PATTERNS OF MEAT DISTRIBUTION:

A Case Study of St. Louis

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Despite growth in away-from-home eating, most beef is retailed through chain groceries and meat markets, rather than hotels, restaurants, and institutions, according to this study of the St. Louis, Missouri, meat marketing channels. Packers, packer sales offices, and processors mainly sell to meat markets, while fabricators and other wholesalers sell principally to hotels and restaurants. This study identifying types of firms and the volume of meat they handle from packer to consumer is a prototype of new meat market channel studies in six southern U.S. cities.

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SUMMARY

Increased eating out is generally thought to reduce grocery store sales. But the hotel, restaurant, and institutional sectors studied in the St. Louis area are not particularly important outlets for most types of beef, compared with chain groceries and meat markets.

Packers, packer sales offices, and processors compete with each other for sales to meat markets which are the largest or next to the largest customers for beef and pork combined of these three types of firms. Fabricators and other wholesalers sell principally to hotels and restaurants and also compete for sales to meat markets. Meat markets are the third most important source of sales for wholesalers.

The meat business in the St. Louis metropolitan area is competitive. Several packers compete among themselves and with packers outside the area. Wholesaling firms compete with each other for the local hotel and restaurant business.

Meat distribution patterns identified in St. Louis were compared with those found in a 1956 study of the Los Angeles area. Despite growth in away-from-home eating since the earlier study, about the same proportion of beef marketed was purchased for home preparation.

Lessons learned in this St. Louis study about questionnaire design, selection of respondents, and methods of analyzing the data are being applied in similar meat market channel studies in six southern U.S. cities.

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INTRODUCTION

Using data collected from firms in the St. Louis, Missouri, area, this study identifies the relative importance of the various firms handling meat and the number of times meat changes hands in the marketing channel.

Study Objectives

This study defines the operations of major types of meat marketing firms, principally those operating before the retail level. The source, disposition, and cutting performed are used to define types of operations. Competitive relationships between types of firms are explored.

The amounts of meat handled are used to show the relative importance of the various types of firms in the meat distribution system. The percentage of meat handled more than once can be determined from the difference between total meat handled by various firm types and total meat either consumed or sold outside the study area.

Feasibility of a national meat distribution study was tested. Feasibility included questionnaire testing and an indication of industry cooperation. The St. Louis area was selected because several packers as well as other types of meat handling firms are located there.

Background

The first formal meat distribution channel was a local shop buying animals and selling meat to customers. Meat markets began buying meat as cities grew and farming became more specialized. The meat wholesaler entered the picture to provide a link between packer and retail outlet. The channel continues to change as consumers change their eating habits and as new technology changes ways that meat can be handled.

In the early 1900s, pork was consumed in larger quantities than beef and other meats. The consumer trend away from eating fats and higher income levels has led to higher beef consumption. Demand for more beef has led farmers to fatten beef animals in feedlots and encouraged year-round feeding to stabilize supplies. Many consumers now pass by roast beef in favor of steaks or ground beef which require less cooking time.

Technological changes have accompanied these changes in demand. Refrigeration has expanded the meat marketing area far beyond production points. Frozen meats are widely used in public feeding establishments because there is little waste and preparation is easy. New packaging materials have allowed beef, formerly shipped in carcass quarters, to be broken into large cuts for shipment. Many packers have added this breaking service which reduces total pounds shipped and allows buyers to more nearly match requirements with purchases. A retail outlet with consumers who want cuts of beef from the round can order rounds and not have to sell an equivalent number of loins and other cuts. However, these changes have affected wholesalers who formerly bought quarters, broke them, and sold various cuts to different types of buyers.

Concepts and Procedures

The marketing channel consists of three broad levels: packing, wholesaling, and retailing. Packers are defined as firms that slaughter animals as a part of their business. Wholesalers buy and sell meat to anyone other than final consumers. Wholesalers have tended to specialize in their operations and acquire specific names. Purveyors for instance, custom cut steaks and other meat cuts for hotels, restaurants, and institutions.

Dietrich and Williams found the following types of wholesale firms operating in the Los Angeles area in 1959. 1/

Wholesale meat distributors: This term includes packer branch houses, wholesalers, jobbers, and truck distributors. The last three types are sometimes referred to collectively as independent meat distributors or independent distributors.

Packer branch houses: These are nonslaughtering processors and distributors of fresh and processed meat that are owned or operated by national packers.

Wholesalers: These are large-volume handlers and distributors of meat, primarily in fresh form. Wholesalers are primarily buyers of carcasses and sellers of primal cuts. Thus, they perform the service of cutting or breaking carcasses into smaller wholesale portions and are specialists in the merchandising of these wholesale cuts. They are sometimes referred to as breakers.

Jobbers: These firms are often referred to as hotel supply houses engaged primarily in selling meat, principally in the form of wholesale cuts, to dining establishments such as hotels, restaurants, and institutions. Some jobbers also sell some meat to retail establishments.

Truck distributors: These are meat distributors who are frequently referred to as peddlers and characterized principally by: (1) no fixed place of business for handling meat, and (2) relatively small volume that can be distributed daily by one or more trucks.

Brokers: Sales agents who bring buyers and sellers together for the purpose of negotiating sales are brokers. They generally deal in large volume lots and complete most sales arrangments, for which they collect a commission fee via telephone or telegraph. 2/

1/ Raymond A. Dietrich and Willard F. Williams, Meat Distribution in the Los Angeles Area, U.S. Dept. of Agr., Agr. Mkt. Serv., MRR-347, July 1959.
2/ Ibid, p. 3.

Results in this St. Louis study are presented so that data for individual operations cannot be identified. As a consequence, slightly different groupings are used in the data presentation than in the accompanying figures. The broad category of wholesalers is separated into packer sales offices, fabricators, other wholesalers, and processors in the section on general characteristics of the market and in the appendix tables. Only packer sales offices and all other wholesalers are used in the figures depicting the distribution channels for easier comprehension.

A census of the packers and wholesalers was obtained by personal interviews conducted by Economics, Statistics, and Cooperatives Service personnel. The list of firms was developed from the St. Louis telephone yellow pages. The St. Louis USDA Market News Office was asked to add overlooked firms. Additional firms that tended to operate only in Illinois were added from the East St. Louis yellow pages.

Final users of meat likely to buy meat from outside the St. Louis SMSA 3/ were also included. These consisted of grocery chain warehouse operations, fast food chain stores, and venders.

Data Limitations

Results apply only to the St. Louis SMSA and may or may not represent meat distribution throughout the country. St. Louis is unique in that grocery chains are limited by their labor contracts to purchasing mostly carcass beef. This limit means that more of the beef moves as carcasses than is true in other areas.

Firms were asked for data on a typical week's operation. Use of a typical week meant that the respondent could quickly give general answers from their knowledge of the operation, instead of resorting to a time-consuming review of their records. The typical week method also eliminated the possibility of choosing a specific week that might have experienced strikes, bad weather, or other biasing factors. Respondents, however, may not have given information on a typical week, thereby biasing the results. The per capita beef consumption figure computed from the data was 131.4 pounds carcass weight compared to the actual 119 pounds consumed in the United States in 1978. This comparison suggests that the data are within reason.

Another possible source of error was in the conversion back to carcass weight of pounds of meat handled. The conversion factors used were published standard conversion factors. 4/ Meat outputs for the actual firms may have been slightly different.

GENERAL MARKET CHARACTERISTICS

This St. Louis study considered the three main levels of marketing: packers, wholesalers, and retailers. Wholesalers are defined as firms that do not slaughter or sell over 50 percent of their meat to final consumers. Packer sales offices are the

3/ The St. Louis Standard Metropolitan Statistical Area (SMSA) includes the Missouri counties of St. Charles, Franklin, Jefferson, and St. Louis; the Illinois counties of Madison, St. Clair, Clinton, and Monroe; plus St. Louis City. An SMSA is a county or group of contiguous counties containing at least one city of at least 50,000 persons or twin cities with a combined population of 50,000 or more.

4/ Conversion Factors and Weights and Measures, for Agricultural Commodities and Their Products, U.S. Dept. Agr., Econ. Stat. Coop. Serv., SB-616, March 1979.

wholesaling operation of packers located outside the St. Louis area. Fabricators do some meat cutting. Other wholesalers do not change the form of the meat. Processors include those calling themselves processors plus firms producing food products or making sandwiches; they sell wholesale. Processors are included with fabricators to avoid disclosure of individual operations in some of the data presentations.

Meat Packers

All firms that slaughtered beef animals and hogs were considered meat packers. Two firms slaughtered and operated a retail outlet, buying additional kinds of meat to be able to satisfy their customers' demands for a full line of meat.

Livestock specie specialization was evident among St. Louis slaughtering plants. Only three of the plants slaughtered both cattle and hogs. Twelve plants slaughtered only cattle and five slaughtered only hogs. Specialization is expected because current slaughter methods for cattle and hog slaughter require different equipment and facilities.

There was much variation in the size of slaughter plants included in the St. Louis SMSA. Some plants were built recently and could slaughter a very large volume while others were locker plant operations slaughtering a few head per week. The average cattle slaughtering plant handled 137,200 pounds per week. 5/ The average hog slaughtering plant handled 1,051,574 pounds carcass weight. 6/

The most important sales outlet for St. Louis packers was outside the SMSA (table 1). Meat markets were the second most important, with chain groceries next. The most important outlet for cured pork was meat markets. Packers must compete for sales with other firms supplying these types of outlets.

Wholesalers

Wholesalers do not slaughter and they sell over 50 percent of their meat to other than final consumers. Included in the wholesale category are packer sales offices and branch houses, fabricators, other wholesalers, and processors.

Packer Sales Offices and Branch Houses

Packer sales offices and branch houses are the local sales organizations for packers having facilities outside the St. Louis SMSA. Branch houses usually have cold storage facilities and can do some meat cutting. Sales offices, generally without cold storage facilities, send their orders to the parent firm.

All sales offices handled pork items and almost all handled sausage kitchen items such as hot dogs and bologna. Only 25 percent of the sales offices handled fresh beef. Most of the sales offices specialized in selling their firm's brand products in the St. Louis area.

Sales offices sold an average of 133,017 pounds carcass weight of beef per week, including the beef in sausage kitchen items. 7/ The average pork sales were 121,431

5/ The standard deviation was 277,752 pounds.
6/ The standard deviation was 1,306,079 pounds.
7/ The standard deviation was 255,338 pounds.

pounds carcass weight. 8/ There was much less variation in size among sales offices than among packers.

The most important sales outlet for packer sales offices and branch houses was meat markets, followed by chain groceries (table 2). Sales outside the St. Louis SMSA accounted for the next largest percentage of meat movement. Only in the category of sausage kitchen items and processed beef did packer sales organizations sell more product to chain groceries than any other type of buyer. Thus, the St. Louis packers and packer sales organizations compete mainly for sales to meat markets and chain groceries.

Fabricators

Twenty firms were meat wholesalers and cut some types of meat. They all handled beef and pork but did not necessarily cut both. Many of the firms have increased the amount of meat they sell in the same form as they receive it, but they still do some cutting. Respondents often indicated that their buyers preferred to buy and cut wholesale cuts.

Fabricators handled an average of 31,813 pounds carcass weight of beef per week. 9/ They handled an average of 5,989 pounds carcass weight of pork per week. 10/ These wholesalers averaged 5 pounds of beef per 1 pound of pork. Fabricators handled much smaller amounts of meat than packers, packer sales offices, and branch houses.

Hotels, restaurants, and institutions (HRI) other than fast food restaurants were the largest customers for fabricators (table 3). Fast food restaurants were the second most important customer for beef; meat markets were third. Sales through the fabricators' own stores were their second most important outlet for pork after other HRI sales. Fabricators compete with packers and packer sales organizations for sales to meat markets.

Other Wholesalers

Almost all other wholesalers handled both beef and pork, although beef was in sausage kitchen items in some cases. Fifteen firms wholesaled meat without doing any cutting. Only two of these handled just beef. Two others handled only pork.

Other wholesalers handled an average of 55,831 pounds carcass weight per week. 11/ They averaged 56,287 pounds carcass weight of pork per week. 12/ Since this category of firms includes van wholesalers as well as brokers, there is much variation in the size of firms. Van wholesalers are firms with a small truck and which deliver daily to small customers.

The largest type of customer for noncutter wholesalers was customers outside the St. Louis SMSA (table 4). HRI firms (not including fast foods) were the second largest type of customer for these wholesalers. Meat markets were the second largest customer for pork, followed by HRIs. Other wholesalers compete mainly with fabricators for beef sales and compete with packers and packer sales office for pork sales, especially fresh pork.

8/ The standard deviation was 98,289 pounds.
9/ The standard deviation was 29,982 pounds.
10/ The standard deviation was 8,632 pounds.
11/ The standard deviation was 345,756 pounds.
12/ The standard deviation was 127,667 pounds.

Table 1--Beef and pork: Percentage sold to various types of buyers by packers, St. Louis SMSA, 1978 1/

Commodity sold	Packers	Wholesalers 2/	HRI 3/	Own store	Meat markets	Chain grocery stores	Sold outside SMSA	Total
	Percent							
Total	0.27	2.84	0.15	0.30	22.31	11.59	63.00	100.00
Beef	.14	1.16	.11	.16	8.18	2.89	8.31	20.95
Carcass	--	.50	--	--	6.82	1.93	6.71	15.95
Primals	.12	.07	--	--	1.20	.81	.14	2.35
Subprimals	--	4/	.10	.12	--	.02	.04	.28
Boneless and hamburger	.02	.58	.01	.03	.04	--	.02	.69
Sausage and processed	--	.01	4/	.02	.13	.14	1.39	1.69
Pork 5/	.14	1.69	.04	.14	14.13	8.70	54.70	79.05
Fresh	.06	.73	.02	.06	6.11	5.68	47.28	59.74
Cured	.04	.45	.02	.05	6.78	2.41	5.17	14.91
Sausage and kitchen items	.03	.11	4/	.03	1.21	.76	2.24	4.40

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Wholesalers include fabricators, other wholesalers, and processors.
3/ HRI is hotels, restaurants, and institutions including fast food outlets.
4/ Less than 0.005 percent.
5/ Pork total may be greater than the sum of pork categories because some firms gave only total pork data.

Table 2--Beef and pork: Percentage sold to various types of buyers by packer sales offices and branch houses, St. Louis SMSA, 1978 1/

Commodity sold	Packers	Wholesalers 2/	HRI 3/	Meat markets	Chain grocery stores	Outside SMSA	Total
	Percent						
Total	0.11	3.68	4.91	54.62	30.00	6.69	100.00
Beef	--	1.93	.95	28.92	14.18	4.13	50.10
Carcass	--	1.47	--	22.66	7.83	3.92	35.88
Primals	--	.08	--	.82	.64	--	1.54
Sausage and processed	--	.38	.95	5.43	5.71	.21	12.68
Pork 4/	.11	1.75	3.95	25.70	15.82	2.56	49.90
Fresh	--	.76	--	6.15	5.71	.81	13.42
Cured	.11	.44	2.47	10.89	3.87	.86	18.64
Sausage kitchen items	--	.70	1.49	9.07	5.69	.90	17.83

-- = Not applicable
1/ Totals based on unrounded data.
2/ Wholesalers include fabricators, other wholesalers, and processors.
3/ HRI is hotels, restaurants, and institutions including fast food outlets.
4/ Pork total may be greater than the sum of pork categories because some firms gave only total pork data.

Table 3--Beef and pork: Percentage sold to various types of buyers by fabricators, St. Louis SMSA, 1978 1/

Commodity sold	Packers	Wholesalers 2/	Venders	Fast food outlets	Other 3/	Own store	Meat markets	Chain grocery stores	Sold outside SMSA	Total
	Percent									
Total	0.24	0.22	0.51	10.87	69.66	4.68	8.43	0.03	5.37	100.00
Beef	.24	.20	.36	10.87	57.32	3.02	7.89	--	4.27	84.16
Carcasses	--	--	--	--	--	--	.76	--	.05	.81
Primals	.24	.04	--	--	.13	--	6.66	--	.83	7.91
Subprimals	--	.16	.34	--	54.88	2.93	.43	--	2.19	60.93
Boneless and hamburger	--	--	--	10.49	2.19	.07	.04	--	1.20	13.99
Sausage and processed	--	--	.02	.37	.11	.02	--	--	4/	.52
Pork 5/	--	.02	.15	--	12.35	1.66	.54	.03	1.10	15.84
Fresh	--	.02	.02	--	6.28	1.03	.37	.03	.20	7.55
Cured	--	--	.05	--	3.35	.52	.13	--	.01	4.07
Sausage kitchen items	--	--	.07	--	1.05	.03	--	--	4/	1.16

-- = Not applicable
1/ Total based on unrounded data.
2/ Wholesalers include fabricators, other wholesalers, and processors.
3/ Other includes hotels, restaurants, and institutions.
4/ Less than 0.005 percent.
5/ Pork total may be greater than the sum of pork categories because some firms gave only total pork data.

Table 4--Beef and pork: Percentage sold to various types of buyers by other wholesalers, St. Louis SMSA, 1978 1/

Commodity sold	Packers	Wholesalers 2/	Venders	Fast food outlets	Other 3/	Meat markets	Chain grocery stores	Sold outside SMSA	Total
	Percent								
Total	0.13	4.55	0.27	--	13.21	11.38	1.47	69.00	100.00
Beef	.13	4.12	.23	--	9.71	4.36	1.14	30.11	49.80
Carcasses	--	--	---	--	--	.02	--	--	.02
Primals	--	--	---	--	--	.10	--	--	.10
Subprimals	--	--	---	--	4.97	.01	--	1.10	6.80
Boneless and hamburger	--	4.12	.21	--	4.27	4.06	--	29.01	41.66
Sausage and processed	.13	--	.02	--	.47	.17	1.14	4/	1.93
Pork 5/	--	.43	.04	--	3.49	7.02	.38	38.89	50.20
Fresh	--	.43	.01	--	1.26	4.49	.33	38.74	45.25
Cured	--	--	.01	--	1.64	--	--	.10	1.76
Sausage kitchen items	--	--	.02	--	.53	2.42	--	4/	2.98

-- = Not applicable
1/ Totals based on unrounded data.
2/ Wholesalers include fabricators, other wholesalers, and processors.
3/ Other includes hotels, restaurants, and institutions.
4/ Less than 0.005 percent.
5/ Pork total may be greater than the sum of pork categories because some firms gave only total pork data.

Processors

Processors include not only firms that smoked and/or cooked meat, but also those that produced food products. Processors handled an average of 22,178 pounds carcass weight of beef per week. 13/ They averaged 17,290 pounds carcass weight of pork. 14/ Twelve firms were considered processors. Two handled only beef, three handled only pork, and seven handled both beef and pork.

Processors' most important sales outlet for beef was outside the St. Louis SMSA, followed by fast food restaurants (table 5). The most important sales outlet for pork (especially cured pork products) was meat markets; HRI firms were second. Processors compete with fabricators for beef sales to fast food restaurants and compete against packers and packer sales offices for pork sales to meat markets.

Retailers

Although no attempt was made to contact all final outlets for meat, some chain operations that might buy directly from packers outside the St. Louis SMSA were included. These included groceries, fast food restaurants, and venders. The main office in the St. Louis SMSA for these firms was contacted for information.

Chain grocery operations included the large firms, the associated chains, and federated chains. The individual stores are owned by individuals in the latter two types. Associated chains have formed an association to buy at wholesale.

A federation of independent stores buying from the wholesaler is a federated chain. Unlike chain corporations, the individual store owner may also buy from outside the association or federation. However, an individual store would probably buy from a local packer or packer sales office and thus be included elsewhere in the survey.

Venders handled the smallest average amount among the chain operations surveyed. Grocery chains handled the largest average amount. The average amount of beef handled was larger than the average amount of pork for all types of chain operations.

DISTRIBUTION CHANNELS

The flow of meat from packer to consumer is the distribution channel. Channels are presented here in terms of the total meat handled and the total meat consumed. Meat handled can be defined either as that consumed plus that shipped outside the St. Louis SMSA or as that shipped in plus that produced in the St. Louis SMSA. Total meat consumed in the St. Louis SMSA was either that sold through final outlets or production plus net inshipments.

Beef

About 78 percent of the beef handled in the St. Louis SMSA was consumed locally; 22 percent was shipped from the area (fig. 1). Local packers produced 25 percent of the beef handled there and 75 percent was shipped into the area. Wholesalers (fabricators, other wholesalers, and processors) handled 20 percent of the beef,

13/ The standard deviation was 41,114 pounds.
14/ The standard deviation was 24,005 pounds.

Table 5--Beef and pork: Percentage sold to various types of buyers by processors, St. Louis SMSA, 1978 1/

Commodity sold	Packers	Wholesalers 2/	Venders	Fast food outlets	Other 3/	Own store	Meat markets	Chain grocery stores	Sold outside SMSA	Total
					Percent					
Total	0.04	1.57	--	18.28	13.95	1.75	34.98	0.88	28.54	100.00
Beef	--	.47	--	18.19	4.59	.60	4.15	--	25.59	53.58
Primals	--	--	--	--	--	--	.02	--	--	.02
Subprimals	--	.03	--	--	.45	.13	1.24	--	4/	1.85
Boneless and hamburger	--	--	--	14.20	2.97	--	--	--	25.56	42.72
Sausage and processed	--	.44	--	3.99	1.18	.46	2.90	--	.03	8.99
Pork 5/	.04	1.10	--	.09	9.37	1.15	30.83	.88	2.96	46.42
Fresh	--	--	--	--	.81	--	--	--	--	.81
Cured	.04	1.01	--	.09	4.97	.67	28.58	.88	2.58	38.82
Sausage kitchen items	--	.10	--	--	3.59	.48	2.25	--	.37	6.79

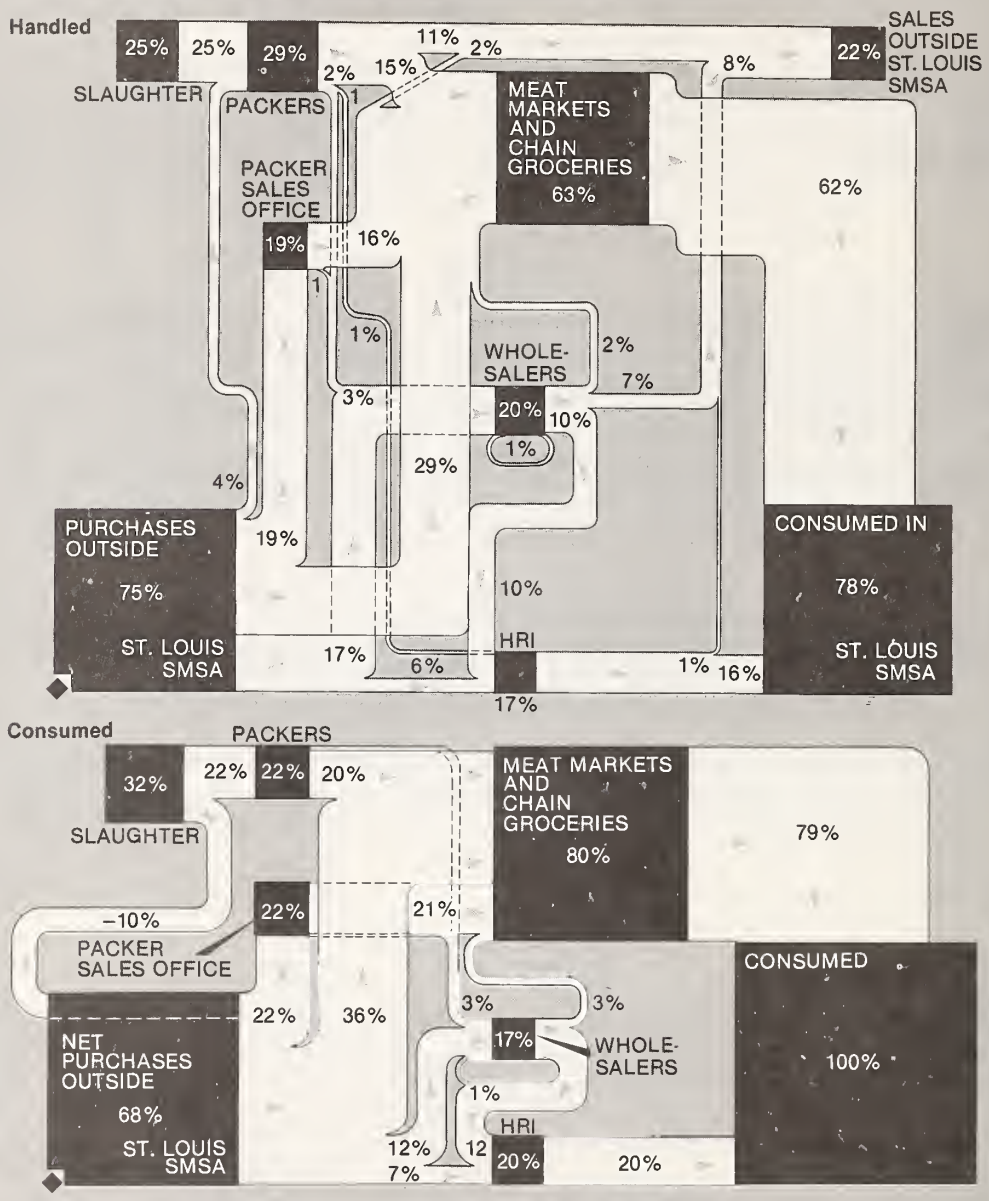
-- = Not applicable
1/ Totals based on unrounded data.
2/ Wholesalers include fabricators, other wholesalers, and processors.
3/ Other includes hotels, restaurants, and institutions.
4/ Less than 0.005 percent.
5/ Pork total may be greater than the sum of pork categories because some firms gave only total pork data.

Table 6--Beef and pork: Average volume handled and standard deviation for chains operating in St. Louis SMSA, 1978

Item	Groceries	Fast food	Venders
		Pounds	
Beef			
Mean	426,727	69,871	1,214
Standard deviation	294,357	55,823	635
Pork			
Mean	269,263	4,671	750
Standard deviation	224,995	6,244	605

Figure 1

Total Beef Handled and Consumed in St. Louis SMSA, 1978



SMSA = Standard Metropolitan Statistical Area. HRI = Hotels, Restaurants, and Institutions. Totals may not add due to rounding and elimination of fractional percentage flows.

packer sales offices and branch houses handled 18.9 percent, chain groceries and meat markets handled 62.7 percent, and HRIs handled 16.5 percent. Almost a third of the beef handled by chain groceries and meat markets came from outside the St. Louis SMSA. HRIs obtained 6.2 percent of their beef from outside the area. These outside purchases were by chain operations buying through a central office. Adding meat handled by packers, all wholesalers including sales offices, and retailers gives 147.3 percent, indicating that 47.3 percent of the beef was handled more than once.

Data were adjusted to reflect meat flows for only the meat consumed in the St. Louis SMSA (fig. 1). Beef slaughter represented 32 percent of the meat consumed, but packers handled only 22 percent of the local sales. The remaining 10 percent of the beef slaughtered was shipped from the area. There was a net 68-percent inshipment of beef to the St. Louis SMSA. Grocery stores and meat markets handled 80 percent of the beef and HRIs handled 20 percent. More than 60 percent of the beef consumed was handled more than once.

Fed Beef

Fed beef includes Prime, Choice, and Good graded beef plus beef sold as cuts not federally graded. Choice grade beef comprised most of the fed beef (91 percent of fed beef handled). Good and no roll (ungraded) made up 7 percent and Prime beef accounted for 2 percent of the fed beef handled.

Most fed beef was slaughtered and purchased outside the St. Louis SMSA, with only 30 percent slaughtered locally (fig. 2). Grocery stores and meat markets brought in 36 percent of the purchases outside the St. Louis SMSA.

Fed beef was mostly sold through grocery stores and meat markets, with only about 10 percent going through HRIs. The small share to HRI means their main suppliers (wholesalers) handled a smaller percentage of fed beef then they did of all beef. Nearly 54 percent of the fed beef was handled more than once in the St. Louis SMSA.

Data were adjusted to exclude out-of-area sales. This adjustment highlights the dominance of groceries and meat markets in fed beef sales to consumers (fig. 2). HRIs handled only 11.4 percent of the fed beef consumed in the St. Louis SMSA, while groceries and meat markets handled 88 percent.

Approximately two-thirds of the fed beef was purchased from outside the area. Packers slaughtered about a third of the fed beef and sold 7.8 percent of it outside the area, reducing the amount handled for local consumption. The percentage of outside purchases going directly to grocery stores and meat markets was 40 percent. Almost 62 percent of the fed beef purchased outside the St. Louis SMSA was handled more than once.

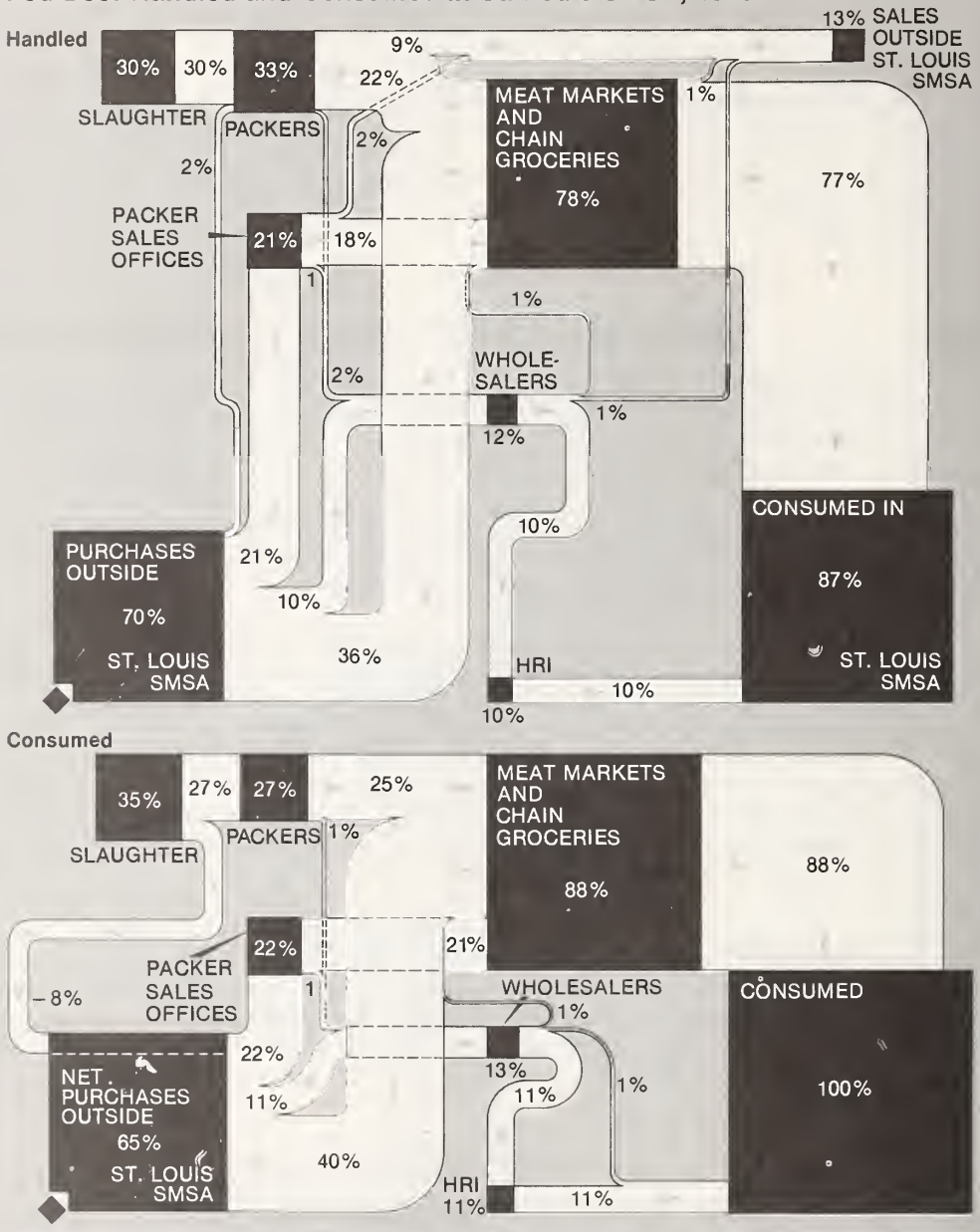
Cow and Other Manufacturing Beef

The cow and other manufacturing beef category included boneless meat and hamburger plus beef used in sausage kitchen products such as hot dogs, bologna, and luncheon meats as well as imported beef used in any of these items or otherwise processed. Cow beef and other lean beef is used by meat markets and grocery chains to mix with Choice beef trimmings to make hamburger.

Most cow and other manufacturing beef was purchased from outside the St. Louis SMSA (fig. 3). Packers slaughtered only 14 percent of the total handled by area firms. St. Louis packers sold 16.4 percent of the cow and manufacturing beef handled outside the St. Louis SMSA which was more than they slaughtered. This can be partly

Figure 2

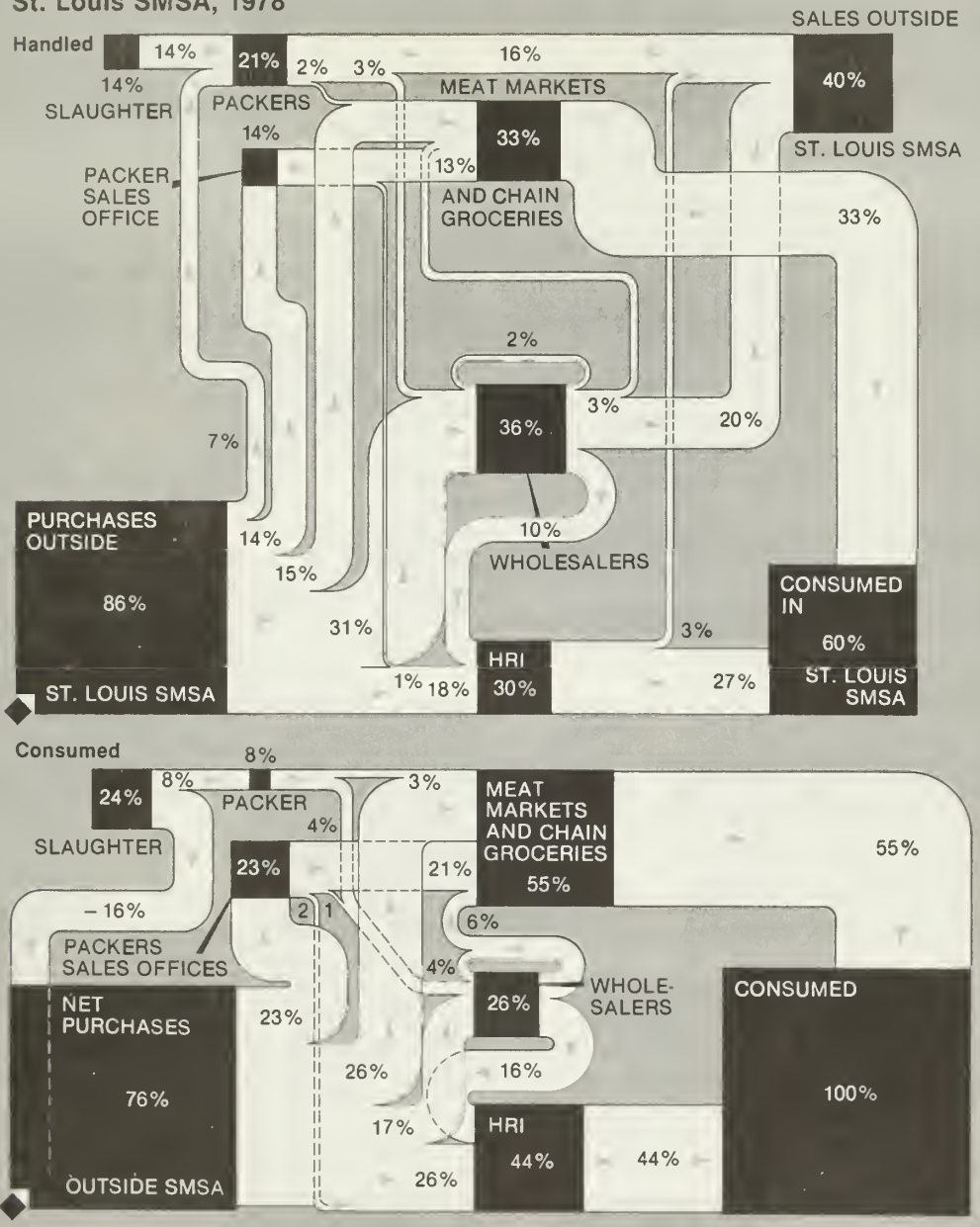
Fed Beef Handled and Consumed in St. Louis SMSA, 1978



SMSA = Standard Metropolitan Statistical Area. HRI = Hotels, Restaurants, and Institutions. Totals may not add due to rounding and elimination of fractional percentage flows.

Figure 3

Cow and Manufacturing Beef Handled and Consumed in St. Louis SMSA, 1978



SMSA = Standard Metropolitan Statistical Area. HRI = Hotels, Restaurants, and Institutions. Totals may not add due to rounding and elimination of fractional percentage flows.

explained by the fact that the packer category includes all packers, including those slaughtering hogs. Some of these plants produced sausage kitchen items which contain both beef and pork. Beef was often purchased outside the area, combined with pork, and then sold outside the St. Louis SMSA.

Wholesalers handled a larger proportion of cow and other manufacturing beef than packers or packer sales offices. The proportion of cow and other manufacturing beef that wholesalers sell to HRIs was about the same as the proportion of fed beef sold. However, wholesalers sold considerably more cow and other manufacturing beef in percentage terms to firms outside the St. Louis SMSA than they did fed beef. HRIs bought over half of their cow and other manufacturing beef from outside the St. Louis SMSA. These firms include fast food chains which generally buy from large, specialized producers, none of which happened to be in the St. Louis SMSA.

Increased eating out is generally thought to reduce grocery store sales. But HRIs were not particularly important outlets for all beef or fed beef compared to groceries and meat markets. This was not the case for cow and other manufacturing beef; the percentage of that type of beef handled was nearly the same for both sectors, with the grocery stores having a slight edge. More than 34 percent of the cow and other manufacturing beef handled at the packer, wholesale, and retail market levels was handled more than once.

Meat markets and groceries take on even more importance in the cow and other manufacturing beef category when the data are based on total consumed rather than total handled (fig. 3). Meat markets and grocery stores sold 55 percent of the product consumed, compared to 44 percent for HRIs (compare this to fig. 3 where the percentages for total handled were more nearly equal). More than 57 percent of the cow and other manufacturing beef consumed in the St. Louis SMSA was handled more than once at the various marketing levels.

Total Pork

The St. Louis SMSA packers slaughtered a larger percentage of the pork handled than they did of the beef handled (fig. 4). There are several large hog slaughtering plants in the area. Over half of the pork handled was shipped out of the area, most of that by packers. Even so, 27 percent of the pork handled was purchased from outside the St. Louis SMSA. Meat markets and chain groceries, handling just 39 percent of the pork handled in the area, handled 93 percent of the pork consumed in the area (fig. 5). Wholesalers sold more to meat markets and chain groceries than to HRIs.

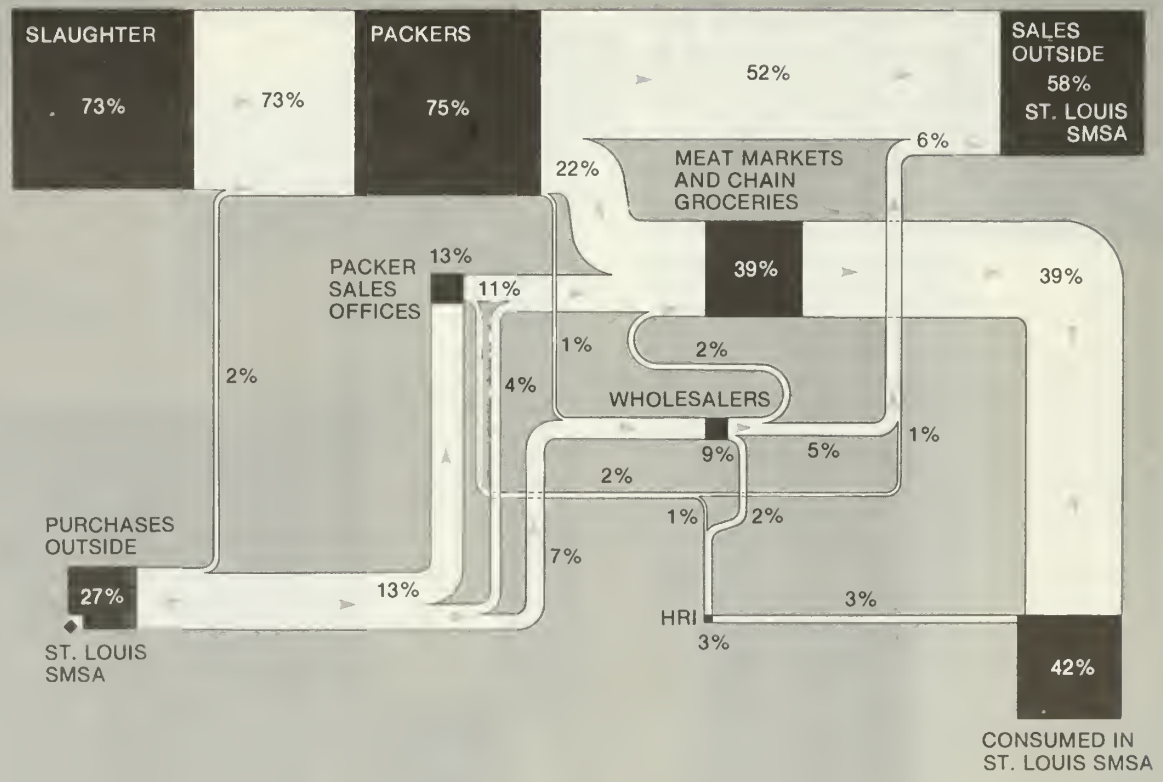
Large sales by packers to firms outside the St. Louis SMSA have made portrayal of net inshipments difficult. St. Louis slaughter of total pork accounted for 175 percent of the pork consumed in St. Louis. Sales by packers to firms outside the area were 120 percent of St. Louis consumption.

Fresh Pork

Fresh pork handled in St. Louis represented about 67 percent of the total pork handled. Three-fourths of the fresh pork handled was shipped to firms outside the St. Louis SMSA. Packers were the most important in terms of percent of fresh pork volume handled (84 percent). Some packers have specialized their operations by slaughtering in one plant and processing in others. This specialization explains some of the outshipments. Packer sales offices are very small, handling only 5 percent of the total. Wholesalers handled 10 percent of the fresh pork and 8 percent went outside

Figure 4

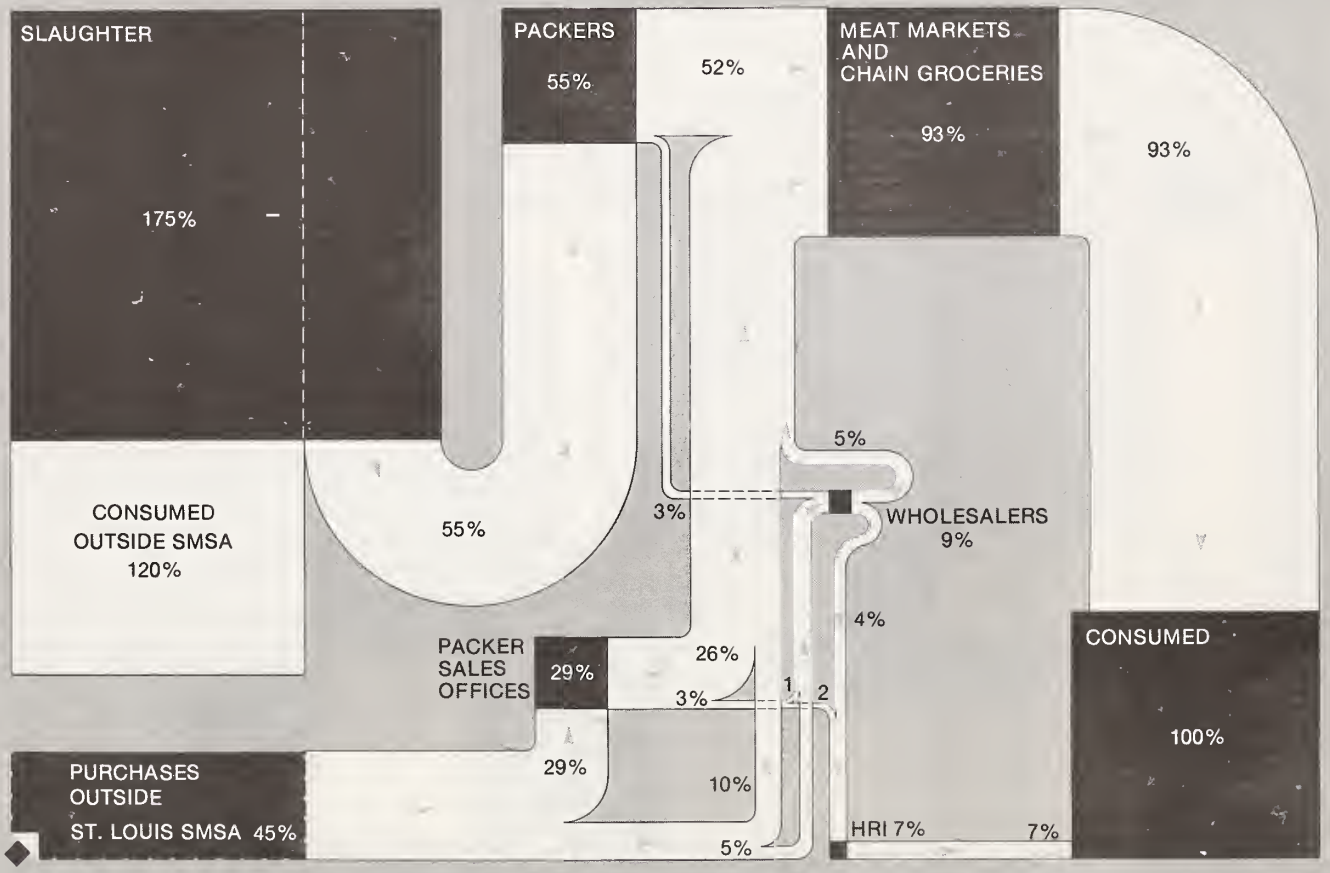
Total Pork Handled in St. Louis SMSA, 1978



SMSA = Standard Metropolitan Statistical Area. HRI = Hotels, Restaurants, and Institutions. Totals may not add due to rounding and elimination of fractional percentage flows.

Figure 5

Total Pork Consumed in St. Louis SMSA, 1978



SMSA = Standard Metropolitan Statistical Area. HRI = Hotels, Restaurants, and Institutions. Totals may not add due to rounding and elimination of fractional percentage flows.

the St. Louis SMSA. Most of the fresh pork consumed went through grocery stores or meat markets (24 percent) as opposed to HRI firms (1 percent).

St. Louis slaughter of fresh pork represents 332 percent of local consumption, a figure which further emphasizes the large sales (262 percent) outside the area. Meat markets and chain grocery stores handled 96 percent of the fresh pork consumed in the area. Local packers were still the most important source of fresh pork for meat markets and chain grocery stores (66 percent).

Cured Pork

Cured pork products such as hams and bacon were produced mainly from local slaughter. Only 38 percent of the cured pork handled came from outside the area. Packers were the largest volume handlers of cured pork and they sold mainly to meat markets and chain groceries (40 percent). The largest share of the purchases from out of the area were handled by packer sales offices (22 percent).

Meat markets and chain groceries handled most of the cured pork purchased by consumers in the St. Louis area (70 percent of cured handled and 91 percent of all cured pork consumed). St. Louis customers consumed 76 percent of all cured pork handled in the area.

Sausage Items

Pork used in sausage and as a part of hot dogs, bologna, or other such items were largely purchased by consumers from meat markets and chain groceries (69 percent of such items handled and 90 percent for sausage items consumed in the St. Louis SMSA).

Packer sales offices handled a larger volume (45 percent handled and 55 percent consumed) of sausage items than did local packers (40 percent handled and 26 percent consumed) and wholesalers (7 percent handled and 8 percent consumed). Local packers sold the largest proportion of their volume (21 percent of the sausage items handled) to firms outside the St. Louis SMSA.

COMPARISON WITH AN EARLIER STUDY

Some comparisons can be made between the present study and a 1956 distribution study in Los Angeles County, California, 15/ even though the types of firms are grouped somewhat differently in the two studies. California packers provided 89.5 percent of the total supply of beef, much larger than the 25 percent provided by St. Louis packers. Retail outlets sold about 65 percent of the California beef supply compared to 78 percent in this study. The St. Louis HRIs sold 4 percent more of the beef consumed in the area than did Los Angeles County HRIs.

Comparisons can be made between the two studies for fresh and cured pork, but the sausage kitchen items were not measured in the California study. California and St. Louis packers slaughtered the same percentages. There was a larger percentage (37 percent) moving to California retailers than the 25 percent in this study for all fresh pork handled. HRIs took 13 percent of the fresh pork consumed in Los Angeles County, compared to 4 percent in the St. Louis SMSA.

15/ Raymond A. Dietrich and Willard F. Williams, Meat Distribution in the Los Angeles Area, U.S. Dept. of Agr., Agr. Mkt. Serv., MRR-347, July 1959.

Retailer outlets handled about the same percentage of cured pork in both studies when out-of-area sales are considered. Los Angeles branch houses handled 43 percent, compared to 22 percent in the St. Louis study. HRIs sold 8 percent of the cured pork consumed in the area, compared to 5 percent in Los Angeles County.

IMPLICATIONS FOR A NATIONAL STUDY

Most St. Louis firm managers were able to provide the information needed without consulting detailed records. This limited interview time to a reasonable minimum. While data from the various market levels did not exactly match, it was close enough so that differences could be reconciled. There was generally favorable respondent cooperation in the St. Louis study.

A study has been undertaken in six southern U.S. cities to provide similar data. Lessons learned in the St. Louis pilot study about questionnaire design, selection of respondents, and methods of analyzing the data are being exploited in the southern study. Three types of questionnaires are being used. The taking of surveys was contracted out and the data will be summarized using a computer. Changes were made to identify regions from which outside SMSA purchases and/or outside sales were made. A further change included a sample of retail outlets to provide a check on out-of-area purchases and purchases other than through the local warehouse for cooperative type chains.

APPENDIX TABLES

Data in the following appendix tables were used to develop figures 1-5 with additional pork tables for fresh, cured, and sausage products. The first section of each table gives initial supplies (slaughter and purchases from outside the area). The section for packers represents meat wholesaled by St. Louis packers. The wholesale section gives the breakdown for different types of wholesalers in terms of the types of firms they buy from. The retail section breaks out detail for different types of retail outlets. The final section provides detail on final disposition of meat either to consumers or to firms outside the area.

Appendix table 1--Total beef: Percentage handled in St. Louis SMSA, 1978 1/

Buyer and beef cut	Sellers										
	Packers in SMSA	Outside SMSA	Wholesalers			Retailers					Total
			Packer sales offices	Fabricators	Other 2/	Meats markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	
	Percent										
Initial beef supplies in SMSA	25.0	75.0	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	25.0	--	--	--	--	--	--	--	--	--	4/25.0
Meat purchased from sources outside SMSA	--	75.0	--	--	--	--	--	--	--	--	75.0
Carcasses	--	30.8	--	--	--	--	--	--	--	--	30.8
Primals	--	5.4	--	--	--	--	--	--	--	--	5.4
Subprimals and cuts	--	10.0	--	--	--	--	--	--	--	--	10.0
Hamburger and boneless	--	21.6	--	--	--	--	--	--	--	--	21.6
Sausage and processed	--	7.2	--	--	--	--	--	--	--	--	7.2
Supplies handled in SMSA by--											
Packers	.2	3.7	--	5/	--	--	--	--	--	--	4/4.0
Primals	.2	1.4	--	5/	--	--	--	--	--	--	1.6
Hamburger and boneless	5/	2.3	--	--	--	--	--	--	--	--	2.3
Wholesalers	1.6	36.0	0.7	5/	0.8	--	--	--	--	--	4/39.2
Packer sales offices	--	18.9	--	--	--	--	--	--	--	--	18.9
Carcasses	--	13.6	--	--	--	--	--	--	--	--	13.6
Primals	--	.6	--	--	--	--	--	--	--	--	.6
Sausage and processed	--	4.8	--	--	--	--	--	--	--	--	4.8
Fabricators	1.6	7.8	.7	5/	.7	--	--	--	--	--	10.8
Carcasses	.7	.7	.6	--	--	--	--	--	--	--	1.9
Primals	.1	3.4	--	5/	--	--	--	--	--	--	3.5
Subprimals and cuts	5/	1.5	--	5/	--	--	--	--	--	--	1.5
Hamburger and boneless	.8	2.2	--	--	.7	--	--	--	--	--	3.7
Sausage and processed	5/	--	.1	--	--	--	--	--	--	--	.1
Other 2/	5/	9.5	5/	--	5/	--	--	--	--	--	9.6
Subprimals and cuts	5/	1.4	--	5/	--	--	--	--	--	--	1.4
Hamburger and boneless	5/	7.8	--	--	5/	--	--	--	--	--	7.8
Sausage and processed	5/	.3	5/	5/	--	--	--	--	--	--	.4
Retailers	15.4	35.3	16.7	8.4	3.3	0.1	--	5/	--	--	4/79.2
Meat markets	11.3	--	10.9	1.0	.8	5/	--	--	--	--	24.0
Carcasses	9.4	--	8.6	.1	5/	5/	--	--	--	--	18.1
Primals	1.7	--	.3	.7	5/	--	--	--	--	--	2.6
Subprimals and cuts	--	--	--	.1	5/	--	--	--	--	--	.1
Hamburger and boneless	.1	--	--	5/	.8	5/	--	--	--	--	.8
Sausage and processed	.2	--	2.1	.1	5/	5/	--	--	--	--	2.4

See footnotes at end of table.

Continued--

Appendix table 1--Total beef: Percentage handled in St. Louis SMSA, 1978 1/--Continued

Buyer and beef cut	Sellers										
	Packers in SMSA	Outside SMSA	Wholesalers			Retailers					Total
			Packer sales office	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	
	Percent										
Supplies handled in SMSA by--											
Retailer--Continued											
Chain grocery stores	4.0	29.1	5.4	--	0.2	--	--	--	--	--	38.7
Carcasses	2.7	16.5	3.0	--	--	--	--	--	--	--	22.2
Primals	1.1	--	.2	--	--	--	--	--	--	--	1.4
Subprimals and cuts	5/	7.4	--	--	--	--	--	--	--	--	7.4
Hamburger and boneless	--	3.7	--	--	--	--	--	--	--	--	3.7
Sausage and processed	.2	1.5	2.2	--	.2	--	--	--	--	--	4.0
Venders	5/	5/	5/	5/	5/	--	--	5/	--	--	.1
Fast food outlets	--	6.2	--	1.9	--	--	--	--	--	--	8.1
Hamburger and boneless	--	5.6	--	1.7	--	--	--	--	--	--	7.3
Sausage and processed	--	.6	--	.2	--	--	--	--	--	--	.9
Other 2/	.1	--	.4	5.4	2.2	0.1	--	--	--	--	8.3
Subprimals and cuts	.1	--	--	5.0	1.3	.1	--	--	--	--	6.5
Hamburger and boneless	5/	--	--	.4	.8	5/	--	--	--	--	1.2
Sausage and processed	5/	--	.4	.1	.1	5/	--	--	--	--	.5
Final uses	11.7	--	1.6	2.1	5.5	23.9	28.7	0.1	8.1	8.3	100.0
Consumed in SMSA	.2	--	--	.3	--	23.9	38.0	.1	7.2	8.3	78.0
Cuts	.2	--	--	.3	--	20.6	30.3	5/	--	6.6	58.0
Hamburger	5/	--	--	5/	--	1.0	3.7	5/	6.3	1.2	12.3
Sausage and processed	5/	--	--	5/	--	2.4	4.0	5/	.8	.5	7.8
Sold outside SMSA	11.5	--	1.6	1.7	5.7	--	.6	--	1.0	--	22.0
Carcasses	9.3	--	1.5	5/	--	--	--	--	--	--	10.8
Primals	.2	--	--	.1	--	--	--	--	--	--	.3
Subprimals and cuts	.1	--	--	.2	.2	--	.6	--	--	--	1.1
Hamburger and boneless	5/	--	--	1.3	5.5	--	--	--	.9	--	7.8
Sausage and processed	1.9	--	.1	5/	5/	--	5/	--	5/	--	2.1

-- = Not applicable. 1/ Totals based on unrounded data. 2/ Other wholesalers sell product in the same form in which purchased. 3/ Other includes hotels, restaurants, and institutions. 4/ The sum of portions of product distributed through these three market levels plus slaughter is 147.3 percent indicating 47.3 percent of the beef was handled more than once. 5/ Less than 0.05 percent.

Appendix table 2--Total beef: Percentage consumed in St. Louis SMSA, 1978 1/

Buyer and beef cut	Sellers										
	Packers	Net outside SMSA	Wholesalers			Retailers					Total
			Packer sales offices	Fabricators	Other 2/	Meats markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	
	Percent										
Initial beef supplies in SMSA	32.0	68.0	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	32.0	--	--	--	--	--	--	--	--	--	4/32.0
Net meat purchased from sources outside SMSA	--	68.0	--	--	--	--	--	--	--	--	68.0
Carcasses	--	25.7	--	--	--	--	--	--	--	--	25.7
Primals	--	6.6	--	--	--	--	--	--	--	--	6.6
Subprimals and cuts	--	11.5	--	--	--	--	--	--	--	--	11.5
Hamburger and boneless	--	17.7	--	--	--	--	--	--	--	--	17.7
Sausage and processed	--	6.6	--	--	--	--	--	--	--	--	6.6
Supplies handled in SMSA by--											
Packers	.2	-9.9	--	0.1	--	--	--	--	--	--	4/-9.6
Carcasses	--	-11.9	--	--	--	--	--	--	--	--	-11.9
Primals	.2	1.6	--	5/	--	--	--	--	--	--	1.8
Hamburger and boneless	5/	2.9	--	--	--	--	--	--	--	--	2.9
Sausage and processed	--	-2.5	--	5/	--	--	--	--	--	--	-2.4
Wholesalers	2.0	34.8	0.9	.1	1.0	--	--	--	--	--	4/38.8
Packer sales offices	--	22.3	--	--	--	--	--	--	--	--	22.3
Carcasses	--	15.5	--	--	--	--	--	--	--	--	15.5
Primals	--	.7	--	--	--	--	--	--	--	--	.7
Sausage and processed	--	6.0	--	--	--	--	--	--	--	--	6.0
Fabricators	2.0	7.9	.9	5/	1.0	--	--	--	--	--	11.7
Carcasses	.9	.9	.7	--	--	--	--	--	--	--	2.5
Primals	.1	4.3	5/	5/	--	--	--	--	--	--	4.4
Subprimals and cuts	5/	1.6	--	5/	--	--	--	--	--	--	1.7
Hamburger and boneless	1.0	1.1	--	--	1.0	--	--	--	--	--	3.0
Sausage and processed	5/	5/	.1	--	--	--	--	--	--	--	.2
Other 2/	5/	4.6	.1	5/	5/	--	--	--	--	--	4.8
Subprimals and cuts	5/	1.2	--	5/	--	--	--	--	--	--	1.2
Hamburger and boneless	5/	3.0	--	--	5/	--	--	--	--	--	3.1
Sausage and processed	5/	.4	.1	5/	--	--	--	--	--	--	.5

See footnotes at end of table.

Continued--

Appendix table 2--Total beef: Percentage consumed in St. Louis SMSA, 1978 1/--Continued

Buyer and beef cut	Sellers										
			Wholesalers			Retailers					
	Packers	Net outside SMSA	Packer sales office	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent										
Supplies handled in SMSA by--											
Retailers	19.8	43.2	21.3	11.2	3.7	0.1	--	5/	--	--	4/99.4
Meat markets	14.5	--	14.0	1.2	1.1	5/	--	--	--	--	30.8
Carcasses	12.1	--	11.0	.1	5/	5/	--	--	--	--	23.1
Primals	2.1	--	.4	.8	5/	--	--	--	--	--	3.4
Subprimals and cuts	--	--	--	.1	5/	--	--	--	--	--	.1
Hamburger and boneless	.1	--	--	5/	1.0	5/	--	--	--	--	1.1
Sausage and processed	.2	--	2.6	.2	5/	5/	--	--	--	--	3.1
Chain grocery stores	5.1	36.5	6.9	--	.3	--	--	--	--	--	48.8
Carcasses	3.4	21.2	3.8	--	--	--	--	--	--	--	28.4
Primals	1.4	--	.3	--	--	--	--	--	--	--	1.7
Subprimals and cuts	5/	8.7	--	--	--	--	--	--	--	--	8.7
Hamburger and boneless	--	4.8	--	--	--	--	--	--	--	--	4.8
Sausage and processed	.2	1.8	2.8	--	.3	--	--	--	--	--	5.1
Venders	5/	5/	5/	5/	.1	--	--	5/	--	--	.1
Hamburger and boneless	5/	5/	--	--	.1	--	--	5/	--	--	.1
Fast food outlets	--	6.7	--	2.5	--	--	--	--	--	--	9.2
Hamburger and boneless	--	5.9	--	2.2	--	--	--	--	--	--	8.1
Sausage and processed	--	.8	--	.3	--	--	--	--	--	--	1.1
Other 3/	.2	--	.5	7.5	2.3	.1	--	--	--	--	10.6
Subprimals and cuts	.2	--	--	6.9	1.2	.1	--	--	--	--	8.4
Hamburger and boneless	5/	--	--	.5	1.0	5/	--	--	--	--	1.5
Sausage and processed	5/	--	.5	.1	.1	5/	--	--	--	--	.7
Consumed in SMSA	.3	--	--	.4	--	30.6	48.8	0.1	9.2	10.6	100.0
Cuts	.2	--	--	.4	--	26.3	38.9	.1	--	8.4	74.2
Hamburger	5/	--	--	5/	--	1.3	4.8	.1	8.1	1.5	15.8
Sausage and processed	5/	--	--	5/	--	3.1	5.1	5/	1.1	.7	10.0

-- = Not applicable. 1/ Totals based on unrounded data. 2/ Other wholesalers sell product in the same form in which purchased. 3/ Other includes hotels, restaurants, and institutions. 4/ The sum of the product distributed through these three market levels plus slaughter is 160.6 percent indicating 60.6 percent of the meat is handled more than once. 5/ Less than 0.05 percent.

Appendix table 3--Fed beef: Percentage handled in St. Louis SMSA, 1978 1/

Buyer and beef cut	Sellers										
			Wholesalers			Retailers					
	Packers	Outside SMSA	Packer sales office	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent										
Initial fed beef supplies in SMSA	30.4	69.6	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	30.4	--	--	--	--	--	--	--	--	--	4/30.4
Net meat purchased from sources outside SMSA	--	69.6	--	--	--	--	--	--	--	--	69.6
Carcasses	--	46.3	--	--	--	--	--	--	--	--	46.3
Primals	--	8.2	--	--	--	--	--	--	--	--	8.2
Subprimals and cuts	--	15.1	--	--	--	--	--	--	--	--	15.1
Supplies handled in SMSA by--											
Packers	.3	2.2	--	5/	--	--	--	--	--	--	4/2.5
Primals	.3	2.1	--	5/	--	--	--	--	--	--	2.4
Subprimals and cuts	--	5/	--	--	--	--	--	--	--	--	5/
Wholesalers	1.1	31.4	0.9	5/	--	--	--	--	--	--	4/33.4
Packer sales offices	--	21.3	--	--	--	--	--	--	--	--	21.3
Carcasses	--	20.4	--	--	--	--	--	--	--	--	20.4
Primals	--	.9	--	--	--	--	--	--	--	--	.9
Fabricators	1.1	8.4	.9	5/	--	--	--	--	--	--	10.4
Carcasses	.9	1.0	.8	--	--	--	--	--	--	--	2.8
Primals	.1	5.2	5/	5/	--	--	--	--	--	--	5.3
Subprimals and cuts	5/	2.2	--	5/	--	--	--	--	--	--	2.3
Other 2/	5/	1.7	5/	5/	--	--	--	--	--	--	1.8
Carcasses	5/	--	5/	--	--	--	--	--	--	--	5/
Primals	5/	--	5/	--	--	--	--	--	--	--	5/
Subprimals and cuts	5/	1.7	5/	5/	--	--	--	--	--	--	1.7
Retailers	22.3	36.0	18.2	9.4	1.4	0.1	--	5/	--	--	4/87.5
Meat markets	16.4	--	13.4	1.2	5/	5/	--	--	--	--	31.1
Carcasses	13.9	--	12.9	.1	5/	5/	--	--	--	--	26.9
Primals	2.5	--	.5	1.0	5/	--	--	--	--	--	4.0
Subprimals and cuts	--	--	--	.2	5/	--	--	--	--	--	.2

See footnotes at end of table.

Continued--

Appendix table 3--Fed beef: Percentage handled in St. Louis SMSA, 1978 1/--Continued

Buyer and beef cut	Sellers										
			Wholesalers			Retailers					
	Packers	Outside SMSA	Packer sales office	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent										
Supplies handled in SMSA by--											
Retailers--Continued											
Chain grocery stores	5.7	36.0	4.8	--	--	--	--	--	--	--	46.5
Carcasses	4.0	24.9	4.5	--	--	--	--	--	--	--	33.3
Primals	1.7	--	.4	--	--	--	--	--	--	--	2.0
Subprimals and cuts	5/	11.1	--	--	--	--	--	--	--	--	11.1
Venders	5/	5/	--	0.1	--	--	--	5/	--	--	.1
Subprimals and cuts	5/	5/	--	.1	--	--	--	5/	--	--	.1
Fast food outlets	--	--	--	--	--	--	--	--	--	--	--
Other 3/	.2	--	--	8.1	1.4	0.1	--	--	--	--	9.9
Primals	--	--	--	5/	--	--	--	--	--	--	5/
Subprimals and cuts	.2	--	--	8.1	1.4	.1	--	--	--	--	9.8
Final uses	9.2	--	2.2	.9	.3	30.9	46.5	0.1	--	9.9	100.0
Consumed in SMSA	.2	--	--	.4	--	30.9	45.6	.1	--	9.9	87.2
Cuts	.2	--	--	.4	--	30.9	45.6	.1	--	9.9	87.2
Sold outside SMSA	9.0	--	2.2	.5	.3	--	.9	--	--	--	12.8
Carcasses	8.6	--	2.2	5/	--	--	--	--	--	--	10.8
Primals	.3	--	--	.1	--	--	--	--	--	--	.4
Subprimals and cuts	.1	--	--	.3	.3	--	.9	--	--	--	1.6

-- = Not applicable. 1/ Totals based on unrounded data. 2/ Other wholesalers sell products in the same form in which purchased. 3/ Other includes hotels, restaurants, and institutions. 4/ The sum of the product distributed through these three market levels plus slaughter is 153.8 percent indicating 53.8 percent of the fed beef is handled more than once. 5/ Less than 0.05 percent.

Appendix table 4--Fed beef: Percentage consumed in St. Louis SMSA, 1978 1/

Buyer and beef cut	Sellers										
	Packers in SMSA	Net outside SMSA	Wholesalers			Retailers					Total
			Packer sales offices	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	
	Percent										
Initial beef supplies in SMSA	34.9	65.1	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	34.9	--	--	--	--	--	--	--	--	--	4/34.9
Net meat purchased from sources outside SMSA	--	65.1	--	--	--	--	--	--	--	--	65.1
Carcasses	--	40.7	--	--	--	--	--	--	--	--	40.7
Primals	--	8.9	--	--	--	--	--	--	--	--	8.9
Subprimals and cuts	--	15.5	--	--	--	--	--	--	--	--	15.5
Supplies handled in SMSA by--											
Packers	.3	-7.8	--	5/	--	--	--	--	--	--	4/-7.4
Carcasses	--	-9.8	--	--	--	--	--	--	--	--	-9.8
Primals	.3	2.1	--	5/	--	--	--	--	--	--	2.5
Subprimals and cuts	--	5/	--	--	--	--	--	--	--	--	4/
Wholesalers	1.3	32.6	1.0	5/	--	--	--	--	--	--	4/34.9
Packer sales offices	--	21.9	--	--	--	--	--	--	--	--	21.9
Carcasses	--	20.9	--	--	--	--	--	--	--	--	20.9
Primals	--	1.0	--	--	--	--	--	--	--	--	1.0
Fabricators	1.2	9.1	1.0	5/	--	--	--	--	--	--	11.4
Carcasses	1.1	1.2	1.0	--	--	--	--	--	--	--	3.2
Primals	.1	5.8	5/	5/	--	--	--	--	--	--	6.0
Subprimals and cuts	5/	2.2	--	5/	--	--	--	--	--	--	2.2
Other 3/	5/	1.6	5/	5/	--	--	--	--	--	--	1.7
Carcasses	5/	--	5/	--	--	--	--	--	--	--	5/
Primals	5/	--	5/	--	--	--	--	--	--	--	5/
Subprimals and cuts	5/	1.6	--	5/	--	--	--	--	--	--	1.6
Retailers	25.6	40.3	20.9	10.8	1.7	0.2	--	5/	--	--	4/99.4
Meat markets	18.8	--	15.3	1.4	5/	5/	--	--	--	--	35.6
Carcasses	16.0	--	14.8	.1	5/	5/	--	--	--	--	30.9
Primals	2.9	--	.5	1.1	5/	--	--	--	--	--	4.6
Subprimals and cuts	--	--	--	.2	5/	--	--	--	--	--	.2

See footnotes at end of table.

Continued--

Appendix table 4--Fed beef: Percentage consumed in St. Louis SMSA, 1978 1/--Continued

Buyer and beef cut	Sellers										
	Packers in SMSA	Net outside SMSA	Wholesalers			Retailers					Total
			Packer sales offices	Fabri-cators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	
	Percent										
Supplies handled in SMSA by--											
Retailers--Continued											
Chain grocery stores	6.6	40.3	5.5	--	--	--	--	--	--	--	52.4
Carcasses	4.6	28.5	5.1	--	--	--	--	--	--	--	38.2
Primals	1.9	--	.4	--	--	--	--	--	--	--	2.4
Subprimals and cuts	5/	11.7	--	--	--	--	--	--	--	--	11.8
Venders	5/	5/	--	0.1	--	--	--	5/	--	--	.1
Subprimals and cuts	5/	5/	--	.1	--	--	--	5/	--	--	.1
Fast food outlets	--	--	--	--	--	--	--	--	--	--	--
Other 3/	.2	--	--	9.3	1.6	0.1	--	--	--	--	11.3
Primals	--	--	--	5/	--	--	--	--	--	--	5/
Subprimals and cuts	.2	--	--	9.3	1.6	.1	--	--	--	--	11.3
Consumed in SMSA	.3	--	--	.5	--	35.5	52.4	0.1	--	11.3	100.0
Cuts	.3	--	--	.5	--	35.5	52.4	.1	--	11.3	100.0

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell product in the same form in which purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ The sum of the product distributed through these three market levels plus slaughter is 161.8 percent indicating 61.8 percent of the fed beef was handled more than once.
5/ Less than 0.05 percent.

Appendix table 5--Cow and other manufacturing beef: Percentage handled in St. Louis SMSA, 1978 1/

Buyer and beef cut	Sellers										Total
			Wholesalers			Retailers					
	Packers	Outside SMSA	Packer sales offices	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	
	Percent										
Initial cow and manufacturing beef supplies in SMSA	14.2	85.8	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	14.2	--	--	--	--	--	--	--	---	--	4/14.2
Meat purchased from sources outside SMSA	--	85.8	--	--	--	--	--	--	--	--	85.8
Hamburger and boneless	--	64.3	--	--	--	--	--	--	--	--	64.3
Sausage and processed	--	21.5	--	--	--	--	--	--	--	--	21.5
Supplies handled in SMSA by--									--	--	4/6.9
Packers	.1	6.8	--	--	0.1	--	--	--	--	--	6.8
Hamburger and boneless	.1	6.8	--	--	--	--	--	--	--	--	.1
Sausage and processed	--	5/	--	--	.1	--	--	--	--	--	
Wholesalers	2.6	45.1	0.4	0.1	2.3	--	--	--	--	--	4/50.5
Packers sales office	--	14.3	--	--	--	--	--	--	--	--	14.3
Sausage and processed	--	14.3	--	--	--	--	--	--	--	--	14.3
Fabricators	2.5	6.6	.3	--	2.2	--	--	--	--	--	11.7
Carcasses	.2	--	--	--	--	--	--	--	--	--	.2
Hamburger and boneless	2.4	6.5	--	--	2.2	--	--	--	--	--	11.1
Sausage and processed	5/	.1	.3	--	--	--	--	--	--	--	.4
Other 2/	5/	24.2	.1	.1	.1	--	--	--	--	--	24.5
Hamburger and boneless	5/	23.3	--	--	.1	--	--	--	--	--	23.4
Sausage and processed	5/	.9	.1	.1	--	--	--	--	--	--	1.1
Retailers	1.8	34.0	13.6	7.5	5.8	0.1	--	--	--	--	4/62.8
Meat markets	1.2	--	6.1	.4	2.4	5/	--	--	--	--	10.1
Carcasses	.5	--	--	--	--	--	--	--	--	--	.5
Hamburger and boneless	.2	--	--	5/	2.3	5/	--	--	--	--	2.5
Sausage and processed	.5	--	6.1	.4	.1	5/	--	--	--	--	7.2

See footnotes at end of table.

Continued—

Appendix table 5--Cow and other manufacturing beef: Percentage handled in St. Louis SMSA, 1978 1/--Continued

Buyer and beef cut	Sellers										
			Wholesalers			Retailers					
	Packers	Outside SMSA	Packer sales offices	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent										
Supplies handled in SMSA by--											
Retailers--continued											
Chain grocery stores	0.6	15.5	6.4	--	0.6	--	--	--	--	--	23.1
Hamburger and boneless	--	11.1	--	--	--	--	--	--	--	--	11.1
Sausage and processed	.6	4.3	6.4	--	.6	--	--	--	--	--	12.0
Venders	5/	5/	5/	5/	.1	--	--	5/	--	--	.2
Hamburger and boneless	5/	5/	--	--	.1	--	--	5/	--	--	.1
Sausage and processed	5/	5/	5/	5/	5/	--	--	5/	--	--	5/
Fast food outlets	--	18.5	--	5.8	--	--	--	--	--	--	24.3
Hamburger and boneless	--	16.6	--	5.1	--	--	--	--	--	--	21.7
Sausage and processed	--	1.9	--	.7	--	--	--	--	--	--	2.6
Other 3/	.1	--	1.1	1.3	2.7	.1	--	--	--	--	5.1
Hamburger and boneless	5/	--	--	1.1	2.4	5/	--	--	--	--	3.5
Sausage and processed	5/	--	1.1	.2	.3	5/	--	--	--	--	1.6
Final uses	1.6	--	.2	4.1	16.3	10.1	23.1	0.2	24.3	5.1	100.0
Consumed in SMSA	.2	--	--	.1	--	10.1	23.0	.2	21.3	5.1	59.9
Hamburger	.1	--	--	5/	--	2.9	11.1	.1	18.9	3.5	36.7
Sausage and processed	.1	--	--	.1	--	7.1	11.8	5/	2.5	1.6	23.2
Sold outside SMSA	16.4	--	.2	4.0	16.3	--	.1	--	2.9	--	40.1
Carcasses	10.6	--	--	--	--	--	--	--	--	--	10.6
Hamburger and boneless	.1	--	--	4.0	16.3	--	--	--	2.8	--	23.3
Sausage and processed	5.7	--	.2	5/	5/	--	.1	--	.1	--	6.2

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell products in the same form in which purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ The sum of the product distributed through these three market levels plus slaughter is 134.3 percent indicating 34.3 percent of the cow and other manufacturing beef is handled more than once.
5/ Less than 0.05 percent.

Appendix table 6--Cow and other manufacturing beef: Percentage consumed in St. Lous SMSA, 1978 1/

Buyer and beef cut	Sellers										
			Wholesalers			Retailers					
	Packers	Net outside SMSA	Packer sales offices	Fabri-cators	Other 2/	Meats markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent										
Initial cow and manufacturing beef supplies in SMSA											
Slaughtered in SMSA	23.6	--	--	--	--	--	--	--	--	--	4/23.6
Net meat purchased from sources outside SMSA	--	76.4	--	--	--	--	--	--	--	--	76.4
Carcasses	--	-17.7	--	--	--	--	--	--	--	--	-17.7
Hamburger and boneless	--	68.5	--	--	--	--	--	--	--	--	68.5
Sausage and processed	--	25.6	--	--	--	--	--	--	--	--	25.6
Supplies handled in SMSA by--											
Packers	.1	-16.1	--	--	0.1	--	--	--	--	--	4/-15.9
Carcasses	--	-17.7	--	--	--	--	--	--	--	--	-17.7
Hamburger and boneless	.1	11.1	--	--	--	--	--	--	--	--	11.2
Sausage and processed	--	-9.6	--	--	.1	--	--	--	--	--	-9.4
Wholesalers	4.3	40.9	0.7	0.1	3.9	--	--	--	--	--	4/49.9
Packers sales office	--	23.5	--	--	--	--	--	--	--	--	23.5
Sausage and processed	--	23.5	--	--	--	--	--	--	--	--	23.5
Fabricators	4.2	4.3	.5	--	3.7	--	--	--	--	--	12.8
Carcasses	.3	--	---	--	--	--	--	--	--	--	.3
Hamburger and boneless	3.9	4.1	--	--	3.7	--	--	--	--	--	11.8
Sausage and processed	5/	.2	.5	--	--	--	--	--	--	--	.7
Other 2/	5/	13.2	.2	.1	.1	--	--	--	--	--	13.7
Hamburger and boneless	5/	11.7	--	--	.1	--	---	--	--	--	11.9
Sausage and processed	5/	1.5	.2	.1	--	--	--	--	--	--	1.8
Retailers	3.0	51.6	22.7	12.5	9.7	0.1	--	5/	--	--	4/99.7
Meat markets	2.0	--	10.2	.7	4.0	5/	--	--	--	--	16.9
Carcasses	.8	--	--	--	--	--	--	--	--	--	.8
Hamburger and boneless	.3	--	--	5/	3.8	5/	--	--	--	--	4.1
Sausage and processed	.9	--	10.2	.7	.2	5/	--	--	--	--	12.0

See footnotes at end of table.

Continued--

Appendix table 6--Cow and other manufacturing beef: Percentage consumed in St. Louis SMSA, 1978 1/--Continued

Buyer and beef cut	Sellers										Total
			Wholesalers			Retailers					
	Packers	Net outside SMSA	Packer sales offices	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	
	Percent										
Supplies handled in SMSA by--											
Retailers--Continued											
Chain grocery stores	0.9	25.6	10.7	--	1.1	--	--	--	--	--	38.4
Hamburger and boneless	--	18.6	--	--	--	--	--	--	--	--	18.6
Sausage and processed	.9	7.0	10.7	--	1.1	--	--	--	--	--	19.8
Venders	5/	5/	5/	5/	.2	--	--	5/	--	--	.3
Hamburger and boneless	5/	5/	--	--	.2	--	--	5/	--	--	.2
Sausage and processed	5/	5/	5/	5/	5/	--	--	5/	--	--	5/
Fast food outlets	--	26.0	--	9.7	--	--	--	--	--	--	35.6
Hamburger and boneless	--	23.0	--	8.5	--	--	--	--	--	--	31.5
Sausage and processed	--	3.0	--	1.1	--	--	--	--	--	--	4.1
Other 3/	.1	--	1.8	2.1	4.5	0.1	--	--	--	--	8.5
Hamburger and boneless	.1	--	5/	1.8	4.0	5/	--	--	--	--	5.9
Sausage and processed	5/	--	1.8	.3	.4	.1	--	--	--	--	2.6
Consumed in SMSA	.3	--	--	.2	--	16.8	38.4	0.3	35.6	8.5	100.0
Hamburger	.2	--	--	5/	--	4.9	18.6	.2	31.5	5.9	61.3
Sausage and processed	.1	--	--	.1	--	11.9	19.8	--	4.1	2.6	38.7

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell products in the same form in which purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ The sum of the product distributed through these three market levels plus slaughter is 157.2 percent indicating 57.2 percent of the cow and other manufacturing beef is handled more than once.
5/ Less than 0.05 percent.

Appendix table 7--Total pork: Percentage handled in St. Louis SMSA, 1978 1/

Buyers	Sellers											
			Wholesalers				Retailers					
	Packers	Outside SMSA	Packer sales offices	Pro-cessors	Fabri-cators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent											
Initial pork supplies in SMSA	73.2	26.8	--	--	--	--	--	--	--	--	--	100.0
Slaughter in SMSA	73.2	--	--	--	--	--	--	--	--	--	--	4/73.2
Meat purchased from sources outside SMSA	--	26.8	--	--	--	--	--	--	--	--	--	26.8
Supplies handled in SMSA by--												
Packers	.1	1.9	--	5/	--	--	--	--	--	--	--	4/2.0
Wholesalers	1.1	20.4	0.5	5/	5/	0.1	--	--	--	--	--	4/22.1
Packer sales offices	5/	13.0	--	--	--	--	--	--	--	--	--	13.0
Processors	.4	1.0	.2	--	--	--	--	--	--	--	--	1.5
Fabricators	.5	.3	.2	5/	5/	5/	--	--	--	--	--	1.1
Other 2/	.3	6.1	.1	5/	5/	5/	--	--	--	--	--	6.5
Retailers	21.8	4.5	11.9	1.4	0.9	1.4	0.1	--	5/	--	--	4/41.9
Meat markets	13.4	--	6.7	1.0	5/	.9	5/	--	--	--	--	22.1
Chain grocery stores	8.3	4.3	4.1	5/	5/	5/	--	--	--	--	--	16.8
Vendors	5/	--	--	--	5/	5/	--	--	5/	--	--	5/
Fast food outlets	--	.2	--	5/	--	--	--	--	--	--	--	.2
Other 3/	--	--	1.0	.3	.8	.5	.1	--	--	--	--	2.8
Final uses	52.2	--	.7	.1	.2	5.1	22.0	16.8	5/	0.2	2.8	100.0
Consumed in SMSA	.1	--	--	5/	.1	--	22.0	16.6	5/	.1	2.8	41.8
Sold outside SMSA	52.0	--	.7	.1	.1	5.1	--	.2	--	5/	--	58.2

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell product in the same form in which purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ The sum of the product distributed through these three market levels plus slaughter is 139.2 percent indicating 39.2 percent of the total pork is handled more than once.
5/ Less than 0.05 percent.

Appendix table 8--Total pork: Percentage consumed in St. Louis SMSA, 1978 1/

Buyers	Sellers											
			Wholesalers				Retailers					
	Packers	Net outside SMSA	Packer sales offices	Processors	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent											
Initial pork supplies in SMSA	4/175.1	-75.1	--	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	4/175.1	--	--	--	--	--	--	--	--	--	--	5/4/175.1
Net meat purchased from sources outside SMSA	--	-75.1	--	--	--	--	--	--	--	--	--	-75.1
Supplies handled in SMSA by--												
Packers	.3	4/-120.0	--	6/	--	--	--	--	--	--	--	5/4/-119.7
Wholesalers	2.7	34.7	1.2	0.1	6/	0.1	--	--	--	--	--	5/38.9
Packer sales offices	--	29.4	.1	--	--	--	--	--	--	--	--	29.5
Processors	1.0	2.1	.4	--	--	--	--	--	--	--	--	3.5
Fabricators	1.2	.6	.5	.1	6/	6/	--	--	--	--	--	2.4
Other 2/	.6	2.6	.2	6/	6/	.1	--	--	--	--	--	3.5
Retailers	52.0	10.2	28.3	3.3	2.1	3.4	0.3	--	6/	--	--	5/99.6
Meat markets	32.1	--	16.0	2.5	.1	2.2	6/	--	--	--	--	52.9
Chain grocery stores	19.8	9.9	9.9	.1	6/	.1	--	--	--	--	--	39.7
Venders	.1	6/	--	--	6/	6/	--	--	6/	--	--	.1
Fast food outlets	--	.3	--	6/	--	--	--	--	--	--	--	.3
Other 3/	6/	--	2.5	.7	2.0	1.1	.3	--	--	--	--	6.6
Consumed in SMSA	.3	--	--	.1	.3	--	52.6	39.7	0.1	0.3	6.6	100.0

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell product in the same form in which purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ Packers in the St. Louis SMSA slaughter more hogs than are consumed locally. Packers ship surplus pork out of the area; thus slaughter is greater than 100 percent and net purchases outside SMSA are negative.
5/ The sum of the product distributed through these three market levels plus slaughter is 193.9 percent indicating 93.9 percent of the total pork is handled more than once.
6/ Less than 0.05 percent.

Appendix table 9--Fresh pork: Percentage handled in St. Louis SMSA, 1978 1/

Buyers	Sellers										
			Wholesalers			Retailers					
	Packers	Outside SMSA	Packer sales offices	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent										
Initial fresh pork supplies in SMSA	83.3	16.7	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	83.3	--	--	--	--	--	--	--	--	--	4/83.3
Meat purchased from sources outside SMSA	--	16.7	--	--	--	--	--	--	--	--	16.7
Supplies handled in SMSA by--											
Packers	.1	1.0	--	--	--	--	--	--	--	--	4/1.1
Wholesalers	.7	13.6	0.3	5/	0.1	--	--	--	--	--	4/14.7
Packers sales offices	--	5.2	--	--	--	--	--	--	--	--	5.2
Fabricators	.5	.1	.2	5/	5/	--	--	--	--	--	.8
Other 2/	.3	8.3	.1	5/	.1	--	--	--	--	--	8.7
Retailers	16.7	2.0	4.6	0.7	1.2	0.1	--	5/	--	--	25.3
Meat markets	8.6	--	2.4	5/	.9	5/	--	--	--	--	11.9
Chain grocery stores	8.0	2.0	2.2	5/	.1	--	--	--	--	--	12.3
Venders	5/	--	--	5/	5/	--	--	5/	--	--	5/
Other 3/	5/	--	--	.6	.2	.1	--	--	--	--	1.0
Final uses	66.9	--	.3	.1	7.5	11.8	12.3	5/	--	1.0	100.0
Consumed in SMSA	.1	--	--	.1	--	11.8	12.1	5/	--	1.0	25.1
Sold outside SMSA	66.8	--	.3	5/	7.5	--	.2	--	--	--	74.9

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell product in the same form in which purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ The sum of the product distributed through these three market levels plus slaughter is 124.5 percent indicating 24.5 percent of the fresh pork is handled more than once.
5/ Less than 0.05 percent.

Appendix table 10--Fresh pork: Percentage consumed in St. Louis SMSA, 1978 1/

Buyers	Sellers									
	Packers	Net outside SMSA	Wholesalers			Retailers				Total
			Packer sales offices	Fabricators	Other 2/	Meat markets	Chain grocery stores	Venders	Other 3/	
	Percent									
Initial fresh pork supplies in SMSA	4/331.5	4/-231.5	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	4/331.5	--	--	--	--	--	--	--	--	5/4/331.5
Net meat purchased from sources outside SMSA	--	4/-231.5	--	--	--	--	--	--	--	4/-231.5
Supplies handled in SMSA by--										
Packers	.3	-261.7	--	--	--	--	--	--	--	5/4/-261.5
Wholesalers	2.9	23.2	1.2	6/	0.3	--	--	--	--	5/27.5
Packer sales offices	--	19.4	--	--	--	--	--	--	--	19.4
Fabricators	1.8	.4	.7	6/	.1	--	--	--	--	3.1
Other 2/	1.1	3.2	.4	6/	.3	--	--	--	--	5.0
Retailers	66.4	7.3	18.3	2.7	4.7	0.6	--	6/	--	5/99.8
Meat markets	34.4	--	9.5	.1	3.5	6/	--	--	--	47.5
Chain grocery stores	31.9	7.3	8.8	6/	.2	--	--	--	--	48.2
Venders	6/	--	--	6/	6/	--	--	6/	--	.1
Others 3/	6/	--	--	2.5	1.0	.5	--	--	--	4.0
Consumed in SMSA	.3	--	--	.4	--	46.9	48.2	0.1	4.0	100.0

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell product in the same form in which purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ Packers in the St. Louis SMSA slaughter more hogs than are consumed locally. Packers ship surplus hogs out of the area, thus slaughter is greater than 100 percent and net purchases outside the SMSA are negative.
5/ The sum of the product distributed through these three market levels plus slaughter is 197.4 percent indicating 97.4 percent of the fresh pork is handled more than once.
6/ Less than 0.05 percent.

Appendix table 11--Cured pork: Percentage handled in St. Louis SMSA, 1978 1/

Buyers	Sellers										
			Wholesalers			Retailers					
	Packer	Outside SMSA	Packer sales offices	Processors	Fabricators 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent										
Initial cured pork supplies in SMSA	61.7	38.2	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	61.7	--	--	--	--	--	--	--	--	--	4/61.7
Meat purchased from sources outside SMSA	--	38.3	--	--	--	--	--	--	--	--	38.3
Supplies handled in SMSA by--											
Packers	.2	2.2	--	5/	--	--	--	--	--	--	4/2.4
Wholesalers	1.9	27.3	.6	0.2	--	--	--	--	--	--	4/30.1
Packer sales offices	--	21.8	.1	--	--	--	--	--	--	--	22.0
Processors	1.2	4.3	.3	--	--	--	--	--	--	--	5.8
Fabricators 2/	.7	1.2	.2	.2	--	--	--	--	--	--	2.3
Retailers	39.6	8.7	20.3	5.2	2.1	5/	--	5/	--	--	4/75.9
Meat markets	29.1	--	12.8	4.3	5/	5/	--	--	--	--	46.3
Chain grocery	10.4	8.4	4.6	.1	--	--	--	--	--	--	23.4
Venders	.1	5/	--	--	5/	--	--	5/	--	--	.1
Fast food outlets	--	.4	--	5/	--	--	--	--	--	--	.4
Other 3/	5/	--	2.9	.7	2.0	5/	--	--	--	--	5.7
Final uses	22.4	--	1.0	.5	.2	46.3	23.4	0.1	0.4	5.7	100.0
Consumed in SMSA	.2	--	--	.1	.2	46.3	23.2	.1	.3	5.7	76.0
Sold outside SMSA	22.2	--	1.0	.4	.1	--	.2	--	.1	--	24.0

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Includes some other wholesalers who sell product in the same form as purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ The sum of the product distributed through these three market levels plus slaughter is 170.0 percent indicating 70 percent of the cured pork is handled more than once.
5/ Less than 0.05 percent.

Appendix table 12--Cured pork: Percentage consumed in St. Louis SMSA, 1978 1/

Buyers	Sellers										
			Wholesalers			Retailers					
	Packers	Net outside SMSA	Packer sales offices	Processors	Fabricators 2/	Meat markets	Chain grocery stores	Venders	Fast food outlets	Other 3/	Total
	Percent										
Initial cured pork supplies in SMSA	81.2	18.8	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	81.2	--	--	--	--	--	--	--	--	--	4/81.2
Meat purchased from sources outside SMSA	--	18.8	--	--	--	--	--	--	--	--	18.8
Supplies handled in SMSA by--											
Packers	.2	-26.4	--	5/	--	--	--	--	--	--	4/-26.1
Wholesalers	2.5	34.0	0.8	0.2	--	--	--	--	--	--	4/37.6
Packer sales offices	--	27.4	.2	--	--	--	--	--	--	--	27.5
Processors	1.6	5.1	.4	--	--	--	--	--	--	---	7.2
Fabricators 2/	.9	1.6	.2	.2	--	--	--	--	--	--	2.9
Retailers	52.1	11.1	26.7	6.8	2.7	.1	--	5/	--	--	4/99.5
Meat markets	38.3	--	16.9	5.6	.1	5/	--	--	--	--	60.9
Chain grocery	13.6	10.7	6.0	.2	--	--	--	--	--	--	30.5
Venders	.1	5/	--	--	5/	--	--	5/	--	--	.1
Fast food outlets	--	0.4	--	5/	--	--	--	--	--	--	.4
Other 3/	5/	--	3.8	1.0	2.6	.1	--	--	--	--	7.5
Consumed in SMSA	.3	--	--	.1	.2	60.8	30.6	0.1	0.4	7.5	100.0

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Includes some other wholesalers who sell product in the same form as purchased.
3/ Other includes hotels, restaurants, and institutions.
4/ The sum of the product distributed through these three market levels plus slaughter is 192.2 percent indicating 92.2 percent of the cured pork is handled more than once.
5/ Less than 0.05 percent.

Appendix table 13--Sausage and pork used in sausage kitchen items: Percentage handled in St. Louis SMSA, 1978 1/

Buyers	Sellers										
			Wholesalers				Retailers				
	Packers	Outside SMSA	Packer sales offices	Pro-cessors	Fabri-cators	Other 2/	Meat markets	Chain grocery stores	Venders	Other 3/	Total
	Percent										
Initial ground pork supplies in SMSA	33.2	66.8	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	33.2	--	--	--	--	--	--	--	--	--	4/33.2
Meat purchased from sources outside SMSA	--	66.8	--	--	--	--	--	--	--	--	66.8
Supplies handled in SMSA by--											
Packers	.3	6.7	--	--	--	--	--	--	--	--	4/ 7.0
Wholesalers	1.0	48.5	1.7	5/	--	--	--	--	--	--	4/51.3
Packer sales offices	--	44.6	--	--	--	--	-	--	--	--	44.6
Processors	.7	.4	1.2	--	--	--	--	--	--	--	2.2
Fabricators	.2	.3	.3	--	--	--	--	--	--	--	.8
Other 2/	.2	3.2	.3	5/	--	--	--	--	--	--	3.7
Retailers	18.1	11.6	40.7	1.9	0.7	3.7	0.1	--	5/	--	4/76.7
Meat markets	11.1		22.7	.7	--	3.0	5/	--	--	--	37.5
Chain grocery stores	7.0	10.8	14.2	--	--	--	--	--	--	--	32.0
Venders	5/	5/	--	--	5/	5/	--	--	5/	--	.1
Other 3/	5/	.8	3.7	1.1	.7	.7	5/	--	--	--	7.1
Final uses	20.8	--	2.2	.3	5/	5/	37.4	32.0	0.1	7.1	100.0
Consumed in SMSA	.3	--	--	.2	5/	--	37.4	32.0	.1	6.9	76.9
Sold outside SMSA	20.5	--	2.2	.1	5/	5/	--	--	--	.2	23.1

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell product in the same form in which purchased.
3/ Other includes hotels, restaurants, institutions, and fast food outlets.
4/ The sum of the product distributed through these three market levels plus slaughter is 168.2 indicating 68.2 percent of the sausage and sausage kitchen items are handled more than once.
5/ Less than 0.05 percent.

Appendix table 14--Sausage and sausage kitchen items: Percentage consumed in St. Louis SMSA 1978 1/

Buyers	Sellers										
			Wholesalers				Retailers				
	Packers	Outside SMSA	Packer sales offices	Pro-cessors	Fabri-cators	Other 2/	Meat markets	Chain grocery stores	Venders	Other 3/	Total
	Percent										
Initial ground pork supplies in SMSA	43.1	56.9	--	--	--	--	--	--	--	--	100.0
Slaughtered in SMSA	43.1	--	--	--	--	--	--	--	--	--	4/43.1
Net meat purchased from sources outside SMSA	--	56.9	--	--	--	--	--	--	--	--	56.9
Supplies handled in SMSA by--											
Packers	.4	-18.0	--	--	--	--	--	--	--	--	4/-17.6
Wholesalers	1.3	60.0	2.3	5/	--	--	--	--	--	--	4/63.6
Packer sales offices	--	55.1	--	--	--	--	--	--	--	--	55.1
Processors	.9	.3	1.5	--	--	--	--	--	--	--	2.7
Fabricators	.2	.4	.4	--	--	--	--	--	--	--	1.0
Other 2/	.2	4.2	.4	5/	--	--	--	--	--	--	4.8
Retailers	23.5	14.8	52.9	2.4	0.9	4.8	0.1	--	5/	--	4/99.5
Meat markets	14.4	--	29.5	.9	--	3.9	5/	--	--	--	48.8
Chain grocery stores	9.0	14.0	18.5	--	--	--	--	--	--	--	41.6
Venders	5/	5/	--	--	.1	5/	--	--	5/	--	.1
Other 3/	5/	.8	4.8	1.5	.9	.9	.1	--	--	--	9.0
Consumed in SMSA	.4	--	--	.2	5/	--	48.7	41.6	0.1	9.0	100.0

-- = Not applicable.
1/ Totals based on unrounded data.
2/ Other wholesalers sell product in the same form in which purchased.
3/ Other includes hotels, restaurants, institutions, and fast food outlets.
4/ The sum of the product distributed through these three market levels plus slaughter is 188.7 percent indicating 88.7 percent of the sausage and sausage kitchen items are handled more than once.
5/ Less than 0.05 percent.

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