

**AN ANALYSIS OF OKLAHOMA**

**EGG PRICES**

AN ANALYSIS OF OKLAHOMA  
EGG PRICES

By

JULIAN MEDIL VALDEZ

Bachelor of Science

Oklahoma Agricultural and Mechanical College

Stillwater, Oklahoma

1938

Submitted to the Department of Agricultural Economics

Oklahoma Agricultural and Mechanical College

In Partial Fulfillment of the Degree of

MASTER OF SCIENCE

1941

LIBRARY  
A. M. COLLEGE  
STILLWATER, OKLA

OKLAHOMA  
AGRICULTURAL & MECHANICAL COLLEGE  
LIBRARY  
OCT 6 1941

APPROVED BY:

  
Chairman, Thesis Committee

  
Member of the Thesis Committee

  
Head of the Department

  
Dean of the Graduate School

137034

### Preface

The economic problems of the poultry and egg industry are important to Oklahoma farmers in spite of the fact that the income from poultry and eggs ranks only seventh among the sources of Oklahoma farm income. In common with other farm enterprises the management of the poultry enterprise within the agricultural set-up is complicated by price problems.

Special difficulties arise in making a study of Oklahoma egg prices, because satisfactory statistical data for egg receipts and wholesale prices at Oklahoma City were not available. The Daily Oklahoman price quotation taken on the fifteenth of each month was used as a Central Market price for eggs per dozen at Oklahoma City. Data for producer's prices, for both the United States and Oklahoma, were found available for analysis.

This work has been greatly facilitated by Mr. G. P. Collins, Instructor in Agricultural Economics, Oklahoma Agricultural and Mechanical College, who has given advice, encouragement and supervision throughout the study. Also, much timely advice was given by Dr. L. S. Ellis, Professor of Agricultural Economics, and Vice-Director of Oklahoma Agricultural Experiment Station, Stillwater.

I am further indebted very greatly to Dr. Morris M. Blair, Professor of Economics and Assistant Head of the Department of Economics, Oklahoma Agricultural and Mechanical College, for some highly valuable suggestions which have resulted in great improvement of some parts of this report.

OUTLINE OF CONTENTS

Preface.....	page iv
Contents.....	v
List of Illustrations.....	vii-viii
List of Tables.....	ix-x
Introduction.....	1

CHAPTER I

Poultry and Egg Production in Oklahoma.....	3
a. Sources of Information.....	3
b. Purpose of the Report.....	3
c. Chicken Production in Oklahoma.....	3
1. Geographic Distribution of Chickens in Oklahoma.....	3
2. Average Number of Chickens Per Farm by Counties in Oklahoma.....	4
3. Average Number of Chickens Per Acre of Land in Farm.....	11
d. Egg Production in Oklahoma.....	16
1. Changes in the Number of Eggs Produced in Farm.....	16
2. Factors Affecting Egg Productions, 1919-1929; 1930-1934; and 1935-1939.....	26
3. Average Production of Eggs Per Chicken Over Three Months Old in Farm by Counties.....	31
4. Average Number of Eggs Produced Per Farm by Counties in Oklahoma.....	37

CHAPTER II

General Analysis of Oklahoma Egg Prices.....	42
a. Movement of Oklahoma Egg Prices, 1910-1938.....	42
b. Comparison of the United States and Oklahoma Farm Price of Eggs, 1910-1938.....	46
1. Price Movement Between United States and Oklahoma Egg Prices.....	46
2. Factors Affecting Egg Prices from 1910 to 1915.....	50
3. Factors Affecting Egg Prices from 1916 to 1920.....	50
4. Factors Affecting Egg Prices from 1921 to 1922.....	50
5. Factors Affecting Egg Prices from 1923 to 1930.....	50
6. Factors Affecting Egg Prices from 1931 to 1933.....	53
7. Factors Affecting Egg Prices from 1934-1938.....	53

CHAPTER III

Seasonal Variations of Oklahoma Egg Prices Under Different Conditions.....	54
a. When the General Price Level is Rising and When It is Falling.....	54
b. In Years Following Both Large Feed Crops and Small Feed Crops in Oklahoma.....	57

	page
c. When the General Price Level Is Rising in Years Following Large Feed Crops and Small Feed Crops.....	57
d. When the General Price Level is Falling in Years of Large Feed Crops and in Years of Small Feed Crops.....	60
e. Comparison of Seasonal Variation of the Oklahoma City Wholesale and of The Oklahoma Farm Price of Eggs.....	65
f. Comparison of the Index of Seasonal Variations in Egg Prices at Oklahoma City and at The Five Central Market With the Average Egg Receipts at Five Central Markets.....	70
1. Reason For Greater Fluctuation of the Oklahoma City Wholesale Prices than of Prices at Five Central Markets.	70
2. Factors Affecting Prices at Five Central Markets and at Oklahoma City.....	77
 CHAPTER IV 	
Movement of Eggs From Oklahoma and Its Relationship to Egg Production and Prices.....	78
a. Annual Egg Shipment From Oklahoma to Chicago.....	78
b. Yearly Egg Production in Oklahoma.....	78
 CHAPTER V 	
Cold Storage.....	81
a. Importance and Uses of Cold Storage.....	81
b. Factors Responsible for the Creation of Cold Storage.....	81
c. Cold Storage Holding Creates Time Utility.....	81
d. Effect of Cold Storage Holding Upon The Surplus Production and Prices.....	82
e. Movement of Eggs into Cold Storage.....	82
f. Differences in Seasonal movement of the United States and that of Oklahoma Farm Prices.....	87
 CHAPTER VI 	
Summary and Conclusions.....	88
Bibliography.....	90

LIST OF FIGURES

PAGE

1. Number of Chickens on Farms in Oklahoma by Counties, 1934..... 5

2. Average Number of Chickens Over Three Months Old Per farm by Counties in Oklahoma, 1934..... 8

3. Type of Farming Areas in Oklahoma..... 9

4. Average Number of Chickens Over Three Months Old Per Acre of Land in Farms by Counties in Oklahoma, 1934..... 14

5. Population of Principal Cities in Oklahoma, According to Census Years, 1910, 1920, and 1930..... 18

6. Percentage Change in Egg Production Between 1919 and 1924 by Counties in Oklahoma..... 23

7. Percentage Change in Egg Production Between 1924 and 1929 by Counties in Oklahoma..... 24

8. Percentage Change in Egg Production Between 1929 and 1934 in Oklahoma..... 25

9. Index Number of Hens and Pullets on Farms, The Number of Eggs Produced on Farms, The Farm Price of Eggs Per Dozen, and the Average Production of Five Most Important Grain Feeds in Oklahoma..... 29

10. Oklahoma Grains, Feed-Egg Ratio, 1920-39..... 30

11. Average Production of Eggs Per Chicken Over Three Months by Counties in Oklahoma..... 36

12. Average Number of Eggs Produced Per Farm by Counties in Oklahoma, 1934..... 40

13. Trend of the Oklahoma Farm Price of Eggs, 1910-38..... 44

14. Average Yearly Farm Price of Eggs, United States and Oklahoma, 1910-1936..... 47

15. Seasonal Variations of the Oklahoma Farm Price of Eggs in Years When the General Price Level is Falling and When it is Rising..... 56

16. Seasonal Variations of Oklahoma Egg Prices in Years Following Big Feed Crops and Small Feed Crops in Oklahoma..... 58

## LIST OF FIGURES (CONTINUED)

	PAGE
17. Seasonal Variations of Oklahoma Farm Price of Eggs in Years Following Big Feed Crops and Small Feed Crops When the General Price Level is Rising.....	61
18. Seasonal Variations of Oklahoma Farm Prices of Eggs in Years Following Big Feed Crops and Small Feed Crops, When the General Price Level is Falling.....	63
19. Comparison of the Seasonal Variations Between the Oklahoma City Wholesale and the Oklahoma Farm Price of Eggs, 1930-1939..	67
20. Egg Receipts at Chicago by Months, 1929-38.....	68
21. Seasonal Variation in the Index of Wholesale Prices of Eggs in Five Leading Markets and Oklahoma City. Based on Monthly Prices, 1929-38.....	76
22. Eggs, Shelled and Frozen: Storage Holdings, United States, 1929-1938.....	83



## LIST OF TABLES

	page
1. Average Number of Chickens Over Three Months Old per Farm in Oklahoma by Counties, 1934.....	6
2. Total Land in Farms (Acres), Total Number of Chickens, And Average Number of Chickens over Three Months Old Per Acre of Land in Farms in Oklahoma by Counties, 1934.....	12
3. Yearly Production and Indices of the Five Important Grain Crops in Oklahoma, 1920-1938. (1924-28 = 100).....	15
4. Population of Principal Cities in Oklahoma, According to Census Years 1930, 1920, 1910 and 1900. (A minus sign (-) denotes decrease).....	17
5. Eggs Produced on Farms in Oklahoma by Counties, 1919, 1924, 1929, and 1934, and Percent of Change Between Census Years....	19
6. Annual Index Number of Hens and on Farms, the Number of Eggs Produced on Farms, Index of Oklahoma Farm Price Per Dozen, and the Average Production of Five Most Important Grain feeds in Oklahoma.....	27
7. Oklahoma Grains Feed-Egg Ratio, 1920-39.....	32-33
8. Number of Chickens over three months old, Eggs Produced, and Average Egg Production per Chicken over three months old in Oklahoma by Counties, 1934.....	34
9. Number of Farms Reporting, Total Eggs Produced, And Average Number of Chicken Eggs Produced per Farm in Oklahoma by Counties, 1934.....	38
10. Oklahoma Farm Price of Eggs, 1910 to 1938.....	43
11. United States Farm Price of Eggs, 1910-1938.....	49
12. Indices of Employment and Payrolls in Manufacturing Industries, United States, 1920 to 1938 (Monthly Average 1923-25 = 100....	51
13. Seasonal Variation of Oklahoma Egg Prices in Years when the General Price Level is Rising.....	55
14. Seasonal Variation of Oklahoma Egg Prices in Years Following Small Feed Crops in Oklahoma.....	59
15. Seasonal Variation of Oklahoma Farm Price of Eggs in Years Following Big Feed Crops when the General Price Level is Rising.....	62

16.	Seasonal Variations of Oklahoma Egg Prices in Years Following Big Feed Crops and When the General Price Level is Falling.....	64
17.	Seasonal Variations Between Oklahoma City Wholesale and Oklahoma Farm Price of Eggs, 1930-39.....	66
18.	Eggs: Receipts at Chicago by Months, 1929-38.....	69
19.	Eggs, Wholesale Price Per Dozen at Five Central Markets, and Oklahoma City, 1929-38.....	71
20.	Eggs: Average Receipts at Five Leading Markets by Months, 1929-38.....	75
21.	Shipment of Eggs from Oklahoma to Four Central Markets, The Annual Production of the State and the Chicago Wholesale Prices, 1922-39.....	79
22.	Eggs, Shelled and Frozen: Cold-Storage Holdings, United States, 1929-38.....	84
23.	Eggs: Oklahoma Farm Price of Eggs Per Dozen.....	85
24.	Eggs: Average Monthly Price Per Dozen Received by Farmers, United States, 1929-38.....	86

## Introduction

An analysis of Oklahoma egg prices, to be complete, must contain an analysis of factors which make the prices. In order to understand the movement and fluctuations of a given price series, adequate knowledge of the conditions which existed during the time of the price series is necessary.

The geographical distribution of the poultry and egg enterprise is considered in Chapter I. Sources of information, purpose of the report, method and scope of the study are briefly explained. Shifts in the number of eggs by counties and State from 1919 through 1934, the average number of chickens per farm and per acre of land in farms, the average production of eggs per chicken, and per farm by counties in Oklahoma are calculated, analyzed, and explained.

The general analysis of Oklahoma egg prices is considered in Chapter II. The movement of Oklahoma egg prices, how they compare with the United States farm prices, and the factors affecting egg prices from 1910 through 1938 are all considered in this section. The seasonal variation of Oklahoma egg prices under different conditions and the factors affecting changes in price are next considered in Chapter III. In addition, comparison of seasonal variation of the Oklahoma City wholesale, and the Oklahoma farm price of eggs and comparison of the seasonal variation in egg prices at Oklahoma City and the Five Central Markets are also included in this chapter.

In Chapter IV, the shipment of eggs from Oklahoma to Chicago, its relationship to egg production, and the factors affecting the volume of egg shipments are analyzed and explained. Chapter V discusses the

economic importance and uses of cold storage, the factors responsible for its existence, and its effect upon surplus production and prices.

## CHAPTER I

### Sources of Information

Most of the material forming the basis of this report was obtained from secondary sources of statistical data each of which is cited separately as it is used. These data were supplemented by personal interviews held with the Director of the Extension Division, the Vice-Director of the Oklahoma Agricultural Experiment Station, the members of the faculties of the Departments of Agricultural Economics, and Poultry of the Oklahoma Agricultural and Mechanical College, and other agencies closely connected with the poultry and egg industry. Unfortunately reliable information from many of the poultry plants in Oklahoma City and other places could not be obtained in sufficient detail to be of value in this study.

### Purpose of This Thesis

The purpose of the study is: (1) To secure the proper kind of data for analysis of the price aspects of the Oklahoma egg industry; (2) To determine the effect on egg prices of factors external to the industry; and (3) Especially to analyze the seasonal variation of Oklahoma egg prices.

### Chicken Production in Oklahoma

Geographic Distribution of Chickens in Oklahoma, 1934. In general, grain producing areas undoubtedly offer the best location for chicken production because of the abundant supply of feeds. Thus, the heavy chicken production in Oklahoma is found in the north central part where grain crops predominate. Poultry utilizes feeds which would otherwise go to waste.

They pick up grain wasted by livestock, and utilize native grass in the spring, summer, and early fall.

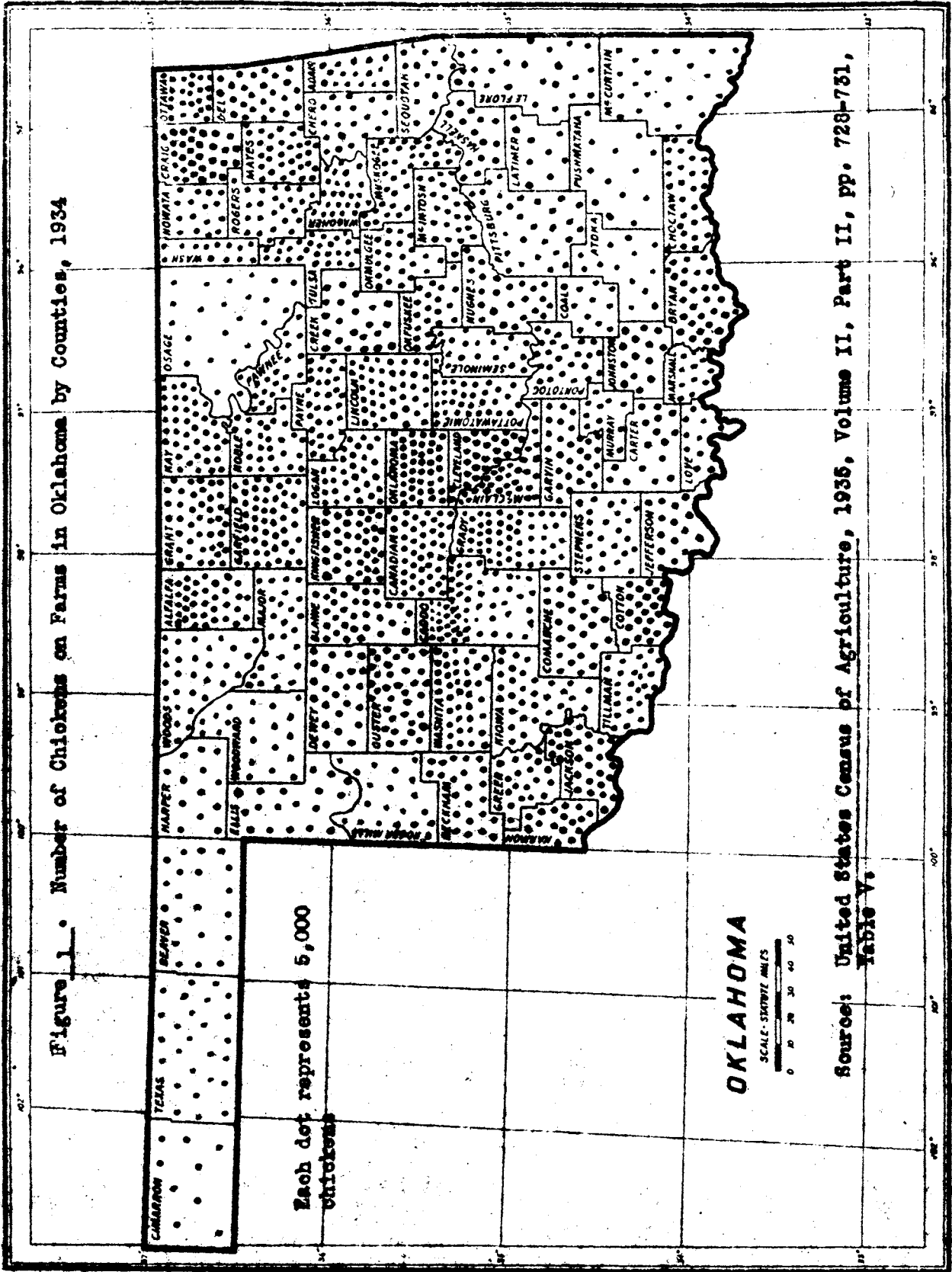
The number of chickens on farms by counties in 1934 is shown by a dot chart, Figure I. It will be noted that chicken production is rather evenly distributed throughout the state, but the chicken population in the southeast and northwest corners of the state was not as dense in 1934 as it was in the rest of the state. Chicken production tends to be more concentrated around the urban markets, such as Oklahoma City, Tulsa, Enid, and Muskogee. The most thickly populated section of the state runs diagonally from the northeast to the south central part.

Average Number of Chickens Per Farm by Counties in Oklahoma. The average number of chickens per farm by counties in Oklahoma is found by dividing the number of farms reporting into the total number of chickens (Table I). Counties were grouped into class intervals. Those having an average number of chickens per farm up to 30.5 are included in the first group. Counties in which the averages range from 31.5 to 60.5 chickens per farm are included in the second group. The last group include those with an average up to 90.5 (Figure II). The first group is situated in the southeast corner of the state where small farms predominate. This section of the state is mountainous and wooded. Cotton, self-sufficing farms or National Forests are located here. (Figure III and Key). Farmers are mostly self-sufficing, cultivating small acreages of land due to poor soil conditions. The chief source of their income is from cotton and livestock. Farmers in the southeastern part of the state do not raise enough chickens or eggs for their own use.

---

1/ Verbal statement by Errol D. Hunter, Acting Farm Management Specialist, Extension Division, Oklahoma Agricultural and Mechanical College.

Figure 1. Number of Chickens on Farms in Oklahoma by Counties, 1934



Source: United States Census of Agriculture, 1935, Volume II, Part II, pp. 728-751, Table V.

Table 1 - Average Number of Chickens over Three Months Old Per Farm in Oklahoma by Counties, 1934

State and County	Number of Farms reporting	Number of chickens	Number of chickens over three months per farm
Oklahoma	191,484	9,655,699	50.42
Adair	2,184	78,887	36.05
Alfalfa	1,968	169,143	85.96
Atoka	2,199	62,936	28.62
Beaver	1,760	100,241	56.96
Beckham	2,638	118,830	45.04
Blaine	2,980	155,923	65.63
Boyan	3,736	139,146	37.25
Caddo	4,094	303,671	61.65
Canadian	2,518	218,394	86.75
Carters	2,638	81,326	30.83
Cherokee	2,518	98,929	39.29
Choctaw	3,146	90,067	28.45
Cimarron	672	46,067	67.09
Cleveland	2,014	125,991	62.56
Coal	1,678	55,332	32.97
Comanche	2,448	143,070	58.49
Cotton	1,806	107,897	59.74
Grant	2,239	155,156	69.30
Graves	3,577	108,809	32.22
Greene	2,464	180,418	73.22
Harper	2,834	125,912	50.08
Heald	2,015	121,843	60.47
Henry			
Illia			
Lincoln	1,630	89,768	58.67
McCurtain	2,769	248,807	90.18
May	3,510	144,687	41.28
McFadyen	4,496	266,612	59.14
Grady	2,270	203,171	89.80
Greene	1,619	93,780	51.86
Harmon	1,510	77,699	51.46
Harper	1,012	66,797	66.00
Harshall	2,248	69,627	30.97
Hepler	2,764	112,661	40.77
Jackson	2,363	141,267	59.78
Jefferson	1,866	74,796	40.10
Johnston	1,630	68,387	41.96
Key	2,701	204,672	75.49
Kingfisher	2,351	194,248	82.62
Kiowa	2,696	156,337	57.99
Latimer	1,286	41,843	32.56
LeFlore	4,593	128,309	28.04
Lincoln	4,045	211,961	52.40

(Continued)



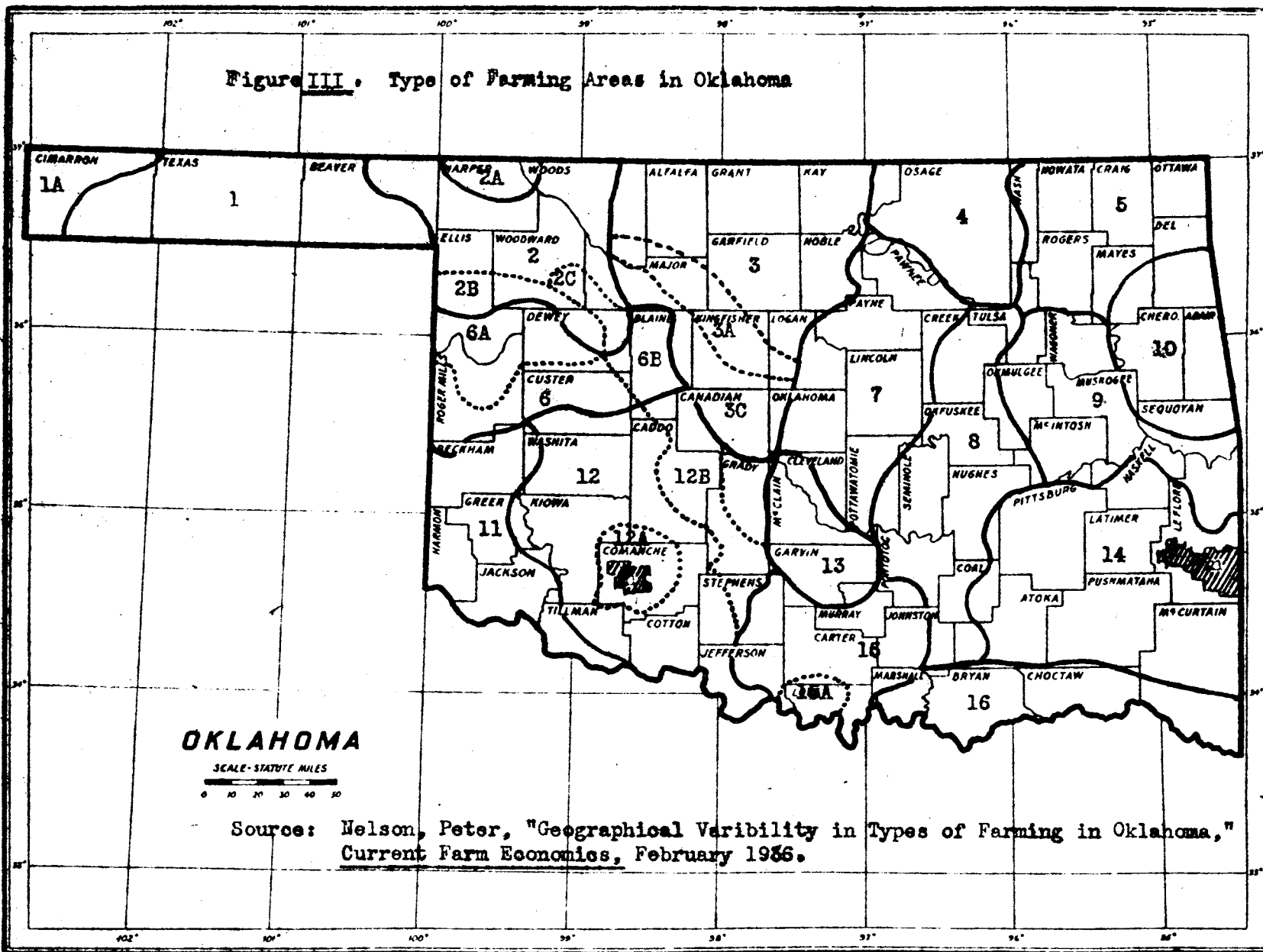
Table 1 . (Continued) Average Number of Chickens over  
Three Months Old Per Farm in Oklahoma by Counties,  
1934

State and County	: Number of : farms reporting	: Number of chickens : over three months	: Number of chickens : per farm
Logan	2,382	152,888	64.18
Love	1,588	49,709	31.30
McClain	2,696	156,337	57.99
McCurtain	4,594	114,073	24.83
McIntosh	3,112	112,800	36.25
Major	1,939	128,050	66.04
Marshall	1,359	49,312	36.28
Mayes	2,623	157,278	59.96
Murray	1,074	48,692	45.34
Muskogee	4,002	157,044	39.24
Noble	1,716	135,178	78.77
Nowata	1,423	79,347	55.76
Okfuskee	3,098	97,907	31.60
Oklahoma	3,423	198,524	58.00
Okmulgee	3,218	108,950	33.86
Osage	2,355	113,135	48.04
Ottawa	1,828	117,601	64.40
Pawnee	1,934	100,159	51.79
Payne	2,649	164,137	61.96
Pittsburg	3,934	141,633	36.00
Pontotoc	2,856	120,221	42.09
Pottawatomie	3,972	171,197	43.10
Pushmataha	2,089	64,332	30.50
Roger Mills	2,061	100,105	48.57
Rogers	2,377	121,551	51.14
Seminole	2,843	89,169	31.36
Sequoyah	2,824	74,394	26.34
Stephens	2,863	120,982	42.26
Texas	1,570	129,090	82.22
Tillman	2,107	129,731	61.57
Tulsa	2,733	135,184	49.46
Wagoner	2,830	122,748	43.37
Washington	1,376	64,935	47.19
Washita	3,525	199,836	56.69
Woods	1,871	145,718	77.88
Woodward	1,696	101,577	59.89

Source: United States Census of Agriculture, 1935, Volume II, pp. 728-731, Table V.



Figure III. Type of Farming Areas in Oklahoma



## Key to Figure III

## TYPE OF FARMING AREAS, OKLAHOMA

1. Cash grain and range livestock.
  - 1-A. Largely range livestock.
2. Somewhat broken topography, some small grain, feed crops, livestock.
  - 2-A. Cash wheat primarily.
  - 2-B. Cash wheat primarily.
  - 2-C. Sandy areas general farming.
3. Cash grain, general farming.
  - 3-A. A wooded areas of sandy soil, general farming, some cotton produced in this strip.
4. Range livestock.
5. General farming, livestock, dairy poultry and self-sufficing.
6. Cotton, cash grain, general farming, livestock.
  - 6-A. Rough sandy area, scarcely any farming some range livestock.
  - 6-B. Wooded area, general farming and cotton.
7. General farming, cotton, livestock, dairy and poultry.
8. Cotton, general farming, self-sufficing, dairy, (an area of generally poor soil, except on small bottoms).
9. Cotton, some dairy, potatoes, self-sufficing.
10. Some fruit, general farming, dairy and poultry, self-sufficing. (Rough wooded land).
11. Cotton, predominantly.
12. Cotton, some grain, some dairy and poultry.
  - 12-A. Range livestock.
  - 12-B. Sandy, wooded section, cotton, general farming.
13. Cotton, livestock broomcorn.
14. Cotton, self-sufficing, livestock. (rough mountain and wooded area), national forests.
15. Range livestock, self-sufficing.
  - 15-A. Cotton.
16. Cotton, general farming.

Source: Nelson, P., "Geographical Variability in Types of Farming in Oklahoma," Current Farm Economics, February 1936, pp. 3-15.

Average Number of Chickens Per Acre of Land in Farms. The average number of chickens per acre of land in farms is shown in Table 2. An observation of the table shows that there is not much variation in the total number of chickens per farm, except in Beaver, Osage, Cimarron, Ellis, Harper, and Texas counties. The state is divided into three major groups according to the number of chickens per acre in farms by counties (Figure IV). The first group including counties having from 0 - .20 chickens per acre is found mostly in the northwest corner of the state and in Jefferson, Love, and Osage Counties. The second group with .21 to .40 chickens per acre contains by far the greatest number of counties and occupies about two-thirds of the state. The last group represents the highest average number of chickens per acre of land in farms by counties. It is situated in the central part and northeast corner of the state.

Nearly all counties, except Ellis, Love, and Jefferson, included in group number one are large. Those areas which include group number one are largely range livestock. Poultry and egg production is of secondary importance in these sections of the state (Figure IV). According to the Type of Farming map (Figure IV) the areas occupied by number two group are largely characterized by cash grain, general farming, and livestock although in some districts cotton is an important cash crop. However, there is an exception to this general rule. In the southeastern part of the state, cotton, self-sufficiency, and livestock raising characterize the types of farming. Crop statistics show that nearly all areas occupied by the second group raised the five important grain feeds in Oklahoma (Table 3). Thus, in general, counties in group number two are chicken producers. The last group is found in a small spot of central Oklahoma and in the northeastern corner of the state. This group represents the highest average number of chickens per acre of land in farms. It will be observed

Table 2. Total Land in Farms (Acres), Total Number of Chickens,  
And Average Number of Chickens over Three Months Old Per Acre  
of Land in Farms in Oklahoma by Counties, 1934

State and county	Total land in farms (acres)	Total number of chickens	Number of chickens per acre of farm land
Oklahoma	35,334,870	9,655,699	.27
Adair	174,099	78,687	.45
Alfalfa	499,232	169,163	.34
Atoka	292,879	62,956	.21
Beaver	1,077,774	100,241	.09
Beckham	545,574	118,830	.22
Blaine	553,344	155,923	.28
Bryan	454,602	139,165	.31
Caddo	797,823	303,671	.38
Canadian	529,604	216,394	.41
Carter	382,341	81,326	.21
Cherokee	190,632	98,929	.52
Choctaw	303,991	90,067	.30
Cimarron	1,273,516	45,087	.04
Cleveland	300,762	125,991	.42
Coal	249,220	55,332	.22
Cossanoche	558,474	143,070	.26
Cotton	397,717	107,887	.27
Craig	414,660	155,155	.37
Creek	400,525	108,809	.27
Custer	607,029	180,418	.30
Delaware	262,936	125,912	.48
Dewey	576,499	121,843	.21
Ellis	771,820	89,768	.12
Garfield	652,602	248,807	.38
Garvin	444,043	144,887	.33
Grady	637,322	265,812	.42
Grant	619,666	203,171	.33
Greer	374,034	93,780	.25
Harmon	328,494	77,699	.24
Harper	619,663	66,797	.11
Haskell	245,996	69,627	.28
Hughes	352,001	112,681	.32
Jackson	472,072	141,267	.30
Jefferson	461,872	74,796	.16
Johnston	313,416	68,387	.22
Key	574,702	204,672	.36
Kingfisher	545,493	194,248	.36
Kiowa	634,804	156,337	.25
Latimer	139,729	41,843	.30
LeFlore	390,119	128,809	.33
Lincoln	567,311	211,951	.37

(Continued)

Table 2 . (Continued) Total Land in Farms (Acres), Total Number of Chickens, And Average Number of Chickens over Three Months Old Per Acre of Land in Farms in Oklahoma by Counties, 1934

State and county	Total land in farms (acres)	Total number of chickens	Number of chickens per acre of farm land
Logan	436,253	152,888	.35
Love	244,449	49,709	.20
McCain	339,366	156,337	.47
McGurtain	313,364	114,073	.36
McIntosh	329,907	112,800	.34
Major	568,443	128,060	.23
Marshall	206,066	49,314	.24
Mayes	326,797	157,278	.48
Murray	184,276	48,692	.26
Muskogee	398,645	157,044	.39
Noble	406,790	135,176	.33
Nowata	275,578	79,347	.29
Okfuskee	335,427	97,907	.29
Oklahoma	389,286	198,524	.52
Oklmulgee	307,949	108,950	.35
Osage	1,166,406	113,136	.10
Ottawa	220,817	117,601	.53
Pawnee	350,713	100,159	.29
Payne	414,742	164,137	.40
Pittsburg	489,122	141,633	.29
Pontotoc	368,897	120,221	.32
Pottawatomie	426,391	171,197	.40
Pushmataha	225,347	64,332	.28
Roger Mills	679,501	100,106	.15
Rogers	362,668	121,551	.34
Seminole	264,224	89,169	.34
Sequoyah	232,099	74,394	.32
Stephens	450,176	120,962	.27
Texas	1,245,742	129,090	.10
Tillman	532,530	129,731	.24
Tulsa	272,532	135,184	.50
Wagoner	305,756	122,748	.41
Washington	205,935	64,935	.32
Washita	631,018	199,838	.32
Woods	732,168	144,718	.20
Woodward	728,198	101,577	.14

Source: United States Census of Agriculture, 1935, Vol. II, pp. 722-731, Table V.





Table 3 . Yearly Production and Indices of the Five Important  
Grain Crops in Oklahoma, 1920-1938  
(1924-28 = 100)

Year	Corn	Wheat	Oats	Sorghums	Barley	Total	Index
	1/	1/	1/	1/	1/		2/
(1,000 Tons) 3/							
1920	2,091	1,677	732	983	46	1642.66	133
1921	2,257	1,599	450	729	42	1635.68	132
1922	1,635	962	364	548	39	1149.89	93
1923	984	1,270	298	512	48	878.02	71
Base Period							
1924	1,442	1,713	432	546	88	1229.06	99
1925	716	899	354	398	30	656.94	53
1926	1,515	2,209	484	967	57	1432.69	116
1927	2,046	1,052	311	977	24	1418.57	115
1928	1,751	1,937	336	861	25	1455.61	118
1929	1,332	1,538	306	574	27	1119.26	90
1930	939	1,121	379	366	18	817.07	66
1931	1,395	2,248	631	364	53	1330.92	107
1932	1,841	1,428	384	426	43	1343.81	108
1933	561	946	332	333	16	578.54	47
1934	316	1,116	335	207	38	471.79	37
1935	724	992	573	373	38	711.33	57
1936	330	626	325	168	19	415.82	34
1937	867	1,964	438	387	49	978.21	79
1938	982	1,750	439	356	82	985.39	80

Source: U.S.D.A., Agricultural Statistics, 1939, p. 9, Table 1; p. 44 Table 45; p. 46, Table 46; p. 59 Table 68; p. 70, Table 85; p. 98, Table 128.

- 1/ The yearly total production of corn, wheat, oats, sorghums, and barley are converted from bushels to pounds and from pounds to tons.
- 2/ Index of production of the five important grains weighted in proportion to each use or grain feed for the average of all Oklahoma. (Corn represents 50 percent of total grain feed, wheat 22 percent, oats 15 percent, grain sorghums 12 percent, and barley 10 percent, total 100 percent.)
- 3/ Figures rounded to the nearest ton.

in Figure IV that the areas occupied by the last group are located close to a central market, such as Oklahoma City or Tulsa, and where the greatest concentration of the state population is found.

Table 4, gives the population of the sixteen important cities and their locations in Oklahoma. There is a greater concentration of chickens produced around the territories occupied by each of those cities (Figure V). Increase in population is ultimately followed by an increased demand for poultry and egg products. A few specialized poultry raisers are found near large cities like Oklahoma City and Tulsa. Besides, Oklahoma City and Tulsa are the two leading central shipping points in the state. A greater advantage in transportation cost is gained by producers near the shipping point compared with those who are situated two or three times further from the consuming and shipping centers. However, in our modern system of distribution, transportation is no longer as great a problem among producers as it was ten or fifteen years ago.

#### Egg Production in Oklahoma

The production of chicken eggs on farms by counties in the state is given in Table 5 for the Census periods, 1919, 1924, 1929, and 1934. Observation of the table shows that the number of dozen eggs produced on farms has fluctuated a great deal in some counties. This is especially noticeable in the 1934 census data. The drought of 1934 probably accounts for this decrease. It forced many of the less efficient chicken producers to reduce the size of laying flocks due to temporary shortage and high cost of feed stuffs.

#### Changes in the Number of Eggs Produced on Farms by Counties and State.

The shift in the number of eggs produced on farms by counties between the census periods are also shown in Table 5. To illustrate the changes in production of eggs on farms by counties between the various census years,

Table 4. Population of Principal Cities in Oklahoma, According to Census  
 Years 1930, 1920, 1910 and 1900  
 (A Minus sign (-) denotes decrease)

City	1930	:Increase over :		1920	:Increase over :		1910	:Increase over :		1900
		:preceding :			:preceding :			:preceding :		
		:decennial :	:Percent:		:decennial :	:Percent:		:decennial :	:Percent:	
	:Number :			:Number :			:Number :			
1. Ada	11,261	3,249	40.6	8,012	3,663	84.2	4,349	-	-	1/
2. Ardmore	15,741	1,560	11.0	14,181	5,563	64.6	8,618	2,937	51.7	5,681
3. Bartlesville	14,763	346	2.4	14,417	8,236	133.2	6,181	5,483	785.6	698
4. Chickasha	14,099	3,920	38.6	10,179	- 141	-1.4	10,320	7,111	221.6	3,209
5. Enid	26,399	9,823	59.5	16,576	2,777	20.1	13,799	10,355	300.7	3,444
6. Lawton	12,121	3,191	35.7	8,930	1,142	14.7	7,788	-	-	1/
7. McAlester	11,804	1,172	11.0	10,632	-1,142	-9.7	11,774	11,128	1722.6	646
8. Muskogee	32,026	1,749	5.8	30,277	4,999	19.6	25,278	21,024	494.2	4,254
9. Oklahoma City	186,389	94,094	103.1	91,295	27,090	42.2	64,205	54,168	539.7	10,037
10. Okmulgee	17,097	-333	-1.9	17,430	13,254	317.4	4,176	-	-	1/
11. Ponca City	16,136	9,086	128.8	7,051	4,530	179.7	2,521	- 7	-0.3	2,528
12. Sapulpa	10,533	-1,101	-9.5	11,634	3,351	40.6	8,283	7,392	829.6	891
13. Seminole	11,459	10,605	1241.8	854	378	79.4	476	-	-	1/
14. Shawnee	23,283	7,935	51.7	15,348	2,874	23.0	12,474	9,012	280.3	3,462
15. Tulsa	141,258	69,183	96.0	72,075	53,893	296.4	18,182	16,792	1208.1	1,390
16. Nowata	10,401	8,861	584.3	1,520	498	48.7	1,022	-	-	1/

Source: United States Fifteenth Census of Population, Vol. 1, 1930, p. 878, Table II.

1/ Not available.



Table 5. Eggs Produced on Farms in Oklahoma by Counties, 1919, 1924, 1929, and 1934, and Percent of Change Between Census Years

State and county	1919 Dozens	Per- cent change:	1924 Dozens	Per- cent change:	1929 Dozens	Per- cent change:	1934 Dozens
State	45,440,017	13	51,477,222	56	80,513,723	-43	45,742,763
Adair	249,040	62	402,771	61	649,875	-54	298,220
Alfalfa	821,950	43	1,177,180	29	1,523,914	-38	940,780
Atoka	508,410	-37	318,843	20	382,898	-53	180,078
Beaver	926,191	-3	923,633	43	1,317,121	-58	552,027
Beckham	598,995	8	645,898	75	1,129,372		474,553
Blaine	615,570	-19	500,569	-19	1,122,433	-37	710,439
Bryan	872,178	-4	833,304	18	981,238	-52	465,840
Caddo	1,013,077	36	1,381,797	48	2,040,238	-27	1,482,455
Canadian	869,224	32	1,149,999	77	2,038,933	-48	1,058,201
Carter	401,009	28	512,624	50	771,046	-62	295,773
Cherokee	519,178	-21	409,866	74	711,375	-55	321,069
Choctaw	667,017	-54	305,872	103	620,227	-47	331,595
Cimarron	171,232	53	261,573	38	360,826	-42	208,900
Cleveland	515,106	6	545,261	77	982,726	-40	575,656
Coal	423,984	-32	287,154	37	393,698	-37	249,627
Comanche	559,574	86	1,043,244	-34	1,007,952	-21	795,558
Cotton	307,149	59	488,286	78	870,413	-43	494,809
Craig	730,317	14	832,284	40	1,161,842	-34	770,592
Creek	441,557	27	560,649	67	933,827	-54	434,140
Custer	732,277	42	1,043,396	71	1,783,001	-45	988,312
Delaware	620,972	-17	513,694	78	911,822	-34	599,010
Dewey	454,243	5	476,786	130	1,082,019	-56	625,344
Ellis	682,200	20	547,475	90	1,042,272	-55	465,753
Garfield	1,118,282	33	1,491,669	44	2,148,674	-34	1,452,022
Garvin	648,937	-5	617,265	79	1,103,275	-44	599,777
Grady	924,163	36	1,255,435	76	2,213,375	-38	1,371,188
Grant	1,033,561	37	1,418,619	18	1,676,863	-28	1,215,038
Greer	401,986	17	469,318	77	832,057	-47	439,433
Harmon	340,498	-9	310,652	101	625,288	-31	431,758
Harper	420,750	10	462,954	85	857,966	-62	327,274
Haswell	436,552	-38	270,516	82	478,830	-46	256,983
Hughes	618,892	-8	568,447	67	944,444	-36	604,535
Jackson	501,618	38	693,543	54	1,070,511	-30	744,734
Jefferson	211,694	111	446,237	40	625,703	-46	336,870
Johnston	444,725	-23	344,113	65	568,115	-28	411,175
Key	1,086,181	21	1,315,381	27	1,666,370	-34	1,095,807

(Continued)

Table 5 (Continued). Eggs Produced on Farms in Oklahoma by Counties, 1919, 1924, 1929, and 1934, and Percent of Change Between Census Years

State and county	1919 Dozens	Per- cent change	1924 Dozens	Per- cent change	1929 Dozens	Per- cent change	1934 Dozens
Kingfisher	944,176	15	1,089,276	43	1,556,766	-25	1,161,739
Kiowa	636,835	49	948,437	76	1,667,395	-56	726,253
Latimer	178,244	-9	162,664	98	321,500	-41	190,911
LeFlore	841,338	-28	606,477	34	814,979	-49	417,944
Lincoln	909,974	17	1,066,779	68	1,788,673	-43	1,015,472
Logan	653,478	48	966,033	31	1,265,450	-41	743,433
Love	253,921	39	155,648	152	392,351	-57	169,183
McClain	544,833	18	640,433	75	1,118,051	-33	745,310
McCurtain	579,901	-24	441,991	58	698,723	-48	364,019
McIntosh	609,757	-3	593,278	45	857,645	-47	451,853
Major	622,823	14	712,340	44	1,022,984	-35	666,275
Marshall	329,502	-41	194,407	129	445,106	-63	163,925
Mayes	526,078	40	736,617	63	1,199,212	-33	799,590
Murray	247,515	-19	199,579	85	368,469	-29	260,698
Muskogee	677,188	1	686,603	63	1,122,405	-44	629,928
Noble	585,115	42	828,835	31	1,082,062	-30	752,153
Nowata	347,991	10	382,758	83	700,918	-46	377,302
Oklfuskee	419,003	184	1,191,150	22	929,955	-50	466,016
Oklahoma	775,184	60	1,242,651	46	1,820,550	-41	1,071,523
Oklmulgee	354,541	69	600,384	31	763,624	-52	376,864
Osage	470,795	68	791,681	25	892,003	-48	481,635
Ottawa	530,222	-11	473,156	104	966,486	-39	585,178
Pawnee	543,280	-4	522,377	81	948,582	-48	492,636
Payne	827,927	23	1,018,575	41	1,431,383	-56	623,598
Pittsburg	763,702	-14	659,583	53	1,006,722	-43	576,380
Pontotoc	555,363	6	588,742	55	912,658	-48	472,754
Pottawatomie	908,644	-23	703,851	117	1,524,143	-47	801,441
Pushmataha	335,515	-14	288,463	49	429,460	-40	259,290
Roger Mills	374,998	30	485,939	92	932,168	-60	375,602
Rogers	554,564	-23	429,401	113	915,802	-40	545,578
Seminole	712,438	-49	366,139	120	804,966	-40	479,089
Sequoyah	426,130	-25	320,040	36	435,104	-41	253,592
Stephens	572,008	38	792,272	31	1,040,629	-50	517,144
Texas	757,773	27	960,163	40	1,341,911	-49	683,370
Tillman	482,074	41	678,583	46	994,062	-27	726,720
Tulsa	523,842	39	728,496	51	1,096,800	-36	701,100

(Continued)

Table 5 . (Continued). Eggs Produced on Farms in Oklahoma by Counties, 1919, 1924, 1929, and 1934, and Percent of Change Between Census Years

State and county	1919 Dozens	Percent change	1924 Dozens	Percent change	1929 Dozens	Percent change	1934 Dozens
Wagoner	447,919	-18	396,405	147	978,868	-39	594,073
Washington	194,931	51	294,174	54	452,862	-48	237,223
Washita	934,672	-.4	930,712	123	2,078,976	-54	949,398
Woods	920,625	19	1,091,951	48	1,616,336	-50	802,482
Woodward	577,909	19	686,138	67	1,147,427	-62	434,944

Source: U.S. Census of Agriculture 1935, Volume 2, pp. 728-731, Table V.  
 U. S. Census of Agriculture 1930, Volume 2, Part 2, pp. 1310-1315, Table IV.

the counties were grouped into six major classes, according to the percentage of change. Counties in which the number of dozen eggs decreased by 50 percent and over are included in the first group; counties with a decrease of 0 to 50 percent are included in the second group. Counties with increases in number of dozen eggs are divided into groups as follows: First group, up to 25 percent increase; second group, from 26 to 50 percent increase; third group, from 51 to 100 percent. Those with an increase of 100 percent and above are included in the last group. (Figures VI, VII, and VIII.)<sup>2/</sup>

There was a gradual increase in egg production between the census period, 1919 and 1924. From 1924 to 1929, the total production of eggs in Oklahoma increased to about 30 percent or about four times more than the production of the previous years. But, during the period 1929 and 1934, a precipitate drop in egg production came, not only in Oklahoma but all over the nation. The causes of the decline were: (1) The downswing of the business cycle--particularly in 1933, when the depression reached the very lowest point; and (2) the drought of 1934 which reduced the supply of feed and thus caused some farmers to reduce the number of chickens they had on farms. In addition, a sudden drop in chicken and egg prices from 1930 to 1933 made farmers even more pessimistic and cut down their production.

---

<sup>2/</sup> Figure VI illustrates percentage changes in egg production between 1919 and 1924. Figure VII illustrates percentage changes in egg production between 1924 and 1929. Figure VIII illustrates percentage changes in egg production between 1929 and 1934.



Figure VI. Percentage Change in Egg Production Between 1919 and 1924 by Counties in Oklahoma

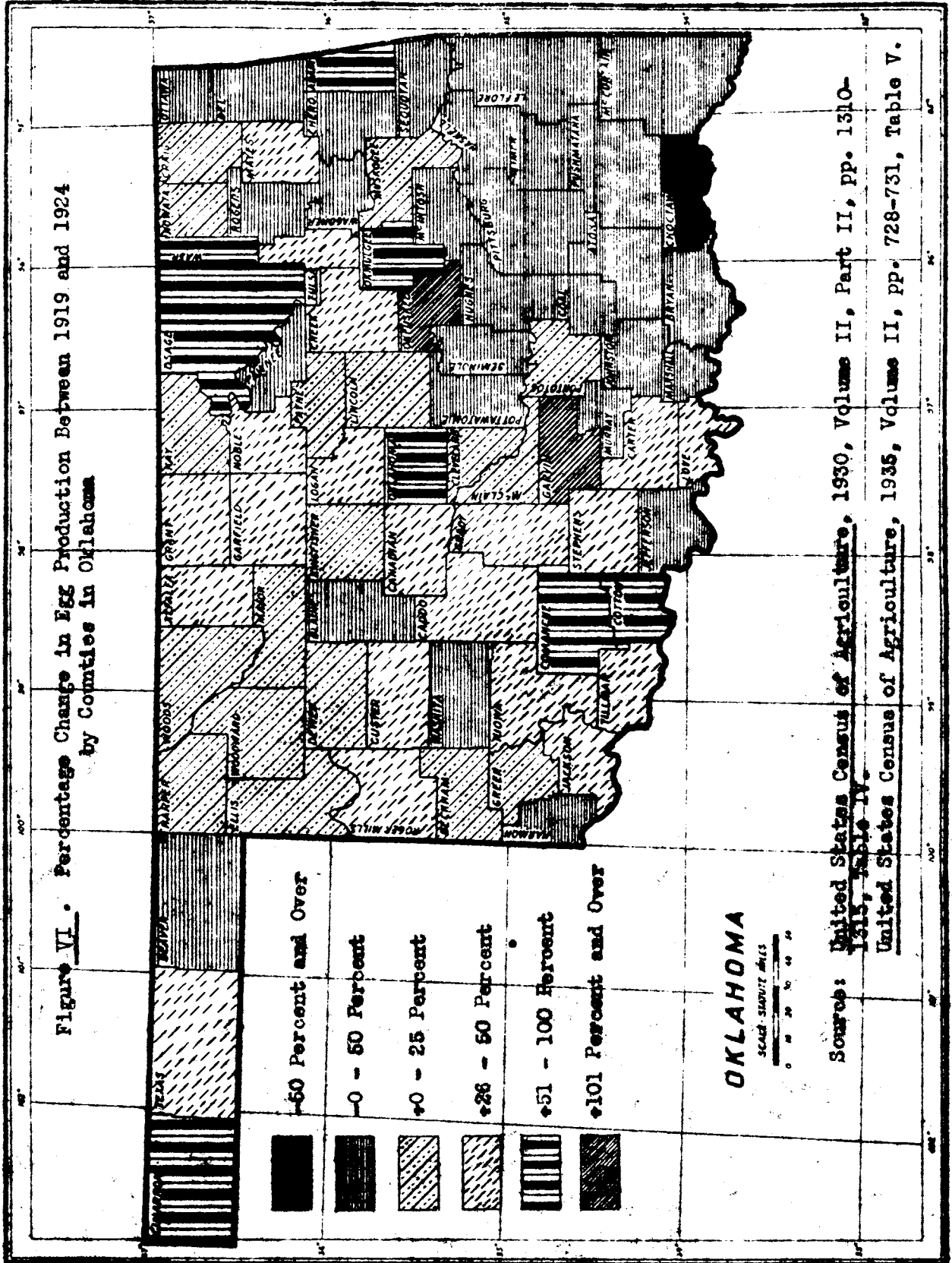


Figure VII. Percentage Change in Egg Production Between 1924 and 1929 by Counties in Oklahoma

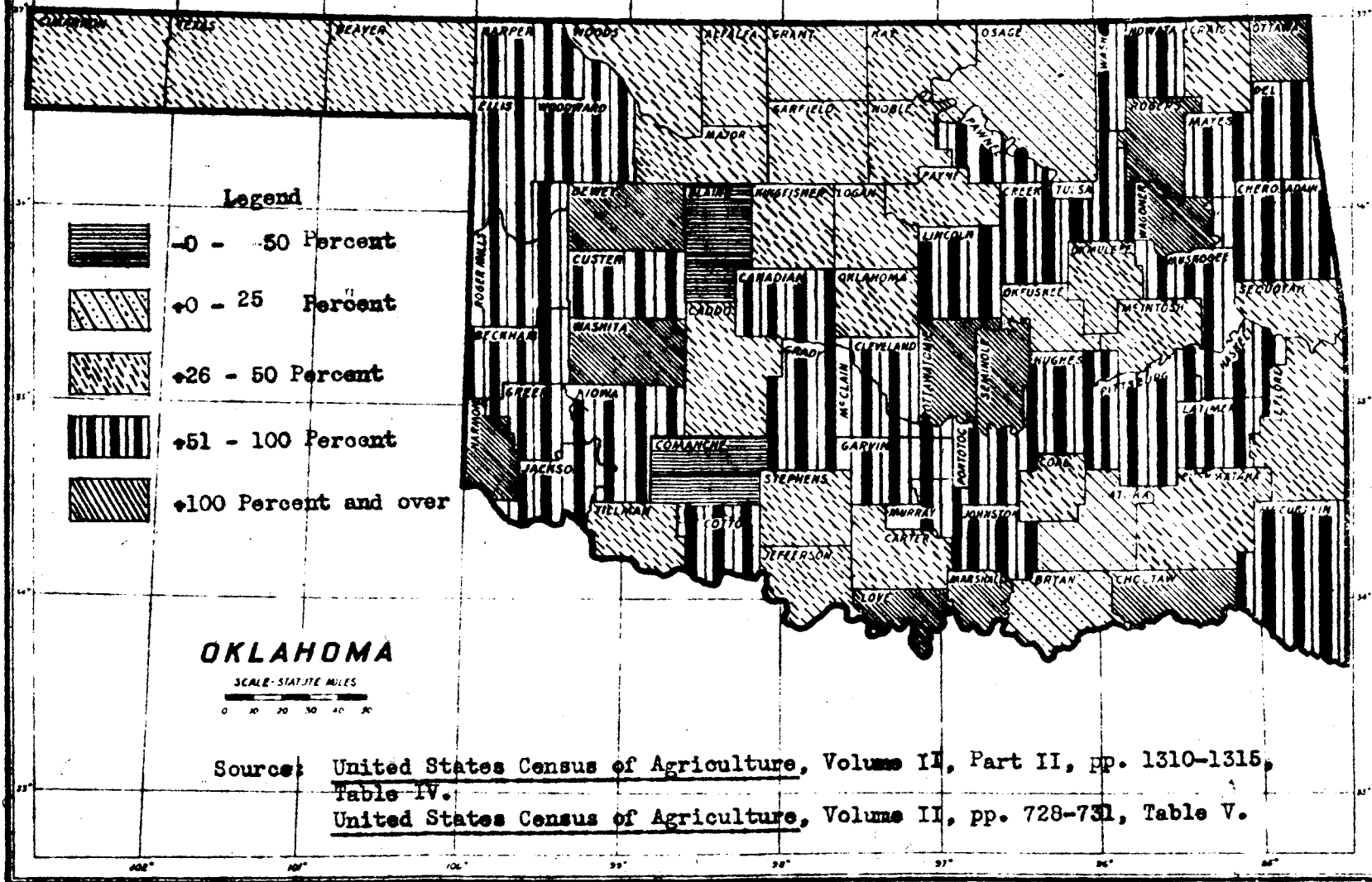
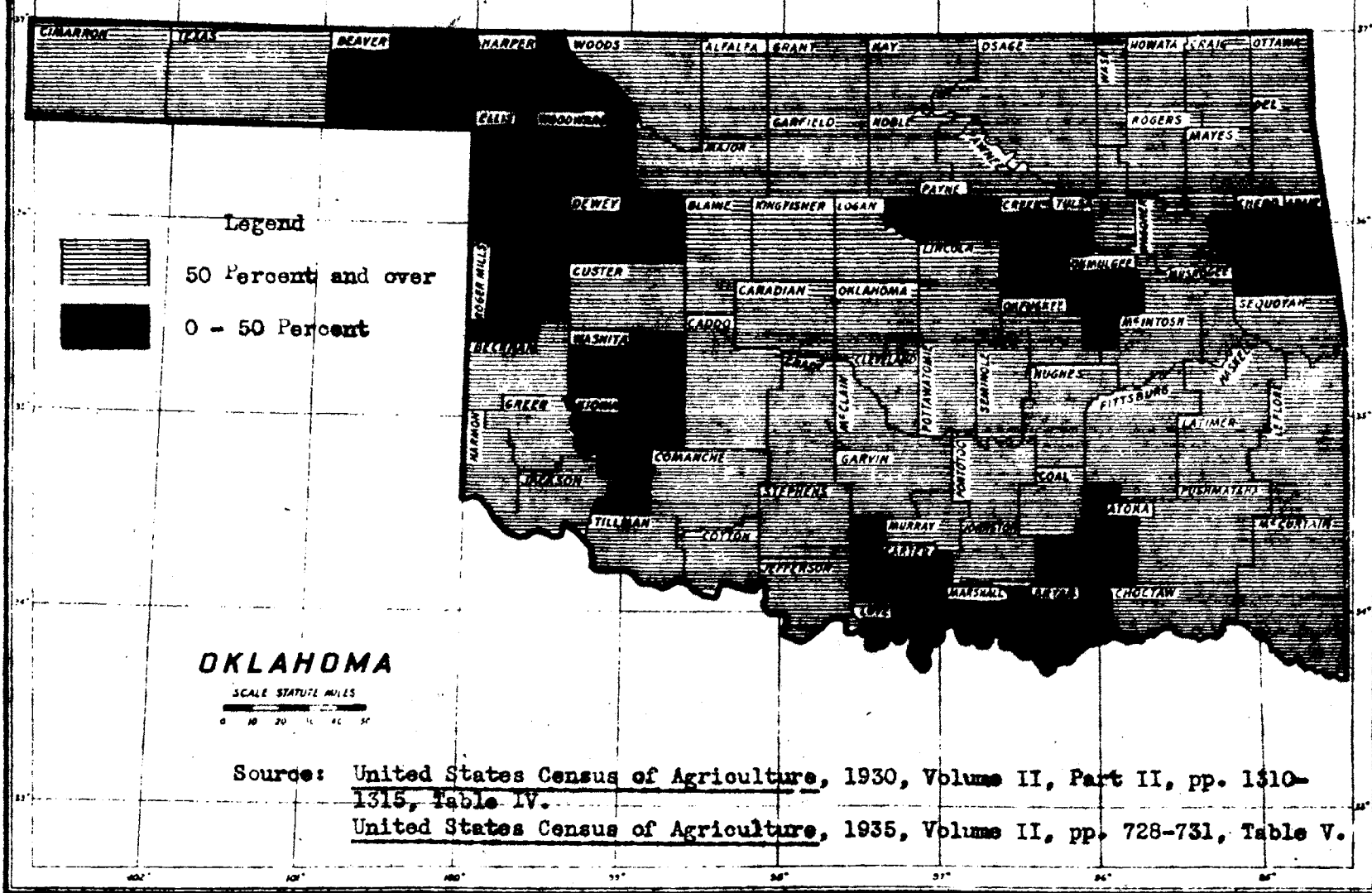


Figure VIII. Percentage Change in Egg Production Between 1929 and 1934 in Oklahoma



Factors Affecting Egg Supplies from 1919 to 1929. During these ten years the volume of egg production gradually increased. There was general prosperity in the state as a whole. The discovery of more gas and oil, the construction of more public buildings and houses in cities and towns and the gradual up-swing of the general price level<sup>3/</sup> encouraged farmers to raise more hens and pullets for egg production in order to meet the increasing demand of consumers. From 1919 to 1929, there was an increasing inflow of immigrants in the state, especially in cities where most of them found employment in factories.<sup>4/</sup> Increase in population, (Table 4) led to further demand for more eggs even at a higher price so that farmers were encouraged to raise more pullets for egg production.

Factors Affecting Egg Production 1930 to 1934. There was a gradual decline in Oklahoma egg production from 1930 to 1934. (Table 6) This decline was associated with an extremely sharp reduction in demand due to depressed conditions in business activities as measured by factory employment and payrolls.<sup>5/</sup> General weakness of the credit system ending with the economic crisis of the spring of 1933, further weakened the purchasing power of the industrial workers. As a result of this condition, many farmers in Oklahoma were forced to reduce the number of hens and pullets on farms due to further lowering of egg prices. (Table 6) The drought of 1934, reduced the amount of feeds and necessitated the curtailment of laying flocks. Thus, the number of hens and pullets in 1936 was about 2 percent less than the number in 1934 due to heavy culling of farm

---

<sup>3/</sup> Verbal statement by M. M. Blair, Professor of Economics, Department of Economics, Oklahoma Agricultural and Mechanical College.

<sup>4/</sup> Statistical Abstract of the United States, 1936, p. 324, No. 362.

<sup>5/</sup> Statistical Abstract of the United States, 1936, p. 324, No. 362.

Table 6. Annual Index Number of Hens and Pullets on Farms, the Number of Eggs Produced on Farms, Index of Oklahoma Farm Price per Dozen, and the Average Production of Five Most Important Grain Feeds in Oklahoma

Year	Hens and Pullets on Farms	Per Cent	Number of Eggs Produced on Farms	Per Cent	Okl. Farm Price of Eggs Per Dozen	Per Cent	Index of Five Most Important Grain Feeds Oklahoma <sup>1/</sup>
	Thousands		Millions		Cents		Percent
1925 <sup>2/</sup>	12,587	94.8	1,095	93.5 <sup>2/</sup>	26.1	109.5 <sup>2/</sup>	53
1926	12,721	95.8	1,196	102.1	24.9	104.5	116
1927	13,884	104.5	1,222	104.4	20.7	85.9	115
1928	13,944	105.5	1,171	100.0	23.6	99.0	118
1929	13,265	99.9	1,128	96.5	24.6	103.2	90
1930	13,390	100.8	1,071	91.5	19.6	82.3	66
1931	13,260	99.8	1,054	90.0	13.0	54.6	107
1932	11,870	89.4	1,021	87.2	9.7	40.7	108
1933	12,428	93.6	994	84.9	10.3	43.2	47
1934	10,813	81.4	887	75.7	13.6	57.1	37
1935	9,297	70.0	827	70.6	20.2	84.4	57
1936	9,626	72.5	780	66.6	18.3	86.8	34
1937	9,677	72.8	871	74.4	17.6	73.9	79
1938	3,442	71.1	344	80.6	14.5	60.9	80

<sup>1/</sup> The average index number of five most important grain feeds in Oklahoma was tabulated direct from Table 3.

<sup>2/</sup> 1925-1928=100

Sources: Farm Production and Disposition, Chickens and Eggs, 1925-38,  
Bureau of Agricultural Economics, Washington, D. C., December, 1939.  
U.S.D.A. Agricultural Statistics, 1939, p. 9-59. Statistical  
Abstracts of the United States, 1939, p. 333, No. 373

flocks following short feed crops in Oklahoma. This condition decreased egg supplies in 1935 by about 24.2 percent lower than the five-year average 1930-1934. Table 6. Decrease in egg supplies plus a pronounced recovery of demand in 1934 resulted in a gradual increase in egg prices. It will be noticed in figure IX that in years following short feed crops hens and pullets were reduced, leaving only the best layers for egg production. The opposite was true in the years following large feed crops. This indicates that feed supply is one of the chief factors affecting egg production, and will be discussed later under the heading, "Oklahoma Grains, Feed-egg Ratio."

Factors Affecting Egg Production, 1935 to 1938. From 1935 through the last half of 1937, there was a period of rising general price level.<sup>6/</sup> This situation caused egg prices to rise, which in turn encouraged producers to increase the size of their flocks so as to utilize the supplies of 1935. The drought of 1936 sharply reduced feed supplies with resultant unfavorable conditions for egg production because of the higher feed costs. Thus, the number of hens and pullets on farms was greatly reduced leaving only the best layers. (Table 6) Because of good crop years in 1937 and 1938 plus a business recession which started in the autumn of 1937 and continued through 1938, there was a further decline in egg prices. This influenced farmers to reduce their laying flocks by about 2.5 percent in 1938 in spite of abundant cheap feeds. (Figure X) However, egg production increased 7.7 percent over that of the foregoing year, because of an abnormally high rate of eggs laid per laying hen.<sup>7/</sup>

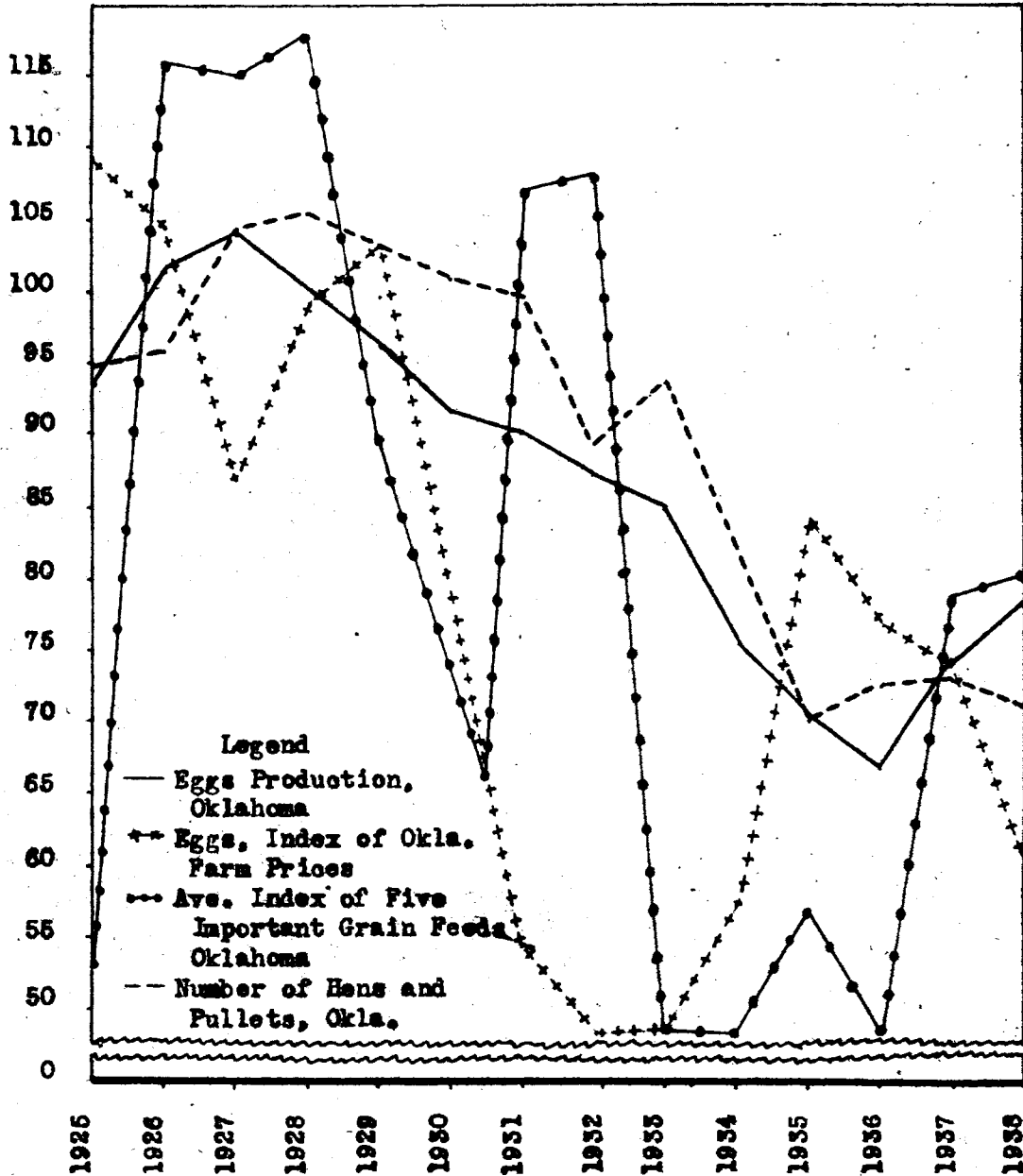
---

<sup>6/</sup> Demand, Credit and Prices, Agri. Outlook Charts, 1940, p. 24.

<sup>7/</sup> Farm Production and Disposition, Chickens and Eggs, 1925-38, Washington D. C. December 1939.

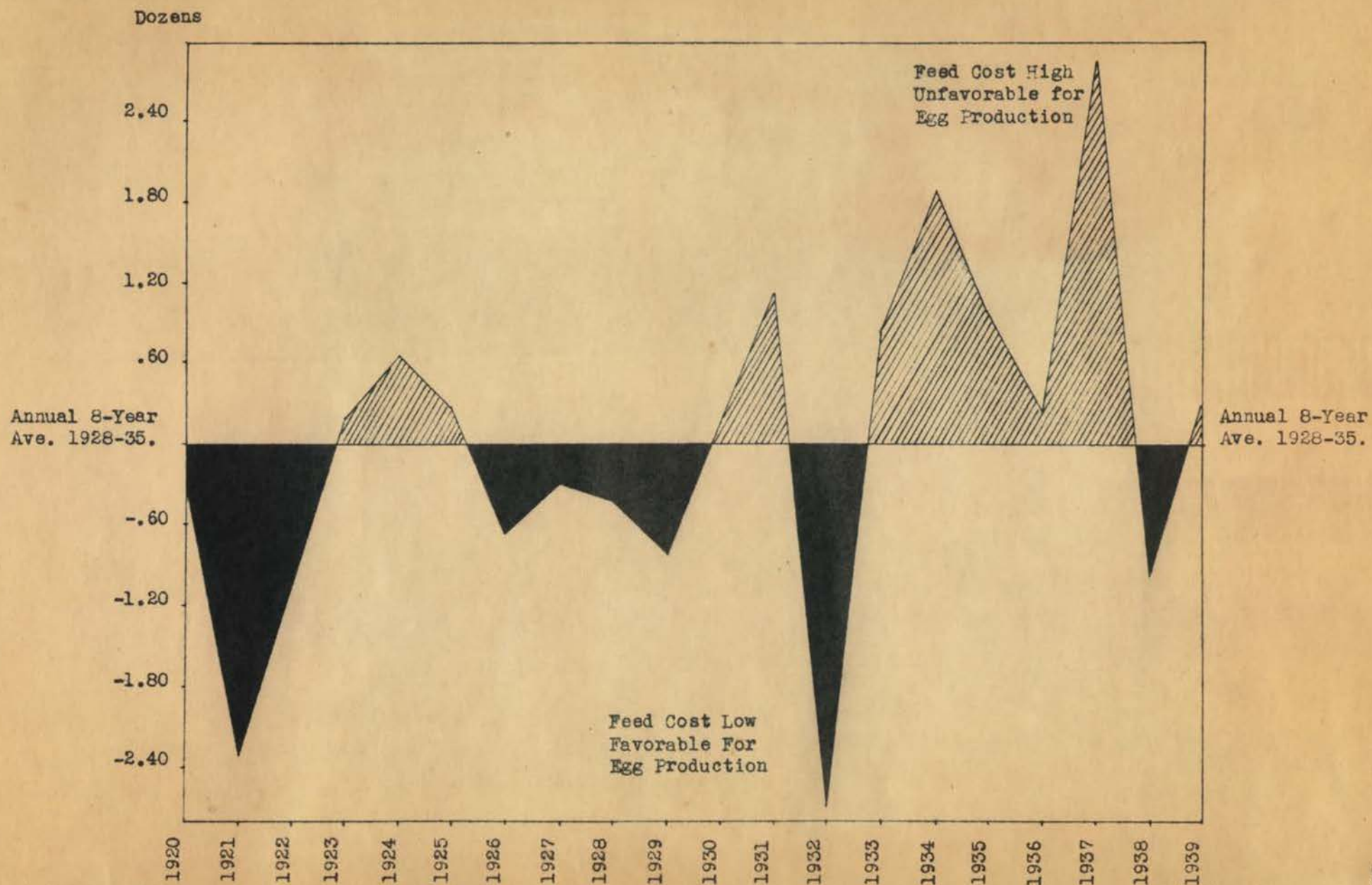
Figure IX. Index Number of Hens and Pullets on Farms, The Number of Eggs Produced on Farms, the Farm Price of Eggs Per Dozen, and the Average Production of Five Most Important Grain Feeds in Oklahoma, 1925-38.

Per cent



Sources: Farm Production and Disposition, Chickens and Eggs, 1925-38, Bureau of Agri. Economics, Washington, D. C., Dec. 1939. U. S. D. A. Agri. Statistics, 1939, p. 9-59. Statistical Abstracts of the United States, 1939, p. 333, No. 573.

Figure X. Oklahoma Grains, Feed-Egg Ratio, 1920-39.



Source: Ellis, L.S. Supplement Current Farm Economics, Oklahoma Agri. Exper. Station, Stillwater, 1910-32, p. 75.  
 Hedges, T. R. Unpublished Data, compiled by the Dept. of Agri. Economics, Oklahoma A. and M. College.  
 Hill, M. Unpublished Data, compiled by the Dept. of Agri. Economics, Oklahoma A. and M. College.



The grain feed-egg ratio for Oklahoma is shown in Figure X. This is one of the major factors affecting egg supplies in the state. It measures the direct relationship between feed costs and egg prices. (Table 7).

"When the feed-egg ratio is above average (high) it indicates that feed costs are high, and to the producer of eggs, is unfavorable. Under this circumstance, curtailment of egg production is to be expected, the evidence of which appears in several forms. Cess culling of laying flocks and heavy marketing of fowls are one evidence of curtailment. A decrease in the number of chicks hatched also reflects the effect of the unfavorable situation on the producers' plans to maintain laying flocks by replacement of hens with pullets."<sup>8/</sup>

"A low feed-egg ratio shows low feed costs relative to egg prices, and a favorable situation for egg producers. More liberal feeding is likely to increase production per hen. Culling is relaxed and marketing of fowl less heavy, especially out of season. Heavy hatchings for replacement reflect the intention of the producer to maintain the laying flocks both in number and in efficiency."<sup>9/</sup>

Average Production of Eggs Per Chicken Over Three Months of Age on Farms by Counties. The average production of eggs during 1934 per chicken over three months old on farms by counties in Oklahoma is shown in Table 8. It will be noticed that the state as a whole averaged almost five dozen

---

<sup>8/</sup> Demand, Credit, and Prices, Agriculture Outlook Charts, 1940, p. 2.

<sup>9/</sup> Ibid.

1/  
Table 7. Oklahoma Grains Feed-Egg Ratio, 1920-39

Year	Corn				Wheat				Oats				Grain Sorghums				Barley		Total cost of 100 lbs. mixture	Cents per dozen eggs required to buy 100 lbs. grain feeds mixture	Number of dozen			
	per bu.	per lb.	No. of 100 lbs. mixture	Total cost	per bu.	per lb.	No. of 100 lbs. mixture	Total cost	per bu.	per lb.	No. of 100 lbs. mixture	Total cost	per bu.	per lb.	No. of 100 lbs. mixture	Total cost	per bu.	per lb.				No. of 100 lbs. mixture	Total cost	
1920	126	.022	x 50	1.10	211	.055	x 22	.077	72	.022	x 15	0.33	124	.022	x 12	0.26	106	.022	x 1	.02	2.48	.41	6.05	0.58
1921	47	.022	x 50	0.40	111	.018	x 22	0.40	55	.011	x 15	0.16	58	.008	x 12	0.10	59	.012	x 1	.01	1.07	.26	4.11	2.52
1922	56	.010	x 50	0.50	95	.015	x 22	0.33	38	.012	x 15	0.18	65	.012	x 12	0.14	51	.011	x 1	.01	1.16	.22	5.27	1.16
1923	88	.016	x 50	0.80	95	.015	x 22	0.33	52	.016	x 15	0.24	95	.017	x 12	0.20	68	.014	x 1	.01	1.58	.24	6.58	0.15
1924	94	.017	x 50	0.85	106	.018	x 22	0.40	55	.017	x 15	0.26	85	.015	x 12	0.18	66	.014	x 1	.01	1.70	.24	7.08	0.65
1925	100	.018	x 50	0.90	148	.025	x 22	0.55	56	.018	x 15	0.27	94	.017	x 12	0.20	77	.016	x 1	.02	1.94	.29	6.69	0.26
1926	78	.014	x 50	0.70	132	.022	x 22	0.48	44	.014	x 15	0.21	74	.015	x 12	0.18	64	.013	x 1	.01	1.56	.27	5.78	0.65
1927	68	.012	x 50	0.60	121	.020	x 22	0.44	43	.013	x 15	0.20	73	.013	x 12	0.16	63	.015	x 1	.01	1.41	.23	6.13	0.30
1928	81	.014	x 50	0.70	113	.019	x 22	0.42	52	.016	x 15	0.24	84	.015	x 12	0.18	71	.015	x 1	.02	1.56	.26	6.00	0.43
1929	82	.015	x 50	0.75	99	.016	x 22	0.35	50	.016	x 15	0.24	80	.014	x 12	0.17	62	.013	x 1	.01	1.52	.27	5.63	0.80
1930	79	.014	x 50	0.70	78	.013	x 22	0.29	44	.014	x 15	0.21	79	.014	x 12	0.17	56	.012	x 1	.01	1.38	.21	6.57	.14
1931	49	.009	x 50	0.45	44	.007	x 22	0.15	25	.008	x 15	0.12	47	.008	x 12	0.10	34	.007	x 1	.01	0.83	.11	7.55	1.12
1932	25	.004	x 50	0.20	32	.005	x 22	0.11	15	.005	x 15	0.08	27	.005	x 12	0.06	21	.004	x 1	.00	0.45	.12	3.75	2.68
1933	40	.007	x 50	0.35	38	.010	x 22	0.22	27	.008	x 15	0.12	42	.008	x 12	0.10	37	.008	x 1	.01	0.80	.11	7.27	.84
1934	68	.012	x 50	0.60	78	.013	x 22	0.29	44	.014	x 15	0.21	67	.012	x 12	0.14	58	.012	x 1	.01	1.25	.15	6.53	1.30
1935	86	.015	x 50	0.75	91	.015	x 22	0.33	43	.013	x 15	0.20	85	.015	x 12	0.18	61	.013	x 1	.01	1.47	.20	7.55	0.92
1936	85	.015	x 50	0.75	101	.017	x 22	0.37	40	.012	x 15	0.18	75	.013	x 12	0.16	65	.013	x 1	.01	1.47	.22	6.68	0.25
1937	97	.017	x 50	0.85	106	.018	x 22	0.40	45	.014	x 15	0.21	91	.016	x 12	0.19	74	.015	x 1	.02	1.67	.18	9.28	2.85
1938	51	.009	x 50	0.45	64	.011	x 22	0.24	27	.008	x 15	0.12	48	.009	x 12	0.11	42	.009	x 1	.01	0.93	.17	5.47	0.96
1939	53	.009	x 50	0.45	61	.010	x 22	0.22	32	.010	x 15	0.15	52	.009	x 12	0.11	43	.009	x 1	.01	0.94	.14	6.71	0.28

(8 yr. Ave. 1928-35) 3/

1/ The five most important grain feeds in Oklahoma are weighted in proportion according to their use as poultry feeds for all Oklahoma. For every 100 pounds grain mixture, there are 50 lbs. corn, 22 lbs. wheat, 15 lbs. oats, 12 lbs. grain sorghum, and 1 lb. barley. Total equals 100 lbs.

2/ Simple average of 12 months.

3/ Shows deviation from the 8 year's average, 1928-35.

Source: Ellis, L. S., Supplement Current Farm Economics, Okla. Agri. Exper. Station, Stillwater, 1910-1932, p. 75. Hedger, T. R. Unpublished data compiled by the Dept. of Agri. Economics, Oklahoma A & M. College. Hill, M., Unpublished data compiled by the Dept. of Agri. Economics, Okla. A. & M. College



Table 21 . Number of Chickens Over Three Months  
 Eggs Produced, And Average Egg Production Per  
 Chicken Over Three Months Old in Oklahoma  
 by Counties, 1934

State and county	Number of chickens 1/2 over three months old:	Eggs produced: (dozens)	Eggs produced per chicken (dozens)
Oklahoma	9,625,699	45,742,763	4.75
Adair	78,687	298,220	3.79
Alfalfa	169,163	940,780	5.56
Atoka	62,936	180,078	2.86
Beaver	100,241	552,027	5.51
Beckham	118,830	474,553	3.99
Blaine	155,923	710,439	4.56
Bryan	139,165	465,840	3.35
Caddo	303,671	1,482,455	4.88
Canadian	218,394	1,058,201	4.85
Carter	81,326	285,773	3.64
Cherokee	98,929	321,089	3.25
Choctaw	90,067	331,395	3.68
Cimarron	45,087	208,900	4.63
Cleveland	125,991	575,656	4.57
Coal	55,332	249,827	4.51
Comanche	143,070	725,558	5.06
Cotton	107,887	494,809	4.59
Craig	155,155	770,592	4.97
Creek	108,809	434,140	4.00
Custer	180,418	988,312	5.48
Delaware	125,912	599,010	4.76
Dewey	121,843	625,344	5.13
Ellis	89,768	465,753	5.19
Garfield	248,807	1,452,022	5.84
Garvin	144,887	593,777	4.10
Grady	265,812	1,371,188	5.16
Grant	203,171	1,215,038	5.98
Greer	93,780	433,433	4.62
Harmon	77,699	431,756	5.56
Harper	66,797	327,274	4.90
Haskell	69,627	258,983	3.69
Hughes	112,661	606,535	5.38
Jackson	141,267	744,734	5.27
Jefferson	74,796	336,870	4.50
Johnston	68,387	411,175	6.01
Key	204,672	1,095,807	5.35
Kingfisher	194,248	1,161,739	5.98
Kiowa	158,337	726,253	4.65
Latimer	41,843	190,911	4.56

(Continued)

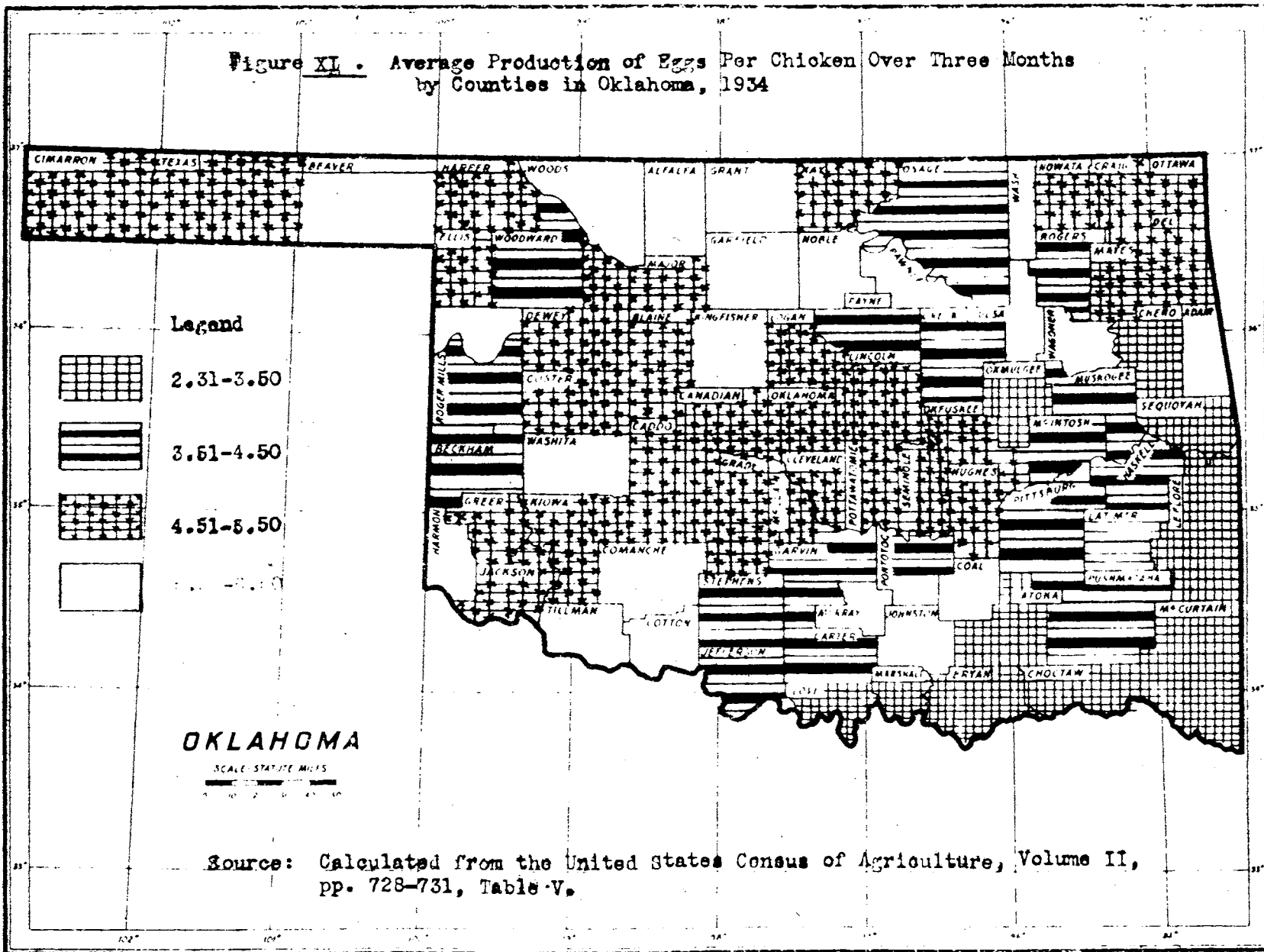
Table 8. (Continued) Number of Chickens Over Three Months Old, Eggs Produced, And Average Egg Production Per Chicken Over Three Months Old in Oklahoma by Counties, 1934

State and county	Number of chickens <sup>1/</sup> over three months old:	Eggs produced: (dozens)	Eggs produced per chicken (dozens)
LeFlore	128,809	417,944	3.24
Lincoln	211,951	1,015,472	4.79
Logan	152,888	743,433	4.86
Love	49,709	169,183	3.40
McClain	156,337	745,310	4.77
McCurtain	114,073	364,019	3.19
McIntosh	112,800	451,853	3.68
Major	128,050	666,275	5.20
Marshall	49,312	163,925	3.32
Mayes	157,278	799,590	5.08
Murray	48,692	260,698	5.35
Muskogee	157,044	629,928	4.01
Noble	135,176	752,153	5.56
Nowata	79,347	377,302	4.76
Okfuskee	97,907	466,016	4.76
Oklahoma	198,524	1,071,523	5.40
Okmulgee	108,950	376,864	3.46
Osage	113,135	481,635	4.26
Ottawa	117,601	585,178	4.98
Pawnee	100,159	492,636	4.92
Payne	164,137	623,598	3.80
Pittsburg	141,633	576,380	4.07
Pontotoc	120,221	472,754	3.93
Pottawatomie	171,197	801,441	4.68
Pushmataha	64,332	259,290	4.03
Roger Mills	100,105	375,602	3.75
Rogers	121,551	545,578	4.49
Seminole	89,169	479,089	5.37
Sequoyah	74,394	263,592	3.41
Stephens	120,982	517,144	4.27
Texas	129,090	683,370	5.29
Tillman	129,732	726,720	5.60
Tulsa	135,184	701,100	5.19
Wagoner	122,748	594,073	4.84
Washington	64,935	237,223	3.65
Washita	199,836	949,398	4.75
Woods	145,718	802,482	5.51
Woodward	101,577	434,944	4.28

Source: United States Census of Agriculture 1935, Volume II, Part II, pp. 728-731, Table V.

<sup>1/</sup> There are no available data for the total number of hens by counties in Oklahoma.

Figure XI . Average Production of Eggs Per Chicken Over Three Months  
by Counties in Oklahoma, 1934



<sup>10/</sup> eggs per chicken. In Figure XI counties are grouped according to the rate of production. The first group which includes the lowest number of eggs per chicken is found in the southeast corner of the state. This portion of the state is a rough mountainous and wooded area. Farmers produce some cotton and livestock, but most farmers are highly self-sufficient. (See Figure III). This is not an important feed producing area. The second group occupies part of the southeast, although Osage, Rogers, Creed, Lincoln, Beckham, Roger Mills, and Woodward were included in this group. Most of this section of the state is also deficient in feed supplies. The third group which represents more than the average and the last one which represents the highest number of eggs per chicken, are generally found in grain producing areas. Farmers in these areas take advantage of using green wheat pasture in the spring, early summer, and fall as one way of decreasing the cost of production for poultry and eggs. One reason for higher production of eggs per chicken in these areas is better care and management.<sup>11/</sup>

Average Number of Eggs Produced Per Farm by Counties in Oklahoma. The average number of eggs produced per farm by counties in Oklahoma is shown in Table 9, and counties are grouped according to production per farm in Figure XII. The first group which represents the lowest number of eggs produced per farm occupies the southeast portion of the state. (Figure XII).

---

<sup>10/</sup> This is not a very accurate measurement, since it includes those chickens which do not lay eggs. However, they are the best data available at the present time. There are no statistical figures showing the total number of hens and pullets raised in each county.

<sup>11/</sup> Verbal statement by H. G. Ware, Poultry Specialist, Extension Division, Oklahoma Agricultural and Mechanical College, Stillwater, Oklahoma.

Table 9. Number of Farms Reporting, Total Eggs Produced,  
And Average Number of Chicken Eggs Produced Per Farm  
in Oklahoma by Counties,  
1934

State and county	Number of farms reporting	Eggs produced (dozens)	Eggs produced per farm (dozens)
Oklahoma	179,595	45,742,763	255
Adair	1,827	298,220	163
Alfalfa	1,887	940,780	499
Atoka	2,071	180,078	87
Beaver	1,666	562,027	331
Beckham	2,454	474,553	193
Blaine	2,275	710,439	312
Bryan	3,550	465,840	131
Caddo	4,677	1,482,455	317
Canadian	2,335	1,058,201	453
Carter	2,440	295,773	121
Cherokee	2,340	321,089	137
Choctaw	3,079	331,395	108
Cimarron	653	208,900	320
Cleveland	1,878	575,656	306
Coal	1,550	249,627	161
Comanche	2,309	795,558	344
Cotton	1,761	494,809	281
Craig	2,118	770,592	364
Creek	3,158	434,140	137
Custer	2,316	988,312	427
Delaware	2,369	599,010	253
Dewey	1,682	625,344	332
Ellis	1,432	465,753	325
Garfield	2,673	1,452,022	543
Garvin	3,352	593,777	177
Grady	4,181	1,371,188	328
Grant	2,196	1,215,038	553
Greer	1,778	433,433	244
Harmon	1,466	431,758	295
Harper	977	327,274	335
Haskell	2,150	256,983	120
Hughes	2,550	604,535	237
Jackson	2,258	744,734	330
Jefferson	1,734	336,870	194
Johnston	1,504	411,175	273
Key	2,446	1,095,807	448
Kingfisher	2,184	1,161,739	532
Kiowa	2,501	726,253	290
Latimer	1,245	190,911	153
LeFlore	4,472	417,944	93

(Continued)

Table . (Continued) Number of Farms Reporting, Total Eggs Produced, And Average Number of Chicken Eggs Produced Per Farm in Oklahoma by Counties, 1934

State and county	Number of farms reporting	Eggs produced (dozens)	Eggs produced per farm (dozens)
Lincoln	3,753	1,015,472	271
Logan	2,120	743,433	351
Love	1,447	169,183	117
McClain	2,547	745,310	293
McCurtain	4,401	364,019	83
McIntosh	2,951	451,853	153
Major	1,847	666,275	361
Marshall	1,244	163,925	132
Mayer	2,488	799,590	321
Murray	966	260,698	270
Muskogee	3,355	629,928	188
Noble	1,586	752,153	474
Nowata	1,338	377,302	282
Okfuskee	2,804	466,016	166
Oklahoma	3,099	1,071,523	346
Okmulgee	2,930	376,864	129
Osage	2,231	481,635	216
Ottawa	1,727	585,178	339
Pawnee	1,751	492,636	281
Payne	2,427	623,598	257
Pittsburg	3,679	576,380	157
Pontotoc	2,710	472,754	174
Pottawatomie	3,421	801,441	234
Pushmataha	1,973	259,290	131
Roger Mills	1,888	375,602	199
Rogers	2,172	545,578	251
Seminole	2,569	479,089	186
Sequoyah	2,724	253,592	93
Stephens	2,728	517,144	190
Texas	1,522	683,370	449
Tillman	1,858	726,720	371
Tulsa	2,563	701,100	274
Wagoner	2,588	594,073	230
Washington	1,280	237,223	185
Washita	3,310	949,398	287
Woods	1,826	802,482	440
Woodward	1,580	434,944	275

Source: United States Census of Agriculture 1935, Volume II, pp. 728-731, Table V.





The first group which represents the lowest number of eggs produced per farm occupies the southeast portion of the state. (Figure XII). The second group with somewhat higher production, is situated in the south and southeast central part. The two groups are both in feed deficit areas. The third group which represents the average, is mostly concentrated in the southwest central and northwest, including the northeast portion of Oklahoma. The fourth and last group represents the largest concentration of egg production and runs through southwest, south central, north central, and the extreme northeast corner of the state. These are areas where available feed supplies are found.

## CHAPTER II

## General Analysis of the Oklahoma Egg Prices

In Chapter I, the poultry and egg industry in Oklahoma has been discussed as to size, growth, and geographic distribution. In this section, the general analysis of the Oklahoma egg prices is to be considered.

Movement of the Oklahoma Farm Price of Eggs, 1910 to 1938. The movement of the Oklahoma farm price of eggs has been similar to that of prices for other livestock products during the 1910 to 1938 period. Prior to the World War, the Oklahoma egg prices were rather steady within a range of from 15 to 25 cents per dozen. (Table 10). The World War caused a tremendous up-swing in prices of eggs at about the same rate as for chickens, butter, and wholesale milk.<sup>12/</sup> A sudden drop in egg prices came from 1920 to 1921, after the period of abnormally high prices during the war. The low point was reached in 1922, and the recovery was extended from 1922 through 1928. A second period of high prices occurred during the post-war period, 1928 and 1929. From 1929 up to the present time, the price of eggs has declined in relation to the prices of other commodities.<sup>13/</sup> The leading causes of the general decline was the Great Depression which started during the latter part of 1929, and the droughts of 1934 and 1936. It will be observed in Figure XIII that the years 1931 through 1933 marked a steady decline, but not so sharp as during 1921. From 1934 through 1938, the price of eggs trended steadily upward to reach approximately the pre-war

---

<sup>12/</sup> Unpublished data, compiled by T. R. Hedges in the Department of Agricultural Economics, Oklahoma Agricultural and Mechanical College.

<sup>13/</sup> Ibid.

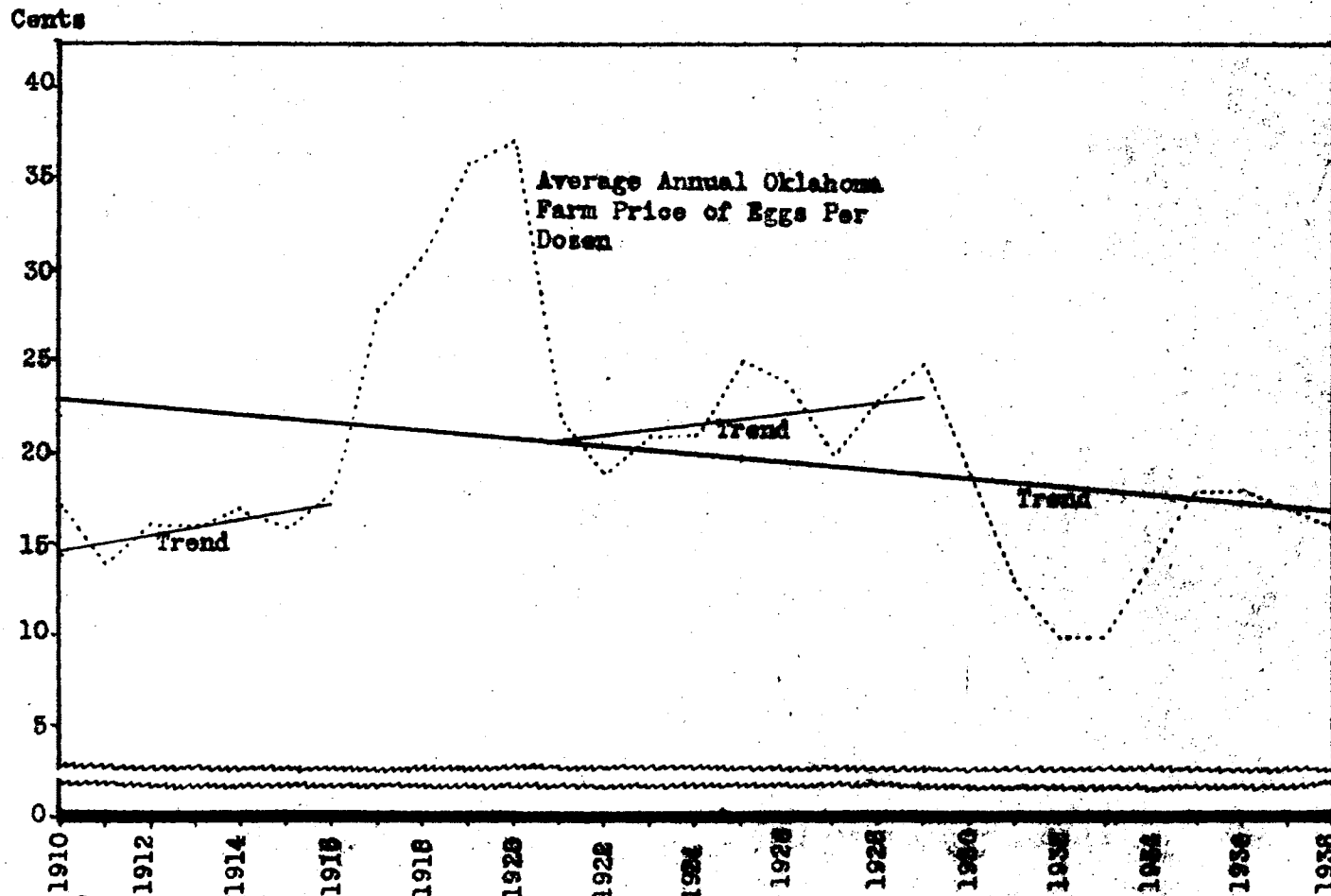
Table 10. Oklahoma Farm Price of Eggs, 1910  
to 1938

Year:	Jan.:	Feb.:	Mar.:	Apr.:	May:	June:	July:	Aug.:	Sept.:	Oct.:	Nov.:	Dec.:	Ave. 1/
	15	15	15	15	15	15	15	15	15	15	15	15	
	(Cents per dozen)												
1910	28	22	18	16	18	15	14	14	16	20	24	26	17
1911	28	17	13	12	12	11	11	13	15	18	22	26	14
1912	28	24	18	16	14	14	12	12	14	18	22	23	18
1913	20	18	15	14	14	13	12	12	16	21	29	30	16
1914	27	20	18	15	15	15	13	15	16	17	21	25	17
1915	27	20	14	14	13	13	13	13	16	18	23	25	16
1916	23	24	15	15	16	15	15	16	20	25	31	37	18
1917	38	31	22	28	28	27	23	24	30	34	37	42	28
1918	45	45	28	28	27	25	25	27	32	37	45	55	31
1919	55	30	31	33	34	33	30	33	35	41	52	65	36
1920	56	41	35	33	32	30	30	32	40	48	54	61	37
1921	48	24	21	16	13	15	18	20	23	30	42	41	22
1922	25	26	15	16	17	15	15	15	21	28	34	41	19
1923	32	24	19	19	18	18	16	17	24	28	35	40	21
1924	31	29	16	16	16	17	16	19	22	28	37	42	21
1925	46	29	21	22	21	22	20	23	25	31	43	44	25
1926	32	27	20	22	22	21	21	22	25	28	37	42	24
1927	31	25	17	17	16	13	16	18	23	28	33	38	20
1928	34	23	21	20	21	20	20	21	25	27	34	40	23
1929	29	27	23	21	20	22	21	23	28	32	37	43	25
1930	34	31	18	19	16	15	14	16	20	21	25	22	19
1931	18	11	14	13	10	11	10	12	13	16	19	22	13
1932	13	10	07	07	07	07	07	10	12	18	20	24	10
1933	18	08	07	08	09	07	08	09	12	17	20	18	10
1934	15	12	12	11	11	10	11	15	19	19	23	25	14
1935	22	24	17	19	20	18	18	19	22	22	24	27	18
1936	19	21	14	15	16	16	17	19	23	24	30	29	18
1937	23	20	18	19	16	15	15	15	16	18	22	24	17
1938	19	13	14	13	15	14	14	15	18	21	23	25	16

Source: Ellis, L. S., Supplement Current Farm Economics, Okla. Agri. Exper. Sta., Stillwater, 1910-32, p. 75, Table 68; 1933-38 unpublished data, Department of Agricultural Economics, Okla. A. and M. College

1/ Weighted average annual price.

Figure XIII Trend of the Oklahoma Farm Price of Eggs, 1910-38



Source: Ellis, L. S., Supplement Current Farm Economics, Okla. Agri. Exper. Station, Stillwater, 1910-32, p. 78. Unpublished data, compiled by the Department of Agricultural Economics, Okla. A. and M. College, 1933-38.

level during 1936. (Table 10). Again a slight drop in prices took place in 1937 and 1938. The drought of 1934 and 1935 caused a shortage of feed and consequently forced some farmers to reduce temporarily the number of laying hens on hand, and as a result Oklahoma egg prices between 1935 and 1936 went up to about six cents higher than those of the previous year of 1934. The practice of the trade in imposing discounts on Oklahoma eggs<sup>14/</sup> probably is another factor which caused the lowering of Oklahoma egg prices.

Statistics show that the production of the five important poultry grain feeds in the state increased by about 50 percent during the years 1937 and 1938, (Table 5), as compared with the previous three years which were influenced by the drought of 1934 and 1935. During 1937 and 1938, the number of hens and pullets increased, and as a result egg supplies were increased. This increase in supply was maximized by an abnormally high rate of eggs laid per hen and per pullet. This condition along with the reduced demand accompanying the industrial recession resulted in a decline in the price of eggs per dozen during the latter part of 1938.

The long time trend of the Oklahoma egg prices as a whole from 1910 to 1938 was slightly downward. However, this does not mean that prices have been going down for the last twenty-nine years. It will be noted in Figure XIII that the trend of the Oklahoma farm price of eggs was gradually upward from 1910 to 1916. A rapid up-swing of the trend line took place from 1917 to 1920, and from 1921 to 1929, the trend line gradually moved upward. During the next three years, 1929 to 1933, prices dropped down ranging from seven cents per dozen, the seasonal low point of 1932, to 13 cents, the seasonal high point of 1933. (Table 10).

---

<sup>14/</sup> Ibid.

Again, the Great Depression which started during the latter part of 1929 reduced the total purchasing power of the average consumer. This was indicated by the sharply reduced indices for factory employment and pay-rolls.<sup>15/</sup> The reduction in purchasing power was perhaps the dominant factor responsible for the low price of eggs per dozen during most of the time from 1931 through 1933. The closing of some banks which started in 1932 and the bank holidays in the spring of 1933 caused financial difficulties which resulted in further losses in purchasing power and interfered with the normal exchange of goods.

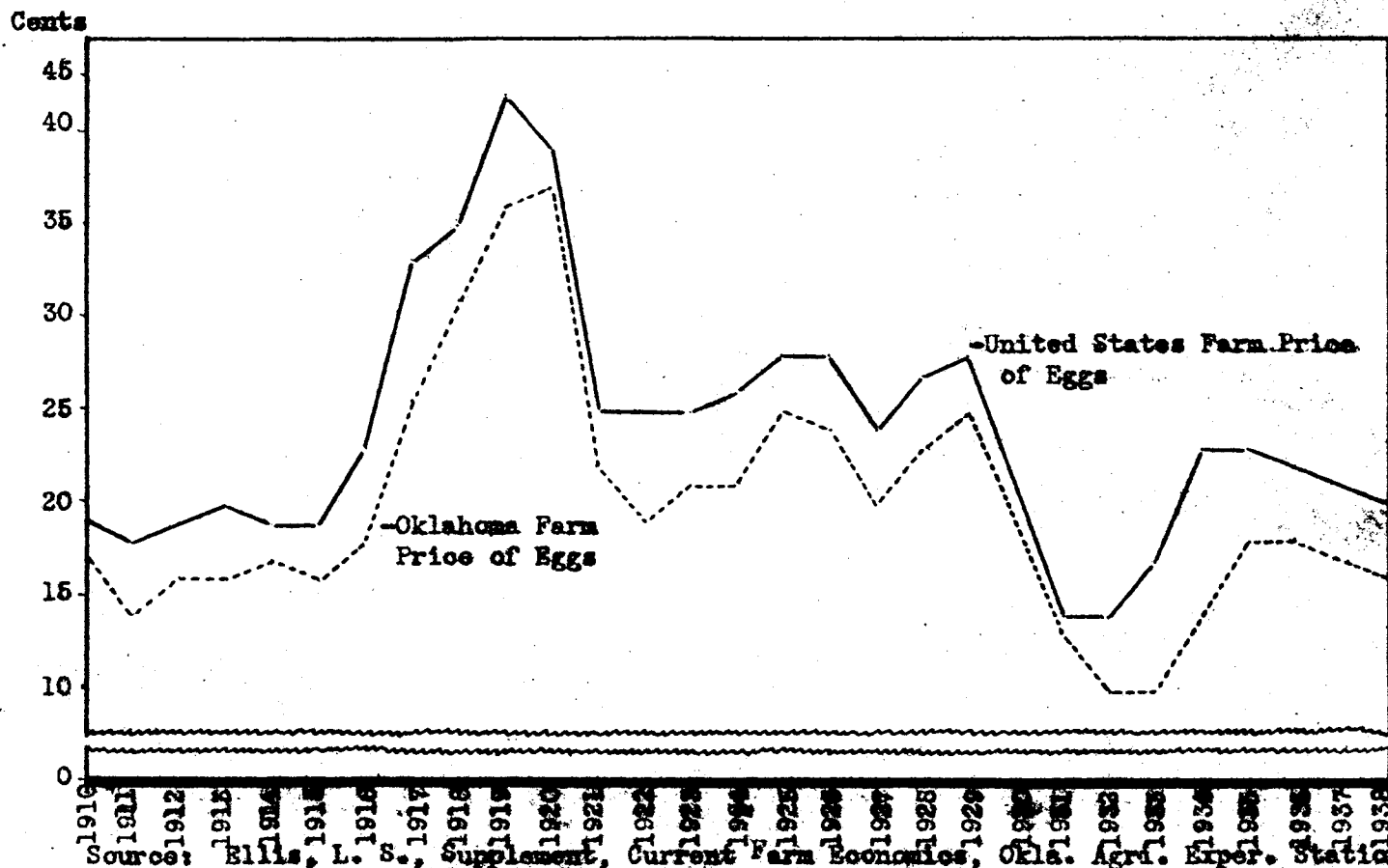
#### Comparison of the United States and Oklahoma Farm Prices of Eggs 1910-1938

Price Movements of the United States and Oklahoma Eggs. The Oklahoma farm price remained lower than the United States farm price of eggs during the entire period. (Figure XIV). The movement of the two price series were, in general, similar from 1910 through 1938. There were minor differences in the price movement of these two series but the differences did not recur regularly. The United States farm price sometimes reached its peak a year earlier than the Oklahoma farm price. This will be noted in Figure XIV, that during the war time the United States price of eggs reached its peak in 1919 as compared with 1920 for Oklahoma egg prices. This was repeated in 1934 when the United States farm price of eggs reached its peak a year earlier than Oklahoma prices. Variation in prices were quite noticeable, ranging from 14 to 16 cents per dozen for

---

<sup>15/</sup> Statistical Abstract of the United States, United States Department of Commerce, 1929, p. 333, No. 373.

Figure XIV. Average Yearly Farm Price of Eggs, United States and Oklahoma, 1910-1938



Source: Ellis, L. S., Supplement, Current Farm Economics, Okla. Agr. Exper. Station, Stillwater, 1910-32, p. 75. Unpublished data, compiled by the Department of Agricultural Economics, Oklahoma A. & M. College. Agricultural Yearbook 1931, p. 943; 1935, p. 630. U.S.D.A. Agricultural Statistics 1938, p. 379; 1939, p. 425.



Oklahoma and from 18 to 20 cents per dozen for the United States prior to the World War; from 25 to 35 cents per dozen for Oklahoma, and from 30 to 40 cents a dozen for United States during the War period; from 20 to 25 cents per dozen for Oklahoma, and from 25 to 27 cents per dozen for the United States during the post-war; from 10 to 12 cents per dozen for Oklahoma and from 14 to 16 cents for the United States farm price per dozen eggs during the early part of the depression period; from 15 to 17 cents for Oklahoma and from 20 to 22 cents for the United States during the recovery and recession periods. <sup>16/</sup>(Table 11).

From 1916 through 1930, the average spread between the two prices was three cents. The World War Number I was accompanied by a sharp upward movement of both the United States and Oklahoma farm prices of eggs. In 1921, a sudden drop in prices came. From 1922 to 1926 there was a steady gradual rising of both the United States and the Oklahoma farm price of eggs. However, it was interrupted by a slight business recession in 1927. Again a period of rising prices started from 1928 to 1929. But the year 1930 to 1933 saw a steady decline of both prices, however, not so sharp as it was in 1921. From 1934 to 1936 the United States and Oklahoma farm price of eggs gradually moved upward in a similar direction having an average spread of about four cents during this period. A slight business recession from 1937 to 1938 caused another decline in both the United States and Oklahoma egg prices, but not so sharp as it was during the recession period of 1926 to 1927.

---

<sup>16/</sup> Recovery did not start until the spring of 1934 and prices continued to rise until the end of 1936. Business recession came toward the end of 1937 and continued to operate until the end of 1938.

Table 11 . United States Farm Price of Eggs,  
1910-1938

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Mean
Year:	15	15	15	15	15	15	15	15	15	15	15	15	
	(Cents per dozen)												
1910	26	19	16	19	18	18	18	18	21	24	27	30	19
1911	29	27	21	15	15	14	15	16	19	22	26	29	18
1912	25	21	18	17	17	17	17	18	21	24	28	28	19
1913	30	25	22	16	16	17	16	18	21	26	31	33	20
1914	32	24	16	16	17	17	18	19	22	24	28	32	19
1915	29	24	18	17	16	16	16	17	21	25	29	31	19
1916	38	36	25	18	18	19	20	22	25	30	35	38	23
1917	49	46	31	28	30	30	29	30	36	38	41	46	33
1918	55	35	34	30	31	30	33	35	39	45	52	59	35
1919	61	48	40	36	39	36	38	41	43	51	59	70	42
1920	54	31	27	37	38	36	38	42	49	55	63	67	39
1921	32	31	20	20	19	20	24	29	31	39	50	51	25
1922	38	30	25	20	21	20	20	21	27	35	44	47	25
1923	35	34	20	22	22	21	21	24	30	35	46	46	25
1924	49	36	24	19	20	21	23	26	32	38	46	50	26
1925	36	29	24	24	25	26	28	30	31	38	47	48	28
1926	37	29	21	25	25	26	26	26	32	37	45	48	28
1927	38	29	23	20	20	18	21	23	29	36	42	43	24
1928	33	32	28	23	24	24	26	27	31	35	40	43	27
1929	38	32	21	23	24	26	27	30	34	38	32	46	28
1930	38	32	21	22	20	19	19	21	25	26	26	27	18
1931	22	14	17	16	13	14	15	17	19	23	26	26	14
1932	17	13	10	10	10	11	12	15	17	22	24	28	14
1933	21	11	10	10	12	10	13	13	16	21	29	22	17
1934	18	16	14	14	13	13	14	17	21	24	30	27	23
1935	25	26	19	20	21	21	22	23	26	28	30	29	23
1936	23	24	18	17	18	19	20	22	24	28	32	30	22
1937	23	20	20	20	18	18	19	20	23	25	28	26	21
1938	22	16	16	16	18	18	19	21	25	27	29	28	20

Source: U. S. D. A. Yearbook 1931, page 943; 1935, p. 630. U. S. D. A.,  
Agricultural Statistics 1938, p. 379; 1939, p. 425.

Factors Affecting Prices, 1910 to 1915. From 1910 to 1915 both the Oklahoma and the United States farm prices of eggs were rather stable, the price ranges being three cents and two cents, respectively. (Tables 10 and 11). It appears evident that changes in supplies were almost entirely of a seasonal nature during these years.<sup>17/</sup> Furthermore, demand must also have remained relatively stable for the price to have maintained so steady a level.

Factors Affecting Prices from 1916 to 1920. It will be noted in Figure XIV that both the United States and the Oklahoma farm price of eggs were in violent upswing with the United States prices reaching its peak in 1919 and Oklahoma farm price in 1920. Credit inflation during the war time years operated to raise the price of eggs. Thus, the influence of greatly increased consumer demand was influential in supporting prices of eggs. Since this commodity is the most readily available for consumption of any livestock products sold upon central markets, it therefore responds quickly to fluctuations in industrial earnings. Some idea of the level of industrial earning during the war-time is indicated by indices of factory payrolls during 1919 and 1920, Table 12.

Factors Affecting Prices in 1921. The sharp recession in business activity with accompanying reductions in factory employment and payrolls greatly reduced the demand for eggs in 1921. (Table 12). Credit deflation reacted upon egg prices as well as prices of other commodities.

Factors Affecting Prices in 1922 to 1930. Credit inflation and feverish activity in domestic trade were responsible for this period of

---

<sup>17/</sup> Hedges, T. R., Unpublished data, compiled by the Department of Agricultural Economics, Oklahoma Agricultural and Mechanical College.

Table 12 Indices of Employment and Payrolls in Manufacturing Industries, United States, 1920 to 1938  
Monthly Average 1923-25 = 100

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Mean
<b>Employment</b>													
1920	114.3	113.3	115.6	114.0	111.1	110.1	107.5	107.4	106.1	102.1	95.6	88.0	107.1
1921	75.5	81.7	82.9	82.3	82.0	81.2	79.7	81.1	83.0	83.7	83.7	82.7	82.0
1922	84.4	84.5	85.8	85.7	87.9	89.6	90.5	93.1	95.1	96.6	98.0	99.1	90.7
1923	100.2	102.4	104.6	105.1	105.2	105.7	104.6	104.8	105.3	104.0	102.8	101.1	103.8
1924	100.1	101.7	101.9	100.1	96.8	93.8	90.6	92.0	94.2	95.0	94.5	96.1	96.4
1925	96.6	98.3	99.2	99.1	98.6	98.4	98.3	100.0	101.9	102.6	102.2	101.6	99.8
1926	101.0	102.0	102.5	101.8	100.8	100.8	99.7	101.8	104.0	103.6	101.6	100.3	101.7
1927	98.6	100.2	100.9	100.3	99.6	99.7	98.6	99.9	101.2	100.2	98.0	96.5	99.5
1928	95.3	97.2	98.2	97.8	97.8	98.5	98.4	101.1	103.3	103.5	102.6	102.1	99.7
1929	101.7	104.1	105.4	106.7	106.5	106.8	107.3	109.2	110.3	109.0	104.6	100.7	106.0
1930	98.2	98.3	97.9	97.3	95.6	93.6	90.4	89.7	90.7	88.7	85.4	82.9	92.4
1931	80.1	80.8	81.2	81.2	80.6	78.8	77.7	77.9	78.3	75.5	72.7	72.0	78.1
1932	70.0	71.2	70.1	67.8	65.2	63.2	61.0	62.7	66.1	67.2	66.3	65.0	66.3
1933	63.3	64.7	62.3	63.9	66.8	71.6	76.2	81.3	85.0	84.6	81.2	79.5	73.4
1934	78.8	83.7	87.2	88.8	89.0	87.8	86.3	87.4	83.5	85.9	84.3	85.6	85.7
1935	86.6	89.6	91.1	91.3	91.0	88.3	88.9	91.7	93.8	95.2	94.5	94.0	91.3
1936	92.1	92.2	93.4	94.7	95.4	95.9	97.1	99.9	101.9	103.2	103.3	104.9	97.8
1937	102.7	105.3	107.7	108.8	108.9	107.5	108.0	109.1	109.0	107.2	101.1	94.5	105.8
1938	87.8	88.2	87.7	85.7	83.4	81.6	-	-	-	-	-	-	-
<b>Payrolls</b>													
1920	119.1	117.4	125.4	122.3	123.0	124.4	120.0	120.6	118.9	114.4	105.0	95.5	117.2
1921	80.6	80.1	81.0	78.8	77.4	75.6	71.6	73.6	73.3	71.9	70.9	72.7	75.6
1922	69.6	72.5	74.4	73.6	77.0	80.0	80.2	84.1	87.0	88.7	92.2	94.5	81.2
1923	93.9	97.8	102.6	103.8	107.3	107.2	102.9	103.1	103.8	105.9	103.9	102.7	102.9
1924	98.9	104.5	104.5	102.0	97.6	91.9	85.3	89.1	92.4	94.6	93.1	97.6	96.0
1925	96.0	101.0	102.8	100.4	101.4	99.2	97.5	100.1	99.4	105.3	105.1	105.5	101.1
1926	101.6	105.7	107.2	104.9	103.5	103.7	99.4	103.8	105.1	108.0	104.3	103.6	104.2
1927	98.6	104.8	106.6	105.0	104.8	103.2	99.1	102.5	102.1	102.7	98.9	100.0	102.4
1928	96.6	102.0	103.5	101.3	102.3	102.7	100.2	104.6	106.2	109.5	106.2	106.9	103.5
1929	103.8	110.8	113.0	114.1	114.3	112.7	108.6	113.5	114.4	113.7	104.9	101.2	110.4
1930	96.5	99.6	99.7	98.5	96.1	92.9	85.0	83.8	84.8	82.9	77.3	75.4	89.4
1931	70.3	74.4	75.9	74.7	73.6	69.9	66.6	66.4	63.8	61.8	58.3	57.8	67.8
1932	54.0	55.4	53.6	49.6	46.8	43.7	40.4	41.4	44.0	45.8	43.6	42.4	46.7

(Continued)

Table 12. (Continued)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Mean
1933	40.3	41.4	38.3	40.4	44.4	49.1	52.7	58.6	61.3	61.1	57.3	56.5	50.1
1934	56.1	62.9	67.2	69.6	69.7	67.4	62.8	65.1	60.8	64.0	62.5	66.2	64.5
1935	67.6	76.6	74.3	74.4	71.7	69.9	69.1	74.0	76.7	79.4	78.6	80.4	74.1
1936	76.7	78.6	80.3	82.3	83.9	84.1	83.4	87.1	86.9	92.5	94.0	98.8	85.6
1937	94.4	99.7	105.6	109.3	109.7	107.0	104.6	108.2	104.4	104.5	92.9	84.2	102.0
1938	75.0	76.9	77.1	74.6	72.9	70.8	70.6	76.9	81.0	83.8	84.1	86.5	77.5

Source: Statistical Abstract of the United States, 1939, p. 333, No. 373.

rising farm prices both for the United States and Oklahoma. Chief among these factors was increasing industrial earnings as indicated by indices of factory payrolls and employment. (Table 12).

Factors Affecting Prices, 1931 to 1933. The decline in egg prices both for Oklahoma and the United States began in late 1930 and reached the seasonal low points of seven cents per dozen in 1932 and eight cents in 1933 for Oklahoma. The United States average farm price in the same period reached a seasonal low point of 10 cents in 1932 and 11 cents in 1933. The seasonal high point for Oklahoma during 1931 and through 1933 was about 25 cents and, for the United States, 30 cents. Again, reduced purchasing power of consumers as a result of sharply reduced factory employment and payrolls was the dominant factor responsible for the decline of both the United States and Oklahoma farm price of eggs. Credit deflation and financial stringency had a depressing effect on the price of eggs. (Figure VIV).

Factors Affecting Prices 1934 to 1938. It is interesting to note that this period in general is characterized by the beginning of business recovery. Egg prices, in line with prices in general, began to rise. However, this rise was interrupted by a slight business recession which began late in 1937 and in 1938. Both the United States and Oklahoma farm price of eggs dropped by about two cents per dozen.

## CHAPTER III

Seasonal Variation of Oklahoma Egg Prices  
Under Different Conditions

In analyzing the seasonal variation of egg prices, usually very little is gained if the analysis is limited to constructing a long-time average. The whole seasonal pattern may change during the period of the average in response to various conditions. In this study, two important factors which affect the seasonal variation have been used in various combinations to try to establish basic seasonal patterns which may be expected to recur. It is not to be expected of course that these seasonal patterns will recur without variation. Factors other than those analyzed may cause important variations in any given year, but the pattern should form a useful starting point from which to analyze the effect of these other variables.

Seasonal Variation of Oklahoma Egg Prices in Years When the General Price Level is Rising and in Years When It is Falling. The average seasonal pattern of Oklahoma egg prices is in general the same regardless of the character of the external factors which have been used in this analysis. This is due to the seasonal nature of production of eggs. Prices usually reach their peak in December and their lowest point in June. However, some finer differences in the pattern become evident when the influence of certain price affecting factors is isolated.

In years when the trend of the general price level is gradually upward, the seasonal rise of Oklahoma egg prices has been maximized and the downward swing in prices of some commodity has been minimized. In contrast, in years when the general price level is falling, the seasonal

Table 15. Seasonal Variation of Oklahoma Egg Prices  
In Years When the General Price Level is Rising

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	(cents)											
1920	56	41	35	15	32	30	30	32	40	48	54	61
1923	32	24	19	19	18	18	16	17	24	28	35	40
1925	46	29	21	22	21	22	20	23	25	31	43	44
1928	54	25	21	20	21	20	20	21	25	27	34	40
1934	35	12	12	11	11	10	11	15	19	19	23	25
1935	22	24	17	19	20	18	18	19	22	22	26	27
1936	19	21	14	15	16	16	17	19	23	24	30	29
1937	23	20	18	19	16	15	15	15	16	18	22	24
Total	247	194	157	158	155	149	147	161	194	217	267	290
Mean	31	24	20	20	19	19	18	20	24	27	33	36

Seasonal Variation of Oklahoma Egg Prices in Years  
When the General Price Level is Falling

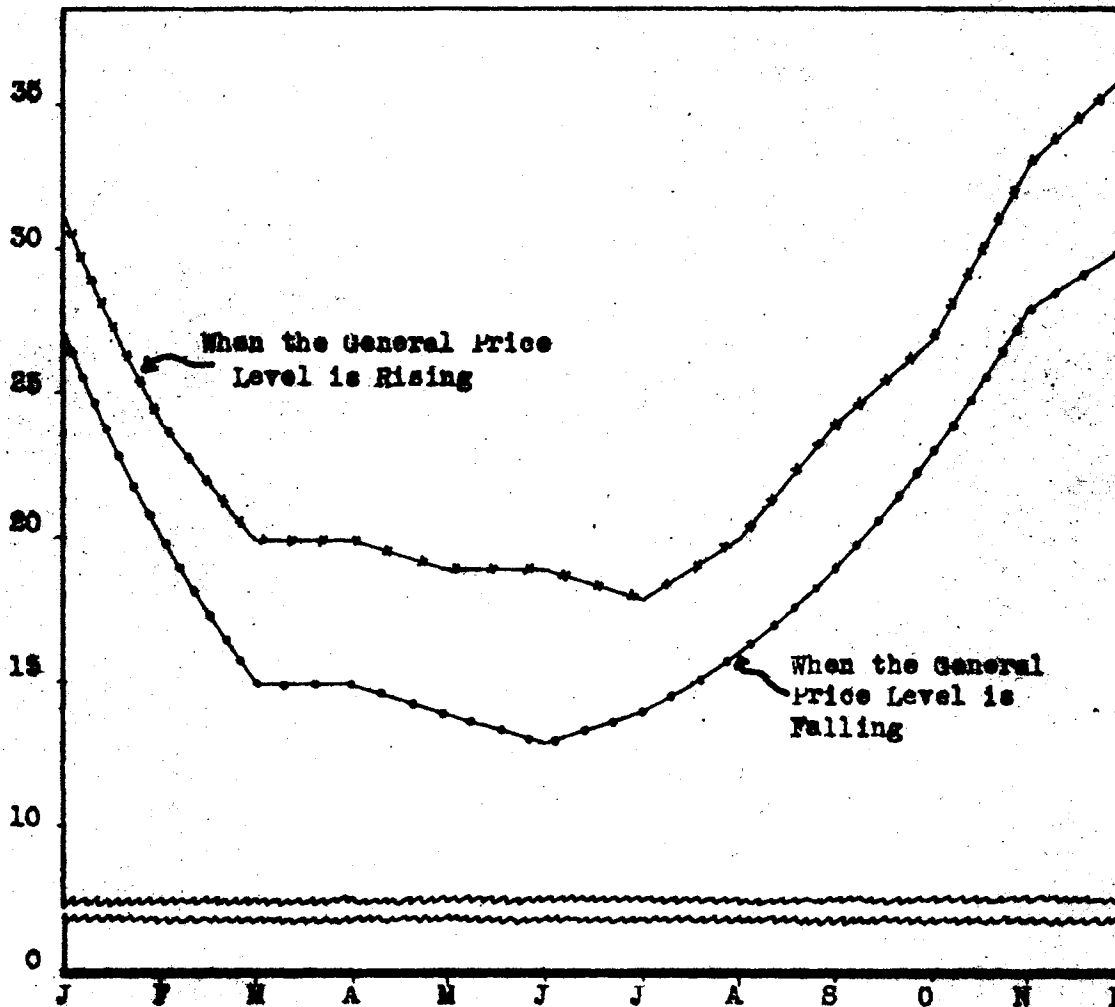
1921	48	24	21	16	15	15	18	20	25	30	42	41
1924	31	29	16	16	16	17	16	19	22	28	37	42
1926	32	27	20	22	22	21	21	22	25	28	37	42
1927	31	25	17	17	16	15	16	18	23	28	35	38
1930	34	31	18	19	16	15	14	16	20	21	25	22
1931	18	11	14	13	10	11	10	12	13	16	19	22
1932	15	10	7	7	7	7	7	10	12	13	20	24
1933	18	8	7	6	9	7	8	9	12	17	20	18
1938	19	13	14	13	15	14	14	15	18	21	23	25
Total	244	178	134	131	124	120	124	141	166	207	256	274
Mean	27	20	15	15	14	13	14	16	19	23	28	30

Sources: Statistical Abstracts of the United States, 1939, No. 555, p. 516,  
Kilis, L. S., Supplement Current Data Economics, Oklahoma  
Agricultural Experiment Station, Stillwater, 1910-32, p. 75,  
Hedges, T. R., Unpublished data, Compiled by the Department of  
Agricultural Economics, Oklahoma A. and M. College.



Figure XV. Seasonal Variations of the Oklahoma Farm Price of Eggs in Years When the General Price Level is Falling and When it is Rising.

Cents  
per Dozen



Source: Statistical Abstracts of the United States, 1939, No. 355, p. 316. Ellis, L. S. Supplement Current Farm Economics, Oklahoma Agricultural Experiment Station, Stillwater. Hedges, T. R., Unpublished data. Compiled by the Department of Agricultural Economics, Oklahoma A. and M. College.

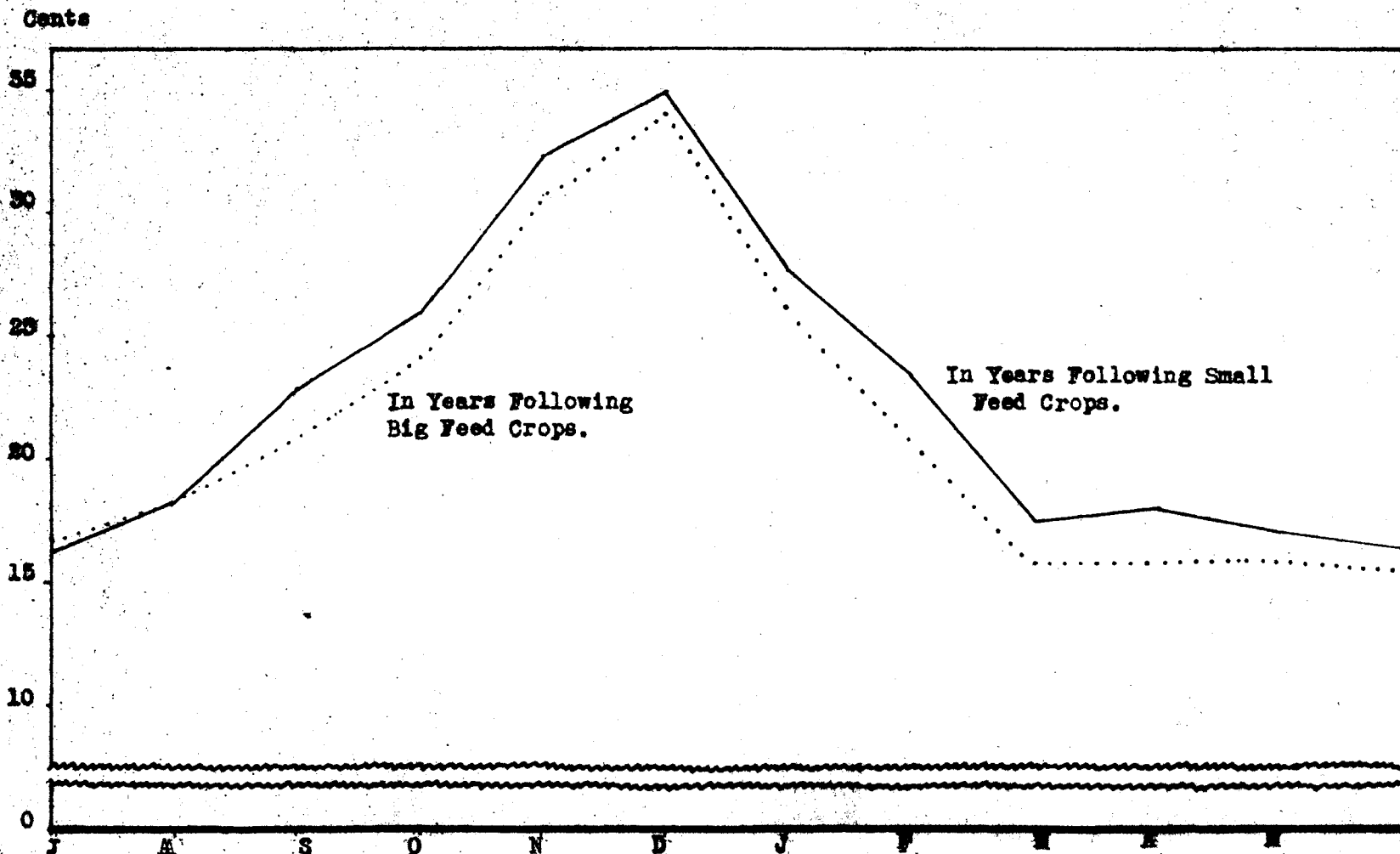
drop of Oklahoma egg prices has been maximized while the seasonal rise has been minimized. This is due to the fact that the movement of the general price level which is among the most important factors affecting egg prices, either emphasizes or partly counteracts the influence of seasonal differences in egg supplies. Table 13 and Figure XV show the seasonal differences in the Oklahoma egg prices in years of increasing general price levels and in periods of decreasing general price levels.

Seasonal Variation of Oklahoma Egg Prices in Years Following Small Crops and Large Crops in Oklahoma. In years following short crops, there is a tendency for the rise in prices of Oklahoma eggs to be more marked and the downward swing to be less marked. On the other hand, in periods following large crops the downward swing of Oklahoma egg prices is more pronounced and the upward movement less pronounced. The reason for this is that in years following short crops, it is more difficult for Oklahoma farmers to maintain large flocks on farms, due to higher feed costs. This situation in turn decreases market supplies of eggs and ultimately causes prices to advance more than seasonally; whereas in periods following large crops, farmers can maintain large flocks on farms because more feed supplies at a lower cost are available. The resultant increase in market supplies of eggs will ultimately react to intensify the seasonal drop in prices of Oklahoma eggs. Figure XVI and Table 14 illustrate the seasonal movement of Oklahoma egg prices in periods following poor crops and large crops in Oklahoma.

Seasonal Variation of Oklahoma Egg Prices in Years Following Small Feed Crops and Large Feed Crops When the General Price Level is Rising.

On first thought it might be assumed that in years following short crops when the general price level is ascending, the seasonal rise of Oklahoma

Figure XVI. Seasonal Variations of Oklahoma Egg Prices in Years Following Big Feed Crops and Small Feed Crops in Oklahoma.



Source: U. S. D. A. Agricultural Statistics 1939, p. 9-59. Ellis, L. S., Supplement Current Farm Economics, Oklahoma Agricultural Experiment Station, 1910-32, p. 70. Hedges, T. R., Unpublished data, Compiled by the Department of Agricultural Economics, Oklahoma A. and M. College.

Table 14. Seasonal Variation of Oklahoma Egg Prices In Years Following Small Feed Crops in Oklahoma

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
1922-1923	15	15	21	26	34	41	52	24	19	19	18	18
1923-1924	16	17	24	28	35	40	51	29	18	18	18	17
1925-1926	20	23	25	31	43	44	52	27	20	22	22	21
1929-1930	21	23	28	32	37	43	54	31	18	19	18	18
1930-1931	14	16	20	21	25	22	18	11	14	15	10	11
1934-1935	11	15	19	19	23	25	24	22	17	19	20	18
1936-1937	17	19	25	24	30	29	28	20	18	19	18	15
Total	114	128	160	181	227	244	194	164	122	127	118	115
Mean	16.5	18.5	22.9	25.9	32.4	34.9	27.7	23.4	17.4	18.1	17.0	16.4

Seasonal Variation of Oklahoma Egg Prices in Years Following Big Feed Crops in Oklahoma

1921-1922	18	20	23	30	42	41	25	26	25	18	17	15
1924-1925	16	19	22	28	37	42	48	29	21	22	21	22
1926-1927	21	22	25	28	37	42	51	25	17	17	16	15
1929-1929	20	21	23	27	34	40	29	27	23	21	20	22
1931-1932	10	12	15	16	19	22	15	10	7	7	7	7
1935-1936	18	19	22	22	24	27	19	21	14	15	16	16
1937-1938	15	18	20	22	22	24	19	18	14	15	15	14
Total	118	128	148	160	215	238	182	151	111	111	112	109
Mean	16.9	18.3	20.9	24.1	30.7	34.0	26.0	21.6	15.9	15.9	16.0	15.6

Source: U.S.D.A. Agricultural Statistics, 1939, p. 9-59. Ellis, L. S., Supplement Current Farm Economics, Oklahoma Agricultural Experiment Station, Stillwater. Hedges, T.R. Unpublished data. Compiled by the Department of Agricultural Economics, Oklahoma A. and M. College.

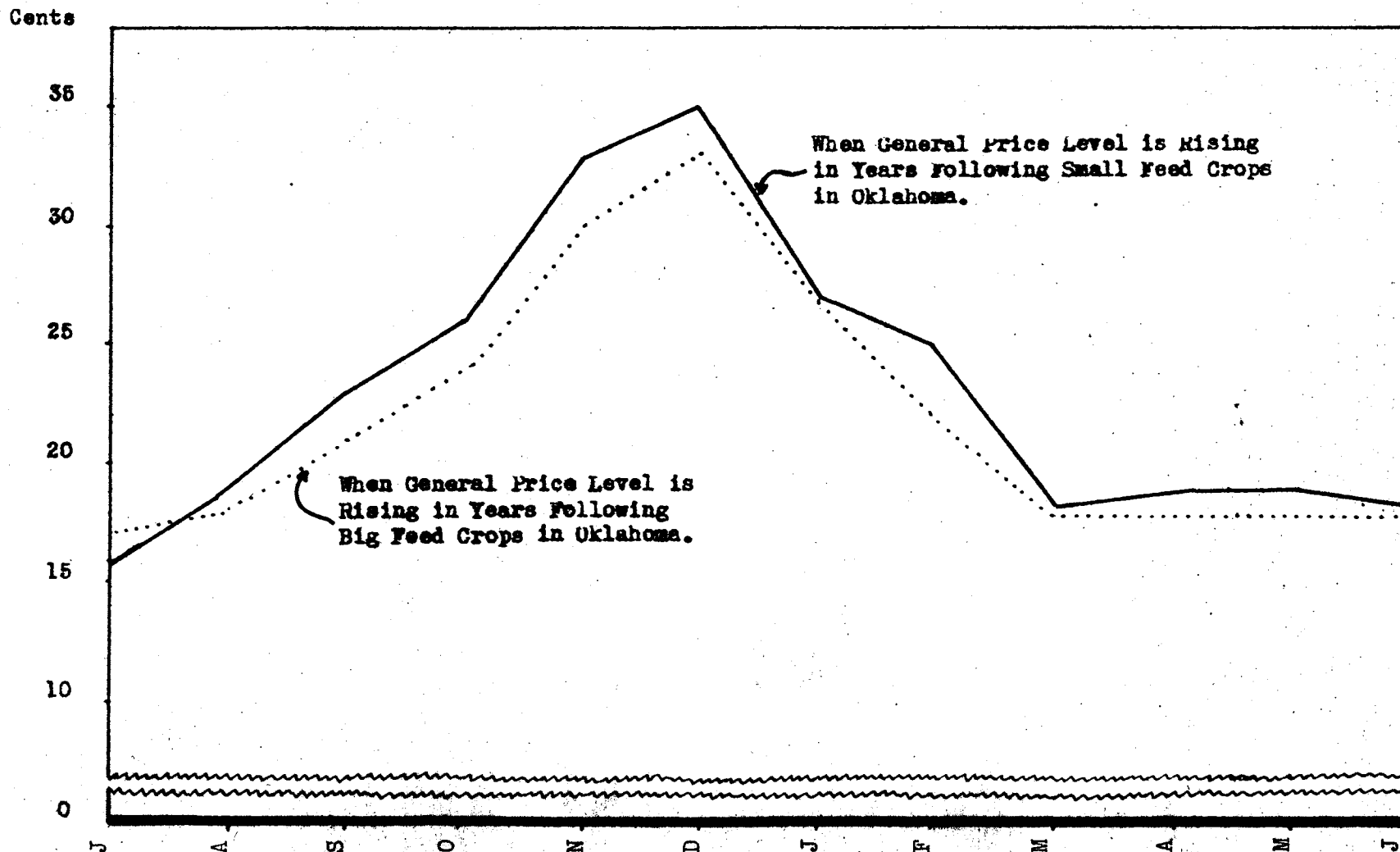
egg prices would be maximized and the seasonal fall in prices minimized. Similarly, in years following large crops when the trend of the general price level is still upward, the seasonal drop of Oklahoma egg prices might be emphasized because of the pressure of large supplies while the seasonal rise in prices might be minimized. (Figure XVII). However, from the data in this study there is not enough evidence to substantiate any general conclusions. The factors used above may have a counteracting influence upon one another. For instance, during the period of rapidly increasing general price level, it is possible that the seasonal rise in the price of eggs will be emphasized regardless of the depressing effect of large feed crops. On the other hand, if the increase in the general price level is only moderate while the increase in feed supplies is very great, the seasonal rises in egg prices might be less than average.

In any particular year, the combined influence of the general price level and of feed supplies will depend upon the relative strength of the two factors. There are not sufficient data to permit a more detailed breakdown, but it seems safe to assume that agricultural workers who are familiar with price data should be able to roughly judge the relative strength of the two factors at any given time for price forecasting purposes.

Seasonal Variation of Oklahoma Egg Prices in Years Following Small Feed Crops and Large Feed Crops When the General Price Level is Falling.

Figure 18 illustrates the danger of drawing any conclusions based upon averages which combine the factors of feed supplies and the general price level. The Chart would seem to indicate that, while the general price level is falling, the seasonal rise in price is less marked in years with small feed supplies than in years with large feed supplies. Obviously, no such general conclusion could be drawn because, logically, the opposite should

Figure XVII. Seasonal Variations of Oklahoma Farm Price of Eggs in Years Following Big feed Crops and Small feed Crops When the General Price Level is Rising.



Source: Statistical Abstracts of the United States, No. 373, 1939, p. 333. Ellis, L. S., Supplement Current Farm Economics, Okla. Agri. Exper. Station, Stillwater, 1910-32. Hedges, T. R., Unpublished data, Compiled by the Dept. of Agri. Economics, Okla. A. and M. College.

Table 15. Seasonal Variation of Oklahoma Farm Price  
of Eggs in Years Following Big Feed Crops  
When the General Price Level is Rising

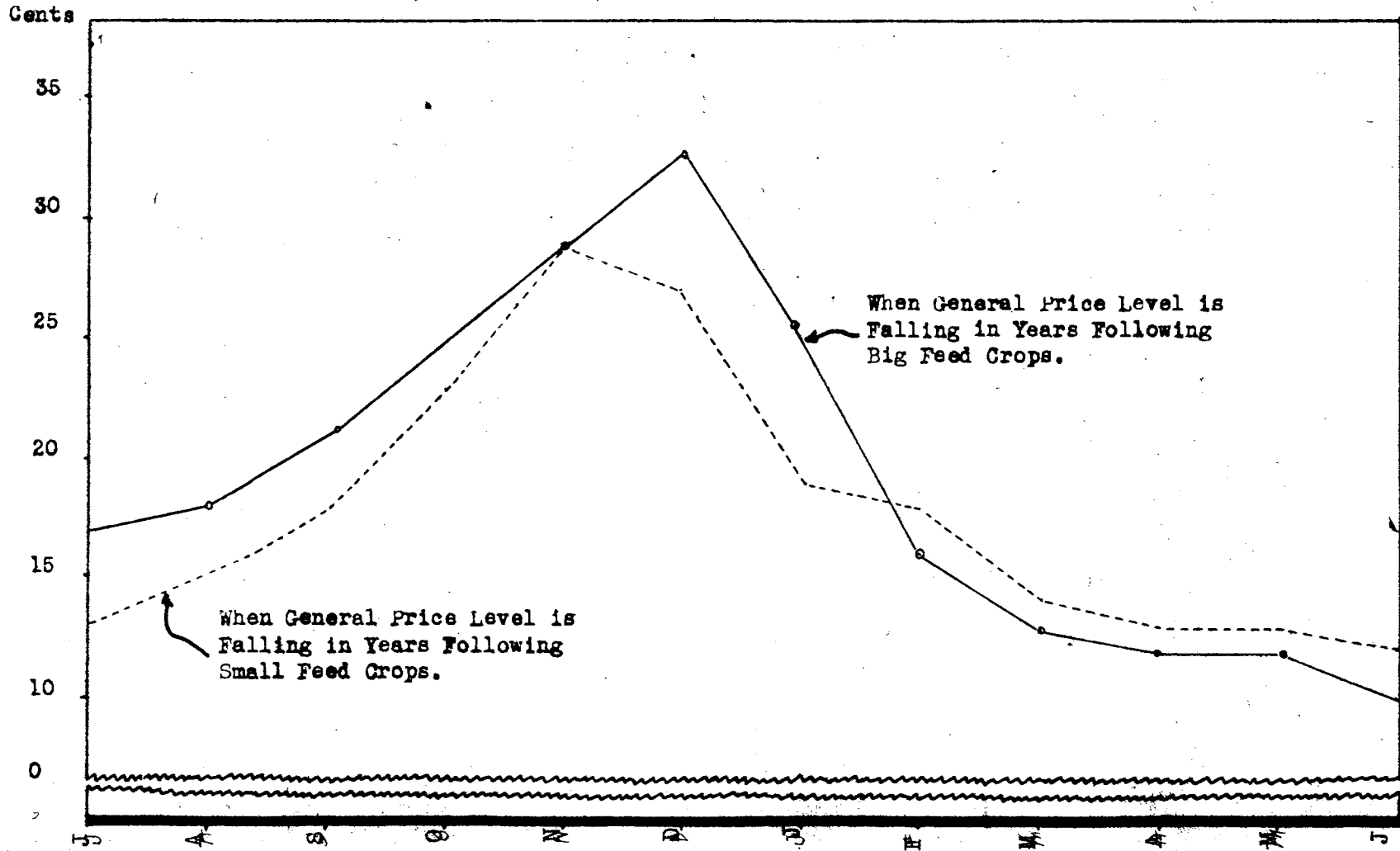
Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
	(cents)											
1924-1925	18	19	22	28	37	42	45	29	21	22	21	22
1928-1929	20	21	25	27	54	40	29	27	25	21	20	22
1955-1956	18	19	22	22	28	27	19	21	14	15	16	16
1957-1958	18	15	18	18	22	24	18	18	14	15	15	14
Total	69	74	85	85	119	153	111	90	72	71	72	74
Mean	17	18	21	24	30	33	27	22	18	18	18	18

Seasonal Variation of Oklahoma Egg Prices in Years  
Following Small Feed Crops When the General Price Level is Rising

1923-1924	18	17	24	28	35	40	51	29	18	18	18	17
1925-1926	20	23	25	31	45	44	32	27	20	22	22	21
1954-1955	11	15	19	19	25	25	22	24	17	19	20	18
1956-1957	17	19	25	24	30	28	25	20	18	19	16	15
Total	64	74	91	102	151	153	108	100	71	76	74	71
Mean	16	19	23	26	33	33	27	25	18	19	19	18

Sources: Statistical Abstracts of the United States, No. 555, p. 518.  
Kilis, L. S. Supplement Current Farm Economics, Oklahoma  
Agricultural Experiment Station, 1910-52, p. 75. Hedges, T.R.  
Unpublished data, Compiled by the Department of Agricultural  
Economics, Oklahoma A. and M. College.

Figure XVIII. Seasonal Variations of Oklahoma Farm Prices of Eggs in Years Following Big Feed Crops and Small feed Crops, When the General Price Level is Falling.



Source: Statistical Abstracts of the United States, No. 373, 1939, p. 333. Ellis, L. S., Supplement Current Farm Economics, Okla. Agri. Exper. Station, Stillwater, 1910-32, p. 75. Hedges, T. R., Unpublished data, Compiled by the Dept. of Agri. Economics, Okla. A. and M. College.



**Table 15. Seasonal Variations of Oklahoma Egg Prices  
in Years Following Big Feed Crops and When the  
When the General Price Level is Falling**

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June
	Cents Per Dozen											
1920-1921	30	32	40	48	54	61	48	24	21	16	13	15
1926-1927	21	22	25	28	37	42	31	25	17	17	16	13
1931-1932	10	12	13	16	19	22	13	10	7	7	7	7
1932-1933	7	10	12	19	20	24	18	8	7	8	9	7
1938-1939	19	15	14	13	15	14	15	14	13	13	13	12
Total	87	89	104	124	145	163	125	81	65	61	58	54
Mean	17	18	21	25	29	33	25	16	13	12	12	10

**Seasonal Variations of Oklahoma Egg Prices in Years  
Following Small Feed Crops and When the General  
Price Level is Falling**

1921-1922	18	20	23	30	42	41	25	26	15	16	17	15
1930-1931	14	16	20	21	25	22	18	11	14	13	10	11
1933-1934	8	9	12	17	20	18	16	16	12	11	11	10
Total	40	45	55	68	87	81	59	53	41	40	38	36
Mean	13	15	18	23	29	27	20	18	14	13	13	12

Sources: Statistical Abstracts of the United States, No. 575, 1939, p. 333.  
 Ellis, L. S., Supplement Current Farm Economics, Oklahoma  
 Agricultural Experiment Station, Stillwater, 1910-32, p. 75.  
 Hedges, T. R., Unpublished data, Compiled by the Department of  
 Agricultural Economics, Oklahoma A. and M. College.

be true. The reason for this apparently illogical result lies in the selection of years. Table 16 shows that the period of 1920 and 1921, which were years following large crops when the general price level was falling, prices were much higher than at any period which was used in calculating the seasonal price averages in times following when the general price level was falling. The presents of these unusually high prices in the averages tends to obscure the true results and emphasizes the fact that detailed conclusions may be drawn only for particular conditions.

Comparison of the Seasonal Variation of the Oklahoma City Wholesale and Oklahoma Farm Price of Eggs. During much of the time the seasonal movements of the Oklahoma City wholesale and the Oklahoma farm price of eggs were in general similar from January through December. However, Oklahoma's farm prices of eggs underwent greater changes and remained lower than the Oklahoma City wholesale prices during the entire period. (Figure XIX). The egg prices received by farmers experienced a slight increase during March and April; then it gradually dropped until it reached its lowest point in July, while the Oklahoma City wholesale price continually declined from March to July. (Table 17).

There are no available data for monthly receipts of Oklahoma eggs. This would likely be of great value in explaining the seasonal movements of the Oklahoma City wholesale and the Oklahoma farm price of eggs. However, Table 18 shows the egg receipts of Chicago by months from 1929 to 1938. Most of the eggs exported from Oklahoma go to Chicago, (See Table 21), and it may be assumed that Oklahoma egg prices are strongly influenced by Chicago market conditions. It will be noted in Figure XI that late winter until early summer is the period of greatest Chicago egg receipts which reach their peak in April. During this period almost 80 per cent of the total Chicago egg supply is received. The downward trend in Chicago egg

Table 17. Seasonal Variations Between Oklahoma City  
Wholesale and Oklahoma Farm Price of Eggs  
1930-39

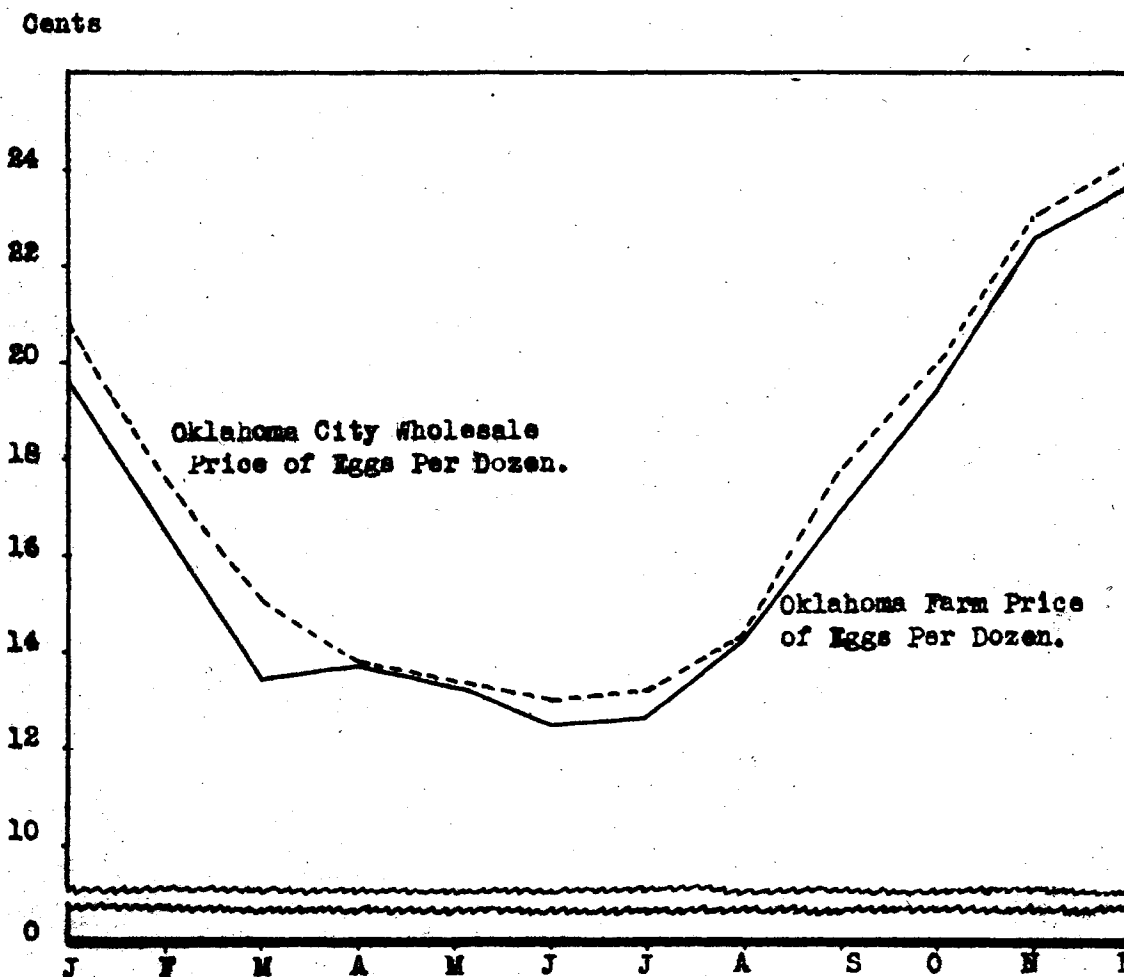
(Fifteen of each month; Cents per doz.)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Oklahoma												
1930	34	31	18	19	16	15	14	16	20	21	25	22
1931	18	11	14	13	10	11	10	12	13	16	19	22
1932	13	10	7	7	7	7	7	10	12	18	20	24
1933	18	8	7	8	9	7	8	9	12	17	20	18
1934	15	12	12	11	11	10	11	15	19	19	23	25
1935	22	24	17	19	20	18	18	19	22	22	24	27
1936	19	21	14	15	16	16	17	19	23	24	30	29
1937	23	20	18	19	16	15	15	15	16	18	22	24
1938	19	13	14	13	15	14	14	15	18	21	23	25
1939	15	14	13	13	13	12	12	12	14	18	20	19
TOTAL	196	164	134	137	133	125	126	142	169	184	226	235
Mean	19.6	16.4	13.4	13.7	13.3	12.5	12.6	14.2	16.9	19.4	22.6	23.5

Oklahoma City												
1930	35	30	20	16	16	15	14	14	22	22	29	24
1931	23	24	17	16	10	9	10	10	12	16	20	22
1932	20	18	16	10	7	12	10	11	13	19	19	25
1933	18	10	9	8	8	7	8	9	13	18	23	18
1934	15	18	13	12	12	12	12	17	23	19	24	24
1935	24	22	16	16	20	18	19	20	22	21	24	28
1936	19	22	15	18	17	16	17	18	25	27	31	31
1937	26	19	18	16	15	14	15	15	14	15	22	24
1938	14	15	13	14	16	15	15	16	19	22	24	25
1939	14	17	14	12	13	12	12	13	15	18	21	20
TOTAL	208	177	151	138	134	130	132	143	178	199	230	241
Mean	20.8	17.7	15.1	13.8	13.4	13.0	13.2	14.3	17.8	19.9	23.0	24.1

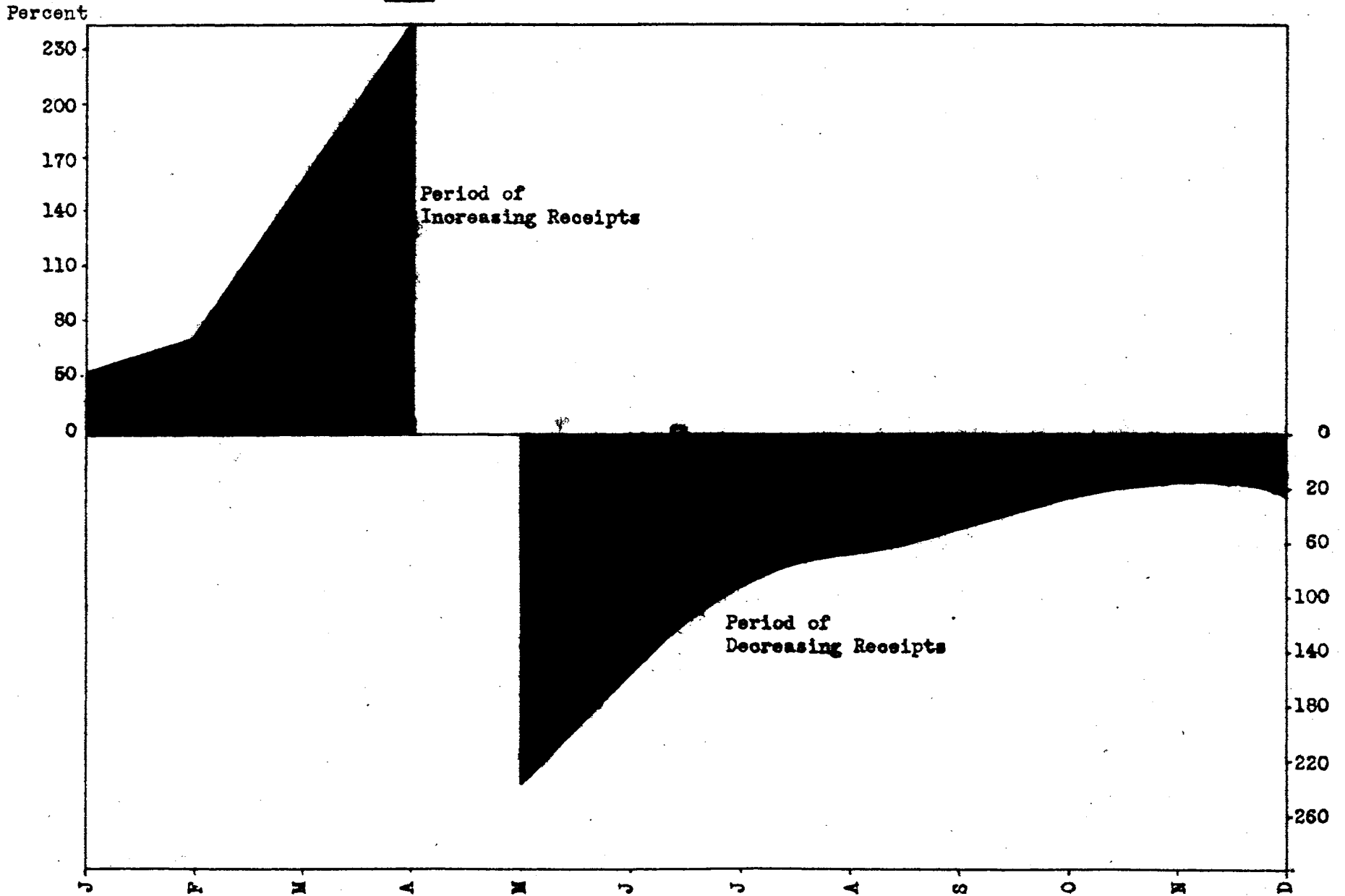
Source: Daily Oklahoman, Ellis, L. S., Supplement Current Farm Economics, Okla. Agri. Exper. Station, Stillwater, 1910-32, p. 75.  
Hedger, T. H., Unpublished data, compiled by the Dept. of Agri. Economics, Okla. A. & M. College

Figure XIX. Comparison of the Seasonal Variations Between the Oklahoma City Wholesale and the Oklahoma Farm Price of Eggs, 1930-1939.



Source: The Daily Oklahoma, 1930-39. Ellis, L. S. Supplement Current Farm Economics, Oklahoma Agricultural Exper. Station, 1910-1932. Hedges, T. R., Unpublished data, Compiled by the Department of Agricultural Economics, Oklahoma A. and M. College.

INDEX 67  
**Figure XX** . Egg Receipts at Chicago by Months, 1929-38



Source: U.S.D.A. Agricultural Statistics, 1939, p. 422, Table 585.

Table 18. Index of Seasonal Egg Receipts at Chicago, 1929-38

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	(Thousand Cases)												
1929	206	222	554	924	799	554	342	301	210	135	62	89	
1930	202	308	641	927	747	516	381	231	211	131	69	111	
1931	231	367	634	867	709	559	290	238	191	96	61	71	
1932	178	224	378	657	663	437	258	219	161	104	60	73	
1933	189	229	491	881	1,049	524	260	206	133	76	37	60	
1934	125	267	647	889	736	445	217	146	100	53	29	43	
1935	92	158	480	768	762	444	352	222	159	120	51	86	
1936	164	187	499	812	827	574	373	252	174	94	61	135	
1937	213	209	523	824	953	600	348	255	163	107	61	95	
1938	199	238	690	868	780	503	280	205	145	115	73	111	
Total	1,799	2,409	5,537	8,417	8,025	5,256	3,101	2,275	1,647	1,031	584	874	*
Means	179.9	240.9	553.7	841.7	802.5	525.6	310.1	227.5	164.7	103.1	58.4	87.4	4,095.5
Seasonal													
Index	53	71	162	247	235	154	91	67	48	30	17	26	

Source: U.S.D.A., Agricultural Statistics, 1939, p. 422, Table 585.

\* Mean of the twelve monthly means equals 341.29.

receipts continues from April through December, reaching its lowest point in November. (Table 18). These changes in the seasonal distribution of Chicago egg receipts may in turn affect the seasonal variation of the Oklahoma City wholesale and Oklahoma egg prices.

Comparison of Seasonal Variation in Egg Prices at Oklahoma City and at Five Central Markets. The average seasonal trend of wholesale egg prices at Oklahoma City and at five central markets was, in general, closely similar during the entire period, January to December. However, Oklahoma City and San Francisco wholesale prices underwent sharper changes during the entire period. (Figure XXI). The average seasonal low of about 80 percent for the five central markets was usually reached by the end of April as compared with 76 percent, the seasonal low point for Oklahoma City. The seasonal high of 130 percent for the five leading markets was generally reached in November, and the seasonal high point of 138 percent for Oklahoma City was reached at about the same time. (Table 19 and 20).

A probable reason for Oklahoma City wholesale prices having a wider seasonal variation compared with the five central markets is the concentrated source of supplies. Oklahoma City, in general, got most of its egg supplies from different sections of the state within the radius of 75 to 150 miles. The five central markets, on the other hand, received their supplies from different states of the union. In the case of the five central markets, a deficit in one area may not entirely determine a seasonal change because the supplies from that area may constitute only a minor part of the total. Seasonality of supply from the limited geographical area which supplies the Oklahoma City market will not be modified

Table 19 . Eggs, Wholesale Price Per Dozen at Five Central Markets,  
and Oklahoma City, 1929-38

Market, grade: and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	(Cents per dozen)												
<b>New York 1/</b>													
<b>Fresh Firsts:</b>													
1929	39.9	41.9	33.2	27.6	30.9	30.7	32.3	34.4	36.5	39.6	48.5	51.3	
1930	42.7	38.5	25.7	25.7	23.6	23.1	21.4	24.5	25.1	25.2	33.5	27.1	
1931	23.4	17.7	20.9	18.9	18.0	17.0	19.1	19.6	21.1	23.9	29.2	25.6	
1932	18.8	16.9	13.9	14.2	14.8	14.1	15.1	17.3	20.9	24.0	30.6	31.4	
1933	23.3	13.5	13.7	13.7	14.2	13.4	15.1	14.2	18.0	19.9	21.1	20.7	
1934	22.3	19.2	17.7	16.8	16.4	16.1	16.6	20.6	22.1	23.6	27.6	27.3	
1935	29.8	30.3	21.5	23.9	25.3	24.3	24.3	25.9	27.1	27.0	29.1	27.5	
1936	24.5	31.0	21.2	20.1	21.5	22.3	22.8	23.6	24.7	26.9	33.3	31.5	
1937	24.9	26.6	23.4	22.5	20.9	20.5	21.4	21.2	23.1	23.6	26.4	25.3	
1938	22.2	18.0	18.0	18.8	20.9	20.5	21.5	22.1	25.3	26.8	28.8	27.7	
<b>Total</b>	<b>271.8</b>	<b>251.6</b>	<b>209.2</b>	<b>202.2</b>	<b>206.5</b>	<b>202.0</b>	<b>209.6</b>	<b>223.4</b>	<b>243.9</b>	<b>260.5</b>	<b>308.1</b>	<b>295.4</b>	<b>2884.2</b>
<b>Mean</b>	<b>27.18</b>	<b>25.16</b>	<b>20.92</b>	<b>20.22</b>	<b>20.65</b>	<b>20.20</b>	<b>20.96</b>	<b>22.34</b>	<b>24.39</b>	<b>26.05</b>	<b>30.81</b>	<b>29.54</b>	<b>288.43</b> <u>¢</u>
<b>Seasonal index</b>	<b>113</b>	<b>105</b>	<b>87</b>	<b>84</b>	<b>86</b>	<b>84</b>	<b>87</b>	<b>93</b>	<b>101</b>	<b>108</b>	<b>128</b>	<b>123</b>	
<b>Chicago 2/</b>													
<b>Fresh Firsts:</b>													
1929	35.4	38.9	29.6	26.2	29.5	28.8	30.8	34.0	36.3	41.3	47.0	47.4	
1930	40.8	33.4	24.3	23.7	21.4	22.1	21.1	24.9	25.9	28.2	33.7	26.4	
1931	21.1	16.2	19.2	17.5	16.7	15.9	17.9	19.1	20.0	24.3	29.3	24.6	
1932	17.5	14.6	12.2	12.5	12.9	12.5	13.8	17.0	20.0	23.7	29.7	28.8	
1933	20.6	12.9	12.4	12.7	13.2	12.2	14.0	13.7	17.0	19.5	22.6	19.3	
1934	20.3	17.0	16.6	15.6	15.2	14.7	15.3	19.5	12.3	23.5	26.7	26.2	
1935	27.5	27.8	21.2	23.0	24.0	22.9	22.9	24.6	26.1	26.8	29.2	27.2	
1936	23.2	27.5	19.6	19.2	20.2	21.0	21.4	22.6	24.8	27.4	33.5	29.6	
1937	23.2	21.7	22.6	21.8	20.1	19.1	20.0	20.1	22.2	22.1	25.6	24.3	
1938	20.9	16.9	17.4	17.8	19.5	19.3	20.3	21.0	24.1	25.3	27.3	25.4	
<b>Total</b>	<b>250.5</b>	<b>228.9</b>	<b>195.1</b>	<b>190.0</b>	<b>192.7</b>	<b>188.5</b>	<b>197.5</b>	<b>216.5</b>	<b>237.7</b>	<b>262.1</b>	<b>304.6</b>	<b>279.4</b>	<b>2741.5</b>
<b>Mean</b>	<b>25.05</b>	<b>22.69</b>	<b>19.51</b>	<b>19.00</b>	<b>19.27</b>	<b>18.85</b>	<b>19.75</b>	<b>21.66</b>	<b>23.77</b>	<b>26.21</b>	<b>30.46</b>	<b>27.94</b>	<b>274.15</b> <u>¢</u>
<b>Seasonal index</b>	<b>110</b>	<b>99</b>	<b>85</b>	<b>83</b>	<b>84</b>	<b>82</b>	<b>86</b>	<b>95</b>	<b>104</b>	<b>115</b>	<b>133</b>	<b>122</b>	

(Continued)



Table 19 . (Continued). Eggs, Wholesale Price Per Dozen at Five Central Markets, and Oklahoma City, 1929-38

Market, grade: and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	(Cents per dozen)												
<b>Boston</b>													
<b>Western Firsts:</b>													
1929	38.4	42.4	33.2	28.1	31.2	31.2	32.5	34.7	37.3	40.0	48.8	51.5	
1930	43.3	37.2	28.3	26.3	23.8	23.9	22.4	24.5	25.4	26.7	33.6	28.8	
1931	24.2	18.3	21.2	19.7	18.5	17.4	19.3	19.8	21.4	25.0	29.4	26.8	
1932	19.7	16.9	13.5	14.1	14.8	14.4	15.3	17.5	21.0	24.3	31.3	32.0	
1933	23.5	14.1	14.1	14.2	14.6	13.9	15.5	14.7	18.2	21.2	24.9	21.9	
1934	23.0	19.9	18.3	17.4	16.8	17.0	17.2	20.8	23.0	24.4	27.3	27.4	
1935	30.1	29.8	22.4	24.7	25.8	24.8	25.4	26.7	28.0	28.1	30.9	27.1	
1936	35.7	31.2	21.9	20.5	22.2	23.0	23.7	25.0	25.8	27.9	29.7	5/	
1937	5/	23.2	24.5	23.6	21.9	21.5	22.7	22.3	23.9	24.4	27.2	5/	
1938	22.8	18.7	19.1	19.2	21.5	21.4	22.7	23.4	27.7	28.5	5/	5/	
Total	250.7	251.7	214.5	207.8	211.1	208.5	215.7	229.2	251.7	270.5	280.1	215.3	2970.2
Mean	29.97	25.17	21.45	20.78	21.11	20.85	21.57	22.92	25.17	27.05	28.12	20.78	297.02
Seasonal index	117	102	87	84	85	84	88	95	102	109	125	124	100
<b>Philadelphia</b>													
<b>Extra Firsts:</b>													
1929	41.6	45.8	34.1	29.3	32.8	33.4	35.7	39.0	43.7	49.4	55.9	58.2	
1930	48.1	39.6	27.8	27.8	26.0	27.1	28.0	31.9	26.3	35.4	44.2	33.2	
1931	26.4	19.7	22.1	20.3	19.2	20.7	24.0	24.7	25.7	28.5	34.7	31.4	
1932	21.8	18.7	16.1	16.4	17.1	17.4	18.7	22.0	25.1	29.7	36.8	35.9	
1933	26.6	16.6	15.7	15.9	16.2	16.7	19.1	19.4	24.2	28.2	33.3	29.6	
1934	25.8	22.0	21.1	18.9	18.9	20.7	22.4	26.9	28.8	32.7	40.0	34.7	
1935	34.0	32.5	24.2	26.2	27.6	28.1	30.1	34.1	39.1	42.7	40.2	34.5	
1936	29.5	32.6	24.9	23.5	24.5	27.3	30.2	33.5	38.3	42.3	44.6	36.7	
1937	28.1	25.5	26.9	26.2	25.5	27.0	30.7	32.2	38.0	39.3	39.3	33.3	
1938	26.5	23.2	22.9	24.2	26.1	28.3	31.5	34.5	39.0	42.4	41.2	38.8	
Total	306.4	274.2	255.8	225.7	233.9	245.7	270.4	298.2	328.2	370.8	410.2	368.3	3589.8
Mean	30.64	27.42	23.58	22.57	23.39	24.57	27.04	29.82	32.82	37.08	41.02	36.63	358.98
Seasonal index	103	92	79	77	79	83	91	100	110	125	138	123	100

(Continued)

Table 19 . (Continued). Eggs, Wholesale Price Per Dozen at Five Central Markets, and Oklahoma City, 1929-38

Market, grade: and year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	(Cents per dozen)												
<b>San Francisco 7/</b>													
<b>Fresh Extra:</b>													
1929	31.2	25.8	25.0	25.9	31.2	32.5	37.2	41.3	44.1	51.5	49.2	44.1	
1930	36.4	26.5	28.5	28.5	27.2	25.5	25.7	30.9	37.4	39.7	41.0	27.0	
1931	22.5	19.0	19.5	19.5	19.5	19.5	22.5	26.3	31.2	37.5	33.0	29.3	
1932	20.0	16.8	16.8	16.5	16.4	16.6	18.2	19.8	26.8	30.2	33.3	27.6	
1933	25.5	14.8	15.5	15.8	17.0	17.5	19.2	21.1	26.3	28.7	28.8	23.8	
1934	19.4	16.7	15.5	15.6	16.4	18.4	20.9	25.5	28.3	33.5	32.3	27.0	
1935	26.5	22.7	21.5	25.1	26.4	26.5	27.1	29.2	33.2	36.5	33.5	29.1	
1936	22.0	20.1	19.6	20.0	20.5	22.3	25.7	29.0	32.8	35.5	36.5	32.3	
1937	25.0	21.5	22.4	22.5	22.5	22.5	23.7	27.5	34.0	34.4	34.0	28.7	
1938	22.1	19.1	19.5	19.8	21.8	24.0	27.3	30.6	33.0	36.7	36.1	35.2	
Total	248.7	205.0	203.6	207.2	218.9	225.8	247.5	281.2	327.1	364.2	387.7	303.1	3190.0
Mean	24.87	20.50	20.36	20.72	21.89	22.58	24.75	28.12	32.71	36.42	35.77	30.31	319.0 3/
Seasonal index 94		77	77	78	82	85	93	108	123	137	135	114	
<b>Oklahoma City 8/</b>													
1929	37	33	24	22	20	22	23	30	31	35	37	35	
1930	35	30	20	16	16	15	14	14	22	22	29	24	
1931	23	24	17	16	10	09	10	10	12	16	20	22	
1932	20	18	16	10	07	12	10	11	13	19	19	20	
1933	18	10	09	08	08	07	08	09	13	18	23	18	
1934	15	18	13	12	12	12	12	17	23	19	24	24	
1935	24	22	16	16	20	18	19	20	22	21	25	28	
1936	19	22	15	18	17	16	17	18	25	27	30	25	
1937	26	19	16	16	15	14	15	15	14	17	25	24	
1938	14	15	13	14	16	15	15	16	19	22	24	22	
Total	231	211	161	148	141	140	143	160	194	216	258	242	2208
Mean	23.1	21.1	16.1	14.8	14.1	14.0	14.3	16.0	19.4	21.6	25.6	24.2	220.3 3/
Seasonal index 126		115	88	81	77	76	78	87	106	118	138	132	

Source: U.S.D.A., Agricultural Statistics 1939, p. 426, Table 591. Daily Oklahoman, 1929-38.

1/ The American Produce Review. 2/ Chicago Dairy Produce Yearbook. 3/ Mean of the 12 months mean for New York 24.04; Average of 12 months mean for Chicago 22.55; Average of 12 months mean for Boston 24.75; Average of 12 months mean for Philadelphia 29.75; Average of 12 months mean for San Francisco 26.58; Average

- 
- 3/ of 12 months mean for Oklahoma City 18.36.  
4/ Bureau of Agricultural Economics.  
5/ Not available.  
6/ Jackson Hensler Report (Philadelphia) until 1935, when grade was changed to U. S. Extra and price reported by Bureau of Agricultural Economics.  
7/ Bureau of Agricultural Economics. Prices in this table are straight averages of daily prices.  
8/ Oklahoma City wholesale price of eggs per dozen is taken on the fifteen of each month.

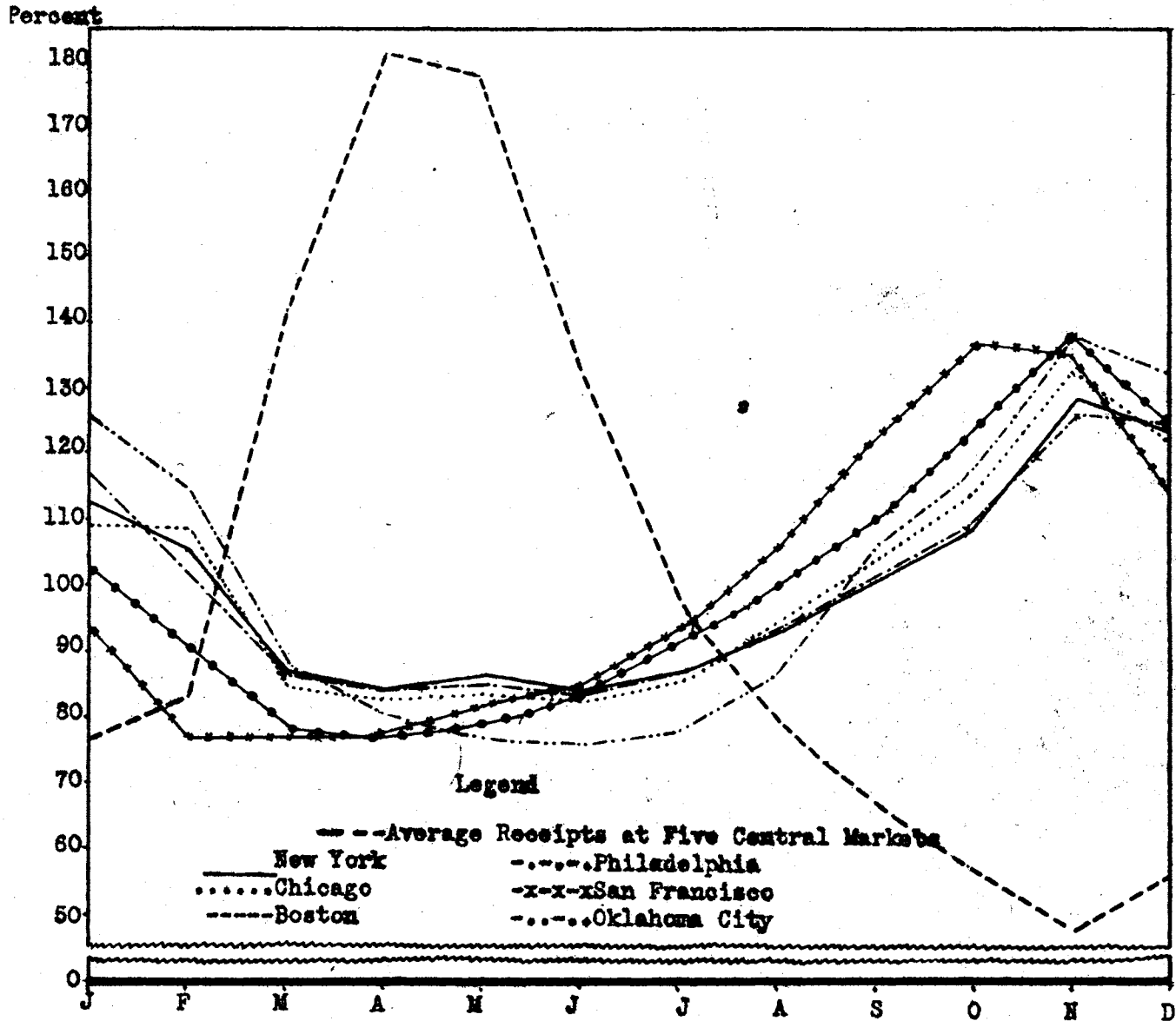
Table 20. Eggs: Average Receipts at Five Leading Markets by Months, 1929-38

Market and: year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
(1,000 cases)													
<b>Five Markets</b>													
1929	918	831	1,816	2,595	2,332	1,814	1,409	1,150	944	735	532	632	
1930	918	1,110	2,063	2,632	2,305	1,728	1,378	943	953	716	592	769	
1931	1,026	1,264	2,046	2,478	2,236	1,862	1,180	1,053	943	722	578	651	
1932	937	1,089	1,435	1,916	1,971	1,496	1,080	1,035	854	739	604	618	
1933	1,051	988	1,639	2,281	2,502	1,575	1,152	953	733	651	513	590	
1934	808	1,165	1,824	2,051	1,927	1,452	1,009	828	665	655	589	642	
1935	750	858	1,488	1,866	1,963	1,503	1,170	856	781	704	641	784	
1936	889	811	1,798	2,022	2,088	1,727	1,247	980	782	662	482	687	
1937	1,076	924	1,648	2,029	2,154	1,677	1,188	941	791	671	666	701	
1938	926	969	1,639	1,978	1,916	1,509	1,035	889	716	646	574	760	
Total	9,899	10,000.9	17,113.9	21,848	21,454	15,343	11,848	9,628	8,153	6,891	5,771	6,834	145,217
Mean	929.9	1,000.9	1,713.9	2,184.8	2,145.4	1,634.3	1,184.8	962.8	815.3	689.1	577.1	683.4	1,4521.7 <sup>1/</sup>
Seasonal Index	77	83	142	181	177	133	98	80	67	57	48	56	

Source: U.S.D.A., Agricultural Statistics 1939, p. 422, Table 585.

<sup>1/</sup> Mean of the twelve monthly means equals 1210.14.

Figure XVI. Seasonal Variations in the Index of Wholesale Prices of Eggs in Five Leading Markets and Oklahoma City. Based on Monthly Prices 1929-38



Source: United States Department of Agriculture, Agricultural Statistics 1939, p. 422, Table 585.

by being averaged with supplies from other regions. Thus, the geographical areas of the Oklahoma City market supply is characterized by homogeneity as contrasted with heterogeneity for the five central markets.

Another factor which may further explain the greater seasonal fluctuation of Oklahoma City prices is that, in the months of low production, mainly November, December, January, and the first half of February, there are not enough fresh eggs produced by the farmers of Oklahoma to meet the demands of the towns and cities of the state. The shortage can be corrected only by bringing eggs into the state from other points. When this is done, prices at Oklahoma City must cover the marketing costs incurred in such movement. These extra costs will, in part, explain why there is such a high seasonal peak of prices in Oklahoma City while at other seasons the prices at the central markets are regularly above the Oklahoma City prices.

## CHAPTER IV

Movement of Eggs from Oklahoma and Their Relationship  
to Egg Production and Prices

Annual Egg Shipments from Oklahoma to Chicago. The long time trend of egg shipments from Oklahoma to Chicago was generally downward from 1922 to 1938. It will be observed in Table 21 that the average yearly shipment of eggs from Oklahoma to Chicago has fluctuated more violently than those to the other three central markets. However, there seems to be a general relationship between the shipment of eggs from Oklahoma to Chicago and the output going to the other markets.<sup>19/</sup> However, this relationship between the egg shipments from Oklahoma to Chicago and the three other central markets does nothing to explain why Chicago receipts of Oklahoma eggs has a much wider yearly variation than the three other leading markets. Because Chicago is the more important market for Oklahoma egg shipments, it would have seemed more reasonable had the shipments to the other three markets been more variable and the Chicago shipments more constant. There are no statistical data to explain this pronounced up and down movement of Oklahoma receipts at Chicago.

Annual Egg Production in Oklahoma. The yearly egg production in Oklahoma is shown in Table 21. It will be noticed that the egg production as a whole decreased from 1928 through 1936, while the Chicago egg receipts from Oklahoma moved up and down without any close correlation with the volume of egg production. This seems to indicate a lack of consistent relationship between Oklahoma egg production and shipments to the Chicago wholesale market. Oklahoma shipments may be less affected by Oklahoma

---

<sup>19/</sup> Markets included are New York, Boston, and Philadelphia.

Table 21. Shipment of Eggs from Oklahoma to Four Central Markets,  
the Annual Production of the State and the Chicago Wholesale  
Prices, 1922 to 1939.

Year	Number of eggs produced on farms in Oklahoma	Per cent of total	Chicago wholesale price per dozen	New York	Chicago	Phila- delphia	Boston
	(Millions)		(cents)	(Thousand Cases)			
1922	1/		30.0	15	102	3	7
1923	1/		31.0	12	101	5	3
1924	1/		34.0	13	72	0.3	3
1925	1095	7.7	37.0	19	87	8	10
1926	1196	8.4	34.0	23	70	13	6
1927	1222	8.6	30.0	30	82	8	9
1928	1171	8.2	32.4	42	96	11	30
1929	1228	7.9	35.4	42	68	8	19
1930	1071	7.5	27.0	30	35	9	20
1931	1054	7.4	20.1	30	34	6	11
1932	1021	7.1	17.7	14	97	5	12
1933	994	7.0	15.7	16	48	6	5
1934	887	6.2	19.4	13	39	7	5
1935	827	5.8	25.1	7	18	0.4	8
1936	780	5.5	24.1	10	48	2	4
1937	871	6.1	21.9	4	3	0.6	2
1938	944	6.6	21.3	5	15	1	0.1
1939	1/	1/	1/	1	4	0.7	1/
<b>Total</b>	<b>14,261</b>			<b>325</b>	<b>1019</b>	<b>94</b>	<b>154</b>

Source: U. S. D. A. Bureau of Agricultural Economics, Farm Production and Disposition, Chickens and Eggs, 1925-38, Washington D. C., December, 1938 and December 1939. Bureau of Agricultural Economics, Compiled from Reports of Agricultural Marketing Service.

1/ Not available.



production than by production in the major supply areas of the Chicago market, especially in the Middle West. No consistent relationship was found when Chicago wholesale price of eggs was compared with receipts from Oklahoma. It was found that three factors--prices, production, and egg shipments from Oklahoma to the other three central markets mentioned above--failed to explain this persistent wider increase and decrease of egg shipments from Oklahoma to Chicago.

## CHAPTER V

## Cold Storage

The Importance and Uses of Cold Storage. Like transportation, storage in general may be regarded as a function necessary to the efficient performance of the distribution of merchandise. If the merchandise were used by the consumer immediately after it was produced, the flow of goods would not be uninterrupted if there were no storage. But, merchandise is not produced or manufactured simply to meet current needs. Frequently it is produced far in advance of the needs of the consumers. At times, this may be done consciously by the producer, but at other times he may have no choice. Some merchandise may be produced seasonally and consumed regularly all the year around. Many types of farm products fall into this classification. Such commodities as eggs, for instance, fall into this class and will therefore be given a detailed discussion in connection with cold storage functions.

Factors Responsible for the Creation of Cold Storage. The seasonal production of such commodities as eggs makes necessary the use of cold storage, so as to meet the continuous demand of the consumers. Thus, such cold storage facilities, which may be publicly or privately owned, are chiefly found in terminal markets such as New York, Boston, Philadelphia, Chicago, and San Francisco. At times, however, some merchant middlemen take advantage of the opportunity to store eggs for speculative purposes in anticipation of a price rise.

Cold Storage Holding Creates Time Utility. In economic terms, we may think of storage, in general, as creating a time utility by preserving surplus commodities from the time they are produced until the

time they are consumed. Storage, therefore, assists transportation in broadening markets and in adjusting inequalities between supply and demand in different localities. As a consequence, there is a smoother flow of merchandise into the hand of the consumer. Thus, violent price fluctuations are appreciably modified.

The Effect of Cold Storage Holding Upon the Surplus Production and Prices. Cold storage holdings of eggs perform an important marketing function and have a marked influence on prices of eggs, particularly in the fall and winter months, more so than in the "into storage months."<sup>20/</sup> Uneven seasonal production results in a surplus during the spring and early summer, scarcity during the fall and winter, whereas the demand for eggs is relatively constant throughout the year. Therefore, it is one of the functions of the wholesale dealers, or the storage operators to buy enough supplies in the spring and early summer to meet the consumer requirements as nearly as possible during the short supply periods. This is brought about by moving a part of the eggs in the spring through the usual channels for immediate consumption, while the greater part of the remainder is carefully handled, graded, packed, and shipped to terminal markets, such as Chicago, where most of the surplus Oklahoma eggs are sent and then placed in cold storage until fall and winter. The remaining portion of the supply are broken, frozen, and placed in storage.

Movement of Eggs into Cold Storage. "In 1930, about 12 per cent of the total annual production of eggs was stored."<sup>21/</sup> Eggs move into storage

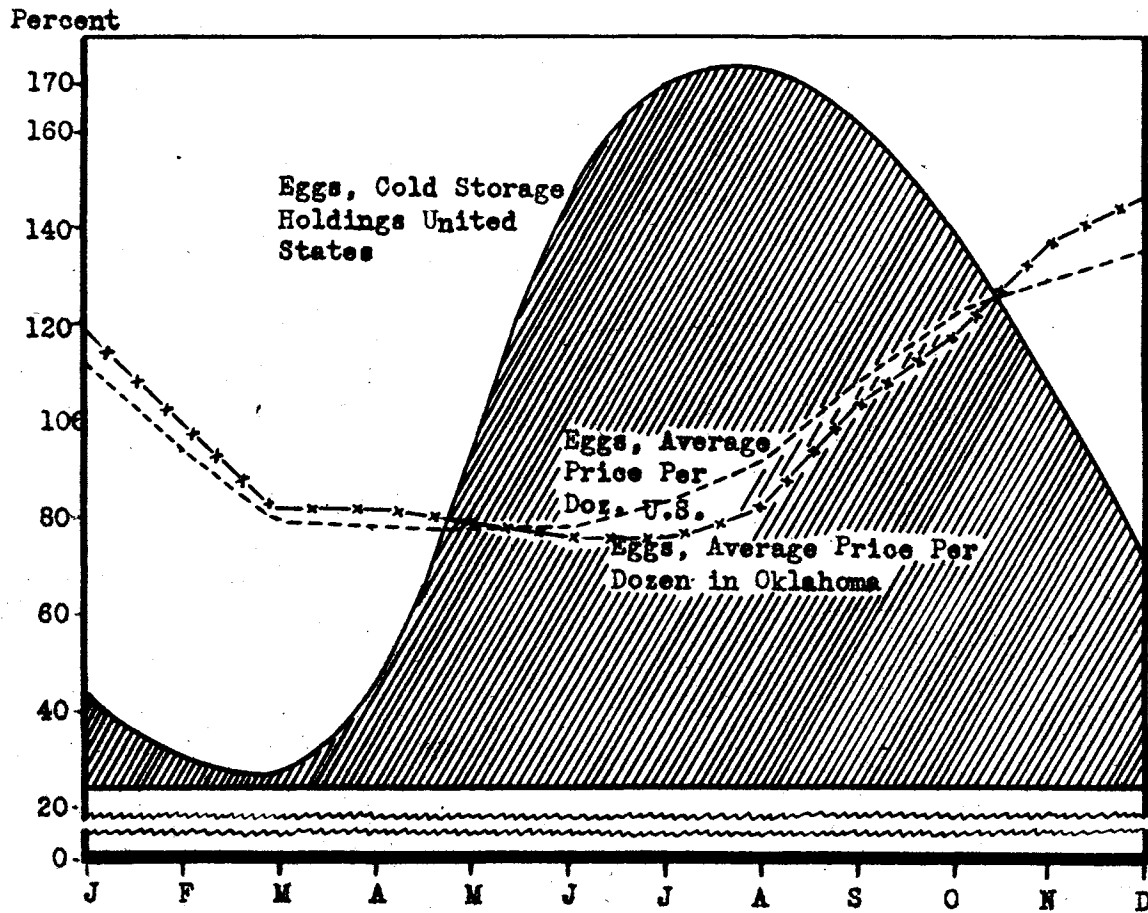
---

<sup>20/</sup> Buechel, F. A.: Egg Prices Manifest Combined Influence of Storage and Consumption, Agricultural Year Book, 1930, p. 234.

<sup>21/</sup> Ibid.

\* The preceding discussion on cold storage is based largely upon the treatment in standard textbooks on Principles of Marketing.

Figure XXIV. Eggs, Shell and Frozen: Storage Holdings, United States, 1929-1938



Source: U.S.D.A., Agricultural Statistics 1939, pp. 424-25.

Table 22. Eggs, Shell and Frozen Gold-Storage Holdings, United States 1929-58

Kind and year:	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
Total case equivalent shell eggs and frozen eggs <sup>2/</sup>	(1,000 Cases)												
1929	5020	1621	1104	1557	5435	8750	10,932	11,576	11,024	9,325	6,939	4,396	
1930	2237	1398	1089	3652	7956	12,232	14,055	14,520	13,608	12,221	9595	6,713	
1931	4271	2897	2519	4123	7777	10,953	12,750	12,781	12,167	10,911	8454	5916	
1932	3738	2733	2202	2672	5323	8,094	9,210	9,263	8,618	7,300	5348	3032	
1933	1740	1402	1319	3121	6655	10,500	12,307	12,533	11,871	10,128	7527	4708	
1934	2436	1476	1209	2313	6429	10,503	12,281	12,434	11,138	9,659	7168	4554	
1935	2502	1545	1160	2637	5596	8,785	10,679	11,269	10,590	9,172	7,159	4996	
1936	2951	1965	1538	2117	5015	8,393	10,250	10,635	10,109	8,579	6152	3850	
1937	2132	1596	1305	2929	6925	11,104	13,257	13,438	12,969	11,293	8981	6127	
1938	3951	3044	2617	4059	6515	8,839	10,212	10,273	9,514	7,915	5958	3670	
Total	29,028	19,568	16,062	29,180	63,624	98,153	115,911	118,925	111,808	96,703	73,241	47,762	*
Means	2902.8	1956.8	1606.2	2918.0	6362.4	9813.3	11591.1	11892.5	11180.8	9670.3	7324.1	4776.2	81964.3
Seasonal index	42	29	24	43	95	144	170	174	163	142	107	70	

Sources: U.S.D.A. Agricultural Statistics 1959, p. 424, Table 538.

1/ Thirty dozen eggs equal one case.

2/ Shell eggs plus frozen eggs expressed in cases. To convert into pounds multiply 35 (1 case of 30 dozen shell eggs = 35 pounds of frozen eggs) x total number of cases.

\* Mean of the twelve monthly means equals 6630.36

Table 23. Eggs: Oklahoma Farm Price of Eggs Per Dozen  
(Fifteenth of Each Month)

	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total
	15	15	15	15	15	15	15	15	15	15	15	15	
	(cents)												
1929	29	27	25	21	20	22	21	23	23	22	27	45	
1930	34	31	18	19	18	15	14	16	20	21	25	22	
1931	18	11	14	15	10	11	10	12	15	16	19	22	
1932	15	10	7	7	7	7	7	10	12	16	20	24	
1933	13	8	7	8	9	7	8	9	12	17	20	18	
1934	15	12	12	11	11	10	11	15	19	19	23	25	
1935	22	24	18	19	20	18	18	19	22	22	24	27	
1936	19	21	14	15	16	16	17	19	23	24	30	29	
1937	23	20	18	19	18	15	15	15	16	18	22	24	
1938	19	15	14	13	15	14	14	15	18	21	23	25	
Total	210	177	145	145	140	135	135	145	185	208	245	259	
Means	21.0	17.7	14.5	14.5	14.0	13.5	13.5	14.5	18.5	20.8	24.5	25.9	212.3*
Season													
Index	119	100	82	82	79	76	76	81	104	118	158	146	

\*Mean of the twelve monthly means equals 17.66

Sources: Ellis, L. S., Shipment Current Farm Economics, Oklahoma Agricultural Experiment Station, Stillwater 1930-1932, p. 75, table 68. Hedges, T. R., Unpublished data, Compiled by the Department of Agricultural Economics, Oklahoma A. and M. College.

TABLE 24. Eggs: Average Monthly Price Per Dozen Received by  
Farmers, United States, 1923-58.

Year	Jan. 15	Feb. 15	Mar. 15	April 15	May 15	June 15	July 15	Aug. 15	Sept. 15	Oct. 15	Nov. 15	Dec. 15	Total
1923	35.0	31.9	28.0	25.0	24.4	26.1	27.2	29.3	35.9	39.4	44.2	45.8	
1924	39.4	31.8	21.3	21.5	20.0	18.6	18.8	20.6	25.5	26.5	31.7	26.8	
1925	22.1	14.1	17.0	18.2	15.5	14.1	14.8	17.5	19.1	22.7	26.4	25.6	
1926	17.2	12.8	10.4	10.2	10.5	10.6	12.0	14.7	17.2	22.5	28.1	28.1	
1927	21.4	11.0	10.1	10.5	11.8	10.1	15.1	15.5	18.5	20.9	24.0	21.8	
1928	17.6	15.8	14.4	15.5	15.5	15.2	14.1	17.2	21.9	25.7	28.8	27.0	
1929	17.6	15.8	18.6	20.0	21.4	21.0	21.7	22.7	26.4	27.9	30.1	28.7	
1930	22.8	25.8	17.5	18.8	18.1	18.9	20.0	22.4	24.5	27.8	32.5	30.5	
1931	25.1	20.1	19.9	20.1	17.9	17.6	19.4	20.4	22.9	25.2	28.0	26.0	
1932	21.6	16.4	16.8	15.9	17.4	18.2	19.9	21.0	24.9	27.1	29.0	27.9	
Total	242.2	208.5	178.4	187.5	183.1	188.4	181.0	188.4	228.4	262.4	300.6	258.0	
Means	24.22	20.85	17.84	18.75	18.31	18.84	18.10	18.84	22.84	26.24	30.06	25.80	258.67*
Seasonal Index	112	94	80	78	78	78	84	92	106	122	139	134	

\*Mean of the twelve monthly means equals 21.56

Source: U.S.D.A. Agricultural Statistics 1959, p. 425, Table 590.

do not lay eggs as heavily as they do in the spring and early summer. Thus, a gradual decrease in egg supplies, with demand remaining constant, will exert further pressure to drive the price upward. But, the cold storage holding tends to weaken this upward movement of the Oklahoma and United States farm prices of eggs. In fact, the chief function of concentration, like, for instance, the U. S. Cold storage holding of eggs, is to equalize, supply, and quantity demanded. This tends to benefit both the consumer and the producer by insuring an adequate supply of eggs throughout the year at reasonable prices and to the producer a higher price during the season in which he has the largest quantity to sell.



## CHAPTER VI

## Summary and Conclusion

This study in price analysis has been made as an introduction for further research work in poultry and egg prices in Oklahoma rather than to intensively cover the price problems of the poultry industry.

It has been found that in 1934, there was an average of 50.4 chickens per farm, 0.3 chickens per acre of land in farms, 4.7 dozen eggs per chicken, and 21.2 dozen eggs per farm in Oklahoma. The trend in the volume of eggs produced in Oklahoma changed very little from one year to another. For example, from 1919 to 1929, production increased by about 1 per cent; from 1930 to 1936 production dropped by 1.5 per cent, and from 1937 it increased by about 2 per cent.

It was found that there were marked differences between the levels of Oklahoma and the United States farm prices of eggs. Under the condition of decreasing prices, the spread between the United States and the Oklahoma farm prices was much narrower than in periods of increasing price levels. The Oklahoma farm price of eggs remained lower than the United States farm price from 1910 through 1938; however, the year-to-year fluctuations in general were similar in direction.

In the analysis of seasonal variation, it was found that in years of rising general price levels, the seasonal rise of Oklahoma egg prices has been maximized and the seasonal drop in prices has been minimized. In years of falling general price levels the seasonal drop of Oklahoma egg prices was more pronounced while the seasonal rise was less pronounced. It was also found that in periods following short crops the seasonal rise of Oklahoma egg prices was more marked while the seasonal fall in prices

was less marked; conversely, in years following large crops, the seasonal fall of Oklahoma egg prices was maximized and the seasonal rise in prices was minimized. It was further found that the seasonal variation of Oklahoma City wholesale price of eggs was subject to greater fluctuations from January to December than the price movements at the five central markets.<sup>22/</sup>

It was found that the trend of Oklahoma egg shipments to Chicago was, in general, downward from 1922 through 1938. The three factors—namely prices, production, and egg shipments from Oklahoma to the other three Central Markets—failed to explain the persistent widening of the up and down fluctuations of egg shipments from Oklahoma to Chicago.

It has also been found that cold storage holdings help to equate supply to demand with price fluctuations smaller than could be obtained in the absence of cold storage facilities.

---

<sup>22/</sup> The Five Central Markets are: New York, Chicago, Boston, Philadelphia, San Francisco.

## BIBLIOGRAPHY

1. Buechel, F. A.: Egg Prices manifest Combined Influence of Storage and Consumption, Agricultural Year Book, 1930, pp 233-236.
2. Department of rural Economics, The Ohio State University: Facts About Egg Prices. October, 1936.
3. Buck, N. S., Fairchild, F. R., Furniss; Competitive Prices, Elementary Economics, Vol I, Chapter XIV. New York, The Macmillan Company, 1930.
4. Ellis, L. S.: Supplement Current Farm Economics, Oklahoma Agricultural Experiment Station, Stillwater.
5. Gans, A. R., Hale, R. F.: Regional Variations in Prices Received by Farmers, 1925-1934, for 10 Selected Commodities. F. C. A. In Cooperation with the Bureau of Agricultural Economics, Washington D. C., May 1939.
6. Greenshields, E. L.: An Analysis of Oklahoma Cattle Prices, (Thesis) 1932.
7. Hedges, T. R. and Blood, K. D.: Oklahoma Farm Price Statistics, 1910-1938. (Revised). Oklahoma Agricultural Experiment Station Brel. No. 238, 1938, pp 108-109.
8. Hedges, T. R.: Chicken and Egg Prices, Unpublished Data, Compiled by the Department of Agricultural Economics, Oklahoma A. & M. College.
9. Knobel, E. W.: Soil Survey of Le Flore County, Oklahoma, United States Department of Agriculture, Bureau of Chemistry and Soil Series, 1931.
10. Layton, M. H.: Soil survey of Pittsburg County, Oklahoma, United States Department of Agriculture, Bureau of Chemistry and Soil Series, 1931, No. 29, 1937.
11. Norton, L. J.: Wilson, B. B.: Prices of Illinois Farm Products, From 1866 to 1929. University of Illinois Agricultural Experiment Station Brel. No. 351, 1930, pp. 525-530.
12. Nelson, P.: Geographical Variability in types of Farming in Oklahoma, Current Farm Economics, February, 1936.
13. Parregaus, E. A.; Wright, B. G.; and Bressler, R. G.: Factors Affecting Prices at Two Connecticut Egg Auctions, Starrs Agricultural Experiment Station, Brel. 225, May, 1938, pp. 4-23.
14. Purdue University, Department of Agricultural Extension: Poultry and Egg Price Facts, Purdue Agricultural Ext. Leaflet No. 160, January, 1933.

15. Poultry and Egg Outlook, 1940.
16. Steckton, J. R.: An Introduction to Business Statistics, 1938, Chapter I, pp. 201-228.
17. Statistical Abstract of the United States, 1938, p. 307.
18. Statistical Abstract of the United States, 1939, pp. 424-428.
19. Thomson, F. L.: Poultry and Egg Prices, Agricultural Prices, 1936, pp. 407-424.
20. United States Census of Agricultural; Vol. II, Part II, 1930, pp. 1310-1315.
21. United States Census of Agricultural; Vol. II, 1935, pp. 728-731.
22. United States Census of Population; Volume I, 1930, pp. 877-878.
23. United States Department of Agriculture: Agricultural Outlook Charts, Poultry and Eggs, 1940. Bureau of Agricultural Economics, October, 1939.
24. United States Department of Agriculture, Agricultural Statistics, 1937, pp. 87, 332-334.
25. United States Department of Agriculture, Agricultural Statistics, 1938, pp. 93, 376-380.
26. United States Department of Agriculture, Agricultural Statistics, 1939, pp. 98, 420-425.
27. United States Department of Agriculture Year Book, 1922, p. 663.
28. United States Department of Agriculture Year Book, 1923, p. 85.
29. United States Department of Agriculture Year Book, 1927, p. 828.
30. United States Department of Agriculture Year Book, 1930, p. 677.
31. United States Department of Agriculture Year Book, 1932, p. 656.
32. United States Department of Agriculture Year Book, 1934, p. 457.
33. United States Department of Agriculture Year Book, 1935, pp. 423, 670.
34. United States Department of Agriculture, Economic Aspects of Chicken and Egg Production in the United States, Bureau of Agricultural Economics, Washington D. C., March, 1934.
35. Ward, G. R.: An Analysis of Monthly Prices of Eggs, J. F. E., Vol. XII, No. III, July, 1930, pp. 480-482.

36. Weildler, Maynard, Beckman, : Principles of Marketing, 1939.  
Chapter 52, pp. 506-507.

**TYPISTS:**

**Nettie Montgomery**

**and**

**Edith McFarland**

**and**

**Bodie Absher**