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B598: Analysis of Livestock Dealers' Operations in Maine and Vermont

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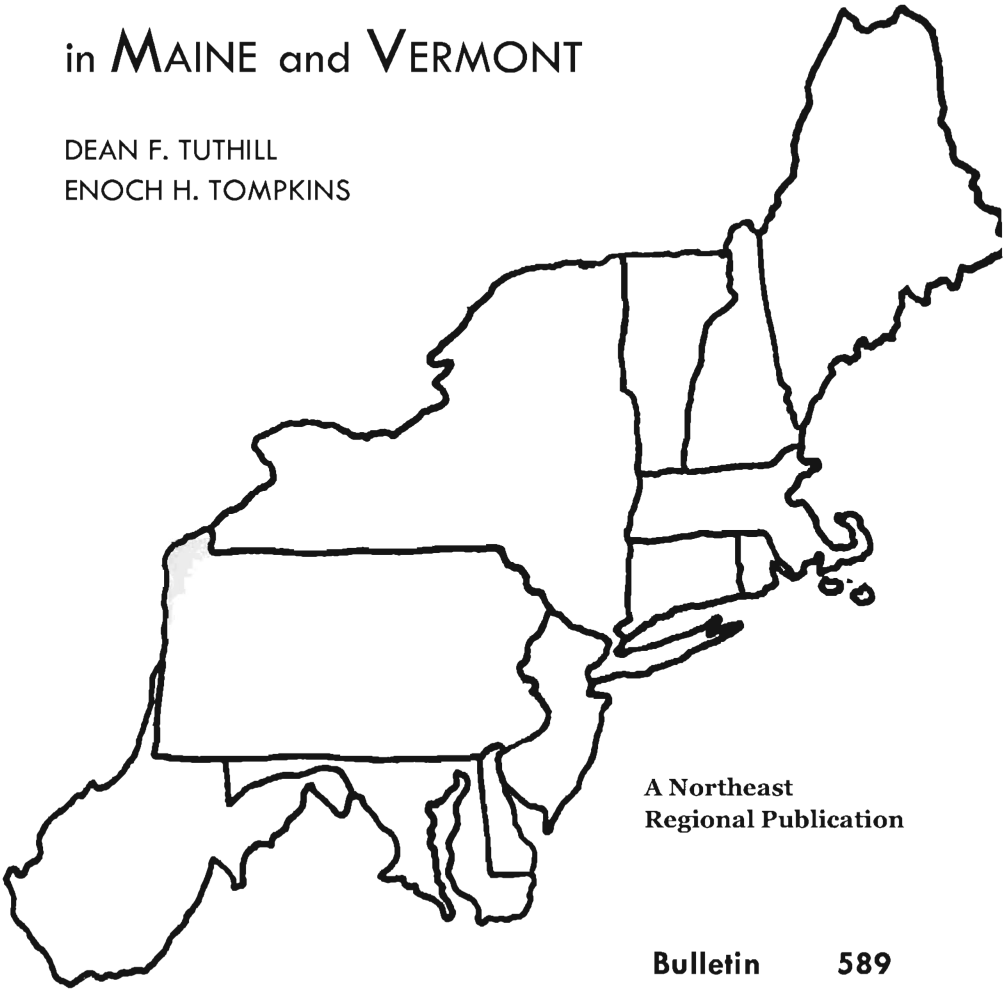

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Foreword

Directors of the northeast agricultural experiment stations activated a regional project on livestock marketing, July 1, 1954. Representatives of this area and officials of the United States Department of Agriculture cooperated in developing a regional study, "Marketing Procedures and Outlets for Northeastern Livestock with Emphasis on Dairy Animals." The primary objective of this project was to find ways to improve the efficiency of livestock marketing in the northeast.

The project was divided into four separate study phases; producers, dealers, auctions and slaughter plants. Each of these phases was surveyed, and publications of the analysis of data from auctions, dealers and slaughter plants were prepared and distributed.[1]

This report is an analysis of the costs and returns of livestock dealer operations in Maine and Vermont. The cooperating agencies are:

State Agricultural Experiment Stations

Connecticut	New Jersey
Delaware	New York
Maine[2]	Pennsylvania
Maryland	Rhode Island
Massachusetts	Vermont[2]
New Hampshire	West Virginia

United States Department of Agriculture

Agricultural Marketing Service
Farmer Cooperative Service
State Experiment Stations Division

Regional Coordinator

Administrative Advisor

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[1] Randell, C. G., "Livestock Auctions in the Northeastern States," Farmer Cooperative Service Bulletin No. 8, Northeast Regional Publication No. 26; Merchant, C. H., "Livestock Dealers' Operations," Maine Bulletin No. 555, Northeast Regional Publication No. 36; and McIntosh, K. D., "Characteristics of Livestock Slaughter Plants in Northeastern United States," West Virginia Agricultural Experiment Station Bulletin No. 428.

[2] These states contributed information to the study of livestock dealer costs and returns.

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SUMMARY

A 25 percent random sample of dealers in Maine and Vermont was selected for the study of livestock dealer operations. Maine contributed 53 and Vermont 44 schedules. Thirty dealers, or 56 percent of the Maine sample, were full-time dealers. Thirteen, or 29 percent of the Vermont sample, were full-time dealers. The rest of the dealers participated in other businesses along with livestock dealing. Seventeen percent of the Maine dealers carried on farming, mainly dairying, and 48 percent of the Vermont dealers operated dairy farms.

The largest inventory item, land and buildings for holding livestock from purchase to resale, averaged $6,597 for Maine dealers and $10,678 for Vermont dealers. Other equipment, except for trucks, was a minor investment for most dealers.

Ninety-two percent of all dealers owned trucks, and the average investment in trucks was $1,088 and $1,732 for Maine and Vermont dealers, respectively. Trucking expense was the major item of cost most universally reported by dealers.

Cattle was the main class of livestock traded by dealers. The average composition of animals as measured by value of livestock purchased by Maine dealers was 32.5 percent replacement dairy cattle, 45.7 percent slaughter cattle, 12.4 percent calves, 7.5 percent lambs and less than 1 percent each of hogs, sheep and horses. The composition of livestock for Vermont dealers was 55.0 percent dairy replacements, 38.4 percent slaughter cattle, 3.7 percent calves, 2.7 percent horses and a negligible value in hogs, sheep and lambs.

Maine dealers had average gross receipts of $23,919 of which 97.7 percent was from livestock sales and the remaining 2.3 percent largely from sale of milk. Their expenses were $23,502, comprised of the cost of livestock (84.7 percent), cash operating costs (14.8 percent) and unpaid family labor (.5 percent). Trucking costs in Maine were 38.5 percent of the cash operating costs. Subtracting the expenses from the gross receipts gave a net income of $417. Deducting $440, a charge of 5 percent of total investment, gave a dealer income of –$23.

Average gross receipts of Vermont dealers were $87,253 of which 98.0 percent was from sale of livestock and 2.0 percent from other sources, largely the sale of milk. Expenses totaled $81,670 of which 90.2 percent was for the purchase of livestock, 8.9 percent cash operating costs and negligible proportions for unpaid family labor and a decrease in inventory. Trucking costs

in Vermont were 31.5 percent of the cash operating costs. Expenses subtracted from gross receipts left a net income of $5,583. Deducting $776, a 5 percent charge on total investment, gave $4,807 dealer income.

The size of operation was a major factor explaining the larger incomes of Vermont compared with Maine dealers. Maine dealers sold an average of 233 animal units compared with 738 for Vermont. Operating costs per animal unit were less for Vermont dealers than for Maine dealers because of the larger volume handled, while receipts per animal unit were slightly higher for Vermont dealers. The increased net return per animal unit in Vermont compared with Maine and the larger volume of trading in Vermont inevitably led to higher incomes for dealers in that state. The larger cow population and greater importance of dairying in Vermont made possible the larger volume of business and increased value of replacement animals of Vermont dealers. The Vermont dealer operation could not or perhaps should not necessarily be emulated by Maine dealers.

In Maine, the higher income dealers traded more animals and used their facilities nearer to capacity than the lower income dealers. A larger proportion of the animals were slaughter cattle, and the turnover of both replacement and slaughter cattle was faster. The rapid turnover of animals required a smaller investment in facilities for holding cattle and resulted in lower feed costs. All of these factors contributed to a dealer income of $1,925 for the high income dealers compared with –$1,934 for the low income dealers.

In Vermont, the higher income dealers handled more animals than the low income dealers, and a higher proportion of these were adult animals rather than calves. The high income dealers also held their animals for a shorter period of time. These factors contribnted to a dealer income of $10,748 for the high income dealers compared with –$553 for the low income dealers.

ANALYSIS OF LIVESTOCK DEALER OPERATIONS IN MAINE AND VERMONT

DEAN F. TUTHILL AND ENOCH H. TOMPKINS[1]

Introduction

This study considers the costs and returns of livestock dealers in Maine and Vermont, and by comparing income groups, shows what methods of operation are associated with high and low income. This information may be used to improve income of livestock dealers. An earlier study of livestock dealer operations made in the northeast[2] indicated further work was desirable on dealers' operations.

A 25 percent random sample of all licensed dealers operating in Maine and Vermont was selected for the study. Each dealer was interviewed during the summer of 1957 to obtain information on his livestock operations for the calendar year 1956. Maine contributed 53 and Vermont 44 acceptable schedules. Since dealer operations differed considerably between the two states, information for each state is presented separately for comparsion.

The information was obtained from dealers' records and from questioning the dealer. Income tax forms frequently provided items of expense and receipts of the livestock business. More commonly, the information was obtained from each dealer's estimate of the number and price of animals bought and sold and other costs and returns in the dealer operation. Where a dealer operation was only a part of the overall business carried on by the dealer, the percentage share of expenses and receipts allocated to livestock dealing was estimated by him. The income from each dealer operation was calculated, and differences in income between the states and within each state were analyzed in an attempt to discover factors associated with high and low income.

A look at the importance of dairying in Maine and Vermont is necessary to evaluate livestock dealer operations in the two states. The cow population of Vermont, the smaller of the two states in size, was more than double that of Maine in 1956; 286,000 milk cows on farms in Vermont versus 112,000 in Maine. The farm value of milk produced

[1] Assistant Professor of Agricultural Economics of the Maine Agricultural Experiment Station, and Assistant Agricultural Economist of the Vermont Agricultural Experiment Station, respectively.

[2] Charles H. Merchant, *Livestock dealers' operations in northeastern United States*, Bulletin 555, Maine Agricultural Experiment Station, May, 1957.

was $82,814,000 and $38,515,000, the farm value of cattle and calves was $62,568,000 and $23,296,000 and the gross income from sale of cattle was $8,123,000 and $4,921,000 for Vermont and Maine, respectively. Thus, the cow density of Vermont was greater than Maine's, yet the total number of licensed dealers in Vermont was less. Dairying was more important in Vermont, and consequently livestock dealing in both slaughter and replacement dairy animals was of greater significance.

This comparison of dairying in the two states explains the larger volume of business carried on by Vermont dealers compared with Maine dealers as demonstrated in this bulletin. It also accounts for the greater value and importance of replacement dairy cattle as a part of the dealer business in Vermont. These replacement cattle often became a part of a dairy operation carried on by the dealer, and thus the combination of dealer-dairymen was more prevalent in Vermont than in Maine.

Business Practices of Livestock Dealers

The proportion of full-time livestock dealers was larger in Maine than in Vermont. Of the 53 dealers in Maine, 30 (56 percent) devoted their time to buying and selling livestock as their only business enterprise. In Vermont, 13 of the 44 dealers (29 percent) devoted their time to livestock dealing as their only business enterprise. Most of the dealers who combined livestock dealing with other businesses were farmers operating general farms in Maine and dairy farms in Vermont (figure 1). In both states a few dealers were engaged in other phases of livestock marketing including slaughtering, retailing meat and auctioneering.

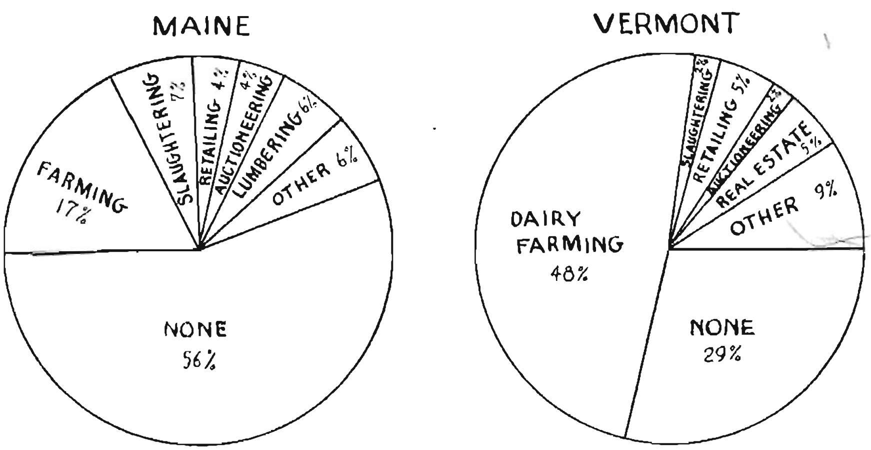

FIGURE 1. Other Businesses Carried on by Livestock Dealers in Maine and Vermont, 1956

The dealers in Maine conducted their businesses within a 50 mile radius on the average, as compared with slightly less than 40 miles for Vermont dealers. Maine dealers traveled 16,399 miles a year on the average in 1956, while Vermont dealers covered an average of 25,542 miles.

Fifty-seven percent of the dealers in Maine and 68 percent of the dealers in Vermont reported that they held dairy replacement cattle for a period of time between purchase and resale, and 55 and 68 percent of the dealers in Maine and Vermont, respectively, reported holding slaughter cattle. Other dealers either did not report on this item or carried animals on trucks directly from purchase to sale. Dealers in both states held dairy replacements longer than slaughter cattle, and averaged 22 days for dairy replacements compared to 10 days for slaughter cattle in Maine, and 50 days for replacements compared to 4 days for slaughter cattle in Vermont (table 1). The dairy replacements became a part of the milking herd for many Vermont dealers who were also dairy farmers. A number of dealers in both states reported holding calves, with an average time of 24 days in Maine and 3 days in Vermont. Only 11 dealers in both states reported holding hogs and sheep. These two classes of livestock made up a very small part of the dealer operation.

TABLE 1

The Number of Dealers Holding Livestock and the Average Number of Days Livestock Were Held Before Resale in Maine and Vermont, 1956

Class of livestock	Maine		Vermont	
	Dealers holding	Average days held	Dealers holding	Average days held
Dairy replacements	30	22	30	50
Slaughter cattle	29	10	30	4
Calves	18	24	20	3
Hogs	6	40	5	55
Sheep	7	6	4	4

LIVESTOCK DEALER INVENTORY

Values of land and buildings, trucks, tractors and other equipment were obtained from the dealers (table 2). Where facilities were also used for other purposes, the dealers prorated the cost to their livestock dealer operations and gave only the dealer share of the total. The values subsequently listed are the share allocated to the livestock dealer business.

The average value of land and buildings for Maine dealers was $6,597 compared to $10,687 for dealers in Vermont. Trucks were valued at $1,088 and $1,732 and livestock at $1,645 and $4,419 for Maine and Vermont, respectively. Other measures of size of business consistently showed that Vermont dealers had a larger volume of business than Maine dealers. The differences in inventory values also emphasized differences in the types of dealer operations between the two states. The large number of Vermont dealers having a dairy enterprise helped to explain their larger investment in land and buildings, tractors, dairy equipment, other equipment, livestock and feed. The total value of $17,393 per dealer in Vermont was nearly double that of $8,792 per dealer in Maine.

TABLE 2

Value of Inventory Per Dealer for Maine and Vermont, 1956

Item	Maine		Vermont	
	No. dealers reporting	Average value	No. dealers reporting	Average value
Land and buildings	52	$6,597	33	$10,687
Trucks	51	1,088	31	1,732
Tractors	6	598	24	1,260
Auto	18	512	17	755
Dairy equipment	13	126	23	601
Scales	5	84	6	108
All other equipment	16	631	22	2,972
Livestock	22	1,645	28	4,419
Feed	8	793	30	797
Total inventory	53	$8,792	34	$17,393

In Maine, 43 dealers each operated one truck, eight had two, and only two dealers had none. In Vermont, 26 dealers each operated one truck, nine had two, three had three, four none, and two dealers did not report. Maine had an average of 1.11 trucks per dealer compared with 1.20 for Vermont. The average truck capacity per dealer was 1.22 tons for Maine and 2.26 tons for Vermont.

LIVESTOCK DEALER EXPENSES

Cash expenses of livestock dealers consisted of truck operating costs, repairs and maintenance of facilities, purchases of new buildings and equipment, costs of purchased and home-grown feeds, labor costs, and miscellaneous expenses. The expense items represent the share of the expense allocated to the livestock dealing operation by the dealer.

Trucking Expenses

An important service performed by the livestock dealer was that of trucking animals to and from farms, to and from auctions, among other dealers and to slaughter plants.

Expenditures for gas, oil, grease and anti-freeze averaged $529 for Maine and $992 for Vermont and made up 63 and 53 percent, respectively, of the total operating cost for trucks (table 3). Repairs accounted for 22 and 25 percent, and licenses and insurance the remaining 15 and 22 percent of the operating cost for Maine and Vermont dealers, respectively. Depreciation was estimated for all dealers by taking 20 percent of the cost of new trucks for those dealers who bought them in 1956.[3] Operating costs and an estimated depreciation resulted in an average cost of $1,156 per dealer in Maine and $2,260 per dealer in Vermont for trucking. Truck hire per dealer was $390 in Maine and $1,807 in Vermont. Only 23 dealers, however, reported this item, and eight of these (two in Maine and six in Vermont) hired all their trucking. These six in Vermont and a few other large dealers who hired a good share of their trucking, caused the average cost per dealer reporting in Vermont to be high for this item. Vermont had higher overall costs for trucking than Maine, reflecting the larger operations in Vermont.

TABLE 3

Trucking Costs Per Dealer for Maine and Vermont, 1956

Item	Maine		Vermont	
	Number dealers reporting	Average cost	Number dealers reporting	Average cost
Gas, oil, grease and anti-freeze	47	$ 529	33	$ 992
Repairs and maintenance	47	186	26	476
Truck and auto insurance	46	77	35	278
Truck and auto license	48	50	37	132
Total operating costs		$ 842		$1,878
Depreciation		$ 314		$ 382
Total		$1,156		$2,260
Trucking hire	8	$ 390	15	$1,807

Repairs and Maintenance of Facilities

Repairs and maintenance of facilities was an annual cost of the livestock dealer operation. The major repair cost was for trucks ($186 in Maine and $476 in Vermont) with 47 and 26 dealers reporting (table 3). Building repairs (including fencing) averaged $158 in Maine and $415 in Vermont as reported by 46 and 16 dealers, respectively (table

[3] Depreciation as such was not calculated directly as an expense. It appeared in each record as a decrease in inventory from the beginning to the end of the year. If new equipment was bought, its purchase price appeared as an expense, offset by the increase in inventory for that item, the difference thus being depreciation.

4). Other equipment repairs were relatively minor in size and in number of dealers reporting. The greater cost of repairs in Vermont attested to the larger scale of dealer operations and to the combination of dairying with livestock dealing whereby all or part of the milking herd was part of the dealer operation.

TABLE 4

Cost of Repairs and Maintenance for Buildings and Equipment Per Dealer for Maine and Vermont, 1956

Item	No. dealers reporting	Average cost	No. dealers reporting	Average cost
Building repairs	46	$158	16	$415
Equipment repairs				
Tractors	3	49	7	204
Autos	11	45	5	128
Scales	1	25	0	0
Other	7	70	2	341

New Buildings and Equipment Costs

Information on costs of new buildings and new equipment was obtained from each dealer. This cost was not considered as an expense in the final summary of each dealer record, since an increase in inventory value of new buildings and equipment was also recorded, and this increase was deducted from the expenses to give, in effect, the annual depreciation for each item. In 1956, dealers who reported these costs in Maine spent nothing for new buildings, $1,570 for trucks, $1,700 for tractors, and had no expense for new autos or bulk tanks. Vermont dealers spent $3,208 for new buildings, $1,906 for trucks, $2,280, $1,648 and $2,831, respectively, for tractors, autos and bulk tanks. Many of the trucks purchased were secondhand, accounting for their low average price. Other items were minor, and except for trucks, only small numbers of dealers reported purchases of equipment. Vermont had a considerably larger outlay for new buildings and equipment than did Maine, accounted for by the preponderance of dealers who were dairy farmers, and the larger size of operation in Vermont.

TABLE 5

Dealers' Expenditures for New Buildings and Equipment for Maine and Vermont, 1956

Item	Maine		Vermont	
	Number dealers reporting	Average cost	Number dealers reporting	Average cost
New buildings	0	$ 0	4	$3,208
New equipment				
Trucks	13	1,570	9	1,906
Tractors	1	1,700	3	2,280
Autos	0	0	6	1,648
Bulk tanks	0	0	3	2,831
Scales	1	150	0	0
Other	2	205	4	618

Feed and Bedding Costs

Many dealers purchased feed and bedding for their livestock while holding them from time of purchase to resale (table 6). Grain cost was the largest of the purchased items, averaging $387 for Maine and $1,400 for Vermont as reported by 38 and 25 dealers, respectively. The outlay for hay was $376 for Maine, and $451 for Vermont dealers, with considerably fewer dealers in both states reporting this expense. Dealers who held livestock usually had some pasture and home-grown hay, thus requiring little purchase of hay. Minerals and bedding were minor expense items. Dealers in Vermont purchased more grain than did those in Maine because of the combination of dairying with livestock dealing.

TABLE 6

Cost of Purchased Feed and Bedding Per Dealer for Maine and Vermont, 1956

Purchased Item	Maine		Vermont	
	No. dealers reporting	Average cost	No. dealers reporting	Average cost
Grain	38	$387	25	$1,400
Hay	19	376	9	451
Minerals	5	22	0	0
Bedding	6	54	8	244

The cost of home-grown feed was another expense for many dealers (table 7). Pasture yield was estimated as the amount of hay that would have been produced had the land not been pastured. The quantity of feed grown by the dealer was multiplied by the average price received by farmers in each state in 1956 for the particular crop to give the cost of home-grown feed.[4]

Vermont dealers had a much higher cost of home-grown hay than did Maine dealers ($3,072 compared to $579), but a much lower cost in pasture ($183 compared to $761). This latter comparison is not consistent with other Vermont costs which were larger than Maine costs. Since the cost of pasture for Vermont was based on the reporting of only three dealers, it may not be representative of the average pasture cost for all dealers in that state. Grain, silage and bedding expenses were considerably lower than those of hay and pasture in Maine, and much lower than the cost of hay in Vermont.

TABLE 7

Value of Home-grown Feed Per Dealer for Maine and Vermont, 1956

Home-grown product	Maine		Vermont	
	No. dealers reporting	Average value	No. dealers reporting	Average value
Grain	3	$382	1	$ 195
Hay	35	579	13	3,072
Silage	0	0	3	275
Pasture	33	761	3	183
Bedding	0	0	3	28

Labor Costs

Information was obtained from the livestock dealers on the amount and cost of operators' labor, hired labor and unpaid labor. Unpaid family labor was recorded on a man-equivalent basis and in cases where the dealer did not give a value to this labor, it was assigned a value of $8 per day or $200 per month. The operators' labor was not deducted as an expense.

TABLE 8

Cost of Hired and Estimated Cost of Unpaid Family Labor Per Dealer for Maine and Vermont, 1956

Item	Maine		Vermont	
	No. dealers reporting	Average cost	No. dealers reporting	Average cost
Hired labor	19	$609	17	$2,567
Unpaid family labor	8	805	2	1,185

[4] Maine prices; hay, $21.60 per ton, oats, $.77 per bushel, silage, $7.20 per ton. Vermont prices; hay, $25.22 per ton, oats, $.95 per bushel or $59.64 per ton, silage, $8.41 per ton. Source: Agricultural Statistics, USDA, 1957,

Hired labor was reported by less than half of the dealers in both states. The average cost reported by 19 dealers in Maine of $609 was largely for part-time labor, while the 17 dealers in Vermont with an average cost of $2,567, hired a larger share of year-round help. In Maine, the cost of unpaid family labor was larger than the cost of hired labor, but only eight dealers reported this item. In Vermont, only two dealers reported unpaid family labor at a cost of $1,185 per dealer.

Miscellaneous Expenses

Many expenses in addition to those already enumerated entered into the cost of conducting each livestock dealer's business. The larger miscellaneous expenses for both states, according to cost per dealer and number of dealers reporting, were for taxes, telephone and electricity, veterinary and medicine, and insurance (table 9). In addition to these expenses, Maine dealers had an average land rental cost of $99 reported by 11 dealers. Vermont had a land rental cost of $456 as reported by 13 dealers, and breeding fees of $206, though only two dealers reported this cost. Vermont's costs were higher than Maine's for most miscellaneous items.

The change in inventory included depreciation of facilities during the year, appreciation due to purchase of new equipment less the depreciation of this new equipment from time of purchase to the end of the year, and change in inventory values of feed and livestock from the beginning to the end of the year. Vermont's inventory decreased by $680 per dealer, and is listed as an expense. In Maine, the net change was an increase which is reported in a later section as income.

TABLE 9

Miscellaneous Expenses Per Dealer for Maine and Vermont, 1956

Cost items	Maine		Vermont	
	Number dealers reporting	Average cost	Number dealers reporting	Average cost
Rent of land	11	$ 99	13	$456
Taxes	38	175	34	351
Insurance	20	64	21	144
Telephone and electricity	46	117	31	230
Veterinary and medicine	38	88	17	182
Breeding fees	0	0	2	206
Fly spray, disinfectant, whitewash	18	60	10	25
Milkhouse supplies	5	44	5	52
Other	17	182	5	127
Decrease in inventory	—	—	28	680

LIVESTOCK TRANSACTIONS OF DEALERS

The main function of the livestock dealer is the buying and selling of livestock. The costs discussed were incidental to and a part of this service. The purchase of animals for the average dealer was the largest item of expense, and the resale of these animals was the main source of income. The number and value of animals in the buying and selling transactions of the dealers are discussed in the following sections.

Purchase of Livestock by Dealers

Livestock dealers supplied information on each class of livestock purchased (table 10). Cattle were classified as replacement dairy cattle, calves, and slaughter cattle. Other livestock classes included hogs, sheep, lambs, and horses.

TABLE 10

Number and Value of Animals Purchased Per Dealer for Maine and Vermont, 1956

Class of livestock	Maine			Vermont		
	Number dealers reporting	Animals per dealer	Value per dealer	Number dealers reporting	Animals per dealer	Value per dealer
Dairy replacements	19	102	$10,954	23	285	$45,861
Slaughter cattle	29	111	10,101	23	343	31,945
Calves	31	284	2,552	16	687	4,445
Hogs	7	17	625	0	0	0
Sheep	7	56	486	2	38	650
Lambs	8	424	6,019	3	53	516
Horses	5	13	888	8	50	4,774

Replacement dairy cattle consisted of cattle intended for resale by the dealer for dairy purposes. Most of these animals were mature milking cows; 83.6 percent in Maine and 99.7 percent in Vermont. In Maine the average number of replacement animals purchased per dealer reporting in the year was 102 valued at $10,954 or $107 per head. In Vermont, 285 replacements were purchased at a total cost of $45,861 or $161 per head. The higher price per animal in Vermont indicates better quality of the animals and the greater importance of good dairy animals in the business of Vermont livestock dealers.

Slaughter cattle were purchased primarily for slaughter, whether sold to other dealers, at auctions or to slaughter houses. Again, most of these animals were mature cows; 83.4 percent in Maine and 99.2 percent in Vermont. These cattle consisted chiefly of cull dairy animals though beef cattle were included. Maine dealers reporting purchased an average of 111 animals each at a total cost of $10,101 or $91 per head. In Vermont, 343 animals cost $31,945 or $93 per head.

In each state, the number of slaughter cattle purchased per dealer was larger than the number of replacements purchased, but the average amount spent per dealer for slaughter cattle was less than that for replacement cattle. The cost per head for slaughter cattle was less than for replacement cattle in each state, though the difference in Maine ($107 versus $91) was less than in Vermont ($161 versus $93). More dealers reported the purchase of slaughter cattle than replacement cattle in Maine (29 compared to 19 dealers), but the number of dealers reporting in Vermont were equal for both classes (23).

Greater numbers of calves were purchased per dealer than numbers of either replacement or slaughter cattle in both Maine and Vermont. The average of 284 calves purchased by Maine dealers reporting cost $2,552, or $8.98 per calf. Dealers reporting in Vermont purchased an average of 687 calves costing $4,445, or $6.47 per calf. The calves purchased in both states were chiefly bob calves, explaining the low price per head. More dealers (31) in Maine reported the purchase of calves than reported for either of the other classes of cattle. In Vermont, fewer (16) reported purchasing calves than either replacement or slaughter cattle.

Except for lambs, the number of animals purchased per dealer in Maine of other livestock classes was small, averaging 17 hogs, 56 sheep and 13 horses. The cost of these classes of livestock amounted to $625 for hogs, $486 for sheep and $888 for horses. Average lamb numbers and cost in Maine at 424 and $6,019, respectively, were high for the eight dealers reporting largely because of one dealer who purchased 2,250 lambs at a cost of $33,750. With the purchases of this one dealer removed, the other seven dealers purchased an average of 163 lambs at a cost of $2,057.

Livestock other than cattle were relatively unimportant in Vermont except for horses. No hogs were purchased, but an average of 38 sheep per dealer at a cost of $650, and 53 lambs at a cost of $516 were purchased. The average number of horses purchased per dealer was 50, and their cost of $4,774 was high, but this average was influenced by one dealer who purchased 300 horses for $30,000. With the purchases of this one dealer removed, the other seven dealers purchased an average of 14 horses at a cost of $1,171.

Table 10 presents average values of each class of livestock purchased per dealer for those reporting in each livestock group. The average value per dealer over-emphasizes the importance of the minor livestock classes, although they were important to the few dealers trading in them. Many dealers did not report trading in some of the minor classes of livestock either because they traded none, traded a negligible number, or did not report separately the values for each class of livestock. Figure 2 shows the importance of each class of livestock purchased, considering those dealers not reporting as having purchased none.

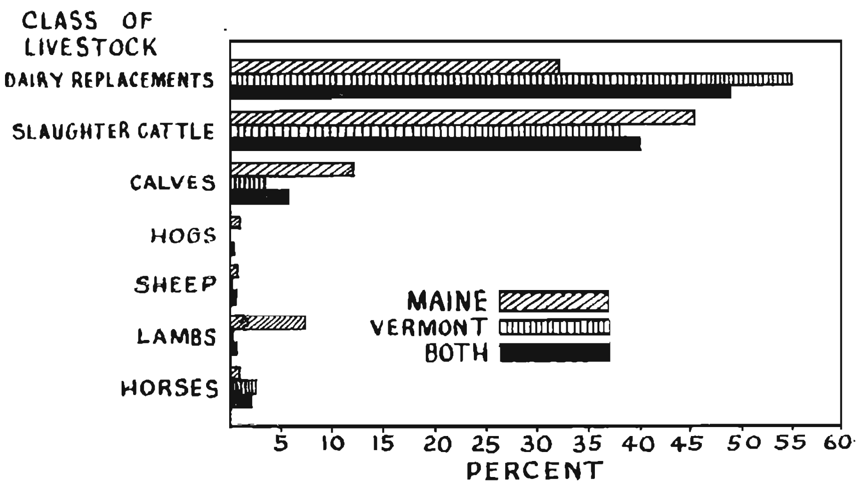

FIGURE 2. The Percentage Importance by Value Purchased of Each Class of Livestock in Maine, Vermont and Both States, 1956

In Maine, 90.6 percent and in Vermont, 97.1 percent of the cost of all livestock was accounted for by cattle and calves. In Maine, 32.5 percent of the cost of livestock was for replacement cattle, 45.7 percent for slaughter cattle and 12.4 percent for calves. In Vermont, the larger share, or 55.0 percent of the cost of livestock was for dairy replacements, 38.4 percent for slaughter cattle and 3.7 percent for calves. Lambs were fourth in cost in Maine (7.5 percent) and horses were fourth in Vermont (2.7 percent).

Sale of Livestock by Dealers

The main source of income for the dealer was the increase in price for the livestock sold over the purchase price.[5] Most livestock purchased

[5] This increase in price does not appear to be due to a cyclical price rise during the year. The low in the cattle price cycle occurred about 1956, and there appeared to be no upward trend in monthly prices for Maine and Vermont during the year. The price for beef cattle in January 1956 was $8.70 and $8.60 per 100 pounds for Maine and Vermont, respectively, and in December the prices were $8.90 and $8.20, respectively. The seasonal high price occurred in the summer at $10.90 and $10.20 for Maine and Vermont. Agricultural Statistics, USDA, 1957.

by dealers were sold within the same year, or at least a very nearly equivalent value of animals was purchased and sold, since the change in livestock inventory from the beginning to the end of the year was a decrease of only $97 in Maine, and an increase of $650 in Vermont.

TABLE 11

Number of Head and Value of Animals Sold Per Dealer For Maine and Vermont, 1956

	Maine			Vermont		
Class of livestock	Number dealers reporting	Animals per dealer	Value per dealer	Number dealers reporting	Animals per dealer	Value per dealer
Dairy replacements	18	106	$12,993	23	287	$53,052
Slaughter cattle	29	123	12,455	23	344	37,121
Calves	29	297	3,323	16	687	5,483
Hogs	8	18	676	0	0	0
Sheep	6	57	652	2	12	—*
Lambs	9	374	6,068	1	26	390
Horses	3	15	1,357	7	56	7,477

* No value reported

In Maine, 106 dairy replacement cattle were sold for a gross return of $12,993 per dealer reporting, or $123 per head (table 11). This was an increase of $16 per head over the cost. Slaughter cattle sales averaged $12,455 per dealer, or $101 per head, a mark-up of $10 per animal. Calves sold for $3,323, or $11.19 per calf, an increase of $2.21 over the cost. For the dealers reporting other classes of livestock, the returns per head were $37.56 for hogs (an increase of $.60) $11.44 for sheep (an increase of $2.76) $16.22 for lambs (an increase of $2.02) and $90 for horses (an increase of $22).

Vermont dealers sold $53,052 in replacement cattle per dealer reporting, at an average price of $185 per head for the 287 animals, or an increase over cost of $24 per head. Slaughter cattle sales averaged $37,121 per dealer reporting or $108 per head giving an increase of $15 per head. Calf sales amounted to $5,483 per dealer or $7.98 per calf, an increase of $1.51. No Vermont dealers reported the purchase and sale of hogs, and a value was not given for the sheep which were sold. Lambs were sold by only one dealer at an average price of $15.00 per lamb, or a mark-up in price of $2 per lamb. The seven dealers who reported selling horses averaged $7,477 in returns, or $134 per horse, a gain of $39 over cost.

OTHER SOURCES OF LIVESTOCK DEALER INCOME

While the gain on livestock transactions was the main source of income for dealers, some income was received from the sale of by-products and the performance of services considered to be part of the dealer operation (table 12). The sale of milk and cream from dairy animals held between the time of purchase and resale was the largest source of outside income amounting to $2,484 per dealer for the six Maine dealers, and $5,122 per dealer for the 15 Vermont dealers. Other sources of income, providing an average of $290 in Maine and $1,451 in Vermont, included sale of wool and hides, man and machine work off the farm, trucking hire, bull service, rent of land, buildings and pasture and miscellaneous. Vermont dealers had considerably more income that those in Maine from milk and cream sales and other combined sources. This was because of the larger size of operation, and also because the average dealer in Vermont held more replacement cattle for longer periods of time. An increase in inventory of $153 for Maine dealers added to their income. Vermont had a decrease in inventory reported as an expense.

TABLE 12

Other Sources of Income for Livestock Dealers in Maine and Vermont, 1956

Source of income	Maine		Vermont	
	Number dealers reporting	Average income	Number dealers reporting	Average income
Milk and cream sold	6	$2,484	15	$5,122
All other	22	290	11	1,451
Increase in inventory	53	153	—	—

SUMMARY AND ANALYSIS OF COSTS AND RETURNS IN LIVESTOCK DEALER OPERATIONS

Income was measured by the return for each dealer's labor similar to labor income for farmers. Receipts included returns from the sale of livestock, miscellaneous receipts and increase in inventory. Expenses included cost of the livestock, cash operating costs (sub-divided into costs of trucking, home-grown and purchased feed, hired labor, buildings and equipment and miscellaneous costs), the cost of unpaid family labor, excluding that of the operator, and decrease in inventory. The difference between receipts and expenses was net income from which a 5 percent charge on investment was deducted, leaving dealer income. The

5 percent return is a normal return on capital and should be considered as a cost of the money invested in facilities for the dealer business.

The information was sufficiently complete to calculate labor income for 53 Maine and 28 Vermont dealers (table 13). The expense and receipt items in this table do not agree with the expenses and receipts as detailed in previous tables and sections on these items. This inconsistency is caused by the grouping of expenses and receipts in broad categories whereby an average for all 53 Maine and 28 Vermont dealers can be obtained. In previous sections, individual items of expenses or receipts were an average only of the dealers reporting that item.

Livestock receipts per dealer amounted to $23,364 for Maine or 97.7 percent of total receipts and $85,510 for Vermont, 98.0 percent of total receipts. Miscellaneous receipts, consisting largely of milk and cream sold, amounted to $402 and $1,743 for Maine and Vermont, respectively. Maine had an increase in inventory of $153, which was the net increase during the year in the values of all facilities, feed and livestock.

The largest item of expense for dealers was the cost of livestock purchased amounting to $19,903 per dealer or 84.7 percent of all expenses for Maine, and $73,630 or 90.2 percent for Vermont. Trucking was a major cost accounting for $1,336 in Maine and $2,291 in Vermont, or 38.5 percent and 31.5 percent, respectively, of the total cash operating cost. The trucking cost included gas and oil, repairs and maintenance, purchase of new trucks, licensing, insurance and trucking hire, with the dealer share of auto cost included in each category. Other operating costs covered home-grown and purchased feed, hired labor, building and equipment repairs and purchases, and miscellaneous costs. Building and equipment expenses included cost of new buildings, equipment bought, and repairs of buildings, fencing and all facilities. Miscellaneous expenses included rent, taxes, insurance other than on trucks, telephone and electricity, veterinary and medicine, breeding fees, fly spray, whitewash and milk house supplies, and other minor items. Total cash operating costs equaled $3,471 or 14.8 percent of total expenses for Maine, and $7,275 or 8.9 percent for Vermont. Cost of unpaid family labor was a minor expense item of $128 for Maine and $85 for Vermont. Vermont had a decrease in inventory of $680 entered as an expense.

Total expenses amounted to $23,502 for Maine, and $81,670 for Vermont, which when subtracted from total receipts, left a net income of $417 for Maine and $5,583 for Vermont. The charge on investment of $440 for Maine and $776 for Vermont was deducted from net income giving a dealer income of –$23 for Maine and $4,807 for Vermont.

Vermont dealers had considerably larger receipts and expenses per dealer than those in Maine because of their larger operations. A suitable measure of dealer size is the number of animal units sold during a year, and by this measure, Maine dealers sold 233 animal units per dealer compared to 738 for Vermont.[6] To give a more equitable basis for comparing Maine and Vermont dealers, average receipts and expenses were divided by animal units sold per dealer.

The receipts for livestock sold per animal unit were $100.27 for Maine and $115.87 for Vermont. The difference was explained by the higher quality of livestock, especially dairy replacement animals, handled

TABLE 13

Summary of Receipts and Expenses for 53 Dealers in Maine and 28 Dealers in Vermont, 1956

Item	Maine		Vermont	
	Per dealer	Per animal unit	Per dealer	Per animal unit
Dealer receipts				
Livestock sold	$23,364	$100.27	$85,510	$115.87
Misc. receipts	402	1.73	1,743	2.36
Increase in inventory	153	.66	—	—
Total receipts	$23,919	$102.66	$87,253	$118.23
Dealer expenses				
Livestock purchased	$19,903	$ 85.42	$73,630	$ 99.77
Cash operating costs				
Trucking	1,336	5.73	2,291	3.10
Home-grown feed	878	3.77	1,311	1.78
Purchased feed	441	1.89	850	1.15
Hired labor	218	.94	1,364	1.85
Bldgs. & Equip.	193	.83	629	.85
Miscellaneous	405	1.74	830	1.12
Total Cash Costs	$ 3,471	$ 14.90	$ 7,275	$ 9.85
Cost of unpaid labor	$ 128	$ .55	$ 85	$ .12
Decrease in inventory	—	—	680	.92
Total expenses	$23,502	$100.87	$81,670	$110.66
Net income	$ 417	$ 1.79	$ 5,583	$ 7.57
5% charge on investment	440	1.89	776	1.05
Dealer income	–$ 23	–$ .10	$ 4,807	$ 6.52

by Vermont dealers. The cost of livestock purchased was likewise greater for Vermont, being $99.77 per animal unit compared with Maine's cost of $85.42 per animal unit. The difference between sale and purchase

[6] Animal units were calculated on the basis of 1 unit equaled 1 cow, 5 calves, 5 sheep, 10 lambs, 5 hogs, and 1 horse.

price per animal unit, or net receipts, not listed in table 13, was $14.85 for Maine and $16.10 for Vermont. The small difference between Maine and Vermont in the net receipts per animal unit compared with the much larger difference in net receipts per dealer ($3,461 for Maine versus $11,880 for Vermont) shows that Vermont's larger total receipts were due more to a larger volume of livestock handled than to more favorable trading or animals.

Although expenses per dealer were greater for Vermont than for Maine dealers, they were less on a per animal unit basis in most cases. Trucking costs per animal unit for dealers in Vermont were considerably less than those of dealers in Maine ($3.10 compared with $5.73), and feed and miscellaneous costs were less for Vermont dealers. Buildings and equipment costs were nearly equal for both states, and hired labor costs were more per animal unit for Vermont dealers than for Maine dealers. Costs of unpaid family labor and the 5 percent charge on investment were less for Vermont on an animal unit basis. These generally lower costs for Vermont on an animal unit basis point out economies in the use of facilities and equipment with a larger volume of animals traded per dealer.

The slightly higher receipts per animal unit in Vermont and the lower expenses per unit combined to give Vermont a dealer income of $6.52 per animal unit compared to the Maine dealer income of –$.10 per animal unit. When the volume of trading was considered Vermont dealers had an average labor income of $4,807, while Maine dealers received –$23 dealer income, or a negative return for their labor and management.

The comparison of Maine and Vermont dealers should not, however, be given undue significance, since the operations differed considerably. The type of operation in Vermont should not or perhaps could not necessarily be emulated by Maine dealers to achieve higher labor incomes. Vermont dealers, because of the greater cow density and importance of dairying in Vermont, had the opportunity to buy and sell a larger number of animals and to handle higher quality dairy animals than had Maine dealers.

ANALYSIS OF THE RANGE IN DEALER INCOME WITHIN EACH STATE

In addition to presenting and comparing average receipts, expenses, and incomes of dealers in Maine and Vermont it might be well to examine the range in dealer income within each state to see what factors might be associated with varying income. In Maine, the 18 highest income dealers were compared with the 18 lowest income dealers. Similarly in Vermont, 14 high income dealers were compared with 14 low income dealers.

Comparison of High and Low Income Dealers in Maine

The high dealer income group in Maine had a range in income from \$416 to \$9,654, with an average of \$1,925. The low income group had a range from –\$479 to –\$6,554, with an average of –\$1,934. The two income groups were compared for certain factors selected because they appeared to have a significant relationship to income (table 14).

The high income dealers had a smaller investment in land and buildings than the low income dealers (\$7,169 compared with \$9,117), though they had a slightly higher investment in trucks (\$1,385 to \$1,034). The gross receipts from livestock for the high income dealers of \$37,886 was nearly double that of \$19,995 for the low income dealers, and with the cost of livestock deducted, the high income dealers made a gain of \$5,547 on livestock compared to \$2,847 for the low income dealers. In cash expenses, the high income dealers were lower in all items than the low income dealers. The largest difference in costs appeared in feed purchased where the high income dealers paid \$239 and \$93, respectively, for grain and hay purchased compared to \$618 and \$213 for the low income dealers. Total cash expenses were \$2,526 for the high income dealers and \$2,846 for the low income dealers.

The size of operation was larger for the high income dealers than for the low income dealers as measured by animal units sold; 381 for the high group and 164 for the low group. With all items expressed on a per animal unit basis the advantage of larger size is evident. High income dealers invested considerably less per animal unit in land and buildings (\$18.80 versus \$55.76) and in trucks (\$3.63 versus \$6.32). In gross receipts high income dealers received an average of \$99.37 per

TABLE 14

Comparison of Factors Associated with Income in the High and Low Income Groups of Maine Livestock Dealers, 1956

	High income group		Low income group	
	Per dealer	Per animal unit	Per dealer	Per animal unit
Dealer income	$ 1,925	$ 5.05	–$1,934	–$ 11.83
Land and building investment	7,169	18.80	9,117	55.76
Truck investment	1,385	3.63	1,034	6.32
Gross receipts from livestock	37,886	99.37	19,995	122.29
Purchase of livestock	32,339	84.82	17,148	104.88
Net receipts from livestock	5,547	14.55	2,847	17.41
Cash expenses:				
Building and fence repairs	$ 175	$ .46	$ 183	$ 1.12
Truck repair and maintenance	226	.59	246	1.50
Gas, oil, grease, and anti-freeze	591	1.55	613	3.75
Veterinary and medicine	100	.26	109	.67
Grain purchased	239	.63	618	3.78
Hay purchased	93	.24	213	1.30
Total cash expense	2,526	6.63	2,846	17.41
	Number	Percent	Number	Percent
Livestock sold:				
Dairy replacements	86	23	84	51
Slaughter cattle	182	48	46	28
Calves (animal units)	93	24	28	17
Other livestock (animal units)	20	5	6	4
Total animal units	381	100	164	100
Days held:				
Dairy replacements	4.5		58	
Slaughter cattle	9.5		16	

animal unit sold compared to $122.29 received by the low income dealers. The lower price received by the former group was due to the composition of the animal units. With the purchase price per animal unit deducted, the high group had net receipts of $14.55 per animal unit, or less than the $17.41 of the low income group. The cash costs per animal unit were smaller for the high income group than for the low income group, with the difference on an animal unit basis emphasized over the comparison on the dealer basis by the larger number of animal units handled by the high income dealers. The cost of grain and hay was $.63 and $.24, respectively, per animal unit for the high income group compared with $3.78 and $1.30 for the low income group.

The proportion of animal units in each classification, as well as the total number, was quite different between the two income groups. The high income dealers traded a large volume of slaughter cattle amounting to 48 percent of the animal units sold. Dairy replacements accounted for 23 percent, calves 24 percent and other livestock 5 percent. In the low income group the situation was nearly reversed between slaughter and replacement animals. Fifty-one percent of the animal units were replacement cattle, and 28 percent were slaughter cattle. Of the rest of the animal units sold, 17 percent were calves and 4 percent other livestock. The larger proportion of slaughter cattle traded by the high income group explained their lower cost per animal unit of purchased livestock.

A difference was evident in the holding of cattle between the time of purchase and resale. The high income dealers held replacement cattle 4.5 days on the average compared with 58 days for the low income group, and the difference was 9.5 compared to 16 days for the respective groups in holding slaughter cattle.

From this analysis of high and low dealer incomes, costs per dealer and per animal unit emerge as important factors. In spite of smaller net receipts per animal unit, the high income dealers had a larger income because their costs per animal unit were below the margin of gain. Part of this lower cost was due to the larger number of animals handled, with subsequently lower overhead or fixed costs per animal unit. The operating costs per dealer of trucks for gas, oil, grease and anti-freeze were also less for the high income dealers than for the other group in spite of the larger number of animals traded and trucked. This indicates that trucks were used nearer to capacity more of the time by the high income dealers, and fewer empty or partly loaded miles were run, a consequence of more efficient management and larger volume.

The high income dealers handled a larger proportion of slaughter cattle and a correspondingly smaller proportion of replacement cattle than did the low income dealers. They also resold these animals more quickly. These practices resulted in considerably lower grain and hay costs per animal unit and required less investment in land and buildings. In the low income group the cost of feed and facilities for holding of animals, largely comprised of dairy replacements, was not covered by the net receipts per animal unit, even though net receipts were greater for the low income group than for the high income group. Other sources of income in the low income group were slight and did not make up the loss. In this situation, the solution for the low income dealers would not be only to increase volume. To increase volume under these conditions would increase total loss. The loss appeared to be related to the handling of a larger proportion of replacement cattle. Thus, either fewer replacements should be included in the business, or the return on replacements increased and/or cost per animal unit reduced.

The comparison of high and low income dealers in Maine seemed to outline a pattern for greater returns under conditions as they existed in 1956. The higher income dealers traded larger numbers of animals and used facilities nearer to capacity. A larger proportion of their trading was in slaughter cattle and they had a faster turnover of all cattle. The rapid turnover of cattle required a smaller investment in facilities and resulted in far lower cost of feed. The combination of these factors seemed to be the key to successful livestock dealer operations.

Comparison of High and Low Income Dealers in Vermont

The 14 high income dealers in Vermont included incomes from \$3,145 to \$29,441 with an average of \$10,749. The 14 low income dealers had incomes ranging from –\$4,084 to \$1,712 with an average of –\$553. The high income operators averaged \$9.09 income per animal unit and the low income dealers lost an average of \$1.08 per animal unit (table 15).

Although high income dealers had a larger investment in land and buildings than low income dealers, \$6,516 as compared with \$3,619, the average investment per animal unit was 20 percent lower for high than for low income dealers. High income dealers had a larger investment in trucks than low income dealers. However, the investment per animal unit was very nearly the same.

High income operators handled animals of greater value on the average than did low income dealers. The average value per animal unit of livestock purchased by high income dealers was \$109.73 as compared with \$29.45. The net receipts per animal unit of the high income group were three times those of the low income dealers (\$16.75 compared with \$5.58). This higher return was partially offset by the higher per animal unit cash expenses of the high income group.

The value of livestock sold by high income dealers was more than eight times that of low income dealers. However, the average number of animal units handled was only slightly more than twice as great. This again emphasizes the higher average value of the livestock handled by the high income group.

Total cash expenses for the high income dealers averaged three times those of the low income dealers. The average expense per animal unit was only slightly larger, however, for the high income dealers (\$5.83 compared with \$4.25). A close look at individual expense items shows considerable differences. Truck repair and maintenance per animal unit was higher (\$.77 compared with \$.53) for the low income dealers than for the high income group. Veterinary expenses and medicines were four times greater per animal unit (\$.28 compared with \$.07) for the high income dealers than for the low income group. The high income dealer expenses for hay and grain per animal unit were nearly double those in the low income group ($2.05 compared with $1.11).

TABLE 15

Comparison of Factors Associated with Income in the High and Low Income Groups of Vermont Livestock Dealers, 1956

Item	High income group		Low income group	
	Per dealer	Per animal unit	Per dealer	Per animal unit
Dealer income	$ 10,749	$ 9.09	$ –553	$–1.08
Land and building investment	6,516	5.51	3,619	7.08
Truck investment	2,243	1.90	964	1.89
Gross receipts from livestock	149,505	126.48	17,903	35.03
Cost of livestock	129,696	109.73	15,050	29.45
Gain on livestock transactions	19,809	16.75	2,853	5.58
Cash expenses:				
Building and fence repairs	$ 377	$ 0.32	$ 185	$ 0.36
Truck repair and maintenance	623	0.53	391	0.77
Gas, oil, grease and anti-freeze	1,349	1.14	576	1.13
Veterinary and medicine	334	0.28	36	0.07
Grain purchased	1,861	1.57	405	0.79
Hay purchased	563	0.48	163	0.32
Total cash expense	6,888	5.83	2,173	4.25
	Number	Percent	Number	Percent
Livestock sold:				
Dairy replacements	393	33	60	11
Slaughter cattle	596	51	86	17
Calves (animal units)	167	14	362	71
Other livestock (animal units)	26	2	3	1
Total animal units	1,182	100	511	100
Days held:				
Dairy replacements	40		60	
Slaughter cattle	3		4	

The high income dealers handled slightly more than twice as many animal units as the low income dealers. For the former group these animal units consisted of 33 percent dairy replacements, 51 percent slaughter cattle, 14 percent calf animal units and 2 percent other livestock. The low income dealers handled a much lower percentage of dairy replacements (11 percent) and slaughter cattle (17 percent). Their major area of concentration was in calves which made up 71 percent of the total animal units handled. Other livestock only accounted for 1 percent of sales.

Low income operators held their animals for a longer period of time than higher income dealers. The former group kept their dairy replacements an average of 60 days and their slaughter cattle for four days. The high income group averaged 40 days for dairy replacements and three days for slaughter cattle. The length of time the animals were kept and the expenses of feeding and housing affected returns.

In summary, the higher income dealers handled more animals than the lower income dealers. A higher percentage of these were adult animals rather than calves. The returns, per animal unit handled, were three times as great as for lower income dealers. Total cash expenses and investment in land and buildings per animal unit were nearly the same for both groups. Higher income dealers held their animals for a shorter period of time than the low income group.