

# MANAGERIAL ACCOUNTING

for meat processor-locker firms



SR 148/73/550  
Agricultural Experiment Station  
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M A N A G E R I A L     A C C O U N T I N G

for Meat Processor - Locker Firms

by

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## DO YOU NEED BETTER RECORDS?

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Does your record system provide information on:

1. The total net profit you made from your business last year.
2. The total amount spent on new equipment and on remodeling of the plant.
3. The total volume of business handled last year.
4. The profitability of different sectors of your business.
5. The volume of business you handle in each sector of your business.
6. The unit cost of performing different services.

If you are only getting answers to the first three, you will have only the information you need for income tax purposes. With a little more effort, you could get the additional information in items 4 through 6. With this information, you will be able to do a better job of managing in today's environment.

The purpose of this manual is to illustrate an accounting system for meat processing-locker plants which will provide financial information for both management and tax purposes.

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### Results of the System

Before going into the mechanics of the system, let's see what the output will look like. The data presented in Table 1 are taken from the records on one of six firms analyzed with the system by Becker.<sup>2</sup> The income statement allowed the manager to see which sector of the business was profitable and how much each sector contributed toward covering the common overhead. The manager of Firm A was able to see that the smoking and curing sector of his firm was not profitable. Furthermore, he was able to judge whether or not each sector of his firm was making the kind of contribution to profit that he believes is needed to maintain or expand his growth.

The total volume of business handled by each sector of the businesses in the study was determined. Thus, the unit cost for each department, based on the direct cost only, could be calculated for each firm. The unit cost and the contribution to common overhead of each department of the six firms are summarized

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<sup>2</sup>Kenneth A. Becker, "Financial Analysis of Slaughter-Locker Firms" (Unpublished Master's thesis, the University of Missouri - Columbia, 1973).

Table 1

INCOME STATEMENT - FIRM A  
Slaughter-Locker Firm, Missouri, 1970-71

	Slaughter	Processing	Smoking & Curing	Locker Rental	Retail Sales	Total
Revenue	\$12,303	\$46,553	\$1,870	\$6,025	\$58,982	\$125,733
Direct Expenses						
Variable	\$ 5,881	\$25,076	\$2,270	\$1,724	\$53,399	\$ 88,350
Non-Variable	<u>597</u>	<u>876</u>	<u>238</u>	<u>139</u>	<u>0</u>	<u>1,850</u>
TOTAL DIRECT EXPENSES	\$ 6,478	\$25,952	\$2,508	\$1,863	\$53,399	\$ 90,200
Contribution to Common Overhead	\$ 5,825	\$20,601	\$ (638)	\$4,162	\$ 5,583	\$ 35,533
Common Overhead Expenses						
Selling						\$ 4,952
General & Administrative						7,157
Depreciation						<u>6,757</u>
TOTAL COMMON OVERHEAD						\$ 18,866
Net Profit						\$ 16,667

Source: Kenneth A. Becker, "Financial Analysis of Slaughter-Locker Firms" (Unpublished Master's thesis, the University of Missouri, Columbia, 1973), p. 63.

in Table 2. These firms slaughtered and processed approximately 500,000 pounds of meat. Their records provide a basis of compari-

son for your firm once you have established a managerial accounting system.

#### ACCOUNTING FOR MANAGEMENT USE

The meat processing and locker plants of today are small manufacturing plants that provide services ranging from slaughtering to storage of frozen meat. An accounting system must be able to analyze each of these services to be useful for decision-making.

The system developed in this manual analyzes each of the services performed by the plant and assembles the data for tax figuring. It is set up to analyze five services which are typical in meat processing and locker plants: slaughtering, processing, curing and smoking, locker rental, and retail sales. The system

analyzes these services by determining the volume of business each department handles and by allocating the revenue and cost which is attributed to each.

From the analysis, monthly income statements, the end-of-the-year income statement, and the unit cost for providing the services are developed. Besides providing summary data for the periods, this makes the next year's budgeting easier. Information that is useful in pricing and purchasing of meat and supplies is also obtained.

Table 2

UNIT COSTS AND CONTRIBUTION TO COMMON OVERHEAD  
Six Slaughter - Locker Firms, Missouri, 1970-71

Sector of Business	Firm A	Firm B	Firm C	Firm D	Firm E	Firm F
	----- dollars -----					
<b><u>Slaughter:</u></b>						
Contribution to Common Overhead	5,825	809	(2,061)	5,694	1,410	5,161
Direct Cost Per Animal Slaughtered:						
Beef	5.56	7.65	11.83	7.22	7.45	6.16
Pork	2.20	3.33	5.12	3.22	3.24	2.82
<b><u>Processing:</u></b>						
Contribution to Common Overhead	20,601	15,102	20,195	13,327	12,156	12,530
Average Direct Cost Per Pound Processed	.044	.043	.051	.051	.051	.050
<b><u>Curing and Smoking:</u></b>						
Contribution to Common Overhead	(638)	356	1,117	(2,542)	920	(840)
Average Direct Cost Per Pound Processed	.108	.141 <sup>a</sup>	.037 <sup>b</sup>	.131 <sup>a</sup>	.073	.084

Table 2 -- continued

Sector of Business	Firm A	Firm B	Firm C	Firm D	Firm E	Firm F
<u>Locker Rental:</u>	----- dollars -----					
Contribution to Common Overhead	4,162	2,471	4,049	2,550	5,620	_____ <sup>c</sup>
Average Direct Cost Per Locker Box Based On:						
Total Locker Boxes	3.73	4.30	3.46	6.45	4.56	_____ <sup>c</sup>
Average Number Rented	5.32	7.17	3.63	7.01	5.63	_____ <sup>c</sup>
<u>Retail Sales:</u>						
Contribution to Common Overhead	5,583	10,296	7,135	19,378	14,967	1,498 <sup>d</sup>
(Retail Sales Unit Cost Was Not Calculated)						

<sup>a</sup> Curing and smoking was contracted to another firm.

<sup>b</sup> Error in allocation of labor expense made the unit cost too low.

<sup>c</sup> Firm F did not rent locker boxes.

<sup>d</sup> Firm F considered retail sales as a break even service and was not trying to make a profit.

Note: 1. All six firms slaughtered and processed approximately 500,000 lbs. of meat.  
2. All figures enclosed with parenthesis are negative.

Source: Kenneth A. Becker, "Financial Analysis of Slaughter-Locker Firm" (Unpublished Master's thesis, the University of Missouri, Columbia, 1973).

## ANALYSIS OF SERVICE DEPARTMENTS

Slaughter

This department includes the holding pens, the slaughter area, and the chill cooler. The chill cooler is allocated to slaughter because animals that are custom slaughtered and not processed are often cooled before customers pick up the carcasses. The revenue allocated to this department includes that which is received for custom slaughter, hide sales, offal sales, and a portion of retail sales.

Processing

This department is allocated these processing functions and physical plant facilities: aging cooler, processing area, quick freeze, and lard rendering.

All cutting and wrapping of meat, even if it is cured and smoked, is considered part of processing. The quick freeze is included since meat is frozen regardless of whether it is put into rented locker boxes or awaits customer pick-up.

The total revenue of the department consists of all revenue from the services of cutting, lard rendering, grinding of beef and pork, and a portion of retail sales.

Curing and Smoking

The facilities included in this department are the smoking facilities, curing cooler, and preparation area for curing and smoking. In the accounting system, the revenue from custom curing and smoking and a portion of retail sales are recorded under this department.

Locker Rental

The locker rental boxes and the locker room are considered to be the only physical facilities of locker rental. The total locker rental revenue is from the rental of cold storage locker boxes.

Retail Sales

This analysis does not allocate any physical facilities to retail sales. Total retail sales revenue is the revenue received from the sales of meat less slaughtering, processing, and curing and smoking charges when these services are included in the mark-up of the meat sold. In these cases where services are included, the volume of business handled in each service department is used

to separate the revenue for the service from the revenue for the

meat itself.

#### HOW THE SYSTEM WORKS

This system centers on gathering and analyzing of three groups of data:

1. Volume of business
2. Revenue
3. Cost

Each of these three groups is analyzed to determine the volume of business, revenue, and cost associated with each of the ser-

vice departments mentioned above.

Then the information is summarized and analyzed in three summary forms:

1. Monthly income statement.
2. Yearly income statement.
3. Unit cost analysis.

#### VOLUME OF BUSINESS RECORDS

Accurate records of the volume of business handled in each service department have two important functions in this system. First, we need to know the volume of business handled in each department to analyze the total revenue received by the firm. This is due to methods used in charging customers for services performed by the plant. The use of volume data in revenue analysis will be shown in the revenue section. The second

important function of records on the volume of business handled in each service department is to enable unit cost analysis.

Three record forms have been prepared for organizing the data for this section of the system: Form V-1 is the "Schedule of Meat Volume," Form V-2 is "Purchased Carcasses and Cuts," and the summary form, Form V-3, is the "Monthly Volume of Business."

FORM V-1: SCHEDULE OF MEAT VOLUME

Form V-1 is for scheduling live animals for slaughter and processing. One V-1 form is filled out in advance of each day of slaughtering for each type of meat to be slaughtered. At the end of the month, there are thus two sets of V-1 forms, one showing the total beef slaughtered and processed and one showing the total pork slaughtered and processed in the month.

When a customer calls and wants to schedule an animal for processing, the customer's name is entered on the form for the date of slaughter agreeable to the firm and the customer. If the firm purchases live animals, it will list the animal for slaughter under company live animals.

On the day of slaughter, Form V-1 is taken to the slaughter department. Here the person in charge checks the animals to be slaughtered to see that they have arrived. Then the live weight and/or dressed weight is entered on the form. After slaughtering, the form is transferred to the processing department where the amount of hamburger or sausage and pounds of meat to be cured and smoked are entered. One feature of Form V-1 is that after the meat has been processed, the sales ticket can be figured directly from the information on the form. The sales

ticket number can be written on the form for future cross-reference.

Example: On November 15, Mr. L. W. Huthinson called the firm and asked when he could bring two hogs in for custom processing. The manager checked the Form V-1 for his next slaughter date, November 20, and found that it was filled. The November 27 V-1 form showed space for two hogs, but this date was not agreeable to Mr. Huthinson. December 4 was an agreeable date for both the manager and Mr. Huthinson and his name and the number of hogs, two, were entered on the Form V-1 for that date. On December 4, the two hogs were slaughtered. Their combined live weight was 460 pounds and combined dressed weight was 363 pounds.

On December 6, the two hogs were processed. The hogs yielded 27 pounds of sausage; 51 pounds of bacon, 49 pounds of ham, and 6 pounds of shoulder to be cured and smoked; and 26 pounds of lard.

December 8, the Form V-1 was sent to the sales desk where sales ticker #3207 was tallied.

Note that the column headings are typical. However, if you need more or less information, the form should be changed to meet your requirements.



SCHEDULE OF MEAT VOLUME

Slaughter Date 12-4-72

Type of Meat Pork

Customer's Name	No. of Animals	Days to be Aged	Live Weight	Dressed Weight	Pounds of Meat Cured & Smoked				Pounds of Meat of Tenderized	Pounds of Lard Rendered	Liver Is Good (✓)	Date Processed	Sales Ticket No.	
					Hamb. or Sausage	Bacon	Ham	Shld						
<b>Custom:</b>														
R. A. Miles	2		455	364	25	49	52	12	5		28	✓	12-6	3206
Borgeson Pork Farm	1		245	198	10	26	26	8	5		17	✓	12-6	3208
L.W. Hutchinson	2		460	363	27	51	49	6	0		26	✓	12-6	3207
Pete Moles	3		710	567	35	72	75	4	7		41	✓	12-6/12-7	3204
Tam Short	1		232	189	8	23	27	2	1		19		12-7	3210
J.W. Couvert	1		243	192	7	22	25	7	0		20	✓	12-7	3211
Bill Walker	1		237	192	9	27	26	8	0		17	✓	12-8	3205
Dude Strong	1		221	176	15	25	29	3	0		11	✓	12-8	3209
<b>Total Custom</b>	<b>12</b>		<b>2805</b>	<b>2241</b>	<b>136</b>	<b>295</b>	<b>308</b>	<b>50</b>	<b>17</b>	<b>0</b>	<b>179</b>			
<b>Company Live Animals:</b>														
Company for Pete Jackson	1		235	187	10	26	27	2	0		17		12-8	3212
<b>Total Company Live Animals</b>	<b>1</b>		<b>235</b>	<b>187</b>	<b>10</b>	<b>26</b>	<b>27</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>17</b>			
<b>Total Custom and Company Live Animals</b>	<b>13</b>		<b>3040</b>	<b>2428</b>	<b>146</b>	<b>321</b>	<b>336</b>	<b>52</b>	<b>17</b>	<b>0</b>	<b>196</b>			

FORM V-2: PURCHASED CARCASSES & CUTS

Form V-2 is for analyzing the purchases of carcasses and the cuts of meat. When the meat is received from the supplier, the amount of meat and the name of the supplier are registered on this form. The amounts of hamburger, sausage, or other products made from the meat are recorded on the form when the meat is processed.

Example: The first purchase during the month of December was from Wilson and Company. The purchase consisted of 733 pounds of beef and 245 pounds of pork.

On December 6, the 733 pounds of beef was processed. The yield was 479 pounds of hamburger. The entire lot of beef was sold to one person, sales ticket #3108. On December 7, the 245 pounds of pork was processed. It yielded 61 pounds of bacon, 172 pounds of ham and 12 pounds of other meat to be cured and smoked. The pork was sold to many different customer, thus no one sales ticket could be listed for future cross-reference.

If more information or less is needed, the column headings should be changed to meet your needs.

Month	Purchased From	BEEF				Sales Ticket No.	PORK						Sales Ticket No.	
		Pounds of Meat Purchased	Pounds of Hamburger	Pounds of Meat Tenderized	Date Processed		Pounds of Meat Purchased	Pounds of Sausage	Pounds of Meat Cured & Smoked			Date Processed		
									Bacon	Ham	Shld.	Other		
Oct.	Swift + Co.						465		95	235	9	13	10-4	
	Wilson + Co.	1031	463		10-3									
	MFA Packing Co.	63		57	10-10									
	Moberly Pack.						173		32	86	4		10-18	
	Swift + Co.						187		36	86	6		10-19	
	Wilson + Co.	648		38	10-19									
	Wilson + Co.	807	492	22	10-24									
	<b>Total Beef &amp; Pork</b>	<b>2549</b>	<b>955</b>	<b>117</b>			<b>825</b>	<b>0</b>	<b>163</b>	<b>407</b>	<b>19</b>	<b>13</b>		
Nov.	Moberly Pack.						85		17	40		3	11-8	
	Wilson + Co.						195		47	101		3	11-9	
	Wilson + Co.	1733	701	69	11-9									
	Moberly Pack.						250		50	135	8	4	11-16	
	Swift	896	325	54	11-15									
	Swift						275		57	145	15	7	11-28	
	MFA Packing Co.	127	77	20	11-28	2942								
	<b>Total Beef &amp; Pork</b>	<b>2756</b>	<b>1103</b>	<b>143</b>			<b>805</b>	<b>0</b>	<b>171</b>	<b>421</b>	<b>23</b>	<b>17</b>		
Dec.	Wilson + Co.	733	479		12-6	3108	245		61	172		12	12-7	
	Moberly Pack.						306		95	175	5		12-14	3308
	MFA Packing Co.	145			12-14		203		23	107			12-20	
	Swift	1366	548	65	12-19									
	Swift	501	135	42	12-22	3412								
	Moberly Pack.						41				27	14	12-29	
	<b>Total Beef &amp; Pork</b>	<b>2745</b>	<b>1162</b>	<b>142</b>			<b>795</b>	<b>0</b>	<b>179</b>	<b>454</b>	<b>32</b>	<b>26</b>		

FORM V-3: MONTHLY VOLUME OF BUSINESS

This form is for summarizing the information collected on Forms V-1 and V-2. All of the information on V-1 forms used for a particular month is added and listed on Form V-3. The information obtained from V-1 forms for beef and pork for a particular month is listed under custom and company live animals. Totals from Form V-2 are listed under company purchased carcasses and cuts for the month.

Then, the total volume of business for the month is determined. The result is the total custom work performed and total purchased meat processed for a particular month. At the bottom of the form, the totals for the entire year are summarized for the firm.

**Example:** During the first part of January, the firm manager collected all the V-1 forms for pork and beef. For beef, he collected four V-1 forms dated December 6, 13, 20, and 27, and added together all of the custom work performed, and all of the company live animal work performed. The same was done for pork:

The data was added together from four V-1 forms dated December 4, 11, 18, and 26. These totals were entered for the month of December under custom and company live animals on Form V-3.

The total meat purchases in December from Form V-2 were carried forward to Form V-3 and listed under company purchased carcasses and cuts. The totals for the particular categories were added together to achieve the monthly total.

At the end of the month, the total number of locker boxes rented out was 302. This figure was placed in Column 12 for the month of December.

Since this was the end of the year, the monthly totals of meat processed were added together and put at the bottom of Form V-3. The monthly inventory of lockers rented were added together and divided by 12 to achieve the average number rented throughout the year. The total volume of business handled in each service department for the entire year was, thus, identified.



Month		BEEF				PORK							Locker Rental			
		No. of Animals	Dressed wt. + Purchased Meat	Pounds of Hamburger	Pounds of Meat Tenderized	No. Animals & Live Wt.		Pounds of Dressed		Lard	Pounds of Meat Cured & Smoked				Monthly Inventory	
						No.	Wt.	Wt.	Sausage		Rendered	Bacon		Ham		Shld.
1	Oct. Custom	78	36725	5189	699	49	11384	8998	591	743	1237	1281	276	78		
2	Company:															
3	Live animals	7	3759	473	66	1	245	200	10	13	22	26	6	0		
4	Purchased carcasses & cuts		2549	955	117			825			163	407	19	13		
5	Total company	7	6308	1428	183	1	245	1025	10	13	185	433	25	13		
6	Total company & custom	85	43033	6617	882	50	11629	10023	551	756	1422	1714	301	91	281	
7																
8																
9																
10																
11	Nov. Custom	69	31687	4501	632	53	12401	10044	569	785	1322	1306	284	79		
12	Company:															
13	Live animals	6	2799	384	49	0	0	0	0	0	0	0	0	0		
14	Purchased carcasses & cuts		2756	1103	143			805			171	421	23	12		
15	Total company	6	5555	1487	192	0	0	805	0	0	171	421	23	12		
16	Total company & custom	75	37242	5988	824	53	12401	10849	569	785	1493	1797	307	96	295	
17																
18																
19																
20																
21	Dec. Custom	71	34229	4680	631	67	14885	11702	733	953	1621	1684	366	109		
22	Company:															
23	Live animals	2	751	138	20	3	689	561	42	52	76	84	21	0		
24	Purchased carcasses & cuts		2745	1162	192			795			179	459	32	26		
25	Total company	2	3496	1300	162	3	689	1356	42	52	255	538	53	26		
26	Total company & custom	73	37725	5980	793	67	15584	13058	775	1005	1876	2222	419	135	302	
27																
28																
29																
30																
31	Summary:															
32	Total custom	864	406800	56952	7776	586	136245	109200	6446	8790	19792	15288	3276	946		
33	Total company:															
34	Live animals	69	32700	4578	621	12	2790	2120	132	180	286	297	64	0		
35	Purchased carcasses & cuts		32200	12880	1610			9800			1932	4863	214	141		
36	Total company	69	64900	17458	2231	12	2790	11920	132	180	2218	5160	278	141		
37	TOTAL	933	471700	74410	10007	598	139035	121120	6578	8970	16960	20448	3554	1057	287	
38																
39																
40																

## REVENUE RECORDS

Accurate records of revenue collection have two primary functions in this system. First, accurate records are necessary for the collection and payment of sales tax. Second, accurate records are important for proper distribution of the total revenue to the service departments which generated the

revenue.

Three forms are provided for the handling of revenue in this system. Form R-1 is the "Sales Ticket;" Form R-2 is the "Daily Cash Receipts Record;" and Form R-3 is the "Monthly and Yearly Summary of Total Revenue."

FORM R-1: SALES TICKET

The sales ticket, Form R-1, is organized for charging customers directly from Form V-1. It organizes the customer's charges into the service departments which performed the service for the customer.

Retail sales of meat are normally priced to customers by one of two methods: (1) The customers are charged separately for the meat and the processing, (2) The customers are charged one price which includes the meat and the processing. Either method can be used in this system.

Example: On December 4, Form V-1 dated November 27 was received at the office after all the animals listed on the Form V-1 were processed. The manager then filled out the sales ticket for Dave Johnson who had one hog custom processed by the firm. The live weight, dressed weight, pounds of sausage, and the pounds of meat to be cured and smoked was taken directly off of Form V-1. On the day the customer picked up the meat, he also rented a locker for six months. After the locker rental was added to the bill, the total amount due was calculated.

Form R-1

FIRM NAME

2983

Customer Dave Johnson Date 12/4/72  
 Address Rt. #1 Fort Worth, Mo. 65330

## Slaughter:

Beef	head @ \$	.	\$	.
Pork	<u>234</u> lbs. @ \$	<u>.02</u>		<u>4.68</u>
Other	lbs. @ \$	.		.

## Processing:

Processing	<u>188</u> lbs. @ \$	<u>.09</u>		<u>16.92</u>
Hamb. & Saus.	<u>13</u> lbs. @ \$	<u>.04</u>		<u>.52</u>
Tenderize	lbs. @ \$	.		.
Other	lbs. @ \$	.		.

## Curing &amp; Smoking:

Curing & Smoking	<u>68</u> lbs. @ \$	<u>.10</u>		<u>6.80</u>
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## Locker Rental:

<u>1</u> lockers @ \$	<u>10.00</u>			
for <u>6</u> months				<u>10.00</u>

## Retail Sales:

_____ lbs. @ \$	.			_____
_____ lbs. @ \$	.			_____
_____ lbs. @ \$	.			_____
_____ lbs. @ \$	.			_____
_____ lbs. @ \$	.			_____

Sales Tax on Retail Sales

## Misc. Sales

_____ @ \$	.			_____
------------	---	--	--	-------

TOTAL	\$	<u>38.92</u>
-------	----	--------------

FORM R-2: DAILY CASH RECEIPTS RECORD

The daily cash receipts record, Form R-2, is for keeping record of all sales for each day of business. At the end of each day, the sales for each service department are added together directly from the sales ticket and entered in the appropriate columns. The total for each department is added and entered in Column 6. The appropriate sales tax for that day is entered in Column 7. Columns 6 and 7 are added together to achieve the total cash receipts which should equal total cash received for that day. At the end of the month, the monthly total for each service department and entire operation can be figured. Column 10 is for miscellaneous income.

There are several types of revenue which may present a problem to the bookkeeper.

1. Revenue from the sale of hides and offal should be listed under slaughter on the date sold.
2. Retail sales of items other than meat should be listed under retail sales. This will be the case in most firms since the total amount of such sales for the year

is less than \$2,000. If the total of such sales becomes large in comparison to total revenue, another department should be formed for such sales. Such a department should be placed in the volume of business and expense sections of this system as well.

3. Collection for sales tax -- The rebate for collecting sales tax should be listed under miscellaneous sales as shown on Form R-2.

Example: The R-1 forms, sales tickets, for December 30, 1972, are added together by department and entered on Form R-2. Then, the sales in the five departments are added together and entered in Column 6. The total sales tax was entered in Column 7. Columns 6 and 7 were added together and the total cash receipts for the day were entered in Column 8.

Since it was the end of the month, Columns 1 through 8 and Column 10 were added to determine the total revenue received in each service department and the total revenue received for the month.



Form R-2

DAILY CASH RECEIPTS RECORD

Month December

Year 1972

Day of Month	Slaughter	Processing	C & S	Retail Sales	Locker Rental	Total	Sales Tax	Total Cash		Misc. Income
								Receipts (6 + 7)		
1	5490	21116	1514	17019	0	45139	511	45650		
2	6320	22347	1632	17443	4073	51815	523	52338		
3	<i>Sunday</i>									
4	2031	18081	1497	14812	1115	37536	444	37980		
5	3686	18553	1546	17143	614	47842	514	48356		
6	4040	19015	1456	16919	2015	43445	508	43953		
7	3920	19614	1563	17041	0	42138	511	42649		
8	4250	19785	1607	17314	1524	44485	519	45004		
9	6315	22532	1793	17115	4350	52105	513	52618		(Income from sales tax collection) 2082
10	<i>Sunday</i>									
11	2563	17983	1509	16746	729	39530	502	40032		
12	3746	19512	1526	16919	1354	43057	508	43565		
13	3952	19243	1407	17054	2335	43991	512	44503		
14	3875	0	1519	17234	0	22630	517	23147		
15	4186	21922	1723	17107	0	44938	513	45451		
16	5920	24532	1904	17472	4263	54091	524	54615		
17	<i>Sunday</i>									
18	3719	19531	1694	0	1400	20244	0	20244		
19	3684	18999	1523	16919	1619	42744	508	43252		(For services provided 5000 to local store)
20	3963	19023	1601	17041	2310	43938	511	44449		
21	4052	19915	1719	19342	0	45028	521	45549		
22	4350	22943	1950	18614	715	48572	559	49131		
23	5873	24514	2001	19037	1950	53375	572	53947		
24	<i>Sunday</i>									
25	<i>Holiday</i>									
26	3823	19713	0	15313	0	38449	454	39308		
27	3619	19514	1702	14944	3250	43029	448	43477		
28	3941	22116	1490	17015	710	45072	510	45782		
29	5329	23545	1654	16914	4250	51092	507	52199		
30	6443	25790	2080	16525	5419	56257	496	56753		
31	<i>Sunday</i>									
Total	109090	499838	39610	409004	50300	1107842	12270	1120112		7082

FORM R-3: MONTHLY AND YEARLY SUMMARY OF TOTAL REVENUE

The monthly and yearly summary of total revenue, Form R-3, is for summarizing the total revenue received. At the end of the year, the form is used for adjusting the total revenue in service departments to reflect the volume of work performed in each.

At the end of each month, the totals from Form R-2 are transferred to Form R-3. At the end of each quarter, the revenue for the three months is totaled so that the sales tax can be reported. The check number for the sales tax is listed in Column 9. In the example shown, one check is written for the entire quarter. If a separate check is written for each month, the check number for each month is listed in Column 9. The collection fee the firm gets for collecting sales tax is listed under Miscellaneous Income on Form R-2.

At the end of the year, the total revenue for the year in each category on Form R-3 is calculated. Then, the revenue received by the retail sales department is adjusted to reflect the amount of work performed on retail sales meat processed by the other service departments. The volume of business data from Form V-3 is utilized in making the revenue adjustment. The adjusted total revenue then reflects the work performed in each service department.

Example: At the end of December, the total from Form R-2 was carried forward to Form R-3. The sales tax was paid with check number 2448 and the form for reporting the sales tax was filled out. The total for each column was then calculated to achieve the totals for the year.

Since it was the end of the taxable year, retail sales were adjusted. To adjust the retail sales revenue received, the manner in which the firm charges customers for its services must be understood:

Slaughter:

Beef	\$5 + hide
Pork	2¢/pound live weight

Processing:

Processing both beef and pork	9¢/pound
Grinding hamburger and sausage	4¢/pound
Tenderizing beef steaks	2¢/pound

Curing and Smoking:

Curing and smoking	10¢/pound
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Locker Rental:

Locker Rental	\$2/month
	\$10/six months
	\$18/twelve months

Retail Sales:

Company live animals -- Processing and curing and smoking was charged separately from the sale price of the meat. However, the charge for slaughtering was included in the price of the meat.

Company purchased carcasses and cuts -- There is no slaughtering function performed. The processing and curing and smoking was included in the retail price of the meat sold. Thus, processing, and curing and smoking should gain revenue which is presently shown under retail sales.

Slaughter Department Adjustment: This adjustment is only for company live animals sold.

Beef 69 head (Form V-3: total company live animals)  
 \$ 5/head  
 \$345

Pork 2790 pounds (Form V-3: total company live animals)  
 \$ .02/pound  
 \$55.80

Total Slaughter Adjustment: \$345.00  
 55.80  
 \$400.80

Processing Department Adjustment: This is made only for company purchased carcasses and cuts.

Processing:

Beef 32,200 pounds (Form V-3: total company purchased carcasses & cuts)  
 \$ .09/pound  
 \$2,898.00

Pork 9,800 pounds (Form V-3: total company purchased carcasses & cuts)  
 \$ .09/pound  
 \$882.00

Hamburger and Sausage:

12,880 pounds hamburger (Form V-3: total company purchased carcasses & cuts)

0 pound sausage

Total 12,880  
 \$ .04/pound  
 \$515.20

Tenderizing:

1,610 pounds (Form V-3: total company purchased carcasses & cuts)  
 \$ .02/pound  
 \$32.20

Total Processing Adjustment: \$2,898.00  
 882.00  
 515.20  
 32.20  
 \$4,327.40

Curing and Smoking Department Adjustment: This is made only for company purchased carcasses and cuts.

1,932 pounds of bacon (Form V-3: total company purchased carcasses and cuts)  
 4,863 pounds of ham  
 214 pounds of shoulder  
 141 pounds of other  
 7,150 pounds  
 \$ .10/pound  
 \$715.00

Total Curing and Smoking Adjustment: \$715.00

Thus, the following amounts are added to their respective service departments:

Slaughter	\$ 400.80
Processing	4,327.40
Curing & Smoking	715.00
Total Adjustment	\$5,443.20

The total adjustment of \$5,443.20 is subtracted from retail sales. The result is the adjusted total revenue per service department which reflects the actual amount of work performed.

MONTHLY AND YEARLY SUMMARY OF TOTAL REVENUE

Year 1972

Month	1 2 3 4					5 6 7			8 9 10		11	12
	Slaughter	Processing	Curing & Smoking	Retail Sales	Locker Rental	Total (1 thru 5)	Sales Tax	Total Cash Receipt (6 + 7)	Sales Tax Check No.	Misc. Income		
Jan.	148637	562119	44603	687146	54300	1496805	20614	1517419		5261		
Feb.	132222	550078	42198	600381	51700	1376579	18011	1394590		4324		
Mar.	108981	538036	39739	513616	48900	1249272	15908	1264680		5178		
1st Qtr. Total	389840	1650233	126540	1801143	154900	4122656	54533	4176689 (632)		14763		
Apr.	98655	401147	20356	508321	47300	1075779	15249	1091028		4793		
May	91781	328303	19207	495213	46700	981204	14856	996060		4908		
June	84909	305457	18058	482105	46300	936829	14463	951292		3241		
2nd Qtr. Total	275345	1034907	57621	1485639	140300	2993812	44568	3038380 (1207)		12942		
July	87652	359763	17550	472528	42500	979993	14180	994173		6654		
Aug.	90981	314102	17750	476219	44100	943147	14286	957433		13444		
Sept.	94312	318440	17449	479901	45600	956202	14397	970599		20751		
3rd Qtr. Total	272945	992305	53249	1428443	132200	2879342	42863	2922205 (1793)		40849		
Oct.	112768	477300	34740	598371	46800	1269989	17951	1287940		7898		
Nov.	104302	427873	36930	529336	49100	1143529	15759	1159288		6104		
Dec.	109090	498338	39610	469009	50300	1107842	12270	1120112		7082		
4th Qtr. Total	326160	1405011	111280	1532715	146200	3521366	45980	3567346 (2448)		21084		
Total for Year	1264290	5082456	348690	6248140	573600	13517176	187444	13704620		89638		
Adjustment of Retail Sales	40080	43240	71500	(549320)	00	00						
Adj. Total Rev. per Dept.	1304370	5515196	420190	5703820	573600	13517176						



## COST RECORDS

The proper collection of cost data has two primary roles in the system. First, accurate records are necessary for the reporting of expenses for state and federal taxes. Second, it is important to allocate expenses to the service department which incurred them.

The checkbook is the center for the handling of all disbursements, whether it is an expense, payment of sales tax collected, or a payment for capital expenditures. The check number for each check written is entered on the appropriate ledger form for which that disbursement of cash was necessary.

The recording of expenses is done primarily on two forms, the "Direct Expenses," Form E-1, and "Other Overhead Expenses," Form E-2. The study by Becker<sup>3</sup> found that 70 to 80 percent of the total expense could be allocated to a service department by

the analysis of only the major expense categories. Thus, the "Direct Expense" form is for the analysis of those expense categories. The remaining expense categories are handled in the "Other Overhead Expense" form.

Since the largest direct expense category is the labor expense, three forms were needed to analyze the labor payroll.

They are:

Form L-1, "Payroll Time and Distribution Analysis"

Form L-2, "Total Pay Per Employee"

Form L-3, "Monthly Summary of Payroll Distribution"

The expenditure of money for new or used equipment is recorded on Form E-3, "Capital Expenditures." At the end of the year, these capital expenditures are transferred to Form E-4, the "Depreciation Schedule."

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<sup>3</sup>Ibid, p. 1.

FORM L-1: PAYROLL TIME AND DISTRIBUTION ANALYSIS

Form L-1, "Payroll Time and Distribution Analysis," is for the recording of the total hours each employee worked and where that time was spent in the plant. Both the owners and the employees are to fill out the form each day.

Since the manager and some employees will work in different parts of the plant, it is recognized that the analysis of total hours worked will, in most cases, be approximate. But, by recording the hours each day, a minimum of error will result and a minimum of time will be consumed in recording the hours worked in the plant.

The total hours worked each day are split among the slaughter, processing, curing and smoking, and locker rental service departments. Hours not spent working in a service department are entered under general overhead. Retail sales are not listed because the retail sales department is only concerned with the purchase and sale of meat. Retail sales are therefore not allocated any type of operating expense except for the transportation and care of live animals before slaughter.

At the end of the month, the columns are totaled. Each employee then signs his name to verify that the hours shown are correct. The hours worked in each department are divided by the total hours worked by the owner and employee, and the result is a percent analysis of the time spent in each department.

Example: On December 1, John Smith worked eight hours and all eight hours were spent working in the processing department. He recorded his hours on Form L-1 at the end of the working day. At the end of the month, the columns were totaled. John worked a total of 168 hours, of which 155 hours were spent working in the processing department, five hours were spent in the locker rental department, and eight hours were allocated to general overhead.

John Smith signed the form to verify that the hours shown were correct. The bookkeeper did a percentage analysis and found that 92 percent of John Smith's time was spent processing, three percent was spent in locker rental, and five percent was general overhead.

Form L-1

PAYROLL TIME AND DISTRIBUTION ANALYSIS

Month December

Year 1972

Employee James - Jack Ventosa

Employee John Smith

Week	Day	Total Hours	Slaughter	Processing	Curing & Smoking	Locker Rental	General Overhead	Total Hours	Slaughter	Processing	Curing & Smoking	Locker Rental	General Overhead
1	Sun												
2	Mon												
3	Tues												
4	Wed												
5	Thur												
6	Fri	8		4	4			8		8			
7	Sat	4			4			0					
8	Sun	1						1					
9	Mon	8	8					8		8			
10	Tues	8	6			2		8		8			
11	Wed	8	8					8		8			
12	Thur	8		5	3			8		8			
13	Fri	8		5	3			8		8			
14	Sat	4			1		3	0					
15	Sun	1						1					
16	Mon	8	8					8		8		2	
17	Tues	8	6			2		8		6			
18	Wed	8	8					8		8			
19	Thur	8		5	3			8		8			
20	Fri	8		5	3			8		8			
21	Sat	4			1		3	0					
22	Sun	1						1					
23	Mon	8	8					8		8		2	
24	Tues	8	8					8		6			
25	Wed	8	8					8		8			
26	Thur	8		5	3			8		8			
27	Fri	8		5	3			8		8			
28	Sat	4			1		3	0					
29	Sun	1						1					
30	Mon	8	Xmas				8	8	Xmas				8
31	Tues	8	8					8		8			
32	Wed	8	8					8		8			
33	Thur	8		5	3			8		7		1	
34	Fri	8		5	3			8		8			
35	Sat	4			4			0					
36	Total for Month	188	84	44	39	4	17	168	0	155	0	5	8

I certify that the above hours are correct.  
Signature Jack Ventosa

I certify that the above hours are correct.  
Signature John Smith

% each dept. is of total hrs.      100%    45%    23%    21%    2%    9%      100%    0%    92%    0%    3%    5%

FORM L-2: TOTAL PAY PER EMPLOYEE

Form L-2, "Total Pay Per Employee, " is for recording the employee's gross pay, payroll deductions, net pay, and the check number corresponding to the check written for the net pay. A copy of Form L-2 is filled out for both the employee and the owner. If the firm is not a corporate form of business, no deductions are made from the owner's gross pay. The Form L-2 illustrated shows a bi-weekly pay period. The form should be changed if the pay period is weekly.

At the end of a quarter, the three months are summarized so that the payroll deductions can be reported to the state and federal government for each employee. The total for the end of the year is shown so the W-2's can be filled out.

If the firm using this accounting system does not have a corporate form of business, then it is necessary for the firm to set a labor dollar value on the owner's time spent working in the plant. This is necessary because many owners work in only one portion of the plant. Without a labor charge on the work the owner performs, the unit cost calculated on his

services may be much lower than if hired labor is used in that department. In the study by Becker<sup>4</sup>, the owner was allocated a gross pay equivalent to that of the top paid employee. If an owner worked part time, the owner received a percent of gross pay equivalent to the time spent working at the plant. Other methods may be used to set a pay figure which the owner feels is justifiable for his time. However, it is recommended that the pay level reflect his labor time only. The net profit figure achieved at the end of this year will reflect the returns he made on his management ability and on his investment.

Example: The month of December had three pay periods. On the third pay period, John Smith's gross pay was \$300. His deductions were \$25.84 federal income tax, \$4.67 state income tax, and \$17.55 FICA. The net pay was \$251.94 which was paid for by check number 2343. The months of October, November, and December were then summarized. Since it was the end of the year, the yearly totals for gross pay deductions, and net pay were calculated and a W-2 for John Smith was filled out.

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<sup>4</sup>Ibid., p. 1.



Form L-2

TOTAL PAY PER EMPLOYEE

Employee's Name John Smith Social Security No. 821-94-7621 Year 1972  
 Address 81 North Ninth, Columbia, Mo. 65201

Month	Pay Period (bi-weekly)	Gross Pay	Deductions				Net Pay	Net Pay Check No.
			Fed. Income Tax	State Income Tax	FICA	Other		
1	July I	30000	2584	467	1755		25194	(1283)
2	July II	30000	2584	467	1755		25194	(1341)
3	July III							( )
4	Total July	60000	5168	934	3510		50388	
5								
6	Aug. I	30000	2584	467	1755		25194	(1432)
7	Aug. II	30000	2584	467	1755		25194	(1591)
8	Aug. III							( )
9	Total Aug.	60000	5168	934	3510		50388	
10								
11	Sept. I	30000	2584	467	1755		25194	(1482)
12	Sept. II	30000	2584	467	1755		25194	(1718)
13	Sept. III							( )
14	Total Sept.	60000	5168	934	3510		50388	
15								
16	3rd Quarter Total	180000	15804	2802	10530	0	151164	
17								
18								
19								
20								
21	Oct. I	30000	2584	467	1755		25194	(1799)
22	Oct. II	30000	2584	467	1755		25194	(1914)
23	Oct. III							( )
24	Total Oct.	60000	5168	934	3510		50388	
25								
26	Nov. I	30000	2584	467	1755		25194	(2053)
27	Nov. II	30000	2584	467	1755		25194	(2132)
28	Nov. III							( )
29	Total Nov.	60000	5168	934	3510		50388	
30								
31	Dec. I	30000	2584	467	1755		25194	(2209)
32	Dec. II	30000	2584	467	1755		25194	(2294)
33	Dec. III	30000	2584	467	1755		25194	(2343)
34	Total Dec.	90000	7752	1401	5265		75582	
35								
36	4th Quarter Total	210000	18078	3269	12285	0	176358	
37								
38								
39	Yearly Total	780000	67184	12142	45630	0	655044	
40								
41								
42								
43								
44								
45								
46								
47								
48								

FORM L-3: MONTHLY SUMMARY OF PAYROLL DISTRIBUTION

Form L-3, "Monthly Summary of Payroll Distribution," is for summarizing the payroll, allocating the total payroll to the service departments and providing a record of payment of deductions. The total gross pay for each owner and employee for a month is carried forward from the L-2 forms and Listed on Form L-3. The owner's and employees' gross pay and deductions are totaled; then these totals are added together.

Since the firm must match the FICA paid by the employee, Columns 1 and 4 are added together and entered in Column 6. Thus, the total in Column 6 reflects the gross wages paid and the employer's amount of FICA. The percent each owner and employee spent in each service department was carried forward from Form L-1 and entered in Columns 7, 8, 9, 10 and 11. The total in Column 6 is then multiplied by the percentage which reflects the amount of time the owner or employee spent in the different departments. The result is the amount of payroll expense which the department has incurred. The owners' and employees' wages allocated to each department are then added to achieve the total owner's and total employees' wages per department.

The deduction summary is at the bottom of Form L-3. Total federal income tax withheld, Column 2, and total state income tax

withheld, Column 3, are entered and the numbers of the checks used to pay the withholdings are shown. The FICA withholdings, Column 4, are added together and the number of the check used to pay the FICA is shown. Any other deduction, such as health insurance, is shown here and the number of the check use to pay it.

Example: John Smith's total gross pay and deductions for December were carried forward from Form L-2 and entered in Columns 1, 2, 3, 4, and 5. The total gross pay, \$900,000, and FICA, \$52.65, were added and entered in Column 6. The percentage analysis of Smith's time was entered from Form L-1 in Columns 7, 8, 9, 10 and 11. The total in Column 6, \$952.65, was then multiplied by 92 percent, 3 percent and 5 percent. This resulted in allocation of \$876.44 to processing, \$28.58 to locker rental, and \$47.63 to general overhead.

All eleven columns were totaled for the owners and employees. Next, the total owner and employee deductions, Columns 2 through 5, were entered in the deduction summary section. The total federal income tax withheld, \$189.54, the total state income tax, \$32.49, and the total FICA, \$298.36 were paid by check. The check numbers for these checks were entered next to the amounts shown on Form L-3. The check numbers were 2402, 2403, and 2404.

Month December

Year 1972

Name of Person	Gross Pay (monthly totals)	Deductions (monthly totals)				Total (Column 1 + 4)	Allocations									
		Fed. Income Tax	State Income Tax	FICA	Other		Slaughter	Processing	Cure & Smoke	Locker Rental	Overhead					
<b>Owners:</b>																
Jack Vantage	90000	-	-	-	-	90000	45	40500	23	20700	21	18900	2	1800	9	8100
Mary Vantage	45000	-	-	-	-	45000	0	0	7	3150	0	0	9	4050	84	37800
Total Owners	135000	-	-	-	-	135000		40500		23850		18900		5850		45900
<b>Employees:</b>																
John Smith	90000	7752	1401	5265		95265	0	0	92	87644	0	0	3	2858	5	4763
Steve Macy	75000	6132	1057	4388		79388	0	0	87	69068	13	10320	0	0	0	0
Cindy Jackson	60000	4140	618	3510		63510	31	19688	69	43822	0	0	0	0	0	0
Joey Dieker	30000	930	173	1755		31755	31	9899	47	14925	16	5081	0	0	6	1905
Total Employees	255000	18954	3249	14918		269918		29532		215459		15401		2858		6668
Total Owner & Employee (Columns 1 through 5)	390000	18954	3249	14918												
						(Carry total dollar amounts of columns 6 through 11 for owners and employees forward to Direct Expense Ledger.)										
<b>Deduction Summary:</b>																
Check No.																
Fed. income tax (total - column 2)		\$ 18954 (2402)														
State income tax (total - column 3)		\$ 3249 (2403)														
FICA																
A) Employees Part (total col. 4)		\$ 14918														
B) Employers Part (total col. 4)		\$ 14918														
Total FICA (total of A + B)		\$ 29836 (2404)														
Other: (total col. 5)		\$ — ( )														

FORM E-1: DIRECT EXPENSES

Form E-1, "Direct Expenses," is for allocation of those expenses which can be allocated among the service departments or to direct overhead. Each expense that can be allocated is listed under the word "accounts." When a check is written for an expense item listed on Form E-1, the check number is listed in Column 1 and the expense is allocated to the service departments or to direct overhead, Columns 2 through 7.

At the end of the month, all of the expenses are added and entered in Column 8. The previous total to date for the year, Column 9, is then added to Column 8 to achieve the new total to date, Column 10, which is transferred to Column 9 of the Form E-1 for the next month. Next, each column is added to achieve the total expense. The total expense in Columns 2 through 8 is added to the previous total to date which results in the new total to date. The total to date at the bottom of Form E-1 is then transferred to the Form E-1 for the next month and entered on the line which is labeled "previous total to date."

Each expense category is defined below so the expenses can be allocated. Note that in this accounting system no expense is allocated to retail sales except purchased meat.

Owner's Payrolls and Employee's Payroll - These expenses are carried forward from Form L-3 and entered on Form E-1.

Supplies - Supplies are allocated to the service department or direct overhead, based upon their intended use.

Purchased Meat - Live animals purchased and purchased carcasses and cuts plus transportation are entered under the retail sales department.

Electricity - Horsepower ratings of equipment are used to allocate this expense among the different departments. Analysis of equipment is done only once and can be used year after year until more equipment is added or equipment of different horsepower ratings is used. The percent the horsepower of each department is of the horsepower used in the entire plant is determined. This percent is multiplied times the electrical bill each month to determine how much electric expense to allocate to each. The analysis of six plants yielded the percentage breakdown of electrical usage shown in Table 3.

Natural Gas - By analyzing the plant's equipment and by observing the amount of time it is in use, the owner can make a reasonable allocation of the natural gas usage. This allocation by six firm managers is shown in Table 3.

Water Charges and Sewage Disposal Charge - The owner's judgment is used in the allocation of these expense categories. Water and sewage disposal by six firms is shown in Table 3.

Unemployment Insurance - The dollar distribution of labor payroll among the service departments and direct overhead can be used to allocate unemployment insurance.

Laundry Expense - The owner's judgment is used to determine allocations that reflect the use of the items laundered.



The allocation determined by six firm managers is shown Table 3.

Automotive Expense - The owner's judgment is used in determining the percent allocations among departments.

Insurance - The only insurance shown in Form E-1 is for locker rental liability. Any other type of insurance which can be allocated should be included on the E-1 form.

Workman's Compensation - The dollar distribution of labor payroll among the service departments and direct overhead can be used to allocate workman's compensation.

Repairs & Maintenance - Repair and maintenance expenses are allocated to the department requiring the service.

Table 3  
DISTRIBUTION OF ELECTRICAL, WATER AND SEWAGE, NATURAL GAS, AND LAUNDRY EXPENSE

Six Slaughter-Locker Firms, Missouri, 1970-71

Expense	Slaughter	Process- ing	Curing and Smoking	Locker Rental	General Over- head
<b>Electric:</b>					
Firm A	17	53	6	10	14
Firm B	32	53	1	6	8
Firm C	27	46	3	21	3
Firm D	16	53	18	8	5
Firm E	19	41	5	29	6
Firm F	23	66	7		4
<b>Water &amp; Sewage:</b>					
Firm A	45	14	14		27
Firm B	78	20			2
Firm C	81	9	6		4
Firm D	50	18	30		2
Firm E	50	25	20		5
Firm F	70	10	15		5
<b>Natural Gas:</b>					
Firm A	24	39	19		18
Firm B	36	55			9
Firm C	34	39	12		15
Firm D	31	26	35		8
Firm E	21	41	7		32
Firm F	50	30	15		5
<b>Laundry:</b>					
Firm A		95	6		
Firm B		100			
Firm C		90	10		
Firm D	5	90	5		
Firm E		90	10		
Firm F		95	5		

Source: Kenneth A. Becker, "Financial Analysis of Slaughter-Locker Firms" (Unpublished Master's thesis, the University of Missouri, Columbia, 1973), p. 39 and p. 43.

Example: At the end of December, the bookkeeper carried forward the owner's and employee's payroll from Form L-3 to Form E-1. During the month, the supplies expenditures were allocated to the department for which the supplies were purchased. Purchased meat was allocated to retail sales. The electrical bill was allocated on the basis of the percentages shown in Table 4.

The natural gas bill and the water bill were allocated according to the percentages shown in Table 4. Sewage disposal expense was included in the water bill. Unemployment insurance was allocated on the basis of the employee payroll expense incurred by the service departments and direct overhead. The laundry bill was allocated by the percentages in Table 4. The firm manager allocated all of the automotive expense to direct overhead since the vehicle was used only for management.

The repair and maintenance bills were allocated to the departments incurring the service.

Table 4

ALLOCATION OF ELECTRICAL, NATURAL GAS,  
WATER AND LAUNDRY EXPENSES

Department	Electrical	Natural		
		Gas	Water	Laundry
	----- percent -----			
Slaughter	21	33	65	5
Processing	52	25	15	90
Curing and Smoking	6	33	15	5
Locker Rental	15	0	0	0
Direct Overhead	<u>6</u>	<u>9</u>	<u>5</u>	<u>0</u>
TOTAL	100	100	100	100

At the end of the month, each expense category was totaled and entered into Column 8. It was then added to the previous total to date, Column 9, and entered in Column 10. Following this, each column was totaled. For Columns 2 through 8, the total expense was added to the previous total to date to find the present total to date. Since this was the last month of the accounting period, the total to date was not carried forward to Form E-1 for January, 1973.

Form E-1

DIRECT EXPENSES

Month *December*

Year *1972*

Accounts	Check Nos.	Slaughter	Processing	Curing & Smoking	Retail Sales	Locker Rental	Direct Overhead	Total	Previous	Total
								Each Category	Total to Date	Total to Date
Owner's payroll	---	40500	23850	18900		5850	45900	135000	1012800	1197800
Employee's payroll	---	29532	215459	15401		2858	6668	269918	2019132	2289050
Supplies:										
	2237	6391	35328							
	2273					2143				
	2307			12782						
	2315		23180				9745			
	2372	5209	6027							
								101105	1023775	1124880
Purchased meat:										
Live animals:										
	2213				52570					
	2334				39260					
								91830	2213889	2335719
Purchased carcasses & cuts:										
	2214				77262					
	2232				24174					
	2277				27492					
	2344				147493					
	2386				3239			279660	2575102	2854762
Electricity	2215	6129	15177	1751		4328	1751	29196	338097	367293
Natural gas	2219	1568	1189	1568			426	4751	48465	53216
Water	2216	1814	418	418			139	2789	28316	31105
Sewage disposal										
Unemployment insurance	2321	3608	26414	1887		364	827	33100	108312	138412
Laundry expense	2233	266	4796	266				5328	54412	59740
Automotive expense										
	2247						950			
	2302						3171	4121	49563	53684
Insurance:										
Locker rental									14200	14200
Workmen's compensation									54600	54600
Repairs & maintenance:	2238	6842								
	2283			1114						
	2391		1544				4793	28143	25204	280177
Total Expense		101859	347552	54087	371490	15593	74370	984951	9819672	10804623
Previous Total to Date		821975	3130026	336680	4818986	104082	607349	9819672		
Total to Date		923834	3497638	390777	5190476	119675	682219	10804623		

FORM E-2: OTHER OVERHEAD EXPENSES

The "Other Overhead Expenses" form is for expenses which could not be allocated. All remaining expense categories that are not listed on Form E-1 are listed on Form E-2, except depreciation which is handled on Form E-4.

When a check is written for an expense item, the check number is listed in Column 1 and the total amount of the expense in Column 2. Often small items are paid in cash. To record these, the words "Petty Cash" are listed in Column 1 and the amount is entered in Column 2.

At the end of the month, all of the expenses under each expense category are added together and entered in Column 3. The previous total to date for the year, Column 4, is added to Column 3 to gain the present total to date, Column 5. The totals in Column 5 are transferred to the Form E-2 for the following month and entered in Column 4. Next, each column is added to find the total other overhead expense. The total expense in Column 2 is added to the previous total to date which results in the present total to date. The present total to date is transferred to Form E-2 for the following month and entered on the line which is labeled "previous total to date."

At the bottom of Form E-2, the personal withdrawals made by the owner can be listed. The check number and the amount of the check is listed in Columns 1 and 2. The total to date is also calculated to keep track of the total amount of withdrawals made during the course of the year.

Example: Checks were written for expenses and entered on the Form E-2 for December, 1972. At the end of the month, the purchases made in cash were listed on Form E-2; the words "Petty Cash" were listed in Column 1 and the total amount of the cash purchases was listed in Column 2. Each expense category was then totaled. For example, under general supplies, the amounts of \$8.10, \$4.36, and \$7.82 were added and entered in Column 3. Column 3 was then added to Column 4, previous total to date, and the resulting total to date was entered in Column 5. The columns were summed to find the total other overhead expense. Column 2, total overhead expense for December, was then added to the previous total to date to arrive at the present total to date.

The amounts entered for the three personal withdrawals were added together and then added to the previous total to date to arrive at the present total to date of \$9,473.24.



Form E-2

OTHER OVERHEAD EXPENSE

Month December

Year 1972

1	Accounts	Check Nos.	Amount	Total Each Category	Previous Total to Date	Total to Date
1	Advertising & promotion	2220	3735			
2						
3				3735	15372	89107
4	Travel & entertainment				834	834
5						
6	Postage	2255	800			
7				800	9502	10302
8	Dues & subscriptions					
9		2349	1500	1500	6900	7900
10	Telephone & telegraph	2217	5832	5832	52149	58281
11	Legal & accounting	2231	2000	2000	23300	25300
12	Bad debt losses	—	735	735	3165	3900
13	General supplies	2288	810			
14		2299	436			
15		<del>2275</del> 2275	782	2028	16395	18373
16	Property taxes				27000	27000
17	Other taxes & expenses					
18		2284	2000	2000	4050	6050
19	Insurance--bldg. & equip.	2263	13000			
20		2264	40000	53000	107530	161530
21	Miscellaneous expenses	2360	2740			
22				2740	25492	28192
23	Interest	—	3412			
24				3412	38929	42391
25						
26						
27						
28	Total Other Overhead Expenses		77782	77782	408792	486570
29						
30	Previous Total to Date		408792			
31	Total to Date		486580			
32						
33						
34						
35	Personal withdrawals:					
36		2270	8000			
37		2300	20000			
38		2349	35000			
39	Total Withdrawals		63000			
40	Previous Total to Date		884324			
	Total to Date		947324			

COLUMN - WHITE ©

FORM E-3: CAPITAL EXPENDITURES

Form E-3, "Capital Expenditures," is for recording those items of expense which should be depreciated over the course of the next few years. When an item is purchased, a description of the item and the check number are entered under the column labeled property and check number. The date of purchase is listed in Column 1 and the cost of the capital expenditure is listed in Column 2. At the end of the year, each capital expenditure is transferred to the depreciation schedule, Form E-4. A check mark is entered in Column 3 as the item is transferred

to Form E-4. The total capital expenditure is calculated by adding the cost of each item listed, Column 2.

Example: In 1972, the firm purchased a split saw for \$460.00, paved the parking lot at a cost of \$914.35, replaced a 5-hp motor at a trade-in cost to them of \$117.50, and purchased an adding machine for \$128.40. The total capital expenditure for 1972 was \$1,620.25. As each capital expenditure was transferred to the depreciation schedule, Form E-4, a check mark was placed in Column 3.



## FORM E-4: DEPRECIATION SCHEDULE

Form E-4 is the "Depreciation Schedule." This form is for the depreciation of capital expenditures. At the end of the accounting period, the depreciation is calculated for each item of property listed on the form. The new capital expenditures for the past year are transferred onto Form E-4 and the amount of depreciation is calculated for each new item of property. The amount of depreciation for each item is then added to achieve the total depreciation expense for that year.

Example: In December, 1972, the amount of depreciation was calculated on each item listed on Form E-4. The four new capital expenditures for 1972 were listed and the depreciation was calculated. The date the item was acquired was entered in Column 1, the cost in Column 2, the method of depreciation and the rate of life in Column 3, the remaining cost in Column 4, and the amount of depreciation for 1972 in Column 5. Column 5 was totaled to arrive at the total depreciation expense for 1972, \$6,342.78.



## SUMMARY STATEMENTS

This accounting system uses three forms to summarize and analyze the data for the firm manager. The three summary forms are:

Form S-1: Monthly Income Statement  
 Form S-2: Yearly Income Statement  
 Form S-3: Unit Cost Analysis.

FORM S-1: MONTHLY INCOME STATEMENT

The "Monthly Income Statement," Form S-1, is for the manager of the firm to use in the month to month control of expenditures. It provides a method by which he can compare expenditures in dollar terms and as a percent of the total monthly revenue received.

At the end of the month, the total revenue received, Column 6 of Form R-3, is entered on Form S-1 for the appropriate month. The total direct expense, Column 8 of Form E-1, less the total direct overhead for that month, Column 7 of Form E-1, is entered on Form S-1. The total direct expense is then subtracted from total revenue, and the result is the contribution to common overhead.

Next, the total overhead expense for the firm is calculated. The total overhead is calculated by entering and adding the total direct overhead for that month, Column 7 of Form E-1, the total other overhead for the month, Column 2 of Form E-2, and the estimated monthly depreciation is calculated at the beginning of the

year by estimating the total depreciation for the year and dividing it by twelve.

The total overhead is subtracted from the contribution to overhead to arrive at the net profit or loss for the month.

Each dollar figure for the month is then divided by total revenue to determine its percent of total revenue. This percentage is entered in the column next to the dollar figure.

At the end of a quarter, the dollar figures for the three months are added together to develop the quarterly income statement. At the end of six months, the two quarterly income statements are combined to arrive at the income statements for the first and second half of the year.

Example: At the end of December, the firm manager calculated his monthly income statement. First, he entered the total revenue on Form S-1, see Example 1. He then subtracted the monthly total direct overhead from the total direct expense.

\$9,849.51 Column 8 on Form E-1  
743.79 Column 7 on Form E-1  
 \$9,105.81

The total direct expense less the total direct overhead was entered on Form S-1. He then subtracted \$9,105.81 from \$11,078.42, the result being the contribution to common overhead of \$1,972.61. Next, he calculated the total overhead for December. The estimated depreciation for the entire year was \$6,400.00. When divided by 12 ( $\$6,400 \div 12$ ), this became \$533.33, the estimated monthly depreciation. The total overhead, \$2,054.85 was then subtracted from the contribution to overhead figure, \$1,972.61 to arrive at a net loss for December of \$82.24. The total revenue, \$11,078.42, was divided into each of the expense figures and the net profit figure. The result was a negative one percent for net profit as a percent of total revenue. Example 1 is taken from the Form S-1.

This was the end of the fourth quarter and the end of the second half of the year. The monthly income statements for October, November, and December were combined to arrive at the fourth quarter income statement. The third quarter and fourth quarter income statements were combined to form the second half of the year income statement.

Example 1

MONTHLY INCOME STATEMENT - DECEMBER

	<u>Dollars</u>	<u>Reference</u>	<u>% of Total Revenue</u>
Total Revenue	\$11,078.42	Col. 6, Form R-3	100
Total Direct Expense Less Direct Overhead	<u>9,105.81</u>	Col. 8 less Col. 7 Form E-1	<u>82</u>
Contribution to Overhead	\$ 1,972.61		18%
Overhead:			
Direct Overhead	743.70	Col. 7, Form E-1	7
Other Overhead Expenses	777.82	Col. 2, Form E-2	7
Estimated Monthly Depreciation	<u>533.33</u>	Estimated Depr.	<u>5</u>
Total Overhead	\$2,054.85		19%
Net Profit (loss)	(\$82.24)		(1%)



	Percent of		Percent of		Percent of		Percent of		Percent of		Percent of	
	July	Total Revenue	August	Total Revenue	September	Total Revenue	October	Total Revenue	November	Total Revenue	December	Total Revenue
Total Revenue	979993	100%	943147	100%	956202	100%	1269989	100%	1193535	100%	1107842	100%
Total Direct Expense Less Direct Overhead	726289	74	682888	72	689386	72	891932	70	796532	70	910581	82
Contribution to Overhead	253704	26	260259	28	266816	28	378557	30	397003	30	197261	18
Overhead:												
Direct Overhead	50362	5	46419	5	42478	4	50572	4	39652	3	74370	7
Other Overhead Expenses	36491	4	32781	3	29073	3	25129	2	29339	3	77808	7
Estimated Monthly Depreciation	53333	5	53333	6	57333	6	53333	4	53333	5	53333	5
Total Overhead	140186	14	132533	14	124884	13	129034	10	122324	11	205985	19
Net Profit (loss)	113518	12	12726	14	14132	15	299523	20	229679	19	(8224)	(1)

S U M M A R Y

	Third Quarter		Fourth Quarter		Second Half of Year	
	\$\$\$	Percent of Total Revenue	\$\$\$	Percent of Total Revenue	\$\$\$	Percent of Total Revenue
Total Revenue	2879342	100%	3521366	100%	6400708	100%
Total Direct Expense Less Direct Overhead	2098563	73	2598545	74	4697108	73
Contribution to Overhead	780779	27	922821	26	1703600	27
Overhead:						
Direct Overhead	139259	5	164599	4	303853	5
Other Overhead Expenses	92445	3	132250	4	230595	4
Estimated Monthly Depreciation	159999	6	159999	5	319998	5
Total Overhead	397603	14	456843	13	854446	14
Net Profit (Loss)	383176	13	465978	13	849159	13



FORM S-2: INCOME STATEMENT

Form S-2, "Income Statement," is the income statement for the entire year. In this income statement, each service department's contribution to profit is analyzed.

At the end of the year, the adjusted total revenue from Form R-3 is entered in the appropriate columns on Form S-2. The direct cost for each service department is then transferred from Form E-1 and entered on Form S-2. Next, the direct expense is subtracted from the revenue for each service department; this figure is called the contribution to overhead. The contribution to overhead indicates the profitability of each one of the service departments. The total direct overhead from Form E-1, the total other overhead expenses from Form E-2, and the total depreciation expense from Form E-4 are then entered on Form S-2 and added together. The total overhead is then subtracted from the total contribution

to overhead to arrive at the net profit or loss of the operation. Next, other income is added to the net profit or loss from the operation. Other income includes the total miscellaneous income from Form R-3 and the total owner's payroll from the appropriate L-2 forms, if the firm is not a corporate form of business. If the firm is a corporation, the owner's payroll should not be added back in as other income. The total income is then added to net profit or loss of operation to arrive at the total net profit or loss before taxes.

Finally, the total revenue is divided into the total direct expense, contribution to overhead, direct overhead, other overhead expense, depreciation, total overhead, and net profit in Column 11 to calculate the percent of total revenue each figure represents. The percentages are entered in Column 12.

Example: At the end of the accounting period, the owner entered the adjusted total revenue figures from Form R-3, Columns 1 through 5, on Form S-2. Then he entered the direct expense from Form E-1, Columns 2 through 6, on Form S-2. Next, he subtracted the direct expense from the revenue for each department and arrived at the contribution to overhead made by each service department. The total overhead was then calculated by adding together the total direct overhead, \$6,822.19 from Column 7 of Form E-1, the total other overhead expense, \$4,865.80 from Column 2 of Form E-2, and total depreciation expense, \$6,342.78 from Column 5 of Form E-4. The total overhead was subtracted from the total contribution to overhead which resulted in a net profit for the operation

of \$15,916.95. The miscellaneous income, \$896.38 from Form R-3, and the owner's payroll, \$11,478.00 from Forms L-2 for the two owners, were added together to form the total other income. The total net profit before taxes was then calculated by adding the total of other income to the net profit of the operation. The total net profit before taxes was \$28,291.33.

The total revenue was then divided into the total direct expense, contribution to overhead, direct overhead, other overhead expense, depreciation, total overhead, and net profit in Column 11 to calculate the percent of total revenue each figure represented. These results illustrated to the owner that the net profit of the operation represented 12 percent of total revenue.

	1	2	3	4	5	6	7	8	9	10	11	12
	Slaughter		Processing		Curing and Smoking		Retail Sales		Locker Rental		Total	Percent of Total Revenue
1 Revenue	1304370		5515196		420190		5703820		573600		13517176	100%
2 Direct Expense	923834		3997638		390777		5190976		119679		10122944	75%
3 Contribution to Overhead	380536		2017558		29913		513344		453921		3394772	25%
4 Overhead:												
5 Direct Overhead											682219	5%
6 Other Overhead Expense											486580	3%
7 Depreciation											634278	5%
8 TOTAL OVERHEAD											1803077	13%
9 Net Profit (Loss) of Operation											1591695	12%
10 Other Income:												
11 Misc. Income											84638	-----
12 Owners' Payroll (if this firm is NOT a corporation)											1197800	-----
13 TOTAL											1237438	-----
14 Total Net Profit (Loss) Before Taxes											2829133	-----

FORM S-3: UNIT COST ANALYSIS

The "Unit Cost Analysis" form, Form S-3, is for the analysis of each service department to arrive at the unit cost of performing the service. The direct expense from Form S-2 is entered on Line 1 of Form S-3. Next, the volume of business handled in each service department is entered on Line 2 of Form S-2. For the slaughter department, the total volume of business handled is the total dressed weight of beef and pork slaughtered during the year. The total volume of business in the processing department is the total dressed weight of all the beef and pork processed. The total volume of business in curing and smoking is the total volume of meat cured and smoked. The total volume of business in the retail sales department is the total number of pounds of meat purchased. For the locker rental department, the volume of business is the average number of boxes rented during the year. The total direct expense in each department is then divided by volume of business handled in each department. The result is the unit cost of performing the service in each service department, Line 3.

For the slaughter department, the average cost to slaughter a beef or pork animal is developed. First, the total dressed weight of beef animals slaughtered is divided by the number of animals slaughtered to arrive at the average dressed weight per

beef animal. The same is done for pork. The average dressed weight for beef and pork is then entered on Line 4. Next, the average dressed weight for beef and pork, Line 4, is multiplied by Line 3 to arrive at the average unit cost per beef and pork animal slaughtered, Line 5.

Example: At the end of the year, the direct expense, from Form S-2, for each department, was entered on Line 2 of Form S-3. Then, the total volume of business handled in each department was calculated from Form V-3.

Slaughter

406,800	custom beef
109,200	custom pork
32,700	company beef live animals
<u>2,120</u>	company pork live animals
550,820 pounds	TOTAL

Processing

406,800	custom beef
109,200	custom pork
32,700	company beef live animals
2,120	company pork live animals
32,200	company beef purchased cuts
<u>9,800</u>	company pork purchased cuts
592,820 pounds	TOTAL

Curing and Smoking

16,960	bacon
20,448	ham
3,554	shoulder
<u>1,057</u>	other
42,019 pounds	TOTAL

Retail Sales

32,700	company beef live animals
2,120	company pork live animals
32,200	company beef purchased cuts
<u>9,800</u>	company pork purchased cuts
76,820 pounds	TOTAL

Locker Rental

Average monthly inventory of lockers rented was 287.

These figures were then entered on Line 2 of Form S-3. Next, the direct expense, Line 1, was divided by the volume of business handled in that department, Line 2, during the year to arrive at the unit cost for each service department. This figure was entered on Line 3.

For the slaughter department only, the unit cost per animal was then calculated. First, the average dressed weight per animal slaughtered was calculated

Beef

	<u>Pounds</u>	<u>No. of Head</u>
Custom beef	406,800	864
Company beef - live animals	<u>32,700</u>	<u>69</u>
TOTAL	439,500	933

$$439,500 \text{ lbs.} \div 933 = 471.1 \text{ lbs.}$$

Pork

Custom pork	109,200	586
Company pork - live animals	<u>2,120</u>	<u>12</u>
TOTAL	111,320	598

$$111,320 \text{ lbs.} \div 598 = 186.2 \text{ lbs.}$$

The average dressed weights were then entered on Line 4 of Form S-3. The unit cost, Line 3, was then multiplied by the average dressed weight of a beef and pork animal to arrive at the average unit cost per beef animal slaughtered, \$8.01, and the average unit cost per pork animal slaughtered, \$3.17. These figures were entered on Line 5 of Form S-3.



	1	2	3	4	5	6	7	8	9	10	11	12
	Slaughter		Processing		Curing & Smoking		Retail Sales		Locker Rental			
1												
2	1. Direct expense	\$ 9238.34	\$ 34976.38	\$ 3907.77	\$ 51904.76	\$ 1196.79						
3												
4	2. Total volume of meat	550820 lbs.	592820 lbs.	42019 lbs.	76820 lbs.	287 boxes						
5	(locker rental - avg. no. rented)											
6												
7												
8												
9												
10	3. Unit cost (1 ÷ 2)	\$ .67	\$ .59	\$ .93	\$ .68	\$ .47						
11												
12												
13												
14	Slaughter Dept. Only											
15												
16	4. Avg. dressed weight:											
17												
18	Beef animal	471.1 lbs.										
19												
20	Pork animal	186.2 lbs.										
21												
22												
23	5. Unit cost per animal (3 x 4)											
24												
25	Beef animal	\$ 8.01										
26												
27	Pork animal	\$ 3.17										
28												
29												
30												
31												
32												
33												
34												
35												
36												
37												
38												
39												
40												