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A PRICE ANALYSIS OF THE OGDEN AND LOS ANGELES LIVESTOCK MARKETS  
FOR SLAUGHTER AND FEEDER CATTLE, 1956-1960

by

Jerald R. Barnard

A thesis submitted in partial fulfillment  
of the requirements for the degree

of

MASTER OF SCIENCE

in

Agricultural Economics

Approved:

Utah State University  
Logan, Utah  
1962

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Dept. of Agricultural  
Economics

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## INTRODUCTION

One of the major objectives of every farmer, rancher, or feedlot operator is that of trying to maximize profits by marketing their cattle for greatest net returns. For this reason, it is very important at which market the producer decides to sell his cattle. Local supply and demand conditions are constantly causing prices and price differentials between markets to fluctuate, making the decision of choosing the market which will yield the greatest net return rather difficult.

Information on price differentials, marketing costs, grade-price differentials, and seasonal price patterns is necessary if Utah producers are to obtain highest returns. This type of information is lacking between Utah's largest terminal market at Ogden and Utah's largest out-of-state market, Los Angeles. It was the objective of this study to analyze prices at the Ogden and Los Angeles markets to obtain this type of information.

The information gained from this study of prices at the Ogden and Los Angeles markets should be of value to farmers, ranchers, feedlot operators, and others associated with the livestock industry. By pointing out price characteristics between the two markets, it should aid cattlemen in more effectively evaluating their alternative livestock marketing opportunities so that they may market their cattle for greatest net returns.

## OBJECTIVES OF THE STUDY

1. Determine the importance of California as a market for Utah cattle and Utah's importance as a supplier of cattle for the California market.
2. Determine whether there is a price differential between the Ogden and Los Angeles markets above the additional costs of moving Utah cattle to the Los Angeles market.
3. Determine intramarket price differentials between grades of slaughter steers and heifers, price differentials of slaughter steers and heifers of the same grade, and make a comparison of these differentials between the Ogden and Los Angeles markets.
4. Determine whether there is any seasonal pattern of grade-price fluctuation at each market, any seasonal pattern of grade-price difference, and what the trend of price differential is between the Ogden and Los Angeles markets.

## REVIEW OF LITERATURE

In reviewing the literature written on livestock marketing in the western United States, no research was found which compared prices for slaughter and feeder cattle at the Ogden and Los Angeles markets. There were, however, studies of the western livestock industry which contributed to this study and was of help in developing and making it complete. These publications assisted the author in this study by providing descriptive information about the markets and marketing practices, as a source of data, and in the analysis of the comparison of the Ogden and Los Angeles livestock markets.

A Thesis was written by Eugene S. Sanford (3)<sup>1</sup> at Utah State University in 1952 entitled "The Costs of Marketing Cattle in Utah." The purpose of this study was to determine marketing costs connected with transporting, terminal marketing charges and commission fees, and cost of cattle shrinkage during shipment to market. Information and data from this study were used to help determine the marketing costs associated with marketing cattle at the Ogden and Los Angeles markets.

A more detailed study on cattle shrinkage was published by Tippetts, Stevens, Brotherton, and Abel (6). This was a cooperative study by the Agricultural Experiment Stations of the eleven western states and the United States Department of Agriculture. Shrinkage data in the study by Sanford is a part of this larger and more complete study on in-transit shrinkage of cattle. This being the most recent

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<sup>1</sup>Numbers in parenthesis refer to references listed at the end of the thesis in Literature Cited.

publication and because it included more data from a wider area, the author considered it the most complete and competent authority on in-transit cattle shrinkage and used it to make the shrinkage estimates connected with marketing cattle at the Ogden and Los Angeles markets.

In 1959, R. E. Seltzer (4) of the University of Arizona wrote a bulletin entitled "The Los Angeles Market for Western Cattle." This was a study of the institutional structure of the Los Angeles livestock and meat market, where Los Angeles got its supply of slaughter and feeder cattle, a comparison of cattle and beef prices at Los Angeles, Denver, and Chicago, and the prospective demand for beef and cattle in California. The analysis of cattle prices at the Los Angeles, Denver, and Chicago markets is similar to the one which follows later in this study of the Ogden and Los Angeles markets. This bulletin was also used as a source for helping establish Utah's historical importance as a supplier of slaughter and feeder cattle in the Los Angeles market.

R. A. Dietrich and W. F. Williams of the United States Department of Agriculture, Agricultural Marketing Service, have done considerable marketing research in the Los Angeles area. A publication on the "Seasonality of California and Arizona Cattle Feedlot Operations" (2) provided secondary source information and assistance in determining the seasonal price fluctuations at the Los Angeles market.

Another pertinent publication by Dietrich and Williams was that entitled "Meat Distribution in the Los Angeles Area" (1). This gave descriptive information and data on the market structure and on marketing activities within the Los Angeles area. A later publication along this same line by W. F. Williams and E. Uvacek (9) was that of "Pricing and Competition on Beef in Los Angeles."



A Thesis entitled "The Transportation of Utah Meat" by Boyd L. Warnick (7) of Utah State University supplied information and data on out-of-state shipments of Utah meat.

Two publications resulting from regional research of the Western Livestock Marketing Research Technical Committee, "Shifts in the Trade of Western Slaughter Livestock" (8) published in 1950 by United States Department of Agriculture, and "Marketing Aspects of Western Cattle Finishing Operations" published in 1955, written by Frank S. Scott Jr., (5) University of Nevada, also furnished helpful information.

## SOURCE OF DATA

Data for this study were obtained from the following three sources:

- (1) California Annual Livestock Report, California Crop and Livestock Reporting Service;
- (2) Utah Brand Inspection Record Summaries Compiled by the Department of Agricultural Economics, Utah State University; and
- (3) Livestock Detailed Quotation Reports, Livestock Division, Agricultural Marketing Service, United States Department of Agriculture.

The California Annual Livestock Report is published by the California Department of Agriculture and the United States Department of Agriculture. It is a compilation of data on livestock marketings and inventories and was used to establish Utah's importance in the California market.

For determining the destination of annual out-of-state shipments of Utah cattle and the importance of the California market for Utah cattle, data from Utah brand inspection summaries were used. Brand inspection data were only available in summarized form for three years; 1947, 1956, and July 1959 to June 1960.

It should be mentioned at this point that Utah brand inspection record summaries of cattle shipments to California do not agree with California Annual Livestock Report figures. In 1956, Utah reported total out-of-state cattle shipments to California as 121,470 head (includes dairy cattle), while California Annual Livestock Report data reported Utah shipments of slaughter and feeder cattle to California were 133,000 head plus 11,432 head of dairy cattle.<sup>6</sup> This gave a difference in reported number of beef and dairy cattle shipped to

California of 22,962 head. For the year July 1, 1959 to June 30, 1960, Utah brand inspection record summaries indicated Utah shipped 75,876 head of slaughter and feeder cattle to California. California Annual Livestock Report data were not available on a monthly basis for that period, but annual totals of slaughter and feeder cattle shipments from Utah to California in 1959 and 1960 were 95,000 and 97,000 head respectively. This again gave a difference of about 20,000 to 22,000 head.

Because a brand inspection of all Utah cattle moving out of the state is required by law, it is believed that this record is the most accurate tally of Utah cattle shipments to California. A possible explanation of the difference between these two records might be that Utah is receiving credit for cattle which are shipped into the state, sold at terminal markets or auctions, then shipped on to California losing the identity of the state from which they were originally shipped, thus giving Utah credit for more cattle than are actually grown or fattened in the state.

Price data for this study were taken from Livestock Detailed Quotation Reports, Livestock Division, Agricultural Marketing Service, United States Department of Agriculture. Weekly and monthly prices as they are reported by AMS represent the average price per pound liveweight for each grade of livestock each week or month at a specific market.

The classifications and grades of cattle which were used in this study were:

Slaughter Steers

Choice 900-1100 pounds

Good 900-1100 pounds

Slaughter Heifers

Choice	800-1000 pounds*
	900-1100 pounds
Good	700- 900 pounds*
	800-1000 pounds

Feeder Steers

Good	500- 800 pounds
------	-----------------

These grades of cattle were chosen because they are the most common grades appearing at both markets in the slaughter and feeder classifications.

This study is based on three assumptions; (1) average prices of individual grades of cattle at each market are representative of the same breed, type, and quality of cattle; (2) at both markets, average prices of individual grades of cattle are made up of the same proportion of high, medium, and low quality cattle within each particular grade; and (3) that AMS market reporters operate under the same instructions at each market and price data were gathered from similar competitive market conditions.

Some livestock marketing economists and men of the livestock industry contend that these three assumptions do not hold in comparing the Ogden and Los Angeles markets. AMS market reporting officials contend, however, that the circumstances under which prices are established and later reported at the Ogden and Los Angeles markets are very similar and for all practical purposes price quotations at both markets on a grade basis represent the same quality of cattle.

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\*USDA weight classification changed on Choice slaughter heifers from 800-1000 pounds, to 900-1100 pounds; on Good slaughter heifers from 700-900 pounds, to 800-1000 pounds, effective January 1, 1960.

## CALIFORNIA MARKET FOR UTAH CATTLE

Utah Cattle Shipments to California

California is Utah's most important out-of-state market for slaughter and feeder cattle. Utah Brand Inspection data show that in 1947, 1956, and 1959-1960, 63.1, 66.9, and 50.2 per cent respectively, of total annual out-of-state cattle shipments went to California (Table 1).

During the eleven year period, 1950 through 1960, peak shipments of Utah cattle to California occurred in 1956 (Table 2). In that year, Utah brand inspection data reported total out-of-state cattle shipments numbered 181,607 head. Of this number, 121,470 head went to California.<sup>1</sup> The majority of these, 107,215 head or 59 per cent of total out-of-state shipments, went to the Los Angeles terminal market or direct sale destinations in central or southern California.

These data establish California, particularly the Los Angeles market, as the major out-of-state market for Utah cattle.

Origin of California's Cattle Supply

Approximately 41 per cent of the slaughter and feeder cattle marketed in California each year come from outside the state (4). California's demand for slaughter and feeder cattle and Utah's surplus have been the factors which have established Utah as an important supplier of cattle for California.

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<sup>1</sup>See p. 6 for explanation of difference between Utah brand inspection data and California Annual Livestock Report.

Table 1. Shipping destinations of Utah cattle, 1947, 1956, and July 1959-June 1960

Destination	1947 <sup>1</sup>		1956 <sup>2</sup>		Jul 1959-Jun 1960 <sup>3</sup>	
	Number of head	Per cent of total	Number of head	Per cent of total	Number of head	Per cent of total
Arizona	---	---	2,471	1.4	7,516	4.4
California	51,826	63.1	121,470	66.9	85,478	50.2
Colorado	19,344	23.6	12,941	7.1	18,666	11.0
Idaho	8,732	10.6	14,594	8.0	19,310	11.3
Mid-West (Ill, Ia, Kan, Mo, Neb)	---	---	---	---	22,615	13.3
Nevada	2,196	2.7	8,665	4.7	7,226	4.2
Wyoming	---	---	7,195	4.0	7,306	4.3
Other	---	---	11,538	6.4	1,356	0.8
Total Out-of-State	82,098	100.0	181,607	100.0	170,367	100.0

## Sources:

<sup>1</sup>R. H. Anderson, "The Movement of Cattle from Utah Farms and Ranches, 1947", Utah Agricultural Experiment Station, Mimeograph Series No. 359

<sup>2</sup>L. H. Davis, "The Movement of Utah Cattle, 1956", Utah Agricultural Experiment Station, Mimeograph Series No. 436

<sup>3</sup>Unpublished data compiled from Utah Brand Inspection Records by E. W. Lamborn, Department of Agricultural Economics, Utah State University

Note: Data include both beef and dairy cattle. The 1959-1960 data distinguished between beef and dairy animals. In that year, 153,332 or 90 per cent of total out-of-state shipments were beef cattle.

Table 2. Number of Utah slaughter and feeder cattle shipped into California, 1950-1960

	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
	(Thousand Head)										
Stockers & Feeders	62	42	39	37	51	35	50	47	38	41	60
Immediate Slaughter	57	42	56	85	79	70	83	62	51	54	37
Total Cattle	119	84	95	122	130	105	133	109	89	95	97

Source: California Annual Livestock Report, California Crop & Livestock Reporting Service

#### Slaughter Cattle

Utah is more important in the California livestock market as a supplier of slaughter cattle than for stockers and feeders. For the period 1922-1960, Utah was the third ranking out-of-state supplier of slaughter cattle for California (Table 3).

Although Utah is holding its third place position as a supplier of slaughter cattle for California, its importance is declining. During the period 1922-1954, Utah supplied 13.7 per cent of California's inshipments; the period 1950-1954, 11.1 per cent; the period 1955-1959, 10.1 per cent; and in 1960, 8.0 per cent.

Arizona, the largest out-of-state source of slaughter cattle for California has increased its portion of the California market each year. During the period 1922-1954, Arizona supplied 25.4 per cent of California slaughter cattle inshipments. In the following years, Arizona increased its portion to 31.3 per cent in 1950-1954, 42.3 per cent in 1955-1959, and 56.2 per cent in 1960.

Table 3. Cattle and calves shipped into California for immediate slaughter, percentage from each state of origin, average 1922-1954, average 1950-1954, average 1955-1959, and 1960

Per cent of total inshipments originating in each state				
State	Average 1922-1954	Average 1950-1954	Average 1955-1959	1960
Arizona	25.4	31.3	42.3	56.2
Colorado	6.6	8.9	4.5	2.7
Great Plains (Kan., Neb., Okla.)	1.7	4.7	3.1	2.0
Idaho	10.2	13.2	14.8	12.6
Montana	4.4	6.9	6.4	1.6
Nevada	13.9	4.2	4.2	4.7
New Mexico	3.9	3.4	2.6	0.9
Oregon	6.3	4.1	4.0	3.8
Texas	12.1	10.3	6.9	7.1
Utah	13.7	11.1	10.1	8.0
Wyoming	1.0	1.0	0.6	---
Others	0.8	0.9	0.5	0.4
Total	100.0	100.0	100.0	100.0

Source: Data for years 1922-1954 from R. E. Seltzer (4)

Data for years 1950-1954, 1955-1959, and 1960 calculated from data in California Annual Livestock Report, California Crop and Livestock Reporting Service

Nevada has given up the second place position which it held in the California market for the period 1922-1954 to Idaho. Nevada's limited supply of locally produced forage and feed grains has prevented expansion of feeding operations. As a result, Idaho has moved into the second place position and in 1960 supplied 12.6 per cent of California's inshipments of slaughter cattle.



### Feeder Cattle

For the period 1922-1960, Utah has been about the seventh ranking state as a supplier of feeder and stocker cattle for California, supplying approximately 4.5 per cent of annual inshipments during this period (Table 4). Utah's position has changed little during the 1922-1960 period supplying 5.5 per cent in 1922-1954 and 4.2 per cent in 1960.

During recent years, other states' positions in the California market have changed. Arizona and New Mexico, the top two suppliers during the 1922-1954 period, have declined in relative importance as a source of stocker and feeder cattle. This was a result of the expansion of their cattle feeding operations. Texas moved into first place as a source of feeder and stocker cattle in the period 1950-1954 by supplying 19.9 per cent of California's inshipments. In 1960, Texas supplied 34.6 per cent of California's inshipments, almost twice as many as its next closest competitor, Arizona, which supplied 18.0 per cent.

### Utah Meat Shipments to California

In addition to being the most important market for Utah slaughter and feeder cattle, California is also an important out-of-state market for Utah meat. Warnick (7) indicates that approximately one-third of all meat shipped out-of-state in 1958 was consigned to California destinations.

In 1958, Utah produced 93,968,000 pounds of beef and 2,310,000 pounds of veal (7, p. 49). Warnick quotes Reed W. Bennett as estimating that approximately 50 per cent of Utah's beef and veal is available for out-of-state shipment (7, pp. 56-58). This would indicate that in 1958, Utah had available for out-of-state shipment approximately 48,039,000 pounds of beef and veal, with approximately 16,013,000 pounds of this being consigned to California destinations.

Table 4. Stocker and feeder cattle and calves shipped into California, percentage from each state of origin, average 1922-1954, average 1950-1954, average 1955-1959, and 1960

<u>Per cent of total inshipments originating in each state</u>				
<u>State</u>	<u>Average 1922-1954</u>	<u>Average 1950-1954</u>	<u>Average 1955-1959</u>	<u>1960</u>
Arizona	28.5	13.3	15.7	18.0
Colorado	2.8	3.4	1.7	1.3
Great Plains (Kan., Neb., Okla.)	2.4	7.1	5.0	4.1
Idaho	6.1	5.1	4.9	4.0
Montana	4.3	9.7	5.8	2.3
Nevada	10.8	11.7	11.2	10.5
New Mexico	13.1	7.2	6.1	4.5
Oregon	9.3	11.6	12.7	10.6
Texas	12.2	19.9	26.1	34.6
Utah	5.5	4.8	4.1	4.2
Wyoming	2.3	2.2	1.1	0.6
Others	<u>2.7</u>	<u>4.0</u>	<u>5.6</u>	<u>5.3</u>
Total	100.0	100.0	100.0	100.0

Source: Data for years 1922-1954 from R. E. Seltzer (4)

Data for years 1950-1954, 1955-1959, and 1960 calculated from data in California Annual Livestock Report, California Crop and Livestock Reporting Service

## OGDEN - LOS ANGELES PRICE DIFFERENTIAL

Location-Price Differential Theory

In the United States, areas concentrating in livestock production have developed as a result of geographical specialization. Because livestock production areas do not always coincide with meat consuming areas, prices for livestock are not the same over the entire nation at any time. Theoretically, prices should be the same in surplus and deficit areas, plus or minus, cost of transportation, handling, and shrinkage, to move livestock from surplus areas to deficit areas.

Over a period of years, markets appear to measure up to the theoretical concept quite well. For shorter periods of time - from day to day, week to week, or month to month - the situation may be quite different. Price differentials between markets fluctuate considerably due to the local forces of supply and demand operating at each point.

It is therefore very important which market the livestock producer chooses to sell his cattle, since one market may bring forth a greater net return than the other. Changes in market price differentials are of considerable importance to the producer with a truckload of slaughter or feeder cattle to sell.

Marketing Costs

In order for cattle producers to effectively evaluate price differentials between markets and sell for greatest net returns, they must have a complete knowledge of the marketing costs which they will incur when marketing at alternative markets. From transportation rates,

terminal market tariffs, and secondary shrinkage data, a set of marketing costs representing the difference in cost of marketing slaughter or feeder cattle at Ogden and Los Angeles have been developed.

### Transportation Costs

In many areas of Utah, cattlemen have access to both truck and rail transportation facilities for moving their cattle to market. The cost, convenience, speed, and method of handling by these carriers should be carefully evaluated to determine which method fits the individual circumstances best and offers the greatest service at the lowest cost. Since transportation costs to alternative markets vary depending upon geographical location, only the costs of shipping slaughter and feeder cattle from Ogden to Los Angeles will be considered here.

The cost per cwt. of shipping cattle from Ogden to Los Angeles by truck or rail is:

Truck <sup>1</sup> - Average price cwt. (no distinction made between slaughter and feeder cattle)	\$1.22 per cwt.
Rail <sup>2</sup> - Slaughter Cattle	\$1.26 per cwt.
Feeder Cattle	\$1.08 per cwt.

### Terminal Market Charges

The costs incurred when marketing cattle at a terminal market are made up of charges levied by the stockyards company for services such as handling, corral space, feed, etc., and fees charged by a commission firm or auction company for selling livestock consigned to them. The

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<sup>1</sup>Unpublished data collected and compiled by Department of Agricultural Economics, Utah State University.

<sup>2</sup>Contact with Freight Agent, Union Pacific Railroad, Ogden Union Stockyards.

amount of costs incurred at the terminal market will depend upon the individual terminal market and the amount of services used.

The charges which would be incurred in selling slaughter and feeder cattle<sup>1</sup> at the Ogden Union Stockyards or the Los Angeles Producers Stockyards<sup>2</sup> as set forth in their tariffs are as follows:

Ogden

Selling Commission	\$1.35 per head
Yardage	\$1.05 per head
Alfalfa Hay (Fed)	\$2.60 per cwt.

Los Angeles

Selling Commission	\$1.50 per head
Yardage	\$1.75 per head
Alfalfa Hay (sold in less than bale lots) (sold in bale lots, cost plus \$.60 per cwt.)	\$0.50 per head per day

Most of the Utah cattle moving into the Ogden Stockyards are sold the same day they arrive and do not incur a feed charge; however, when cattle are shipped to Los Angeles they are normally given a 24-hour fillback period prior to offering them for sale, thereby incurring a feed charge.

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<sup>1</sup>Cattle as defined by Ogden Union Stockyards and Los Angeles Producers Stockyards Tariffs are animals of the bovine species weighing 400 pounds or more.

<sup>2</sup>Because of a lack of sufficient volume of livestock moving through the Los Angeles Union Stockyards, the stockyards company decided to close the yards in March of 1959. Objections raised by market and packer agencies operating at the stockyards resulted in continued operation on a trial basis. After the trial period failed to increase the flow of livestock to the Los Angeles Union Stockyards, it was decided December 3, 1959, to close the yards February 5, 1960. Through intercession by local businessmen it was agreed to keep the market open until April 29, 1960, with the last date livestock would be received April 27, 1960. The market actually closed April 30, 1960. The Los Angeles Producers Stockyards began operations April 26, 1960.

Taking these special conditions into account, the costs per cwt. which are usually incurred when marketing Utah cattle at the Ogden or Los Angeles stockyards and the difference between the two markets is shown below:

	<u>1000 lb. cattle cost per cwt.</u>	<u>500 lb. cattle cost per cwt.</u>
<u>Ogden</u>		
Selling Commission	\$0.135	\$0.270
Yardage	<u>0.105</u>	<u>0.210</u>
Total	\$0.240	\$0.480
<u>Los Angeles</u>		
Selling Commission	\$0.150	\$0.300
Yardage	0.175	0.350
Alfalfa Hay (\$52 per ton) 35 lbs. per head per day	<u>0.091</u>	<u>0.091</u>
Total	\$0.416	\$0.741
Difference (LA minus Ogden)	\$0.176	\$0.261

### Shrinkage

The amount which slaughter and feeder cattle will shrink during the marketing process is an important cost consideration. In order to choose the market which will yield the greatest net return, the producer must be able to accurately estimate the amount of shrinkage he will have with each of his marketing alternatives.

Recent studies on cattle shrinkage in the western states have given producers considerable help in estimating cattle shrinkage. However, because shrinkage is influenced by a number of factors, such as time in-transit, methods of handling, weather, feed, water, class, breed, and sex<sup>1</sup>, the actual amount a specific lot of cattle will shrink is rather difficult for even the experienced producer to estimate.

<sup>1</sup>For a complete discussion on factors affecting shrinkage, see "In-transit Shrinkage of Cattle" by Tippetts, Stevens, Brotherton, and Abel (6)

As previously mentioned, this study will use the shrinkage data of Tippetts, Stevens, Brotherton, and Abel (6), as the source for estimating the amount of shrinkage connected with marketing Utah cattle at Ogden and Los Angeles.

For purposes of clarification, a definition of terms is necessary at this point.

Gross Shrinkage is the difference between the loading weight at shipping point and weight upon arrival at destination.

Net Shrinkage is the difference between loading weight at shipping point and weight after fill; being fed, watered, and rested at the destination. Cattle which are in transit for more than twelve hours should be filled before being offered for sale.

Pay (net) Weight is the weight the buyer actually pays for. It can be the weight after fill at the destination or when cattle are shipped short distances and sold the same day; it can be the actual weight at time of sale with no fillback.

When estimating the amount of shrinkage connected with marketing Utah cattle at Ogden or Los Angeles, a gross shrinkage figure was used at Ogden and a net shrinkage figure at Los Angeles. The reason for this being that when cattle are shipped a short distance and are sold and weighed soon after arrival at the stockyards, they have a tendency to take on very little feed and water, consequently, there is little difference between net and gross shrinkage. For the estimates of shrinkage at Ogden, it was assumed that cattle were transported and sold within eight hours after leaving the ranch or feedlot.

The amount of shrinkage connected with marketing Utah cattle at Los Angeles is normally figured on a net shrinkage basis, as it is recommended

that cattle that have been in-transit for that period of time (approximately 24 hours) be given a minimum fillback period of 24 hours so that they will have an opportunity to regain some of the weight which they have lost.

Table 5. Estimated<sup>1</sup> shrinkage on fat cattle when shipped from Tremonton or Richfield, Utah, and marketed at the Ogden and Los Angeles stockyards

Market- shipping origin	Time in transit Hours	Fillback time or time standing prior to sale Hours	Estimated gross shrinkage (range) Per cent	Estimated net shrinkage (range) Per cent
<u>Ogden</u>				
Tremonton	1	3	2-4	2-4
Richfield	5	3	4-6	4-6
<u>Los Angeles</u>				
Tremonton	24	24	8-10	3-5
Richfield	18	24	8-10	3-5

<sup>1</sup>Estimates based on data from Tippetts, Stevens, Brotherton, and Abel (6)

To illustrate how shrinkage varies depending on location and time in-transit, the shrinkage connected with marketing fat cattle from Tremonton and Richfield feedlots at the Ogden and Los Angeles terminal markets, under the assumed normal time and handling procedures set forth, is estimated to fall within the limits shown in Table 5. It must be further emphasized at this point, however, that actual shrinkage is difficult to estimate because of the many factors influencing it and that while one lot of cattle might perform in the expected manner as set forth in these estimates, another lot might perform somewhat differently.



Differential Needed in Order to ShipUtah Cattle to Los Angeles

Although a producer's alternative marketing costs vary depending upon his geographical location and the particular markets considered, he can determine his alternative marketing costs by budgeting them on a per cwt. basis.

Using a hypothetical example based upon previously mentioned assumptions, costs per cwt. of feedlot operators located at Tremonton and Richfield for marketing a lot of 1,000 pound Choice grade slaughter steers at Ogden and Los Angeles will be presented. It was assumed that the market price for this grade of cattle was \$25 per cwt. at Ogden and \$26 per cwt. at Los Angeles.

Tremonton

<u>Marketing Cost</u>	Ogden <u>Cost per cwt.</u>	Los Angeles <u>Cost per cwt.</u>
Transportation	\$ 0.120	\$ 1.350
Selling Commission	0.135	0.150
Yardage	0.105	0.175
Alfalfa Hay (\$52 per ton - 35 lbs. per head per day)	0.000	0.091
Shrinkage (Ogden - 3 lbs./cwt. Los Angeles - 4 lbs./cwt.)	<u>0.000</u>	<u>0.260</u>
Total	\$ 0.360	\$ 2.026
Difference	\$2.026 - \$0.360 = \$1.666	

Richfield

<u>Marketing Cost</u>	Ogden <u>Cost per cwt.</u>	Los Angeles <u>Cost per cwt.</u>
Transportation	\$ 0.450	\$ 1.100
Selling Commission	0.135	0.150
Yardage	0.105	0.175
Alfalfa Hay (\$52 per ton - 35 lbs. per head per day)	0.000	0.091
Shrinkage (Ogden - 5 lbs./cwt. Los Angeles - 4 lbs./cwt.)	<u>0.250</u>	<u>0.000</u>
Total	\$ 0.940	\$ 1.516
Difference	\$1.516 - \$0.940 = \$0.576	

Under assumed prices, the Tremonton and Richfield producers would have to receive a price of \$1.67 per cwt. and \$.58 per cwt., respectively, more for their cattle at the Los Angeles market in order to receive the same net return that they would at Ogden. With the assumed \$1.00 per cwt. price differential favoring the Los Angeles market, the Tremonton producer would receive \$.67 per cwt. (\$1.67 - \$1.00) more by selling at the Ogden market, while the Richfield producer would receive \$.42 per cwt. (\$1.00 - \$.58) more by selling at the Los Angeles market.

Important factors which should not be overlooked when considering alternative market price quotations and marketing costs are the elements of risk and uncertainty. The producer would subject himself to more death or injury risk when shipping to the Los Angeles market because his cattle would be enroute longer, however, he may insure against risk of loss or injury while enroute to market.

Because prices fluctuate from day to day, a Utah producer would subject himself to more price uncertainty by selling at the Los Angeles

market because of the additional time required enroute to market and for the fillback period. Since market price quotations deal only in the past and the producer can only sell in the future, he must take into account the uncertainty arising from a price change at either market while his cattle are in the process of being transported and sold.

### Intermarket Price Differential

#### Slaughter Steers

The price differential between the Ogden and Los Angeles markets has fluctuated considerably. For Choice grade slaughter steers, the average weekly price difference during the 1956-1960 period ranged from \$2.63 per cwt. in favor of Los Angeles to \$.63 per cwt. in favor of Ogden (Figure 1). Price difference on Good grade steers ranged from \$3.74 per cwt. in favor of Los Angeles to \$.94 per cwt. in favor of Ogden (Figure 2).

For the same five year period, average price differential on Choice and Good grade steers was \$1.08 per cwt. and \$1.27 per cwt. respectively in favor of Los Angeles (Table 6).

#### Slaughter Heifers

The price differential between Ogden and Los Angeles for Choice grade heifers has ranged from \$1.53 per cwt. in favor of Los Angeles to \$2.00 per cwt. in favor of Ogden (Figure 3). Price difference on Good grade heifers ranged from \$2.87 per cwt. in favor of Los Angeles to \$2.00 per cwt. in favor of Ogden (Figure 4).

The average price differential during the five year period on Choice and Good grade heifers was \$0.09 per cwt. and \$0.68 per cwt. respectively in favor of Los Angeles (Table 6).

#### Feeder Steers

The price differential on Good grade feeder steers between the Ogden and Los Angeles markets has fluctuated more than for slaughter cattle. Price difference between the two markets has ranged from \$3.00 per cwt. in favor of Los Angeles to \$2.00 per cwt. in favor of Ogden (Figure 5). The five year average price differential was \$0.37 per cwt. in favor of Los Angeles (Table 6).

Table 6. Average price differential of slaughter and feeder cattle, Ogden and Los Angeles Livestock markets, 1956-1960

<u>Average price difference \$per cwt. (Los Angeles minus Ogden)</u>						
<u>Classification/Grade</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>5 year average</u>
<b>Slaughter Steers</b>						
Choice	1.27	1.25	1.20	0.80	0.86	1.08
Good	1.64	1.70	1.78	0.63	0.59	1.27
<b>Slaughter Heifers</b>						
Choice	0.36	0.34	0.23	-0.22	-0.26	0.09
Good	0.81	1.14	1.19	0.26	0.03	0.68
<b>Stocker &amp; Feeder Steers</b>						
Good	1.34	0.77	-0.27	-0.11	0.12	0.37

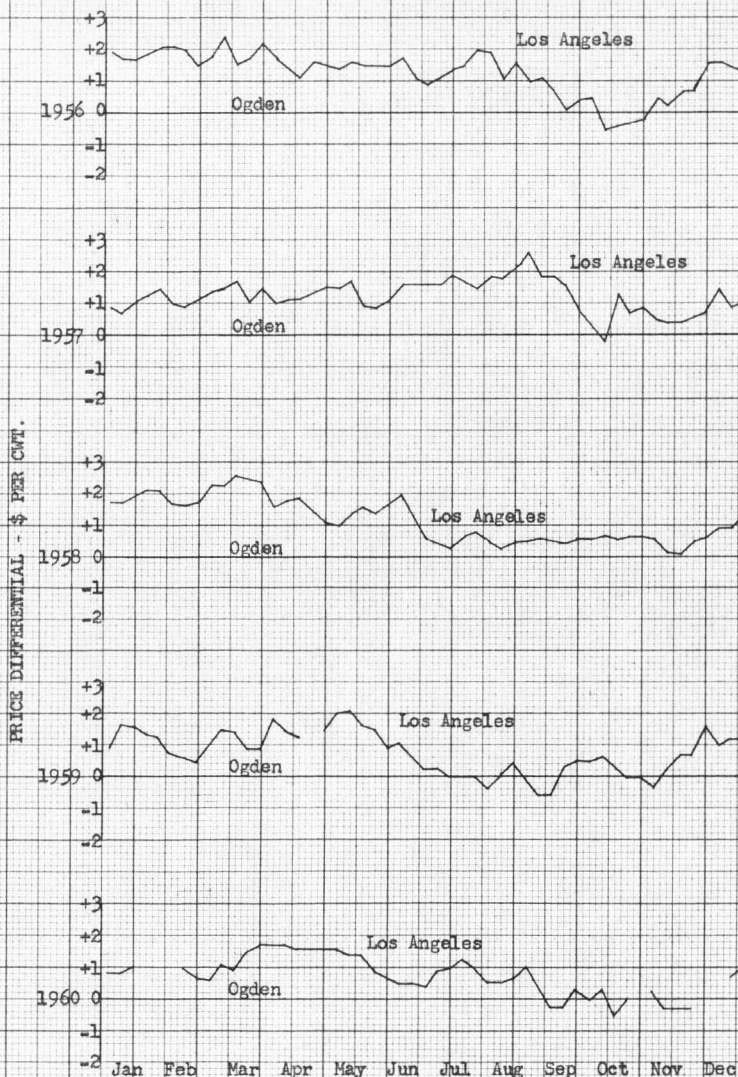


Figure 1. Average weekly price differential of Ogden and Los Angeles livestock markets for Choice grade slaughter steers, 1956-1960

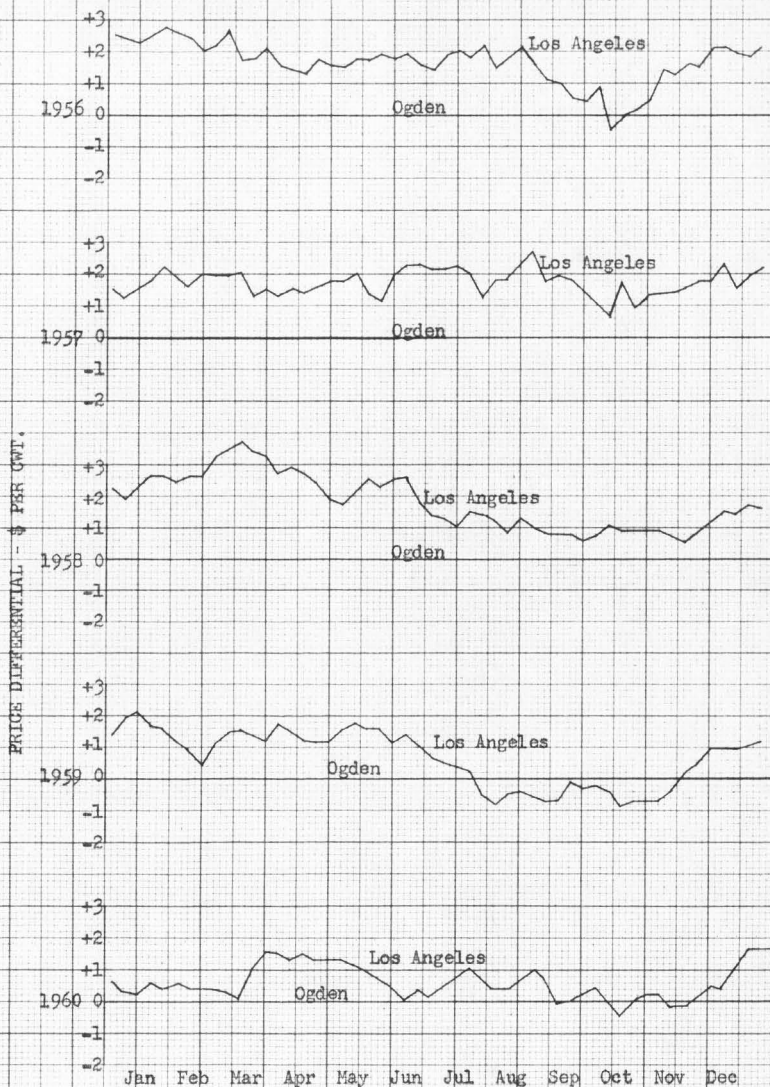


Figure 2. Average weekly price differential of Ogden and Los Angeles livestock markets for Good grade slaughter steers, 1956-1960

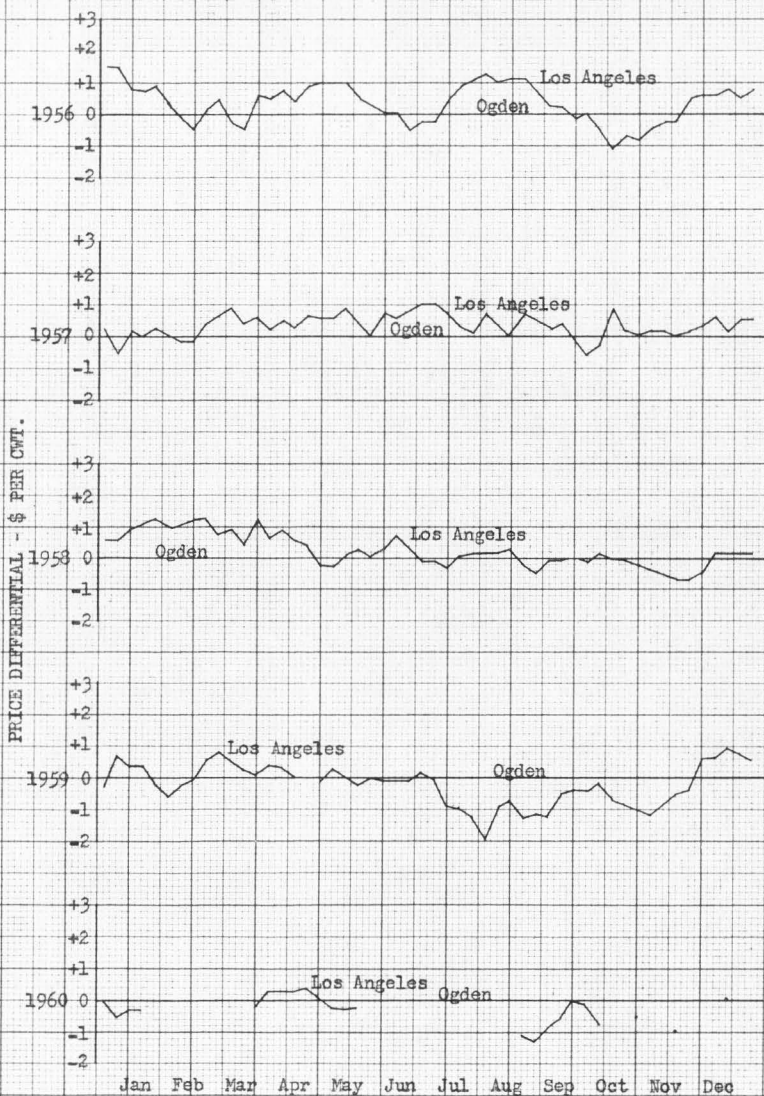


Figure 3. Average weekly price differential of Ogden and Los Angeles livestock markets for Choice grade slaughter heifers, 1956-1960

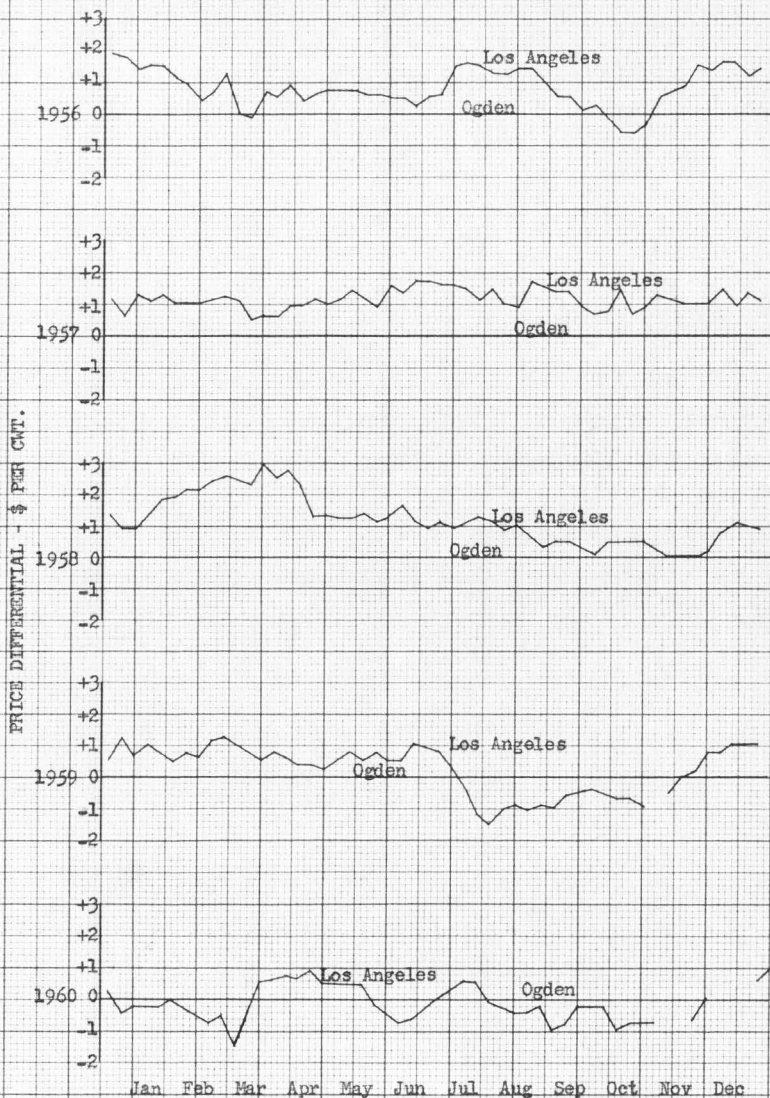


Figure 4. Average weekly price differential of Ogden and Los Angeles livestock markets for Good grade slaughter heifers, 1956-1960



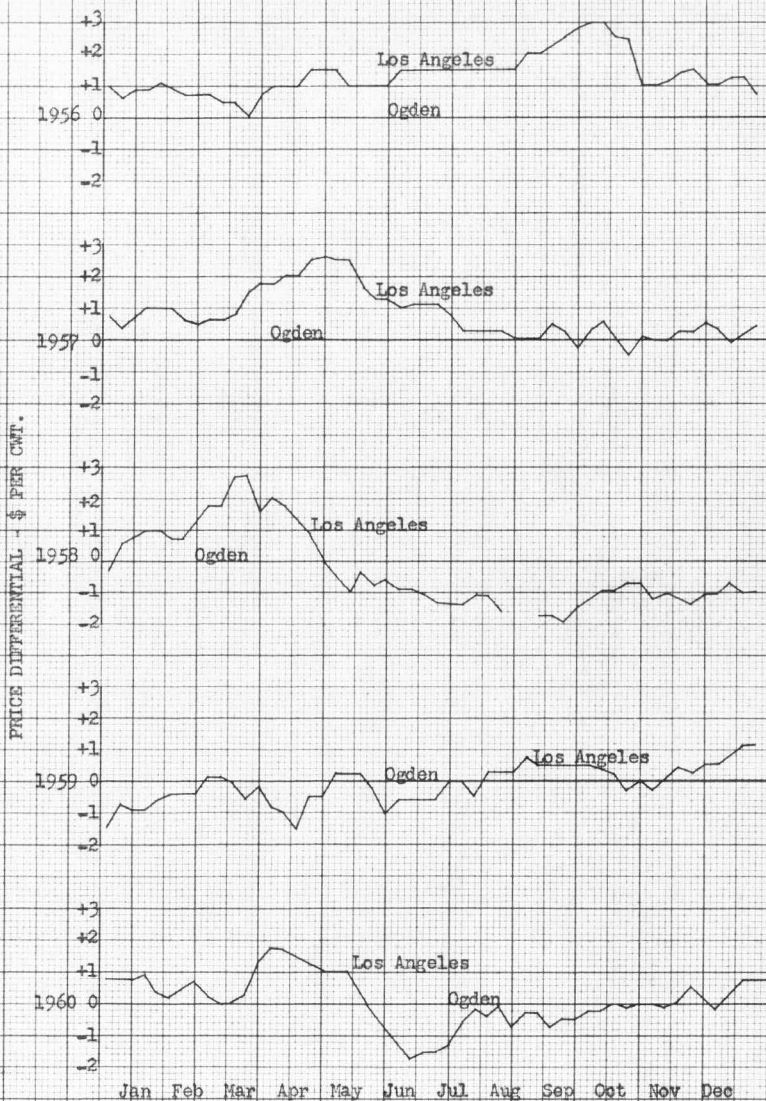


Figure 5. Average weekly price differential of Ogden and Los Angeles livestock markets for Good grade feeder steers, 1956-1960

Tremonton and Richfield Origins and  
Observed Ogden - Los Angeles Price Differential

As previously shown in the budget of costs connected with marketing fat steers from Tremonton and Richfield feedlots at the Ogden and Los Angeles markets, it required a price differential of \$1.67 per cwt. and \$.58 per cwt. respectively, more at Los Angeles in order for producers from these two areas to ship to the Los Angeles market and receive the same net return that they would have at Ogden.

During the 1956-1960 period, average weekly price differential on Choice and Good grade slaughter steers was \$1.67 per cwt. or more in favor of Los Angeles for 48 weeks and 89 weeks respectively, out of the total of 260 weeks. Average weekly price differential on Choice and Good grade slaughter steers was \$.58 per cwt. or more in favor of Los Angeles for 191 weeks and 204 weeks respectively, out of the total of 260 weeks. This serves as evidence of the strength and ability of the Los Angeles market to continuously compete for southern Utah cattle.

ESTABLISHED PRICE RELATIONSHIPS AT  
OGDEN AND LOS ANGELES LIVESTOCK MARKETS

An analysis of cattle prices at a livestock market over a period of years usually reveals that a market tends to establish certain price relationships peculiar to that particular market with regards to specific grades and sexes of cattle, certain seasonal price patterns, and when two or more markets are analyzed and compared that certain price relationships exist between markets.

A price analysis of the Ogden and Los Angeles markets identified some of these price relationships, a knowledge of which should be very helpful to Utah cattle producers in helping them to plan their marketing activities so as to obtain highest net returns.

Grade-Price and Steer-Heifer Differentials

Choice-Good Grade Differential

When slaughter steer and heifer price differentials by grades between Ogden and Los Angeles were considered, it was apparent that prices for Choice grade steers and heifers at Los Angeles have been low and that prices for Good grade steers and heifers have been high as compared to the Ogden market. The five year average price difference between Choice and Good grade steers at Ogden was \$1.86 per cwt., while at Los Angeles, it was \$1.67 per cwt. (Table 7 and Figure 6). The average monthly price difference between Choice and Good grade steers was greater at Ogden during the five year period except for the months April 1959-July 1960, when the difference was greater at Los Angeles. For heifers,

the five year average price difference between Choice and Good grade was \$1.98 per cwt. at Ogden and \$1.39 per cwt. at Los Angeles (Table 7 and Figure 7).

The price differential between Choice and Good grade steers and heifers may be due to a weaker preference for Choice grade cattle or a stronger preference for Good grade cattle at Los Angeles as opposed to Ogden. There is also the possibility that the grade-price differential observed between Ogden and Los Angeles may be caused from a larger supply of Choice grade cattle and smaller supply of Good grade cattle at Los Angeles as opposed to Ogden.

Table 7. Average price differential between Choice and Good grade slaughter steers and heifers, Ogden and Los Angeles, 1956-1960.

<u>Average price difference, \$per cwt. (Choice minus Good)</u>						
<u>Sex/market</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>5 Year Avg.</u>
<u>Steers</u>						
Ogden	1.94	1.95	2.14	1.58	1.72	1.86
Los Angeles	1.57	1.50	1.56	1.75	1.99	1.67
<u>Heifers</u>						
Ogden	1.98	2.03	2.27	1.75	1.88	1.98
Los Angeles	1.53	1.23	1.32	1.31	1.59	1.39

#### Steer-Heifer Differential

Prices for slaughter steers and heifers of the same grade at Ogden have been quite close as compared to Los Angeles. The five year average price difference between Choice grade steers and Choice grade heifers at Ogden was \$0.14 per cwt. as compared to \$1.12 per cwt. at Los Angeles (Table 8 and Figure 8). Difference between Good grade steers and Good grade heifers

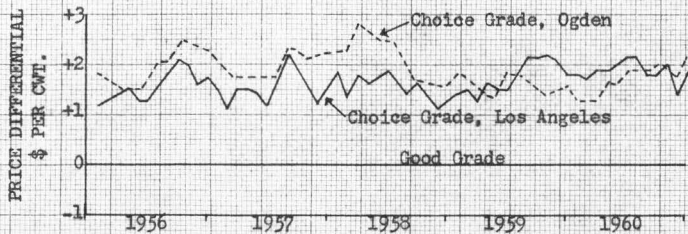


Figure 6. Average monthly price differential between Choice and Good grade slaughter steers, Ogden and Los Angeles, 1956-1960

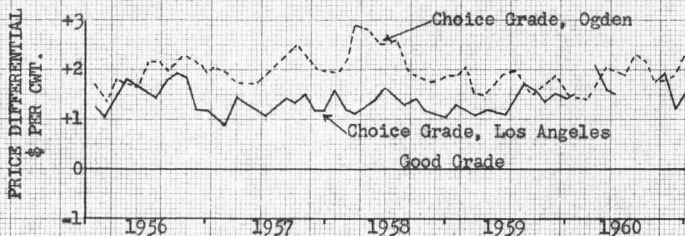


Figure 7. Average monthly price differential between Choice and Good grade slaughter heifers, Ogden and Los Angeles, 1956-1960

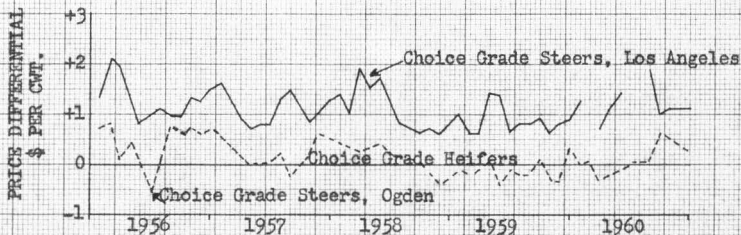


Figure 8. Average monthly price differential between Choice grade slaughter steers and heifers, Ogden and Los Angeles, 1956-1960

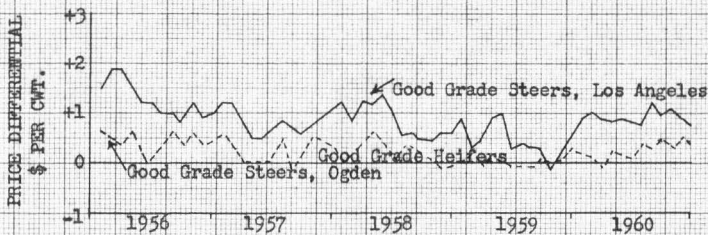


Figure 9. Average monthly price differential between Good grade slaughter steers and heifers, Ogden and Los Angeles, 1956-1960

during the same period was \$0.25 per cwt. at Ogden and \$0.84 per cwt. at Los Angeles (Table 8 and Figure 9).

This indicates that the market preference for slaughter steers and heifers of the same grade at Ogden is approximately the same, while at Los Angeles there appears to be a stronger preference for steers than heifers. Ogden is a strong heifer market and/or a weak steer market as compared to Los Angeles.

Table 8. Average price differential between slaughter steers and heifers by grades, Ogden and Los Angeles, 1956-1960.

<u>Average price difference, \$per cwt. (Steers minus Heifers)</u>						
<u>Grade/market</u>	<u>1956</u>	<u>1957</u>	<u>1958</u>	<u>1959</u>	<u>1960</u>	<u>5 Year Avg.</u>
Choice						
Ogden	0.39	0.20	0.11	-0.12	0.09	0.14
Los Angeles	1.30	1.11	1.08	0.86	1.21	1.12
Good						
Ogden	0.43	0.28	0.24	0.05	0.25	0.25
Los Angeles	1.26	0.84	0.84	0.42	0.81	0.84

#### Seasonal Variation

##### Slaughter Cattle

In general, prices for slaughter steers and heifers were highest at Los Angeles from March through September (Figure 10). At Ogden, prices tended to follow a later seasonal pattern with highest prices occurring during the months of April through October (Figure 11).



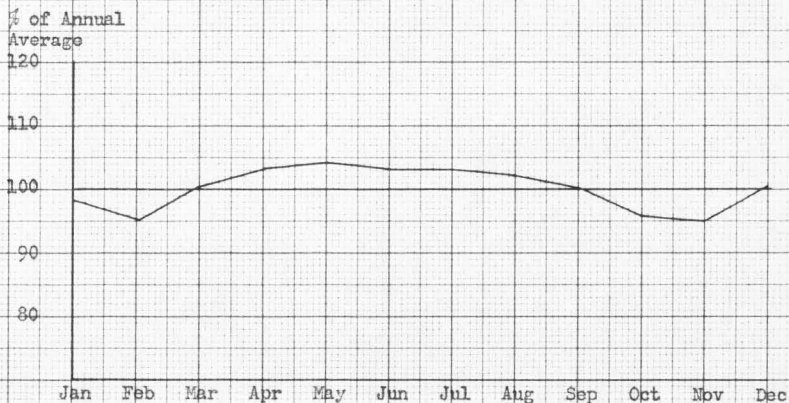


Figure 10. Seasonal index of prices for Choice grade slaughter steers, Los Angeles, 1956-1960

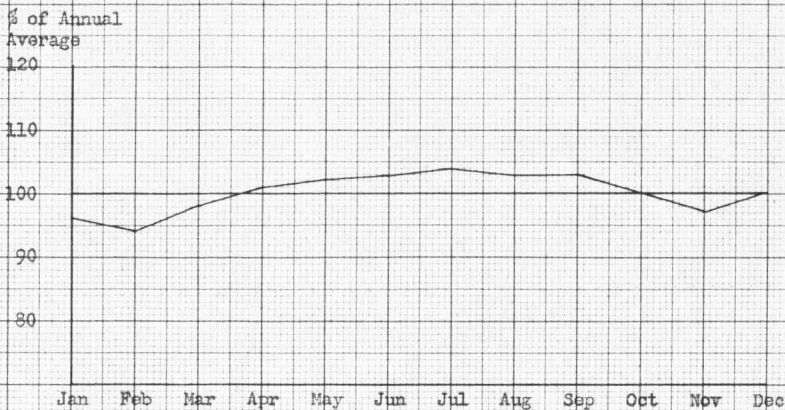


Figure 11. Seasonal index of prices for Choice grade slaughter steers, Ogden, 1956-1960



Using the analysis of variance statistical technique<sup>1</sup> to determine whether or not a significant seasonal price pattern existed, revealed that prices during the 1956-1960 period did not follow a significant seasonal pattern. The calculated and expected F values for Choice grade steers at the Ogden and Los Angeles markets during this period were:

Ogden Calculated F 11, 44 = 1.59 not significant

Los Angeles Calculated F 11, 44 = 1.63 not significant

Expected F 11, 44 = 2.01 at the .05 per cent level

Because the calculated F values were less than the expected F values, we may say that there was no significant seasonal pattern during this five year period.

From observation of actual average monthly prices at Ogden and Los Angeles (Figure 12 and 13), it appeared that the years 1956 and 1957 followed a somewhat similar price pattern. It also appeared that the years 1958, 1959, and 1960 followed a price pattern which was similar to one another yet quite different from the two previous years. An analysis of variance of prices for the years 1956 and 1957 gave the following F values:

Ogden, Calculated F 11, 11 = 4.23 significant

Los Angeles, Calculated F 11, 11 = 5.34 significant

Expected F 11, 11 = 2.82 at .05 per cent level

---

<sup>1</sup>The method for this analysis was taken from United States Department of Agriculture Handbook, Number 48, September 1952, by R. J. Foote and Karl A. Fox

Note: If the F-ratio (calculated F value) is higher than the F value expected at the five per cent point, we say that the seasonal pattern is significant. This means that the variation between means of months is sufficiently great so that an F of this magnitude would be obtained less than five per cent of the time in sampling from a population for which there was no differences between means of months.

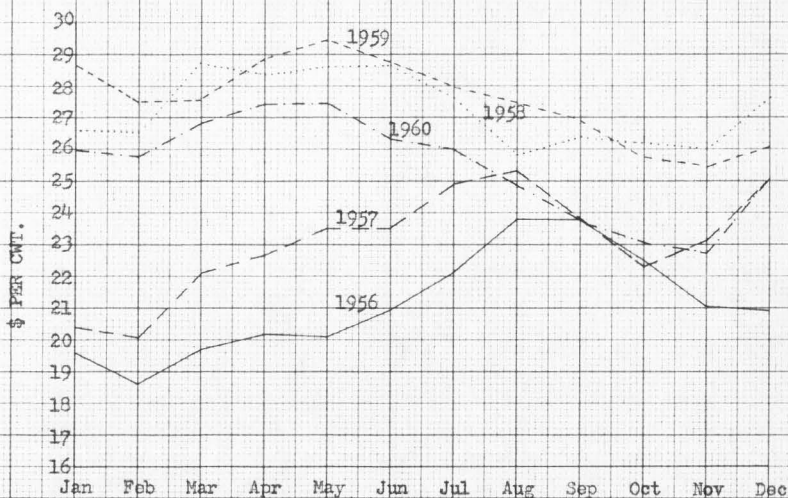


Figure 12. Average monthly prices for Choice grade slaughter steers at Los Angeles, 1956-1960

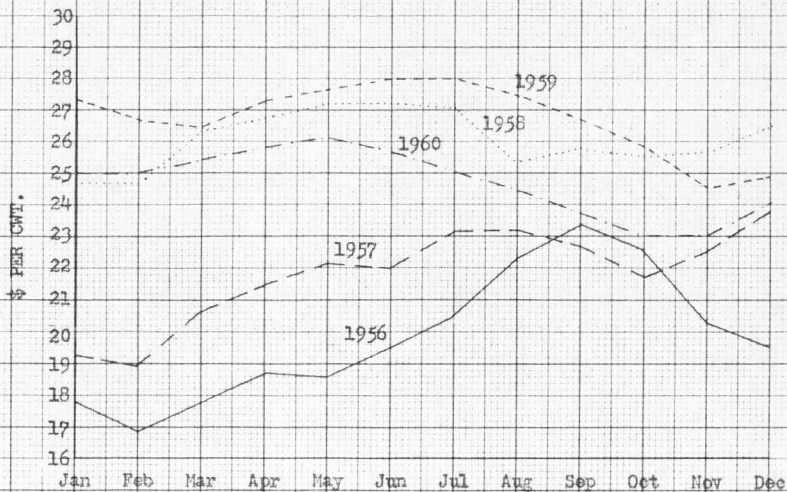


Figure 13. Average monthly prices for Choice grade slaughter steers at Ogden, 1956-1960.

An analysis of variance of prices for the years 1958, 1959, and 1960 gave the following F values:

Ogden, Calculated F 11, 22 = 4.47 significant

Los Angeles, Calculated F 11, 22 = 10.78 significant

Expected F 11, 22 = 2.26 at .05 per cent level

From this analysis we may say that there was a significant seasonal pattern during the two time periods, 1956 and 1957, and 1958, 1959, and 1960.

The author can give no definite reason or reasons for what appears to be a significant shift in the seasonal price pattern of slaughter steers and heifers. A possible explanation for the incoherence of price data to a significant seasonal pattern for the five year period, yet a significant seasonal pattern when broken down may be due to one or a combination of the following factors; (1) the particular position of the cattle cycle during the years 1956-1960; (2) the growing number and influence of large commercial feedlots; and (3) the general economic and business activity of the nation as a whole. The short time period with which this study deals and the limited scope - being only concerned with prices - makes it difficult to even theorize what the actual reasons were. The author believes that this is an area which needs further research.

#### Feeder Steers

In general, highest seasonal prices for feeder cattle at Ogden and Los Angeles began about a month earlier and tapered off about two months earlier than for slaughter cattle. At Los Angeles during the 1956-1960 period, prices for feeder cattle were highest from the latter part of

February to the latter part of July (Figure 14). At Ogden, highest prices occurred from March through August (Figure 15).

When average monthly prices of feeder steers at Ogden and Los Angeles were tested for significance of seasonal pattern in the same manner as slaughter cattle (Figures 16 and 17), the following F values were obtained:

1956-1960

Ogden, Calculated F 11, 44 = .79 not significant

Los Angeles, Calculated F 11, 44 = 1.11 not significant

Expected F 11, 44 = 2.01 at the .05 per cent level

1956 and 1957

Ogden, Calculated F 11, 11 = .85 not significant

Los Angeles, Calculated F 11, 11 = 1.45 not significant

Expected F 11, 11 = 2.82 at the .05 per cent level

1958, 1959, and 1960

Ogden, Calculated F 11, 22 = .85 not significant

Los Angeles, Calculated F 11, 22 = 1.78 not significant

Expected F 11, 22 = 2.26 at the .05 per cent level

From this analysis, we may say that prices for feeder steers at both Ogden and Los Angeles have not followed a significant seasonal pattern.

The author feels the most plausible explanation as to why a significant pattern of price variation for feeder steers did not exist for any time period in the analysis as it did for slaughter cattle is because of the effect of a greater amount of fluctuation caused by the elements of time and cattle feeder's future expectations. Basically, prices for feeder cattle are based upon what feeders expect the prices for fat cattle will be when the cattle are finished. Because cattle feeders

% of Annual  
Average

120  
110  
100  
90  
80

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Figure 14. Seasonal index of prices for Good grade feeder steers at Los Angeles, 1956-1960

% of Annual  
Average

120  
110  
100  
90  
80

Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec

Figure 15. Seasonal index of prices for Good grade feeder steers at Ogden, 1956-1960

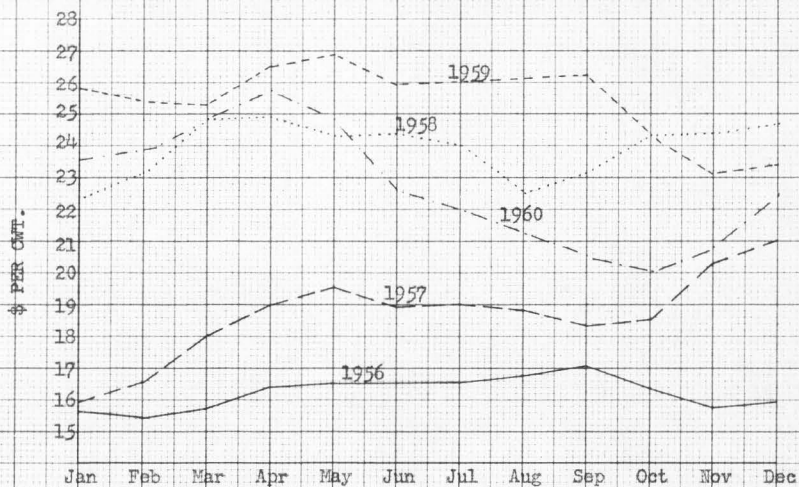


Figure 16. Average monthly prices for Good feeder steers at Los Angeles, 1956-1960

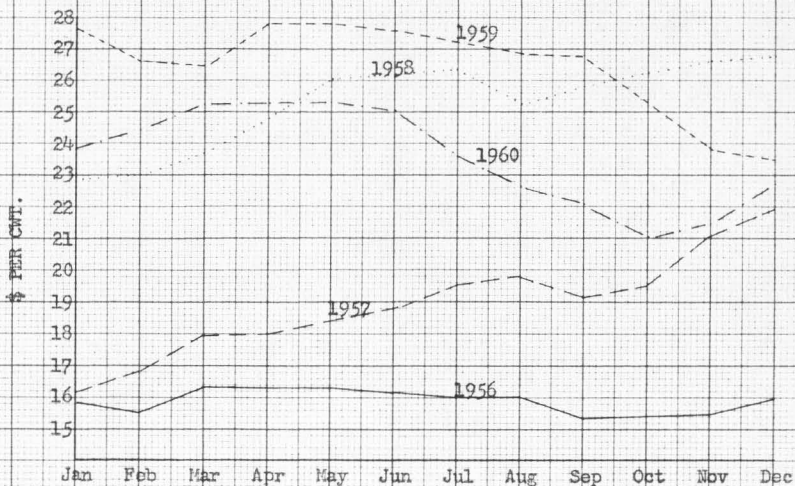


Figure 17. Average monthly prices for Good feeder steers at Ogden, 1956-1960

must buy at present prices and sell in the future for an unknown price, they are rather cautious and look for signs of what prices will be when their cattle are finished and ready for market. This causes prices for cattle to fluctuate from day to day, week to week, and month to month as expectations change. Prices fluctuate according to maturity or finish - the further cattle are from being finished, the harder it is to predict future prices, the greater the uncertainty, and the greater the fluctuation. As cattle approach maturity or finish, the easier it is for the feeder to estimate the price at which he will sell; hence, the less the uncertainty and the less the price fluctuation.

#### Ogden-Los Angeles Price Differential

In general, for the years 1956-1960, the greatest seasonal price differential between Ogden and Los Angeles for slaughter steers and heifers has occurred from January through June (Figures 1-4, pp. 25-28).

An analysis of variance test for significance of seasonal price differential pattern from 1956-1960 gave the following significant F values:

Choice Grade Steers, Calculated  $F_{11, 44} = 5.96$  significant  
Good Grade Steers, Calculated  $F_{11, 44} = 4.70$  significant  
Choice Grade Heifers, Calculated  $F_{11, 44} = 3.16$  significant  
Good Grade Heifers, Calculated  $F_{11, 44} = 2.57$  significant  
Expected  $F_{11, 44} = 2.01$  at the .05 per cent level

From this we may say that there was a significant seasonal price differential pattern between the Ogden and Los Angeles markets for slaughter steers and heifers.

For the same period, the seasonal price differential pattern for feeder steers was very erratic (Figure 5, p. 29). A test for

significance of seasonal price differential on feeder steers gave the following non-significant F value:

Good Grade Feeder Steers, Calculated F 11, 44 = .93 not significant

Expected F 11, 44 = 2.01 at .05 per cent level

This is as expected because of the erratic price differential fluctuation and the non-significant seasonal pattern for the three time periods under previous consideration. The peaks and troughs of price differential on feeder steers between the Ogden and Los Angeles markets have occurred at different times of each year during the 1956-1960 period.

#### Price Differential Trend Between Ogden and Los Angeles

The price differential between Ogden and Los Angeles shows a downward trend for the years 1956-1960. Computed trends of Choice and Good grade slaughter steers and Good grade feeder steers is shown in Figures 18, 19, and 20. The downward trend of price differential for Choice and Good grade slaughter heifers closely corresponded to that of Choice and Good grade slaughter steers.

The downward trend of price differential between Ogden and Los Angeles indicates the growing strength of the Ogden market as compared to Los Angeles. A plausible explanation for the downward trend of price differential between the two markets is that Utah's population has been growing relative to its cattle numbers, thereby increasing the demand for cattle within the state and narrowing the price differential between the Ogden and Los Angeles markets. Utah population and cattle number data support this reasoning. In 1956, Utah had 0.49 cattle per person, but by 1960, cattle per person had declined to 0.45 per person (Table 9).



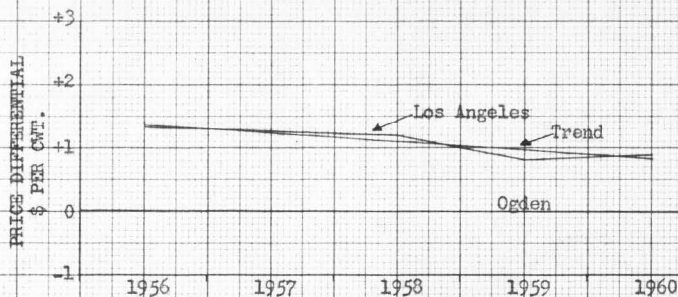


Figure 18. Trend of price differential for Choice grade slaughter steers between Ogden and Los Angeles livestock markets, 1956-1960

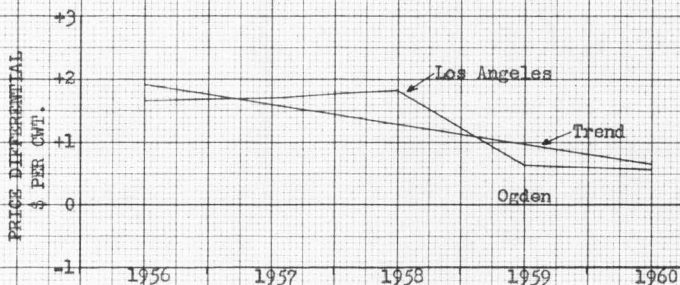


Figure 19. Trend of price differential for Good grade slaughter steers between Ogden and Los Angeles livestock markets, 1956-1960

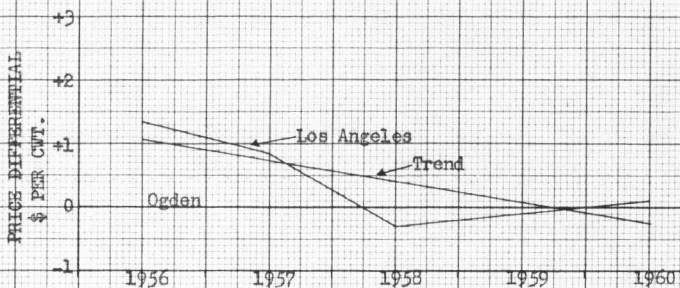


Figure 20. Trend of price differential for Good grade feeder steers between Ogden and Los Angeles livestock markets, 1956-1960

Table 9. Utah population, cattle number, and cattle per person, 1956-1960

Year	Population <sup>1</sup>	Cattle numbers <sup>2</sup>	Cattle per person
1956	825,000	403,000	0.49
1957	740,000	398,000	0.47
1958	858,000	393,000	0.46
1959	880,000	397,000	0.45
1960	890,627	403,000	0.45

Sources:

<sup>1</sup>Population data for 1956-1959 taken from 1960 Statistical Abstract of the United States, United States Department of Commerce. Population data for 1960 taken from 1960 United States Census of Population, United States Department of Commerce.

<sup>2</sup>Agricultural Statistics, United States Department of Agriculture, Data include Utah cattle other than cows and heifers kept for milk, one year old and over.

Other factors which may to some extent account for the downward trend of price differential between the Ogden and Los Angeles markets are (1) more adequate market information; (2) improved market organization; and (3) improved transportation facilities. Producers taking advantage of these improved marketing facilities would cause the price differential to narrow between the Ogden and Los Angeles livestock markets.

## SUMMARY

A knowledge of the price differentials, marketing costs, and other price relationships existing between alternative markets is important to farmers, ranchers, and feedlot operators if they are to market their cattle for greatest net returns. The purpose of this study was to determine the importance of the Los Angeles market for Utah cattle and make a price analysis of the Ogden and Los Angeles markets to obtain this type of information.

Cattle movement data establish the Los Angeles market as the most important out-of-state market for Utah cattle and Utah's importance as a supplier of slaughter and feeder cattle to California. In 1956, Utah's total out-of-state cattle shipments numbered 181,607 head. Of this number, 107,215 head, or 59 per cent of total out-of-state shipments, went to the Los Angeles terminal market or direct sale destinations in central and southern California.

From 1922 to 1960, Utah has ranked third as a supplier of slaughter cattle and about seventh as a supplier of feeder and stocker cattle for California. During this period, Utah supplied about 10.7 per cent of California's annual inshipments of slaughter cattle and about 4.5 per cent of annual inshipments of feeder and stocker cattle.

A hypothetical example of Tremonton and Richfield feedlot operators was used to determine the price differential needed in order to ship their cattle to the Los Angeles market. A budget of the marketing costs that would be incurred when marketing at Los Angeles as opposed to Ogden was determined. It was figured that the Tremonton and Richfield

producers would have to receive \$1.67 per cwt. and \$.58 per cwt. respectively, more at Los Angeles in order to ship their cattle there and receive the same net return that they would have at Ogden, assuming no difference in risk and uncertainty when shipping to the more distant market. Average weekly price differential on Choice and Good grade slaughter steers was \$1.67 per cwt. or more in favor of Los Angeles for 48 weeks and 89 weeks respectively, out of the total of 260 weeks. Average weekly price differential on Choice and Good grade slaughter steers was \$.58 per cwt. or more in favor of Los Angeles for 191 weeks and 204 weeks respectively, out of the total of 260 weeks.

Price differentials between the Ogden and Los Angeles markets have fluctuated considerably. From 1956-1960, the price differentials on specific grades of slaughter and feeder cattle have ranged from as high as \$3.74 per cwt. in favor of Los Angeles to \$2.00 per cwt. in favor of Ogden. The five year average price differential of the Los Angeles market above Ogden for Choice and Good grade slaughter steers was \$1.03 per cwt. and \$1.27 per cwt. respectively; for Choice and Good grade slaughter heifers \$0.09 per cwt. and \$0.68 per cwt. respectively; and for Good grade feeder steers \$0.37 per cwt.

The price differential between grades of slaughter steers and heifers has been greater at Ogden than Los Angeles. The five year average price differential between Choice and Good grade steers at Ogden was \$1.86 per cwt. as compared to \$1.67 per cwt. at Los Angeles. The average price differential between Choice and Good grade slaughter heifers at Ogden and Los Angeles was \$1.98 per cwt. and \$1.39 per cwt. respectively.

Prices for steers and heifers of the same grade at Ogden have been quite close as compared to Los Angeles. The five year average price

differential between Choice grade steers and heifers at Ogden was \$0.14 per cwt. as compared to \$1.12 per cwt. at Los Angeles. Difference between Good grade steers and heifers at Ogden and Los Angeles was \$0.25 per cwt. and \$0.84 per cwt. respectively.

In general, the seasonal price pattern for slaughter cattle is highest at Los Angeles from March through September. At Ogden, prices followed a later seasonal pattern with highest prices occurring during the months of April through October. For feeder cattle, highest prices at Los Angeles occurred from mid February to mid July, while at Ogden highest prices occurred from March through August.

An analysis of price differentials for slaughter steers and heifers between Ogden and Los Angeles revealed that there was a significant seasonal pattern between the two markets. Price differential between Ogden and Los Angeles was greatest during the months of January through June. For feeder steers there was no seasonal pattern of price differential between Ogden and Los Angeles.

The price differential between the Ogden and Los Angeles markets shows a downward trend for the period 1956-1960. The narrowing of the price differential between the Ogden and Los Angeles livestock markets is the result of Utah's growing population relative to cattle numbers along with improved market information, transportation, and market organization.

The information gained from this study should be of value to farmers, ranchers, and feedlot operators by pointing out price characteristics between the Ogden and Los Angeles markets so that they may market their cattle for greatest net returns.

## CONCLUSIONS

Results of this study show the price differential between the Ogden and Los Angeles livestock markets has fluctuated considerably during the 1956-1960 period, and that Utah producers must have a knowledge of the marketing costs associated with their alternative markets and remain alert to alternative market price differential changes if they are to market for greatest net returns.

Producers of Choice and Good grade slaughter steers should keep close watch of price differentials between the Ogden and Los Angeles markets since this is the type of cattle for which the price differential between Ogden and Los Angeles has been greatest. This indicates the strong preference of the Los Angeles market for slaughter steers, especially those grading Good.

Producers of Choice and Good grade slaughter heifers can generally expect price differentials for this type of cattle to favor the Ogden market since it was found that there is a stronger preference for slaughter heifers at the Ogden market than at Los Angeles.

A statistical test of price data revealed a significant seasonal price pattern for slaughter steers and heifers at both Ogden and Los Angeles during 1958-1960; however, whether or not it will continue is not known since an abrupt unexplainable change in seasonal pattern between these years and the significant seasonal pattern of 1956 and 1957 may occur in the future. In general though, producers can expect prices at Los Angeles to be highest from March through September and at Ogden from April through October. From 1956-1960, there was a significant

seasonal pattern of price differential between Ogden and Los Angeles for slaughter cattle. Price differential was usually greatest from January through June. Utah producers should plan on marketing their slaughter cattle so as to take advantage of highest seasonal prices.

The downward trend of price differential between the Ogden and Los Angeles markets indicates the growing strength of the Ogden market as compared to Los Angeles. Utah's growing population along with improved market information, transportation, and market organization may continue to narrow the price differential between the two markets.

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