



The survival and growth potential of small meat packing businesses in Montana
by Charles Henry Rust

A thesis submitted to the Graduate Faculty in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY in Agricultural Economics
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Abstract:

Montana is primarily a producer of unprocessed agricultural products. Most of the marketing and processing facilities are located beyond the state borders. Interest in the expansion of those activities involving farm and ranch products beyond the farm gate is associated with the interest in expanding economic opportunities, enlarging the income base, diversifying sources of income, and increasing market alternatives within the state.

Meat packing is an important link in the chain of marketing services before consumers have an acceptable product. This industry contributes to the economic welfare of producers and consumers', as well as those directly involved in the trade. Therefore, an inquiry into the economic potential of meat packing firms in Montana might have widespread implications.

The slaughter establishments in Montana are all defined as small businesses based on the small business administration classification and, therefore, are eligible for the benefits of small business legislation.

Observations of the Montana meat packers offer some empirical evidence to substantiate the theory that as volume of output increases cost per unit of output decreases. The data suggests that economies of size associated with increased plant size are just over 3 cents per pound of output.

Plants with survival difficulty have a relatively high percentage of fixed costs. When fixed costs are greater than 15 percent of total operational costs for an individual plant over any prolonged period of time, the plant is heading for survival trouble.

The survival and growth potential of meat packing firms in Montana depends upon the availability of capital for expansion, careful and wise management, expansion of local cattle feeding, sustained turn-off of fed animals, and thus meats; expanded hog production and kill', aggressive selling at West Coast markets, quality control, and cost management.

The degree to which individual firms and all Montana firms, as a group, are able to solve these restrictive problems as a degree to which growth, and even survival, will be evidenced.

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IN MONTANA

by

CHARLES HENRY RUST

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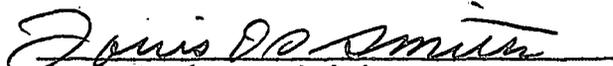
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ABSTRACT

Montana is primarily a producer of unprocessed agricultural products. Most of the marketing and processing facilities are located beyond the state borders. Interest in the expansion of those activities involving farm and ranch products beyond the farm gate is associated with the interest in expanding economic opportunities, enlarging the income base, diversifying sources of income, and increasing market alternatives within the state.

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Plants with survival difficulty have a relatively high percentage of fixed costs. When fixed costs are greater than 15 percent of total operational costs for an individual plant over any prolonged period of time, the plant is heading for survival trouble.

The survival and growth potential of meat packing firms in Montana depends upon the availability of capital for expansion, careful and wise management, expansion of local cattle feeding, sustained turn-off of fed animals, and thus meats; expanded hog production and kill, aggressive selling at West Coast markets, quality control, and cost management. The degree to which individual firms and all Montana firms, as a group, are able to solve these restrictive problems as a degree to which growth, and even survival, will be evidenced.

CHAPTER I

INTRODUCTION

Sale of livestock and livestock products accounts for about 50 percent of the total \$200,000,000 annual cash receipts for farmers and ranchers in Montana. 1/

Development of marketing and processing firms to handle and market the raw agricultural products would contribute a great deal to the welfare of consumers, producers, and the state as a whole. Meat-packing businesses are an important link in the processing and distribution of meat, the end product of the cattle and hog industries. Although the meat-packing industry in Montana slaughters less than one-half of 1 percent of the nation's total livestock slaughter, Montana also has less than one-half of 1 percent of the nation's human population. Therefore, employment in, and economic well-being of the meat-packing industry in Montana is relatively as important to the structure of the state's economy as it is in states with a larger slaughter volume. The payroll of Montana meat packers in 1960 totaled almost 3.5 million.

2/ This excludes returns to management and does not include local plants that are operated on an individual or partnership basis. The packing firms provided employment for about 800 people in 1960.

During the last 15 years cattle slaughter in Montana reached a low of 51.8 thousand head in 1952 and a high of 102.7 thousand in 1960 (Table I). In the same time period hog slaughter reached a low of 138.3 thousand head in 1947 and a high of 268.5 thousand in 1959.

Each year Montana exports about 1,000,000 head of cattle and calves. In 1959, out-of-state shipments were 1,069,509 head; in 1960 they were

1/ Agricultural Marketing Service, Montana Agricultural Statistics, Vol. VIII, Montana Department of Agriculture, cooperating with United States Department of Agriculture, Helena, Montana, December, 1960.

2/ Unemployment Compensation Commission Reports.

TABLE I. COMMERCIAL LIVESTOCK SLAUGHTER: NUMBER OF HEAD, SLAUGHTERED BY SPECIES, IN MONTANA, 1946-61.* (Thousand head)

Year	Cattle	Calves	Hogs	Sheep and Lambs
1946	88.8	25.6	155.0	11.4
1947	66.8	18.7	138.3	7.4
1948	55.8	11.6	161.2	6.5
1949	67.1	12.4	183.2	5.4
1950	57.8	10.0	180.5	4.4
1951	52.0	4.9	199.9	4.3
1952	51.8	5.6	210.0	6.7
1953	67.3	8.4	216.0	8.8
1954	80.4	8.7	189.7	12.5
1955	81.1	7.9	224.0	10.6
1956	93.9	6.9	224.0	7.4
1957	91.0	6.6	219.0	6.0
1958	85.4	4.0	227.5	5.0
1959	83.9	2.6	268.5	6.5
1960	102.7	3.2	260.9	7.8
1961	100.5	3.2	255.5	8.7

*Source: Agricultural Marketing Service, Livestock and Meat Statistics, Statistical Bulletin 230, United States Department of Agriculture, Washington, D.C., June, 1960.

Agricultural Marketing Service, Montana Crop and Livestock Reporting Service, Montana Department of Agriculture, Helena, Montana.

up to 1,227,835, an increase of nearly 15 percent. Out-of-state marketings accounted for over 60 percent of the total cattle and calf sales of 1,912,072 head in 1960. 3/ The remainder were sold locally within the state, with about one half of them going through Montana markets. 4/ About 40 percent of the out-of-state shipments were calves, about one-fourth were steers, and the remainder was composed of about an equal number of cows and heifers. Most of the exports were composed of feeder animals to be fattened in other states. 5/

Fed Cattle in Montana

Fed cattle numbers in Montana for the past three years are estimated as follows:

<u>Year</u>	<u>Number Fed</u>
1959	99,000
1960	115,000
1961	113,000

The 1961 data can be further broken down by areas within the state, numbers on feed by quarters and numbers marketed by quarters (Table II). During 1961 the southcentral area of the state (Billings) fed approximately 45 percent of the state's total, the triangle area (Great Falls, Havre, Shelby) fed another 33 percent, the eastern counties (mainly lower Yellowstone Valley) accounted for 16 percent and only 6 percent were fed in the western counties. Therefore, the combined Billings and Triangle areas accounted for over three fourths of Montana's fed cattle.

Slaughter of cattle in Montana is approximately 100,000 head per

3/ Montana Crop and Livestock Reporting Service, United States Department of Agriculture, Montana Experiment Station, Montana Livestock Commission, Released February 8, 1961.

4/ Clive R. Harston and Elmer L. Menzie, The Market for Montana Cattle and Calves, Montana State College, 1961.

5/ Ibid.

TABLE II. CATTLE AND CALVES ON FEED, PLACED ON FEED AND MARKETED BY QUARTERS, ALSO NUMBER ON FEED BY AREAS, MONTANA, 1961.*

	No. Mkted.	Placed on Feed	Number on Feed				Total on Feed
			S. Central (Billings)	Triangle (G. Falls)	Eastern third (lower Yellowstone Valley)	Western Counties	
Jan. 1 - 1961							77,000
Jan. 1 - Mar. 31	34,000	15,000	27,000	19,000	9,000	3,000	58,000
Apr. 1 - June 31	29,000	14,000	20,000	15,000	6,000	2,000	43,000
July 1 - Sept. 31	28,000	29,000	21,000	13,000	7,000 ^{a/}	3,000 ^{a/}	44,000
Oct. 1 - Dec. 21	22,000	53,000	31,000	25,000	13,000	6,000	75,000
Jan. 1 - 1962							75,000
	<u>113,000</u>	<u>111,000</u>					
			45%	33%	16%	6%	100%

*Source: Montana Crop and Livestock Reporting Service, Helena, Montana.

^{a/} There was a lump sum of 10,000 given for the two areas.

year, two-thirds of which are steers and heifers, and only an insignificant number are purchased from out-of-state. Assuming that most of the cattle fattened in Montana are steers and heifers, then approximately one-third of them (40,000) must be sold to out-of-state packers.

Hogs in Montana

In 1960 only 185,000 hogs were marketed in Montana. Meat packers within the state slaughtered 263,000 hogs, 110,000 of which were purchased from out-of-state. This indicates that about 30,000 hogs marketed in Montana were probably sold to out-of-state buyers. Hog producers in Montana marketed 185,000 hogs in 1960, 204,000 in 1959, 159,000 in 1958, 145,000 in 1957 and 175,000 in 1956. 6/ If the production high of 204,000 in 1959 had been slaughtered in Montana plants it would have only amounted to three-fourths of the slaughter total. Therefore, commercial plants have been dependent on sources outside the state for hogs even in the years when Montana hog production was the greatest.

Consumption

Meat has always been an important item in the human diet. In the United States pork and beef have been the most popular meat used. Beef and pork combined made up approximately 92 percent of the total per capita consumption of red meat in 1950, and they increased to 94 percent by 1960. 7/ Beef is just over 50 percent of the total red meat consumption.

It is quite likely that the type of work an individual does has some

6/ Agricultural Marketing Service, Livestock and Meat Statistics, Statistical Bulletin No. 230, United States Department of Agriculture, Washington, D.C., June, 1961, 1960 and 1959.

7/ Agricultural Marketing Service, Supplement for 1960 to Livestock and Meat Statistics, United States Department of Agriculture, Statistical Reporting Service, Washington, D.C., June, 1961, p. 137.

effect on the quantity of meat consumed. To determine what, if any, differences existed in food consumption patterns between urbanization groups, the United States Department of Agriculture 1955 Household Food Consumption Survey stratified their sample by urban, rural nonfarm and farm households.

For the United States, the farm group consumed more pork per person than any other group and the urban group consumed the most beef (Table III). In the West, which is of primary importance in this study, rural nonfarm people consumed more pork and beef than any other group.

Consumption by Income Group

Meat consumption characteristics of households may also be expected to relate to level of income. In the 1955 United States Department of Agriculture consumption study, higher income families used more of the expensive cuts. This could be an indication that size of income would affect quality rather than quantity of meat consumed.

The consumption patterns of pork and beef in the Northeast, South, and Northcentral regions tend to closely follow that of the United States (Figure 1). Fluctuations in the West are erratic, but there is an indication of a marked increase in beef consumption as income increases. Pork consumption in the West indicates only a slight increase as income rises until a very large increase occurs as income surpasses \$10,000.

Per Capita Consumption

Per capita consumption of all red meat today is about 160 pounds, not much higher than the 155 pounds of 1909, but much higher than the mid-thirties when a low of 117 pounds was recorded in 1935. 8/ Trends

8/ USDA, Meat Consumption Trends and Patterns, Agricultural Handbook No. 187, AMS, Agricultural Economics Division, Washington, D.C., July, 1960, p. 34.

TABLE III. QUANTITY OF BEEF AND PORK USED AT HOME PER PERSON, BY REGION AND URBANIZATION, ALL HOUSEHOLDS, IN ONE WEEK, SPRING, 1955.*

Urbanization Group	Regional				
	U.S. lbs.	Northeast lbs.	North Central lbs.	South lbs.	West lbs.
Pork:					
All Groups	1.14	0.98	1.23	1.26	1.00
Urban	1.13	0.95	1.22	1.33	1.00
Rural Nonfarm	1.15	1.01	1.17	1.22	1.05
Farm	1.21	1.15	1.34	1.18	0.89
Beef:					
All Groups	1.25	1.29	1.51	0.85	1.62
Urban	1.34	1.29	1.52	1.09	1.52
Rural Nonfarm	1.10	1.23	1.43	0.64	1.89
Farm	1.18	1.54	1.61	0.68	1.73

* Source: H. E. Breimyer and C. A. Kause, Consumption Patterns for Meat, Bulletin No. 249, Agricultural Marketing Service, United States Department of Agriculture, May, 1958.

