less deal in the wide range of products and services necessary to food service operations and make sales and derive part of their profits as part of the food service's backward linkages. The lack of specialization in food and hospitality industry supplying of these 7,000 is highlighted by the estimate that only about ten percent have a strong concentration of sales to hospitality firms.

Table 1 indicates that \$586 million of purchases by Minnesota restaurants were apparently made from firms other than the specialized group of Minnesota based food and other suppliers described here. This investigation was not of sufficient range to determine the origin of all restaurant

supply purchases. However, there are three general categories that account for most of this \$586 million of purchases as follows:

1. In-house processing and supply units operated by multi-unit food services, and/or vertically integrated processor-distributor-restaurant systems. Some of these operate within the state of Minnesota and if documented could be considered part of the Minnesota based supply system.
2. Out-of-state suppliers; the large number (7,000) of firms noted above within a 7-state area can be expected to have substantial numbers selling within Minnesota borders.
3. Many non-specialized operations, including retail firms, are not readily identified as suppliers of food services but still make a substantial aggregate volume of supply sales to food services. Many of these in common with category 1 above, are also Minnesota based.

IV. The Second Round Backward Linkage

At even the second round backward linkage level the Minnesota based firms specialized in "food and other supplies" inject over \$640,000,000 into the Minnesota economy. This is equal to about one-half of the original \$1,240 million of purchases of food and other supplies by Minnesota restaurants. It is composed of \$214 million labor payroll, \$29 million owner income, nearly all of which is presumed spent in Minnesota; and \$400 million supply purchases, Table 2. A total of 26,430 are employed by these firms.

This is a conservative estimate of the total second round impact in Minnesota from the operations of these supplying firms, since, as noted in the immediately preceeding section, a number of supplying operations are not included in the data. The second round effect reported is approximately equal to the sales to Minnesota restaurants by the firms studied. Its scale is due to the large volume of sales to restaurants located outside of Minnesota. It is of this magnitude in spite of purchase out of state of almost three times as many supplies as are purchased within Minnesota, \$1,174 million compared to \$400 million.

An additional unaccounted-for effect on the Minnesota economy is that of purchases within Minnesota by out-of-state supplier firms that then sell part of their product as supplies to Minnesota restaurants.

Table 2

Purchases Made by Minnesota Based Food and Other Supplying Firms.

Total Employment by Minnesota Based "Food and Other Supplies" Firm Groups (includes owners and family of owners)	26,430
Labor Payroll	\$214,000,000
Estimated Income to Owners	\$29,000,000
Supplies and Other Items	\$1,574,000,000
Purchased outside Minnesota	(\$1,174,000,000)
Purchased within Minnesota	(\$400,000,000)
Total Inputs Supplied Within Minnesota	\$643,000,000
Total Industry Inputs (to produce total output)	\$1,817,000,000

V. Food Suppliers Compared With Other Supply Firms

This section compares the characteristics of these two types of firms that are specialized for supplying the food service industry. The reader should be aware that many firms can be classed in both categories. Further, only the relatively identifiable, specialized firms that are based in the Twin Cities are compared. With these precautions noted, certain general comparisons appear valid.

Comparing numbers and average sizes: Food supply firms are more numerous and have an average dollar sales volume almost four times that of other (equipment and operating supplies) supply firms.

	<u>Number in T.C.</u>	<u>Average \$ Sales</u>
Food Supply Firms	334	\$4,000,000
Other Supply Firms	129	\$1,040,000

Table 3 summarizes other selected comparisons of the two firm types. Other supply firms are much more labor intensive. They require three times the input of labor per dollar value of other inputs than is required by food supply firms.

Food suppliers apparently both purchase and sell to a much wider area than other supply firms. Food suppliers make 70 percent of their sales out-of-state compared to only 16 percent out-of-state sales by other supply firms. Less than one-fourth (22%) of food supply firms' supplies are purchased in Minnesota; this contrasts with other supply firms that buy one-half their supplies in-state.

Table 3

Selected Characteristics of Minnesota Based Firms Supplying
Food to Restaurants Compared With Other
Supply Firms, 1980.

<u>Labor Intensity</u>	<u>Labor Payroll / Supplies & Other Costs</u>
Food Firms	1 : 9.1
Other Supply Firms	1 : 2.6

<u>Sales Location</u>	<u>Minnesota Sales / Sales Outside Minnesota</u>
Food Firms	1 : 2.4
Other Supply Firms	5 : 1

<u>Supply Location</u>	<u>Minnesota Purchases / Purchases Outside Minnesota</u>
Food Firms	1 : 3.4
Other Supply Firms	1 : 1
