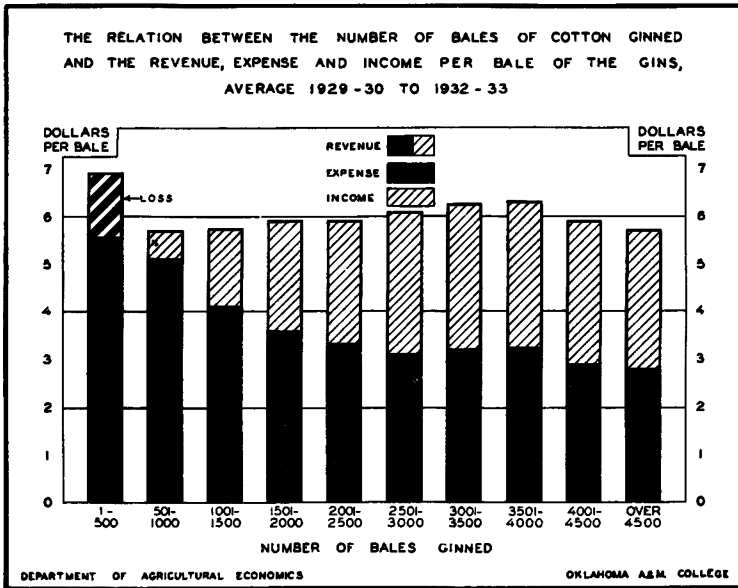


**OKLAHOMA  
 AGRICULTURAL AND MECHANICAL COLLEGE  
 AGRICULTURAL EXPERIMENT STATION**

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## Some Economic Problems of Cotton Gins in Oklahoma

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The revenue per bale of the gins was affected only slightly by the number of bales of cotton they ginned but the expense per bale decreased as the number of bales ginned increased and the income per bale increased as the number of bales ginned increased.

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# SOME ECONOMIC PROBLEMS OF COTTON GINS IN OKLAHOMA<sup>1</sup>

ROY A. BALLINGER and R. C. SOXMAN

## INTRODUCTION

The culture of cotton was probably introduced first in the area now comprising the State of Oklahoma by transplanted tribes of eastern Indians. Several of these tribes had been engaged in the production of cotton prior to their settlement in the Indian Territory, and early accounts mention this crop among the Choctaws as far back as 1850.<sup>2</sup> This early production of cotton did not assume a commercial scale until the influx of settlers in the latter part of the nineteenth century.

A report prepared for the Bureau of the Census in 1879 by R. H. Loughbrige, special agent, estimated the crop of the Indian Territory at 17,000 bales.<sup>3</sup> In 1889 the combined production of the Oklahoma and Indian Territories had increased to 34,540 bales harvested from 71,187 acres. The next decade witnessed an unprecedented pre-emption of public lands and a phenomenal increase in cotton production in the newly settled areas, the Census in 1899 reporting ginnings of 316,864 bales gathered from 530,799 acres. There was thus an annual increase of nearly 100 percent for each of the ten years, 1879 to 1899. The year 1911 ushered in the first million-bale crop, produced from an area of slightly over three million acres. The peak of acreage was attained in 1925 with 5,214,000 acres, and the peak crop in 1926 with 1,760,644 bales.

Oklahoma in a relatively short span of years acquired an important rank among the principal cotton-growing states. During the ten-year period, 1924 to 1933, only three states had a larger average production than Oklahoma. In number of acres harvested the state was second only to Texas for the seven years 1924 to 1930, fifth in 1931, fourth in 1932, and third in 1933. During this period, the average yield of lint cotton per acre was 156 pounds, ranging from a maximum of 210 pounds in 1933 to a minimum of 106 pounds in 1930.

Cotton growing on an important scale developed first in Oklahoma in the eastern portions of the state, but in later years the western part has become the most important producing area. In 1919 the major producing counties were those in the central, south central, and southeastern parts of the state and 70.0 percent of the acreage was in the eastern division.<sup>4</sup> During the period 1919 to 1924 the cotton areas of the state as a whole increased in size 39.5 percent; but these added acres were mostly found in the western half of the state, which increased 90.0 percent while the area in the eastern part only increased 17.9 percent. In spite of the relatively

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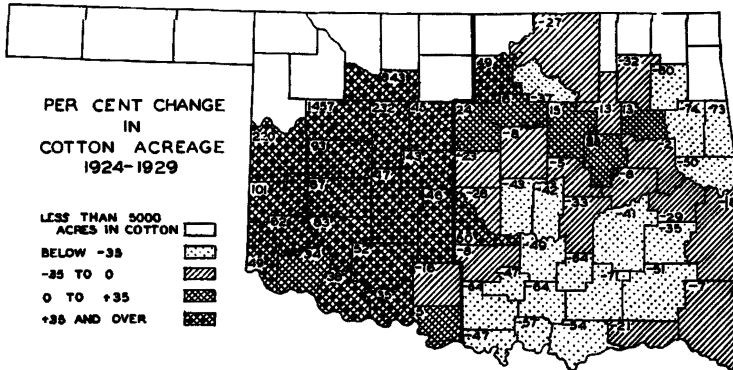
<sup>1</sup> The Division of Cotton Marketing, Bureau of Agricultural Economics, United States Department of Agriculture, cooperated in making this study. A large part of the data used in this study were furnished by the Oklahoma Corporation Commission, for which assistance the authors give grateful acknowledgement.

<sup>2</sup> James L. Watkins, *King Cotton*. James L. Watkins and Sons, New York City, New York, p. 272.

<sup>3</sup> *Ibid.*, 273.

<sup>4</sup> An arbitrary geographic division of the state as established by the Oklahoma Corporation Commission will be utilized throughout this study as a basis for comparative analyses. This division is indicated in Figure 1.

slight growth of cotton acreage in the eastern portion and an actual decrease in seven counties, this section still contained 59.2 percent of the acres planted to cotton in the state in 1924.<sup>5</sup> In the next five years, however, there was a further increase of 58.4 percent in acreage in the western section of the state, while the eastern section showed a decline of 25.5 percent and the state as a whole was reporting a gain of only 8.8 percent.



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Figure 1.—Percentage shift in cotton acreage from 1924 to 1929.

Figure 1 depicts in graphic detail the westward movement of cotton from 1924 to 1929. It will be noted that the entire eastern side declined in this period with the exception of McClain, Logan, Payne, Noble, Creek, Okmulgee, and Wagoner counties. These, with the exception of McClain county, are all in the northern fringe of the area. This rapid shift in crop area will be dealt with later in the discussion of ginning problems as related to these geographic sections.

#### PURPOSE OF STUDY

The rapid growth of cotton production in Oklahoma was necessarily accompanied by a corresponding establishment of ginning facilities. These are important both as an individual industry of sizable magnitude and as having important relationships to the cotton farmers of the state. The valuable and necessary functions of a gin plant in the processing and packaging of cotton are well understood, but there has been comparatively little study of the economic aspects of cotton ginning such as is undertaken in the study.

The purpose of this study is to examine thoroughly the operation of cotton gins as a public service business under the supervision of the State Corporation Commission of Oklahoma. The available records of the Commission, particularly with respect to the number, size, and location of gins, the volume of ginnings, the operating revenues, expenses, and profits of the industry in relation to the variable factors peculiar to the business have been analyzed in order to show the importance, or lack of importance, of various factors in determining the financial success of cotton gins.

<sup>5</sup> The eastern counties which experienced a decline in acres planted to cotton in this period were: Atoka, Carter, Creek, Hughes, Lincoln, Murray, and Seminole.

Most of the data for the study have been tabulated from the individual gin reports made annually to the Corporation Commission of Oklahoma by each operator or operators of a gin plant. The individual annual records are subject to any error or bias that might occur in the compilation of reports by the gin operator. As there is no possibility of estimating the extent of carelessness or intentional deviation, if any, from the true facts, such inherent faults are present in the study. Individual gin plant data have been secured from the records of the State Corporation Commission for the year 1924 and 1926 to 1932, inclusive.\* The analysis of data for a period of years makes possible some consideration of the changes in the financial condition of the gins during the period studied and of the reasons for these changes.

### LEGAL REGULATIONS RELATING TO COTTON GINS

Although the legislatures of several of the major cotton producing states have from time to time enacted legislation pertaining to certain phases of the cotton ginning industry, Oklahoma has regulated cotton gins by law to a greater extent than any other state. Oklahoma is the only major cotton producing state which has declared the industry a public utility and included it among the various enterprises which are controlled and regulated by the state.

Available information regarding the laws affecting cotton gins in most of the important cotton producing states shows that there has been very little regulation of the cotton ginning business in them at any time and that at present most of the acts relating to the industry are mainly privilege taxes similar to those imposed on other businesses of like importance. These license fees or privilege taxes are primarily revenue measures, and the receipts from these sources are usually not used for purposes connected with supervision of the ginning industry. Certain laws once in effect in Texas and Arkansas did imply that the cotton ginning industry possessed some aspects of a public service business, but in neither state were the gins ever designated as public utilities or regulated as such.

Section 35 of Article 9 of the constitution of the State of Oklahoma empowers the legislature to amend at its discretion the sections of the above article which designate those businesses that are deemed semi-public in nature and as such should be regulated as public utilities under the supervision of the State Corporation Commission. The legislature in 1915, under that authority, granted by Section 35, Article 9, included cotton gins in this category and enacted laws to control the industry.<sup>7</sup> The various regulatory powers accorded to the Commission are too lengthy to list in detailed form, and, as they have been altered at various times, only the major powers now vested with the Commission will be discussed in this study.

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\* Data for the first four years were secured by O. W. Herrmann, formerly associate professor of agricultural economics in the department of Agricultural Economics, Oklahoma A. and M. College. Because of the lapse of time since the data for the first four years were secured and because of certain differences in methods used, the analysis will deal more fully with the data secured for the latter four years than with the earlier data.

<sup>7</sup> The laws governing cotton gins are found in Section 3676 to 3682, inclusive, in the Compiled Oklahoma Statutes, 1931.

One of the major items is that concerning the licensing of cotton gins in the state. The section granting this power reads in part as follows:<sup>8</sup>

. . . . that no person or persons or corporation in this state shall be permitted to maintain or operate a gin for the purpose of ginning seed cotton of the general public not produced and owned by the person or persons or the stockholders of the corporation maintaining and operating said gin, without first having secured a license for such purpose from the State Corporation Commission . . . . The fee for said license issued by the Corporation Commission is hereby fixed at three (3) cents per bale, based on the number of bales ginned the previous year as shown by the final report of said gin, on file, with the Corporation Commission. In the case of a new plant or gin that did not operate the preceding year, a license fee of Five Dollars (\$5.00) per gin stand will be charged . . . .

This section clearly establishes the license in the light of a permit or franchise to operate a gin plant and collect tolls for ginning in consideration of the performance of a public service. The status of cotton gins as public utilities and the right of the Commission to license gin plants as such has been upheld in Federal court.<sup>9</sup>

The Commission is also authorized to issue a license to a gin only when the existing facilities are considered inadequate and there is a necessity for the operation of a gin at that location.<sup>10</sup> This section also empowers the Commission to pass on the competency and desirability of the person, persons, or corporation applying for a license to engage in the operation of a gin plant. The original act did not apply to gins already established but has governed the approval of licenses for all gins erected since that time with the possible exception of cooperative gins. The act provides:<sup>11</sup>

. . . . that on the presentation of a petition for the establishment of a gin to be run cooperatively, signed by one hundred (100) citizens and taxpayers of the community where the gin is to be located, the Corporation Commission shall issue a license for said gin.

The Supreme Court of the United States has held this exception unconstitutional, but the court stated, "As applied to cooperatives organized under the 1917 act, we have no reason to doubt that the classification created by the provision might properly be upheld."<sup>12</sup> The cooperative gin in question was organized under the 1919 or capital stock cooperative law, under which it appears that all of the existing cooperative gins in the state are incorporated.

The discretionary authority which delegates to the Commission the right to prohibit the erection of gins is fortified by a rule which states that all gin plants once in the business of ginning cotton shall not be abandoned or moved or service discontinued temporary or otherwise except in the case of emergency without written authority or permission from the Corporation Commission.<sup>13</sup> These provisions make the Commission responsible for the maintenance of adequate ginning facilities, reasonably distributed, and allow a contraction or expansion from an existing number of plants only by the explicit authority of that body.

<sup>8</sup> Section 3713, Compiled Oklahoma Statutes, 1921, as amended June 18, 1929.

<sup>9</sup> Chickasha Cotton Oil Company vs. Cotton County Gin Company, 40 Federal (2nd) 846, and Frost vs. Corporation Commission of the State of Oklahoma, et al., 278 U. S. 515; 49 Sup. Ct. Rep. 235.

<sup>10</sup> Section 3678, Compiled Oklahoma Statutes, 1931.

<sup>11</sup> Section 3678, Compiled Oklahoma Statutes, 1931.

<sup>12</sup> Frost vs. Corporation Commission of the State of Oklahoma, et al., 278 U. S., 515, 495 Sup. Ct. 235, reversing decision of trial court, 26F (2d) 508.

<sup>13</sup> Twenty-fifth Annual Report of the Corporation Commission of the State of Oklahoma, 1932, Order 2657, Rule 7, p. 139.

The Corporation Commission also requires the person, persons, or corporation operating a gin to file an annual report giving a detailed record of its operations during the past fiscal year. The report must include an itemized statement of the nature and amount of all expenditures, the total revenue received, volume of ginnings, and various other items. "Failure of any person or corporation to file said report within the designated time, shall constitute grounds for the forfeiture of said license."<sup>14</sup> These reports are analyzed each season and are used in fixing the rates in succeeding years.

Rules have been promulgated by the Commission in regard to the installation of ginning equipment deemed essential to gin seed cotton properly, and it is required that all gins must be adequately provided with the machinery necessary for the ginning of bollie cotton.<sup>15</sup> It is also required that ginning must be done in a proper and workmanlike manner.<sup>16</sup>

The Commission requires that a complete record be kept of all seed cotton ginned or purchased by each plant and that this record state the name of the person for whom the cotton is ginned, date of ginning, pounds of seed cotton ginned, the bale number, gross weight of bale, price charged for ginning, and price paid for ginning.<sup>17</sup> Each bale, whether round or square, must be branded and numbered and must show the gin mark, the initials of the owner, and the weight of the bale. These legends must not be placed on the sample side of the bale. Each ginner must commence each year with a bale number of one and continue consecutively until the close of the season.<sup>18</sup> Gin operators are prohibited from using coal oil or other injurious liquids on the saws while ginning.<sup>19</sup> The ginner is required to provide and keep in readiness adequate fire fighting apparatus consisting of one fire extinguisher for each gin stand, four barrels full of water, and two buckets for each barrel.<sup>20</sup>

One of the most important functions of the Corporation Commission is the regulation and fixation of ginning charges. Section 3679 of the Compiled Oklahoma Statutes, 1931, reads in part as follows:

That the Corporation Commission shall have the . . . power and authority and be charged with the duty of regulating and controlling such cotton gins in all matters relating to the performance of public duties and the charges therefor, and correcting abuses and preventing unjust discrimination and extortion . . . and shall have the . . . power to fix rates, rules, charges, and regulations to be observed by such person or persons or corporation, operating gins, and the affording of all reasonable conveniences, facilities and services . . .

Legal recourse by gin operators protesting orders of the Commission concerning rates, charges, rules, and regulations may be had by appealing to the Supreme Court of the state.<sup>21</sup>

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<sup>14</sup> *Ibid.*, Rule 11 (c) p. 140.

<sup>15</sup> *Ibid.*, Rule 8 (c) p. 139.

<sup>16</sup> *Ibid.*, Rule 8 (d).

<sup>17</sup> *Ibid.*, Rule 13.

<sup>18</sup> *Ibid.*, Rule 15.

<sup>19</sup> *Ibid.*, Rule 19.

<sup>20</sup> *Ibid.*, Rule 23 (a) and (b).

<sup>21</sup> Section 3716, Compiled Oklahoma Statutes, 1921.

**ESTABLISHMENT OF GINNING RATES BY THE CORPORATION  
COMMISSION OF OKLAHOMA**

The ginning rates to be charged by the gin plants of Oklahoma are set annually by the State Corporation Commission, usually in the early part of September. The rates are set after a hearing has been held at which representatives of the ginners, cotton growers, and other interested parties are permitted to testify as to what rates seem proper and desirable. The Commission considers the evidence offered and examines the individual gin reports of previous seasons to ascertain the prior earnings of the industry. The probable size of the impending crop is computed from the available estimates, and a scale of rates is determined which is both in accordance with the yield expected from the present acreage and the financial returns enjoyed by the ginning industry from the rates and ginning volumes of the past seasons.

The early practice of the gin operators in reporting the original net cost of their capital investment each season as the book value figure for their plants led the Commission to accept this practice and to calculate the financial returns of the investment in ginning facilities from this hypothetical value. This method apparently has some justification because of the difficulty of making equitable allowances for depreciation and obsolescence in an industry which operates under such diverse conditions. However, such a system needs to be accompanied by a uniform and strictly enforced accounting system which permits no duplication of expense items. The attitude of the Corporation Commission in this respect has been recently stated as follows:<sup>22</sup>

Under the rules and regulations of the Corporation Commission, the ginners are permitted to add the cost of additions and betterments to gin plants, to capital account, which would be reflected necessarily in the book cost. Repairs are permitted, under the Commission's rules, to be included as an operating expense. Hence there is no necessity of making annual allowance for depreciation.

The present percentage return to the ginning industry on the cost of investment is supposedly maintained at a level that will insure adequate provisions for the depreciation and obsolescence of ginning equipment, plant, and buildings. The ginners' association has at times used a depreciation figure of ten percent when presenting evidence of operating costs to the Commission through exhibits and testimonies of accountants, but on one occasion the Commission made the assertion that this figure was excessive and expressed itself to the effect that a five percent allowance was sufficient in view of the records of the Commission.<sup>23</sup>

The duty of the Corporation Commission in prescribing rates to be charged for ginning each season is one which has resulted in much controversy and many conflicting claims by the various interests affected by these decisions. The difficulty of satisfying all parties interested in the rates established for the cotton ginning industry is complicated by the need of securing whole-hearted cooperation from the ginners in the matter of keeping reliable records of individual gin operations. In one of its orders the Corporation Commission states that many of the annual reports received from ginners are inaccurate and many have to be returned to the ginners one or more times for revision before they can be accepted as

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<sup>22</sup> Twenty-seventh Annual Report of the Corporation Commission of the State of Oklahoma, 1934, Order 6465, p. 398.

<sup>23</sup> Seventeenth Annual Report of the Corporation Commission of the State of Oklahoma, 1924, Order 2260, p. 347.



correct.<sup>24</sup> These administrative details, coupled with the complex financial structure of the ginning industry arising from the importance and magnitude of other businesses conducted in connection with the ginning of cotton, make the seasonal fixation of suitable ginning rates very difficult.

In Table 1 the annual charges for ginning are shown for the entire period since the Commission first assumed this function on a state-wide basis in 1917. Rates for all years have been prescribed in prices per one hundred pounds of seed cotton, gross weights. The ginning rates each season have stipulated price differentials between seed cotton picked from the burrs, and that which was harvested by "pulling" either opened or unopened bolls. These classifications have varied during certain seasons, but seed cotton other than picked was designated as bollies until 1928 and carried a higher charge per one hundred pounds than did picked cotton, although during the seasons of 1919 and 1920 a triple classification was used which specified separate and increasing rates for certain conditions of seed cotton which was classed as picked, snapped, and bollies. The distinction between snapped and bollies was as follows:<sup>25</sup>

Snapped cotton is defined to be for the purpose of this order to mean all cotton "pulled" before frost or all "pulled" cotton gathered after frost showing 25 percent or more of lint. "Pulled" cotton after frost showing less than 25 percent lint shall be "bollies."

This confusing classification was abandoned in 1921, due to the apparent difficulty of accurately segregating the different classes of cotton. Since 1928 cotton other than picked has been termed "snapped," but for all seasons the general practice has been to imply either bollies or snapped cotton when not definitely stated; that is, the higher rates have been applied to all cotton other than picked regardless of whether termed snapped or bollies.

**TABLE 1.—Ginning Rates per Hundredweight of Seed Cotton and Charges for Bagging and Ties as Fixed by the Oklahoma Corporation Commission, 1917 to 1934**

Year and districts	Order number	Date of issue	RATES (CENTS)			Charges for bagging and ties (dollars)
			Picked	Snapped	Bollies	
1917	1295	7- 6-17	.22½	----	.40	1.56
1918	1457	8-24-18	.30	---	.50	1.75
1919	1584	9-13-19	.40	.50	.60	2.00
1920	1785	9-11-20	.40	.50	.60	2.00
1921	1929	8-29-21	----	----	----	----
Eastern district	----	----	.25	----	.40	1.25
Central district	----	----	.27½	----	.42½	1.25
Western district	----	----	.30	----	.45	1.25
1922	2093	8-30-22	----	----	----	----
Eastern district	----	----	.30	----	.50	1.25
Central district	----	----	.32½	----	.50	1.25
Western district	----	----	.35	----	.50	1.25

<sup>24</sup> Twenty-fifth Annual Report of the Corporation Commission of the State of Oklahoma, 1932, Order 5598, p. 247.

<sup>25</sup> Twelfth Annual Report of the Corporation Commission of the State of Oklahoma, 1919, Order 1584, p. 484.

TABLE 1.—(Continued.)

Year and districts	Order number	Date of issue	RATES (CENTS)			Charges for bagging and ties (dollars)
			Picked	Snapped	Bollies	
1923	2260	9- 8-23	---	---	---	---
Eastern district	---	---	.27½	---	.50	1.25
Central district	---	---	.30	---	.50	1.25
Western district	---	---	.32½	---	.50	1.25
1923 <sup>a</sup>	2274	9-28-23	---	---	---	---
Eastern district	---	---	.30	---	.50	1.25
Western district	---	---	.32½	---	.50	1.25
1924	2574	9-11-24	.35	---	.50	1.50
1925	3163	9- -25	.32½	---	.50	1.60
1926	3652	9- 9-26	.32½	---	.50	1.90
1926 <sup>b</sup>	3673	10-16-26	.30	---	.45	1.90
1927	3966	9-17-27	---	---	---	---
Zone 1	---	---	.25	---	.37½	1.50
Zone 2	---	---	.30	---	.42½	1.50
Zone 3	---	---	3	---	3	---
1928	4436	9-15-28	---	---	---	---
Zone 1	---	---	.30	.37½	---	1.45
Zone 2	---	---	.35	.42½	---	1.45
Zone 3	---	---	4	4	---	1.45
1929 <sup>c</sup>	---	---	---	---	---	---
1930	5306	9- 8-30	---	---	---	---
Zone 1	---	---	.30	.37½	---	1.45
Zone 2	---	---	.35	.42½	---	1.45
Zone 3	---	---	4	4	---	1.45
1931	5598	9-15-31	.25	.30	---	1.15 <sup>d</sup>
1932	5977	9-13-32	.25	.30	---	1.00 <sup>e</sup>
1933	6465	9- 8-33	.20	.22½	---	1.00 <sup>e</sup>
1934	7997	9- 8-34	.30	.35	---	1.25 <sup>e</sup>
1935	9502	9- 6-35	.25	.37½	---	1.00

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>a</sup> Supplementary order applying to 1923.<sup>b</sup> Supplementary order applying to 1926.<sup>c</sup> Rates for picked cotton 25 to 30 cents per hundred pounds; for snaps and bollies 37½ to 42½ cents.<sup>d</sup> Rates for picked cotton 30 to 35 cents per hundred pounds; for snapped and bollie cotton 37½ to 42½ cents.<sup>e</sup> No order establishing ginning rates for 1929 was issued because of a Federal Court injunction, and the 1928 rates automatically remained in force.<sup>f</sup> This charge applies to two-pound jute bagging; sugar cloth bagging \$1.00 per pattern.<sup>g</sup> This charge applies to two-pound jute bagging; sugar cloth bagging 90.0 cents per pattern.<sup>h</sup> This charge applies to two-pound jute bagging; sugar cloth bagging \$1.00 per pattern.

The rate for ginning like classes of cotton was uniform throughout the entire State of Oklahoma until 1921. In that year the state was subdivided into three zones with a graduated scale of rates that were increasingly higher in a westward direction. All portions of the state lying east of the north and south main line of the Missouri, Kansas, and Texas Railroad were included in the eastern district; that part of the state between the western boundary of the eastern district and the line of the Chicago, Rock Island, and Pacific Railroad running through El Reno, Oklahoma, in a north and south direction was termed the central district; and the area west of this was designated as the western district.<sup>26</sup> This division of the state into different ginning rate-zones was at the instigation of cotton ginners who asserted that ginning costs were increasingly higher in the western parts of the state, average per bale costs ranging from \$6.61 in the southeastern parts of the State to \$8.23 in the western areas.<sup>27</sup>

The central district was given a rate 2.5 cents per hundred pounds of seed cotton higher than that allowed in the eastern district, and the rate in the western district was 2.5 cents per hundred pounds higher than that in the central district. This schedule of graduated rates was maintained until the close of the ginning season of 1924 although the state was re-districted into two divisions during the ginning season that year.<sup>28</sup> The two territorial areas of eastern and western Oklahoma were determined in 1924 by a line running one mile west of the Atchison, Topeka, and Santa Fe Railroad, with the section west of this boundary receiving a rate higher by 2.5 cents per hundred pounds than the rate assigned to that portion of the state east of this dividing line. The entire state was maintained on a uniform structure of rates for the seasons of 1924, 1925, and 1926, but in 1927 the state was again separated into three ginning zones. The former policy of the Commission was reversed at this time; the preference in rates formerly given to the western sections of the State was awarded to the eastern district, which was termed Zone 2. The southwestern area, or Zone 1, was given the lowest rate and the central area, or Zone 3, was allowed a variable rate ranging between the charges designated for the other two zones.

This flexibility of rates in the intermediate area partly overcame what had constituted a major problem of the previous territorial groupings. Formerly, gin plants on opposite sides of the dividing lines of the zones were compelled to gin at different rates, thus placing at a serious competitive disadvantage those plants in the higher rate zones, many of whose customers had easy access to gins in the cheaper rate zone. This attempt to equalize the varying geographic and economic conditions occurring in cotton ginning throughout the large territory which constitutes the State of Oklahoma was finally abandoned in 1931, and rates have since that date been uniform throughout the State. The problem in Oklahoma, judging from the numerous efforts of the Commission, seems to be mainly a matter of enacting a rate or a series of rates that will compensate for the large differences in volume of ginnings, cultural practices, cotton varieties, and harvesting and marketing methods that are evident in various sections of the state.

That the necessary investment in physical plant is decidedly larger in the western areas is shown by the data for the sample gins of this study. In 1932, the average book value of the gins in eastern Oklahoma was \$14,554 as

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<sup>26</sup> Fifteenth Annual Report of the Corporation Commission of the State of Oklahoma, 1922, Order 1929, p. 224.

<sup>27</sup> *Ibid.*, p. 225.

<sup>28</sup> Seventeenth Annual Report of the Corporation Commission of the State of Oklahoma, 1924, Order 2274, p. 381.

compared with \$22,020 in western Oklahoma.<sup>29</sup> It also seems probable that individual items of the various expenses such as labor which enter into the cost of ginning cotton are somewhat higher in the western than in the eastern portions of the state, but this is counter-balanced by the larger volume of ginning which is secured by the plants in western Oklahoma. During the period 1929 to 1932, the gins in eastern Oklahoma had an average volume of 873 bales per plant as compared with 1472 bales per plant in western Oklahoma.<sup>30</sup> The gins in western Oklahoma also receives higher per bale revenues even from a uniform state-wide rate, because the larger proportion of snapped and bollie cottons handled by the plants on the west side of the State helps to overcome the disadvantage of larger investments and higher costs.

The greater amount of capital required to erect and maintain a gin plant in the western areas of Oklahoma caused the division of the state into rate-zones in 1920 when the western sections were given a preferential rate, but in 1927 the eastern gins were allotted a higher rate than the gin plants in the western sections because of the smaller volumes of ginnings received by the gins in eastern Oklahoma. These shifts in policies as shown in the orders of the Commission illustrate some of the difficulties of making equitable allotments of revenue to widely divergent types of a single industry.

Another point worthy of discussion is the allowances in charges made to the ginning industry by the Commission for the ginning of snapped and bollie cottons. For the entire period that the ginning industry has been subject to state regulation in Oklahoma, the Commission has provided rates for the ginning of snapped and bollie seed cotton which have been from 2.5 to 22.5 cents per hundred pounds higher than the charges stipulated for picked cotton. (See Table 1.) These excess charges for snapped or bollie cotton have been in effect a dual addition to the ginning costs of the grower. Not only is the rate per hundred pounds charged for ginning higher for snapped cotton, but the weight of the load necessary to produce a conventional weight bale of cotton is much larger. In actual practice the calculation of ginning charges on a gross weight basis would exact a higher charge per pound of lint from snapped than picked cotton even if the rate were the same, because of the weight of the burrs, et cetera, in the snapped cotton.

The following example illustrates the manner in which the differential in rates affects the farmers' ginning costs. Fifteen hundred pounds of seed cotton harvested by picking will yield approximately 500 pounds of lint; if the cotton is harvested by snapping, about 2000 pounds of seed cotton are necessary in order to secure 500 pounds of lint. If the ginning rate were 30 cents per hundred pounds of seed cotton for picked cotton and 35 cents for snapped cotton, the cost per bale to the farmer would be \$4.50 and \$7.00, respectively.<sup>31</sup> The snapped bale would cost the farmers \$2.50 or 55 percent more than the picked bale. If this snapped bale were ginned on a net weight basis of seed cotton at the rate of 35.0 cents per hundred pounds it would cost the farmers \$5.25 for ginning, which would be \$.75 or 16.7 percent above the cost for the picked bale. The difference of \$1.75 between the charges for snapped cotton figures on a gross weight and net weight basis represent charges made solely on account of the extra weight of foreign matter in the snapped cotton. An examination of the services rendered by the ginner in this hypothetical illustration reveals that in each case he

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<sup>29</sup> Data based on eastern and western divisions as shown in Figure 1.

<sup>30</sup> *Ibid.*

<sup>31</sup> The above rates were those established for the 1934-35 ginning season.

merely ginned 1500 pounds of seed cotton, but during the processing of the snapped bale he was required to extract approximately 500 pounds of burrs, trash, and other foreign matter from the seed cotton. The period of time required to gin each bale was not greatly different, but the picked bale did not require the use of several boll-breaking, burr-extracting and cleaning machines that were utilized in properly ginning the snapped bale. It is evident that more expense was incurred in the ginning of the snapped bale due to various additional costs represented by both the extra equipment and actual increased operating costs.

However, an increased charge for the ginning of snapped or bollie cotton above the established price for the ginning of picked cotton might be made to yield a fair return on a net weight basis. In this manner the ginner would receive an increased remuneration for the actual service rendered, but would not be paid for the so-called ginning of several hundred pounds of foreign matter. The rates just used in the previous illustration, if applied on this basis, would make the cost of ginning a snapped bale containing 1500 pounds of actual seed cotton \$5.25 exclusive of the cost of bagging and ties. This price would allow the ginner \$0.75 per bale for the additional service rendered the grower for cleaning and the extraction of the burrs from the seed cotton. If the differential was 10 cents per hundred pounds instead of 5 cents, the ginner would receive \$1.50 more per bale for ginning the snapped cotton. The same results would be obtained by allowing a uniform charge on all cotton regardless of condition of the seed cotton, or by calculating charges on the basis of lint cotton with an increased rate for lint ginned from snapped or bollie cotton. In former years there has been some agitation by various cotton farmers appearing at the annual hearings of the Corporation Commission to have the basis of ginning charges established on a lint cotton basis as was the general custom in many areas of this State before the state controlled the rates, but these pleas have been denied by the Commission.<sup>29</sup> The differential in rates of 5 cents per hundred pounds of seed cotton used in this comparison is much smaller than those which have been prevalent during many of the years that ginning rates have been regulated in Oklahoma. The average preference in rates allotted to snapped cotton for the southwestern portion of the state for the period 1917 to 1935, inclusive, was approximately 10.1 cents per hundred pounds above the average rate of 29.9 cents established for picked cotton in that area during the same period, and the results in the example used for illustration would assume more significant proportions if the above rates were substituted for the rates actually used.

#### THE NUMBER AND SIZE OF GINS IN OKLAHOMA

The origin of the term "gin" as applied to machinery designed for the removal of cotton lint from the seed is credited by tradition to a corruption of word "engine" by negro slaves of the early South. The first working models of cotton gins were soon developed into practical mechanical units of one small stand, and early in the nineteenth century, one-stand gins were being operated with animals, water wheels, or steam engines as power; but it was a number of decades before there was any radical change in the characteristic cotton ginning plant. Even today, in some of the hill sections of the old South, there are still a few of the one-stand gins in operation. They consist mainly of a hopper or slat-roll feeder set above a 50-, 60-, or 70-saw, plain breast, brush, gin stand. The seed cotton is usually distributed into the feeder by pouring from a split-oak basket. The lint, after being removed from the saws by the revolving brushes, enters a small upright battery condenser which is attached to the floor immediately in the

<sup>29</sup> See text of Orders No. 1584 and 1785 of the Oklahoma Corporation Commission.

rear of the gin "head." The "bat" of lint emerges from the condenser and is allowed to fall upon the floor, along which it is at intervals raked with a pitchfork or a wooden paddle into a single box press for baling. Such gins are often in the parlance of natives referred to as "basket" or "pitchfork" gins from the methods of handling the cotton. This mode of ginning was universal in some areas until only a few decades ago.

The production of cotton on an extensive scale in Oklahoma developed during a period when many improvements and refinements were occurring in the manufacture of ginning machinery. Improved transportation facilities also helped make possible the economic development of comparatively large plants for the custom ginning of cotton. The rapid increase of cotton production in western Oklahoma during this period of transformation in ginning practices allowed the area to profit from the benefits of the larger volumes per plant and more economical operation accruing to the larger gin plants. Because of these circumstances the ginning industry in most of Oklahoma was spared, to some extent, the gradual replacement of obsolete ginning equipment which has been characteristic of the older cotton states. A significant discussion of the new developments in the ginning industry during this period is as follows:<sup>23</sup>

The approximate date that the double box press and steam trampler were perfected was in 1883 or 1884. Since that date practically all the presses sold have been double box, and for a number of years, the steam cylinder trampler was used. The first mechanical trampler that the writer remembers was put on the market in 1894 but this was not a success. There were a few mechanical trampers developed but none were successful until about 1918 or 1919. A battery of more than one gin stand with lint flue and condenser, I think, was first accepted as a standard plant in the latter part of the '80's. The first cleaning and boll separating machinery that the writer remembers was put on the market about 1904 or 1906. About that time it was developed that the double rib huller gin would separate hulls from the cotton and bollies were being handled successfully about 1904, 1905, and 1906. Since that time, of course, practically all the bollies have been saved.

In 1900, according to the Bureau of the Census, Oklahoma had 448 active gins which handled an average of 924 bales per plant, but by 1904 the number of gins had nearly doubled and the average output per gin was 1011 bales. The peak in number of active plants for this period was attained in 1911 with 1068 gins. Even in Oklahoma there seemed to be evidence of some consolidation of ginning facilities, as a gradual decline was apparent until a low point of 737 active plants was reached in 1921. The number of gins increased to 1047 in the large crop year of 1926, but the number had decreased to 869 in 1933.

In Figure 2 the number of active gins and the average ginnings per plant in both Oklahoma and the United States as a whole are illustrated for a series of years. The total number of active gins in the United States has declined in numbers from 30,948 plants in 1902 to 13,531 plants in 1933, but this entire period of precipitate decline occurred during a period of increasing cotton acreages, so that the volume of cotton handled per gin in the United States materially increased at a steady rate. In 1904, when cotton gins in Oklahoma first exceeded an average of 1000 bales per plant, the average for the entire country was only 366 bales per gin. Although an enlargement of existing ginning facilities and the abandonment of many of the smaller units brought about an increasing plant capacity in the South, it was not until the ginning season of 1925 that the average number of bales per gin in the United States surpassed 1000.

The yearly reports made by gins in Oklahoma to the Corporation Commission, which are the source of most of the data used in this study, ap-

<sup>23</sup> Letter of March 23, 1935, from the District Sales Manager, Continental Gin Company, Dallas, Texas.

parently do not represent the entire number of active gin plants in operation in the state each season. This is shown by comparisons with the annual records of the United States Bureau of Census. A recent statement regarding this by the Oklahoma Corporation Commission is as follows:<sup>24</sup>

However, it has been the experience of this Commission during the past ten years, that on an average, approximately 100 gins actively operate annually within the state that do not report such operations to the Commission.

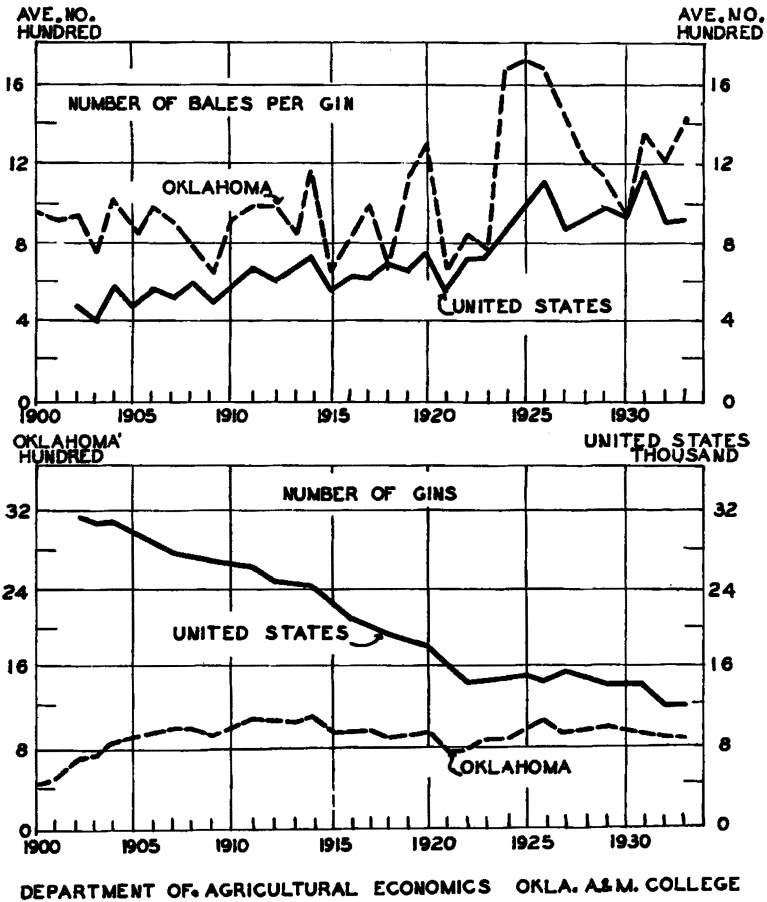


Figure 2.—Number of gins and number of bales per gin in Oklahoma and in the United States.

<sup>24</sup> Twenty-seventh Annual Report of the Corporation Commission of the State of Oklahoma, 1934, Order 6485, p. 401.

**TABLE 2.—Comparison of Number of Cotton Gins and Amount of Cotton Ginned in Oklahoma, as Reported by the United States Bureau of the Census and as Secured from the Records of the Oklahoma State Corporation Commission**

Year	GINS REPORTED BY BUREAU OF CENSUS <sup>1</sup>			GIN RECORDS OF STATE CORPORATION COMMISSION <sup>2</sup>		
	Number of gins	Ginnings per plant (bales)	Total ginnings (bales)	Number of gins	Ginnings per plant (bales)	Total ginnings (bales)
1924	887	1698	1,506,077	738	1773	1,308,525
1926	1047	1682	1,760,644	899	1747	1,570,526
1927	924	1093	1,009,626	778	1136	884,176
1928	969	1225	1,187,042	881	1302	1,147,457
1929	975	1154	1,125,614	822	1169	861,210
1930	928	923	856,748	850	932	792,022
1931	911	1357	1,235,856	816	1361	1,110,779
1932	879	1220	1,072,022	771	1226	945,344

<sup>1</sup> Cotton Production and Distribution, U. S. Bureau of Census, years 1924 to 1932, inclusive.

<sup>2</sup> Calculated from the reports of individual gins to the Oklahoma Corporation Commission.

In Table 2 the number of gins, average number of bales ginned per plant, and total ginnings of all plants are presented for both the gins reported by the Bureau of Census and the gins for which the Corporation Commission had records. While the number of gins as determined from the records of the Corporation Commission are somewhat less than the actual number of<sup>35</sup> active plants that have been in operation in the state, the number is sufficient to afford a very large sample for the purpose of an analysis of the gin business. The fact that a certain number of plants shown to exist in the State by the reports of the Bureau of Census are not represented in the data used in the study apparently does not materially affect its validity, at least from the standpoint of the number of bales ginned per plant. The figures in Table 2 show a close accord between the average ginnings of the gins in both groups. For the four-year period, 1929 to 1932, the number of sample gins represents 88.2 percent of the number reported by the Bureau of Census and shows a total number of bales ginned equal to 88.8 percent of those reported by the gins enumerated by the Bureau of Census. This similarity in the average number of bales ginned per plant indicates that the sample gins were probably representative of the area studied and that failure to report to the Corporation Commission was not practiced entirely by any special group of ginners who operated plants that varied widely from the state average in number of bales ginned per plant.

The size of the gin plant may be measured either by the annual volume of ginnings of the plant or by some mechanical unit of comparison. While some mention has already been made of the average ginnings of plants both for Oklahoma and the United States, the discussion was primarily concerned with this subject as an index of size rather than as an adequate discussion of volumes of ginning and this aspect of the study will be separately treated later.

<sup>35</sup> The number of gins for which data are shown in this study may not in every case entirely conform with the exact figures published by the Oklahoma Corporation Commission, nor will the later summaries and analyses of various aspects of gin operation present identical totals with those already announced by the Commission. Certain gins have been excluded due to incomplete records, but the amount of correction made in the data has been negligible and has in no way impaired the data or distorted any conclusions that are presented.



**TABLE 3.—Average Number of Saws per Gin Plant in the United States and Selected States, 1906, 1909, 1914, and 1919**

Area	1906	1909	1914	1919
United States	126	140	172	199
Oklahoma	234	249	264	280
Texas	204	299	271	299
Arkansas	114	131	158	195
Mississippi	121	135	160	185
Georgia	114	130	169	198
North Carolina	80	87	106	128
California	1	1	1	387

SOURCE: United States Bureau of Census, Cotton Production and Distribution, Number 145, 1919, pp. 38 and 39.

<sup>1</sup> Included in "Other States."

Very little information is available on the mechanical size of gin plants in the United States, but the Bureau of Census in 1906, 1909, 1914, and 1919 published a special report showing the number of stands and number of saws of the active plants in the various states for those years. The average number of saws per gin plant is in itself a rather inadequate unit of measurement and lacks the general acceptance of the ginners as a trade term; but, as gin operators themselves usually speak in terms of individual gin plants, it is necessary to select some statistical measure that is adaptable to averages of plants in large areas. Table 3 presents a tabular summary of the average number of saws per plant for the United States and several selected states including Oklahoma. It is evident that, during the years that the survey covers, gins in Oklahoma were much larger mechanical units than existed in most of this country.

However, there was very little increase in the size of the gin plants in Oklahoma as compared with the increase of the size of plants in other states and the South as a whole. The number of saws per plant in Oklahoma in 1919 was only 19.7 percent greater than the number reported in 1906, while a similar comparison for the other states shows a 73.7 percent increase in Georgia, 71.1 percent in Arkansas, 60.0 percent in North Carolina, 46.6 percent in Texas, 34.6 percent in Mississippi, and 57.9 percent for the gin plants of the entire United States. In 1906, the gins in Oklahoma averaged 85.7 percent more saws per plant than did those of the United States, while in 1919 they had only 40.7 percent more saws than the average gin plants of the entire country.

**TABLE 4.—Average Number of Saws per Gin in Oklahoma, 1929, 1930, 1931, and 1932**

Year	STATE		EAST		WEST	
	Number of gins	Number of saws per gin	Number of gins	Number of saws per gin	Number of gins	Number of saws per gin
1929	772	344	419	318	353	374
1930	458	339	255	306	203	381
1931	628	346	299	314	329	376
1932	639	347	286	316	353	373
Average	624	344	316	315	309	375

SOURCE: Data secured from the Oklahoma Corporation Commission.

In Table 4 the number of saws per gin in Oklahoma is shown for the entire State and for the eastern and western divisions for each of the four years, 1929 to 1932. The number of gins reporting these data is somewhat less than the total number of gins used in the major portions of this study because a number of gins each season omit this and other information of a minor nature from their annual reports to the Corporation Commission. The gins in the western region of the state average considerably larger each year than those in the eastern part of the state. The average number of saws per plant for the four-year period is 19.4 percent greater

TABLE 5.—Number of Gin Plants of Different Sizes in Oklahoma, 1932.

SIZE OF GIN PLANT		NUMBER OF GINS		
Number of stands	Number of saws per stand	State	East	West
3	60	4	4	--
4	60	2	2	--
2	70	2	2	--
3	70	27	27	--
4	70	113	89	24
5	70	110	34	76
6	70	11	2	9
7	70	1	1	--
8	70	4	4	--
9	70	3	3	--
10	70	3	2	1
2	80	3	3	--
3	80	18	14	4
4	80	128	70	58
5	80	198	23	175
6	80	3	1	2
7	80	1	1	--
8	80	3	3	--
9	80	1	--	1
10	80	2	--	2
11	80	1	--	1
14	80	1	1	--
Total number		639	286	353

SOURCE: Data secured from the Oklahoma Corporation Commission.

in the west than in the east. The four-year average of 344 saws per plant for all gins reporting is 22.8 percent above the figure shown in Table 3 for Oklahoma in 1919. This four-year interval is, of course, too short a time to indicate any reliable trend in size of gins, but the averages for the period should provide a reliable index as to the average size of gin plants existing at that time.<sup>20</sup>

The gin plants reporting these data to the Corporation Commission in 1932 are arrayed in Table 5 according to their size, both for the state and for the east and west divisions. In the data in this study, all gins have been counted as one unit when so listed by the Commission, and no attempt

<sup>20</sup> The use of the number of saws per gin as a criterion of size of gin plants might be subject to a small amount of error in some sections of the United States where the existing gins utilize saws of different diameters, but it is the belief of the writers that the use of the standard 12-inch gin saws is practically universal throughout Oklahoma.

has been made to differentiate between single and double battery plants. The gins listed in Table 5 which show more than ten stands per plant may possibly consist of two adjacent individual plants, but as it was not possible to determine this from the available records they were counted as a single gin. The gins in the eastern portion of the state had a wide range in the size of plants, and there were fifty gins with less than four stands. The largest number of gins were those with four and five stands of seventy saws each and four and five stands of eighty saws each. The western areas showed only four gins with less than four stands per plant. By far the largest number of gins in the western area had five stands of eighty saws each. The deviations from this size were mainly toward the smaller size gins; of the 178 gins which did not contain five stands of eighty saws each, 16 were larger in saw capacity and 162 smaller. The east side gins were not nearly so uniform in capacity, and the region contained some of both the smallest and largest plants in the entire state. Although the total number of gins in the state as a whole showed a rather wide range in sizes of mechanical equipment, there were 551 or 86.2 percent of the plants which contained either four or five stands of the various saw capacities represented.

#### VOLUME OF GINNING

The total number of bales ginned each season in the state and the average number of bales ginned per plant have already been shown in Table 2, but it is important to examine this phase of cotton ginning in a more detailed manner. Aside from the influence of the volume of ginning upon the financial success of individual plants, which will be dealt with later, it is interesting to examine the geographical variations in volume and to observe the deviations of individual plants from the average ginnings per plant.

The active gin plants for each season have been arrayed according to the volume of each gin and grouped in class intervals of 500 bales. The proportion of the number of gins in each group is shown in Table 6 together with the annual average number of bales ginned per plant. Considering the entire state, the largest proportion of gins each season was found in the class which ginned from 501 to 1000 bales, except in 1931 when the apparent modal group was that handling from 1001 to 1500 bales. There were large differences apparent in the percent of gins noted each year in the smallest volume group of 1 to 500 bales; this varied from 9.4 percent in 1931-32 to 23.4 percent in 1929-30. The percent of plants each season ginning less than 2001 bales was 70.7 percent in 1929-30, 86.0 percent in 1930-31, 64.6 percent in 1931-32, and 71.8 percent in 1932-33. The proportion of gins in any one year that attained volumes in excess of 3000 bales was small, ranging from .8 percent in 1930-31 to 4.8 percent in 1929-30 with an average of 3.1 percent for the entire period.

The most noticeable characteristic of the gins of the east side in regard to distribution of plants according to volume is the large proportion of gins found each year in the group of 1 to 500 bales. The percent of the total number of gins occurring in this group each season varied from 14.8 percent in 1931 to 40.1 percent in 1929. Further evidence of the small volumes of ginnings received by the gins in the eastern part of the state is shown by the fact that 67.2 percent of the gins for the entire four years ginned 1000 bales or less and only 4.5 percent of the gins exceeded a volume of 2000 bales.

Figure 3 depicts the average percentage distribution of the gins of the two areas in the various volume intervals for the four-year period. It is apparent that the gins in the eastern portion of the state occur mostly in the two lower 500-bale groups, while the largest proportion of the gins in the western region occur in the group which ginned from 1001 to

**TABLE 6.—Number of Gins, Average Number of Bales Ginned per Plant, and Percentage Distribution of Gins in 500-Bale Class Intervals in Oklahoma; Average, 1929-30 to 1932-33.**

Year	Number of gins	Average number of bales per gin	PERCENT OF GINS GINNING								
			1-500 bales	501-1000 bales	1001-1500 bales	1501-2000 bales	2001-2500 bales	2501-3000 bales	3001-3500 bales	3501-4000 bales	Over 4000 bales
<b>State</b>											
1929-30	822	1169	23.4	27.8	19.5	14.1	7.0	3.4	1.6	1.6	1.6
1930-31	850	932	22.0	41.4	22.6	8.5	3.3	1.4	.8	---	---
1931-32	816	1361	9.4	23.7	31.5	17.3	10.5	4.7	1.5	.6	.8
1932-33	771	1226	15.0	33.1	23.7	14.6	7.3	2.1	1.9	.9	1.4
<b>Average</b>	<b>815</b>	<b>1169</b>	<b>17.5</b>	<b>31.6</b>	<b>24.3</b>	<b>13.6</b>	<b>7.0</b>	<b>2.9</b>	<b>1.5</b>	<b>.7</b>	<b>.9</b>
<b>East</b>											
1929-30	426	711	40.1	37.8	14.3	5.3	1.9	.2	.2	---	.2
1930-31	448	785	30.4	43.3	18.3	5.4	.9	1.3	.4	---	---
1931-32	419	1160	14.8	32.7	28.5	13.6	5.7	3.3	.2	---	1.2
1932-33	380	871	24.2	45.7	19.2	7.1	2.3	.6	.3	.3	.3
<b>Average</b>	<b>418</b>	<b>873</b>	<b>27.5</b>	<b>39.7</b>	<b>19.9</b>	<b>8.4</b>	<b>2.7</b>	<b>1.4</b>	<b>.2</b>	<b>.1</b>	<b>.2</b>
<b>West</b>											
1929-30	396	1662	5.3	17.2	25.0	23.8	12.6	6.8	3.0	3.3	3.0
1930-31	402	1096	12.7	39.3	27.4	11.9	6.0	1.5	1.2	---	---
1931-32	397	1573	3.8	14.1	34.8	21.2	15.6	6.0	2.8	1.2	.5
1932-33	391	1571	6.1	20.7	27.9	22.0	12.0	3.6	3.6	1.5	2.6
<b>Average</b>	<b>397</b>	<b>1472</b>	<b>7.3</b>	<b>23.0</b>	<b>29.0</b>	<b>19.1</b>	<b>11.6</b>	<b>4.5</b>	<b>2.5</b>	<b>1.5</b>	<b>1.5</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup>Less than 0.1 percent.

1500 bales. Also a larger proportion of gins occur in the high volume groups in the western area than in the east. Table 6 shows that only 7.3 percent of the total gins in the western area handled 500 bales or less, while 21.6 percent ginned more than 2000 bales.

The average number of bales per plant ginned each season shows the higher volumes attained in the western area. While the largest average volume per plant in the eastern region of the state was 1160 bales in 1931-32, the largest volume per plant for the western area was 1162 bales in 1929-30; and the lowest average volume per plant in the east was 711 bales in 1929-30, while on the west side the bales ginned were 1096 in 1930-31. The greater number of bales per plant ginned in the west above those in the east ranged from 147.8 percent in 1920-30 to 35.6 percent in 1931-32 and average 67.3 percent for the entire period. It is interesting to note that while 1929-30 was the season when the gins in the western portion of the state secured the largest number of bales, it was also the season when the plants in the eastern area received the smallest number of bales.

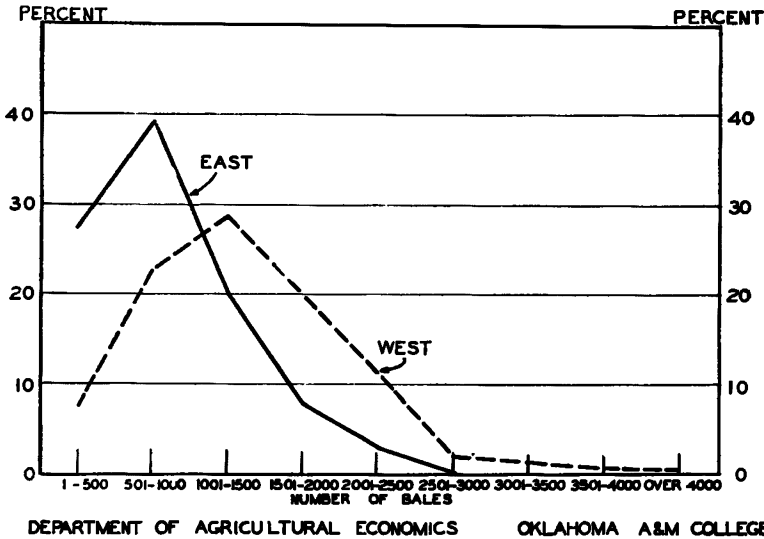


Figure 3.—Percentage of distribution of gins in volume groups; Oklahoma, east and west sides; four-year average, 1929-1932.

**BOOK VALUES OF GINS**

The accounting practices which have been used by the Corporation Commission for the purpose of determining the capital investment of the ginning industry from the annual reports of the individual gins, are somewhat different than the methods commonly used by many other businesses. The term, book value or capital investment, represents the original cost of each gin plus the value of any later additions or betterments to the plant or equipment, but does not include current repairs allowable and designated in detail by the Corporation Commission. The figures used in this study, therefore, present the net total undepreciated costs of the buildings, machinery, and equipment plus the original cost of the gin site. While these

capital costs are expressed without any allowances for depreciation, obsolescence, location of the business, or the normal volume of ginnings available to each plant, and are, therefore, not actual present valuations of the active ginning plants, they do indicate the total amount of money which has been invested in the ginning facilities which operated during the seasons studied. It is impossible to estimate the exact present value of the gins of the state, but it seems probable that such a figure would be considerably below the total book values that are presented here.

In Table 7, the total reported book values of all active gins and the average book values per gin are shown for a period of years from 1926-27 to 1932-33. For all gins in the entire state, the maximum book values of \$17,472,585 were reported in 1928-29 and the minimum figure of \$14,140,515 in 1932-33. In the eastern division of the state, the largest total values shown were for 1926-27 and the smallest for 1932-33, but this decline was not consistent from season to season due to the wide fluctuations in the number of active gins reporting from this area. From 1927-28 to 1930-31, the total book values of all gins in the west side of the state showed a steady increase, which was occasioned mainly by a yearly increase in the number of active plants in this region. These total figures are difficult of comparison because of the changes in the number of gins, but they do show a net decrease in the costs of the property which has been em-

TABLE 7.—Total and Average Book Values of Oklahoma Cotton Gins, 1926-27 to 1932-33.

Year	Number of gins	Total book value	Book value per gin
<b>State</b>			
1926-27	889	\$15,645,278	\$17,599
1927-28	778	15,531,378	19,963
1928-29	881	17,472,585	19,833
1929-30	822	16,578,480	20,168
1930-31	850	17,050,859	20,060
1931-32	816	15,377,313	18,845
1932-33	771	14,140,515	18,340
<b>East</b>			
1926-27	568	8,387,004	14,766
1927-28	431	6,901,986	16,014
1928-29	515	8,090,807	15,710
1929-30	426	6,583,842	15,455
1930-31	448	6,908,408	15,421
1931-32	419	6,259,018	14,938
1932-33	380	5,530,527	14,554
<b>West</b>			
1926-27	331	7,258,274	21,928
1927-28	347	8,629,392	24,869
1928-29	366	9,381,778	25,633
1929-30	396	9,994,638	25,239
1930-31	402	10,142,451	25,230
1931-32	397	9,118,295	22,968
1932-33	391	8,609,987	22,020

SOURCE: Data secured from the Oklahoma Corporation Commission.

ployed in the ginning of the cotton crop. The total book value for the state in 1932-33 was 9.6 percent less than that shown for 1926-27 and 19.1 percent below the total figure reported for the peak season of 1928-29. The total amount of book value for 1932-33 on the east side of the state showed a reduction of 34.1 percent below the amount designated for the crop year of 1926-27, which was also the season of the greatest total values for the period in this area. The gins in the western portion of the state showed a book value increase of 15.7 percent from the initial to the final years of the seven-year period, but the amount recorded for 1932-33 was 15.1 percent less than the total value attained in 1930-31.

The eastern geographical division has witnessed a large net decrease in the number of active gin plants during the period of years under discussion. Part of the decline in number of gins probably has been in the higher valued plants, as there has been a consistent annual decrease in book values per plant since 1927-28. However, part of the decline may have been caused by other factors such as lower prices for gin machinery. The maximum per plant value of \$16,014 was attained in 1927-28, which was a season of low crop yields resulting from severe boll weevil damage in most of the eastern belt, and the larger proportion of gins that remained inactive that year were apparently the smaller plants of lower book values.

The number of active gins on the west side increased yearly from 1926-27 to 1930-31 with a small decline occurring in 1931-32 and 1932-33. The per plant book value for the west side was \$21,928 in 1926-27, but by 1928-29 this figure had increased to \$25,415. Since 1928-29 the reported per plant value has declined each season except 1930-31, and in 1932-33 the average book value per gin was \$22,020. This moderate but fairly constant annual decline in per plant figures on the west side may be partly explained both by a decrease in the amount of capital necessary to erect a new gin plant during the latter part of the period and by the possibility of some replacements of expensive cleaning and ginning machinery with improved but less costly equipment. This downward trend of book values per gin in the west, whether from the above or other factors, has been accomplished without any sacrifice of plant capacity according to the available data on the size of gins as measured by the number of saws per plant.<sup>27</sup>

It will be recalled that the discussion on the size of gin plants revealed that the gin plants in the western part of the state had approximately 20 percent more saws per plant than the gins in eastern Oklahoma. These larger gin units in the west, of course, would be more costly, due to size alone, and would represent a larger capital investment. For the entire seven crop seasons, the average book value per plant was \$15,269 in the east and \$23,904 in the west, which indicated that the western gins represented a 56.6 percent greater fixed investment per plant than did the gins in the eastern portion of the state. For the four years, 1929-30 to 1932-33, the average book value per gin was \$15,112 on the east side and \$23,707 on the west. It is apparent that the difference in book values between the gins in the eastern and western regions of the state is much greater than the difference in size, as measured by the number of stands and saws of the gins. This discrepancy in relative costs of gin plants appears to have been caused largely by the additional cleaning machinery that is used in the gins in the western area in order to handle properly the large percent of seed cotton that is harvested by snapping.

Table 8 shows a frequency distribution of the gins according to their book values for the four-year period, 1929-30 to 1932-33. Nearly 65 percent of the gins for the state as a whole had book values ranging from \$7,501 to \$22,500. During the period there were slight increases in the relative num-

<sup>27</sup> See Table 4.

ber of gins found in the two smallest book value groups. The percent of gins in the \$1 to \$7,500 group increased from 3.6 percent of the total number in 1929-30 to 5.1 percent in 1932-33, and the next group increased from 32.4 to 35.7 percent during the same period. The four-year averages for the state show that 11.0 percent of the gins were classed in the groups of gins having book values of more than \$30,000.

More than 50 percent of the gins in the eastern part of the state had book values between \$7,501 and \$15,000. The proportion of the gins in this group increased from 53.3 percent in 1930-31 to 56.3 percent in 1932-33. There was also slight increase in the proportion of the gins on the east side which were in the group having book values between \$15,001 to \$22,500. However, the proportion of gins with book values in excess of \$22,500 declined from 13.1 percent of the total number in 1929-30 to 8.9 percent in 1932-33.

TABLE 8.—Distribution of Gins in Oklahoma According to Their Book Values, 1929-30 to 1932-33.

Book values (dollars)	NUMBER OF GINS					Percent of all gins, average
	1929-30	1930-31	1931-32	1932-33	Average	
<b>State</b>						
1- 7,500	30	41	40	39	38	4.6
7,501-15,000	266	270	279	275	273	33.5
15,001-22,500	223	248	276	278	256	31.4
22,501-30,000	198	183	143	108	158	19.4
30,001-37,500	82	74	59	51	66	8.2
37,501 and over	23	34	19	20	24	2.9
Total	822	850	816	771	815	100.0
<b>East</b>						
1- 7,500	30	41	40	35	37	8.8
7,501-15,000	236	239	226	214	229	54.8
15,001-22,500	104	110	109	97	105	25.2
22,501-30,000	38	37	34	22	32	7.6
30,001-37,500	15	13	10	8	11	2.6
37,501 and over	3	8	0	4	4	1.0
Total	426	448	419	380	418	100.0
<b>West</b>						
1- 7,500	0	0	0	4	1	.2
7,501-15,000	30	31	53	61	44	11.2
15,001-22,500	119	138	167	181	151	38.1
22,501-30,000	160	146	109	86	126	31.7
30,001-37,500	87	61	49	43	55	13.8
37,501 and over	20	26	19	16	20	5.0
Total	396	402	397	391	397	100.0

SOURCE: Data secured from the Oklahoma Corporation Commission.

The figures for the gins in the western section of the state illustrate the downward trend of book values per plant during these years which was noted in Table 7. The only gins in this area with a book value of \$7,500 or less were four in the year 1932-33. The number of gins with book values



between \$7,501 and \$15,000 increased from 7.6 percent of the total number in 1929-30 to 7.7 percent in 1930-31, 13.4 percent in 1931-32, and 15.6 percent in 1932-33. In 1929-30, 22.0 percent of the gins had book values in excess of \$30,000, as compared with 21.6 percent in 1930-31, 17.1 percent in 1931-32, and 15.1 percent in 1932-33.

#### OWNERSHIP OF GINS

During the early history of cotton ginning in the United States, the industry was primarily a private enterprise conducted on individual plantations or farms, but in more recent years the increase in the number of smaller sized farms and the tendency towards larger gin units has been accompanied by the development of custom ginning, which has become, in most areas practically universal. It seems likely that the only major cotton sections where plantation operated gins are still an important factor in ginning the crop is in the Delta areas of Arkansas, Louisiana, and Mississippi.<sup>85</sup> If there are any strictly private gins in Oklahoma, it is not possible to determine the fact from the records of the Corporation Commission. The gin in reporting annually to the Corporation Commission states the form of ownership under which each plant is operated. The major types of ownership designated by these annual reports in order of numerical importance are: corporation, individual, partnership, and cooperative.

The control and operation of gins by corporate bodies is the main type of ownership found in the ginning industry in this state. The corporations engaged in the cotton ginning business range from small-sized organizations operating single plants to large concerns operating a large number of plants. These large incorporated companies frequently operate both cotton oil mills and a "line" of gins. This integration of business seems to be largely for the purpose of providing a more certain source of cottonseed for the oil mills. The existence of single gins owned by corporations is due possibly to the size of the capital investment necessary in recent years to erect a fully equipped, modern gin plant.

Individual ownership, in this instance, signifies the legal possession and operation of a gin or gins by an individual. Partnerships denote joint ownership of gin properties by two or more persons. The gin plants which are classified as cooperatives are those gins which are incorporated under the Oklahoma Cooperative Associations Act of 1919, which provides for the organization and ownership of cooperative corporations by farmers for the purpose of handling and marketing the products they produce or use in their business.<sup>86</sup> This farmer cooperative form of gin ownership is confined principally to the western part of Oklahoma. There are a small number of gin plants which are jointly owned by individuals and corporations, and these along with several gins which were classified as being in receivership were placed in a separate category termed "others."

The percentage distribution of the gins in the various ownership classifications is shown in Table 9 for the four years, 1929-30 to 1932-33. More than one-half of the gins of the state in all years were in the corporation ownership group and during the period there was a slight increase in this group for the state as a whole. Of the 418 gins shown as of corporation

<sup>85</sup> Plantation ginning in this sense refers not only to ownership of gins by individuals but applies to all gins operated solely for private use. A number of the large cotton farms in these areas are owned and operated by corporations and partnerships.

<sup>86</sup> Sections 5637 to 5652, Compiled Oklahoma Statutes, 1931. There is also a law of 1917 which provides for a non-stock form of organization of cooperative ginning, but it is believed that all cooperative gins now in operation are chartered under the provisions of the law of 1919.

ownership in 1932-33, 208, or 49.8 percent, were reported by nine companies each of which operated nine or more gins. These "line" gins constituted 27.0 percent of all gins reporting that season. The proportion of gins in the state under any type of ownership other than corporation generally decreased slightly during the period. This was particularly true of the last three years and was somewhat more marked in the western part of the state than in the eastern.

**TABLE 9.—Percentage of Gins in Oklahoma Operated Under Different Types of Ownership, Average 1929-1930 to 1932-1933.**

Year	Number of gins	PERCENT OF GINS UNDER DIFFERENT TYPES OF OWNERSHIP				
		Corporation	Cooperative	Individual	Partnership	Others <sup>1</sup>
<b>State</b>						
1929-30	822	50.9	10.7	18.2	16.3	3.9
1930-31	850	50.1	12.4	16.9	16.8	3.8
1931-32	816	52.0	12.1	15.4	16.9	3.6
1932-33	771	54.2	11.2	15.4	16.3	2.9
Average	815	51.8	11.6	16.5	16.6	3.5
<b>East</b>						
1929-30	426	54.7	.5	23.7	21.1	---
1930-31	448	49.6	3.3	23.7	23.0	.4
1931-32	419	52.3	2.6	21.7	22.7	.7
1932-33	380	52.4	2.6	22.6	22.4	---
Average	418	52.2	2.3	22.9	22.3	.3
<b>West</b>						
1929-30	396	46.7	21.7	12.4	11.1	8.1
1930-31	402	50.7	22.4	9.5	9.9	7.5
1931-32	397	51.6	22.2	8.8	10.8	6.6
1932-33	391	56.6	19.4	8.4	10.5	5.6
Average	397	51.3	21.4	9.8	10.6	6.9

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> Gins of joint ownership by individuals and corporations and gins in actual receivership.

Probably a more significant consideration than the number of gins under different types of ownership is the proportion of the total cotton crops which was ginned by each group of plants. Table 10 shows these percentages. A comparison of the data in Table 9 and Table 10 reveals significant differences in the relative positions of different ownership groups in these respects.

While the average number of gins under corporate ownership in the state for the four years represented 51.8 percent of all gins reporting, this form of ownership accounted for only 45.6 percent of the average number of bales of cotton ginned during the period. For the entire state the corporation gins increased their proportion of the number of bales ginned annually from 44.4 percent in 1929-30 to 48.3 percent in 1932-33, compared to a relative gain in number of plants from 50.9 percent to 54.2 percent during the same period. The group of incorporated plants in the eastern section showed a loss of 5.5 percent in the proportion of the total ginnings which they handled during the period. Gins owned by corporations in the western section increased the percentage of the crop which they received from 40.5 percent in

1929-30 to 48.8 percent in 1932-33, but this was a smaller gain than they made in relative numbers during the same period.

**TABLE 10.—Percent of Cotton Ginned by Gins in Different Ownership Groups in Oklahoma, 1929-30 to 1932-33.**

Types of ownership	All years	1929-30	1930-31	1931-32	1932-33
<b>State</b>					
Corporation	45.6	44.4	44.7	45.1	48.3
Cooperative	20.2	22.0	19.1	19.2	20.4
Individual	14.6	12.8	15.3	16.1	14.1
Partnership	15.8	15.9	16.9	15.9	14.6
Others	3.8	4.9	4.0	3.7	2.6
<b>East</b>					
Corporation	47.5	52.9	44.2	46.5	47.4
Cooperative	3.4	1.0	4.7	3.9	3.9
Individual	22.1	19.0	23.1	22.9	22.5
Partnership	26.5	27.1	27.4	25.5	26.2
Others	.5	----	.6	1.2	----
<b>West</b>					
Corporation	44.4	40.5	45.1	43.9	48.8
Cooperative	30.7	31.7	30.6	31.1	29.3
Individual	9.9	9.9	9.2	10.8	9.5
Partnership	9.1	10.8	8.4	8.4	8.3
Others	5.9	7.1	6.7	5.8	4.1

SOURCE: Data secured from the Oklahoma Corporation Commission.

Cooperative ginning associations, while representing 11.6 percent of the average number of gins reporting during the four years, handled 20.2 percent of the average number of bales ginned by all plants, which indicates that this group of gins is of considerably more importance than their numbers suggest. In the western division of the state, where most of the cooperative gins are located, this group has ginned 30.7 percent of the average number of bales reported for the four seasons, although the proportion of the crop ginned in 1932-33 in that area was slightly less than that ginned in 1929-30.

The proportion of the state crop ginned by plants of individual ownership has increased slightly during the four years. This gain has been altogether in the eastern area where this type of ownership experienced a small decrease in relative number of gins. Partnership gins have received a smaller portion of the ginnings in the state during the period studied than their numbers were of the total number of gins in the state. Gins classified as "others," it must be remembered, are located mainly in the western portion of the state, and they have been subject to a decline in the proportion of ginnings of 3.0 percent, which is slightly more than the relative decrease in numbers of 2.5 percent which was evident during the period.

These differences in the proportions of cotton ginned by plants under different types of ownership in comparison with the relative number of gins reported in the various groups indicate that the average number of bales ginned per plant differs somewhat between the several ownership classifications. In Table 11, the average number of bales ginned per plant by the ownership groups is presented for the period of 1929-30 to

1932-33. The volumes per plant for the state are not as valuable for analysis as those of the eastern and western divisions because of the fact that two of the ownership classes, cooperatives and "others," occur mainly in the western area where volumes per plant are larger than in the eastern area. An examination of the data presented for the two geographical sections shows that there are large differences in the volumes of ginnings of different groups in the same area. The average volumes per plant for the four years in the eastern district show that the cooperatives have the largest volume per plant and the corporation gins the smallest. Except for the gins classed as "others," which are too few to be significant, the partnership gins are second in rank in number of bales per plant with an average of 1,015 bales for the seasons under discussion. The volumes per plant received by gins of individual ownership are but little above those of corporation gins.

TABLE 11.—Average Number of Bales Ginned per Plant in Oklahoma, by Ownership Groups, 1929-30 to 1932-33.

Types of ownership	All years	1929-30	1930-31	1931-32	1932-33
<b>State</b>					
Corporation	1030	1021	831	1180	1092
Cooperative	2034	2408	1440	2149	2242
Individual	1016	917	850	1298	1055
Partnership	1116	1021	927	1403	1161
Others	1260	1457	992	1434	1135
<b>Total</b>	<b>1169</b>	<b>1169</b>	<b>932</b>	<b>1361</b>	<b>1226</b>
<b>East</b>					
Corporation	800	688	700	1033	788
Cooperative	1339	1531	1099	1686	1274
Individual	852	642	791	1173	876
Partnership	1015	813	910	1364	1011
Others	1550	----	1067	1872	----
<b>Total</b>	<b>880</b>	<b>711</b>	<b>785</b>	<b>1160</b>	<b>871</b>
<b>West</b>					
Corporation	1277	1440	973	1338	1368
Cooperative	2111	2428	1497	2207	2370
Individual	1379	1480	1013	1572	1427
Partnership	1367	1449	976	1501	1551
Others	1247	1457	986	1384	1135
<b>Total</b>	<b>1472</b>	<b>1662</b>	<b>1096</b>	<b>1573</b>	<b>1571</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

The number of bales ginned per plant by the cooperative gins in the western portion of the state is considerably larger than the number handled by any of the other groups. The gins classified as "others" received the smallest number of bales. The corporation gins were only slightly above the "others" gins for the average of all seasons and were actually below that group in all years except 1932-33, when their advantage was large. The number of bales ginned per plant by the individual and partnership gins was almost identical for the average of the period and represented approximately a hundred bales more than the amount ginned by the corporation

gins. The advantages of the cooperative gins in number of bales ginned over the gins classed as corporations were very marked in both areas. In the eastern area the average number of bales ginned per plant by the cooperatives for the four years exceeded that of the corporation plants by 67.4 percent, while in the western area the cooperative associations showed an average volume per plant which was 65.3 percent greater than that of the corporation gins. Although there were only a small number of cooperative ginning associations in the eastern area, the above relationships would indicate that the cooperatives enjoyed a larger volume than plants of other types of ownership regardless of location.

**TABLE 12.—Cumulative Percentage of the Number of Gins in Oklahoma With Volumes Equal to or More Than Specified Numbers of Bales; Average, 1929-30 to 1932-33; Classified by Ownership.**

Number of bales	CUMULATIVE PERCENTAGES WITH SPECIFIED OR GREATER VOLUME					All gins
	Corporation	Individual	Partnership	Cooperative	Others	
<b>State</b>						
1- 500	100.0	100.0	100.0	100.0	100.0	100.0
501-1000	81.7	76.9	77.7	98.4	88.7	82.4
1001-1500	44.7	42.0	41.3	90.5	69.6	50.8
1501-2000	19.3	21.9	23.6	68.0	33.9	26.5
2001-2500	8.0	7.8	11.5	45.5	12.2	12.9
2501-3000	2.6	4.2	5.0	27.0	2.6	5.9
3001-3500	1.2	1.8	2.1	16.7	0	3.0
3501-4000	.7	1.4	1.0	8.5	---	1.6
4001-4500	.5	.8	1.0	3.7	---	.9
Over 4500	.4	.2	.6	1.6	---	.5
<b>East</b>						
1- 500	100.0	100.0	100.0	100.0	100.0	100.0
501-1000	72.9	69.7	71.9	94.8	80.0	72.4
1001-1500	28.0	31.1	29.3	79.0	80.0	32.6
1501-2000	8.8	13.9	17.4	31.6	60.0	12.6
2001-2500	2.7	4.3	9.3	7.9	40.0	4.8
2501-3000	.8	2.5	4.1	7.9	20.0	2.1
3001-3500	0	1.2	2.3	0	0	.8
3501-4000	---	.9	1.3	---	---	.5
4001-4500	---	.6	1.3	---	---	.4
Over 4500	---	.3	.8	---	---	.2
<b>West</b>						
1- 500	100.0	100.0	100.0	100.0	100.0	100.0
501-1000	91.3	92.9	92.3	98.8	89.1	93.0
1001-1500	62.6	68.1	67.1	91.7	69.1	70.1
1501-2000	30.6	39.3	38.7	72.0	32.7	41.3
2001-2500	13.6	15.5	16.8	69.6	10.9	21.6
2501-3000	4.4	7.8	7.1	29.1	1.8	10.1
3001-3500	2.4	3.0	1.3	18.5	0	5.6
3501-4000	1.4	2.4	0	9.4	---	3.0
4001-4500	.9	1.2	---	4.1	---	1.5
Over 4500	.8	0	---	1.8	---	.8

SOURCE: Data secured from the Oklahoma Corporation Commission.

Since the various types of ownership have revealed somewhat consistent differences in the average number of bales ginned per plant, it is interesting to examine these variations in volume of ginning in a more detailed manner. Table 12 presents cumulative percentages of the number of gins of various types of ownership which ginned more than specified numbers of bales for the four seasons. In the eastern area of the state, the only gins exceeding a volume of 3,000 bales were those of individual and partnership types of ownership. Corporation gins comprised over half of all the gins in this area for the four seasons, and yet none of them attained a volume of more than 3,000 bales. Cooperative gins in the eastern section, while not occurring in the higher volume intervals, had 70.0 percent of the gins with volumes of more than 1000 bales compared with 32.6 percent of all gins.

On the west side of the state most of the cooperative gins secured fairly large volumes. While nearly 70 percent of the cooperative gins show volumes above 2,000 bales, only 13.6 percent of the corporation gins, 15.5 percent of the individually owned gins, 16.8 percent of the partnerships, and 10.9 percent of the "others" group exceeded that number of bales. It will be noted that even in this area of large volumes per plant, none of the gins termed "others" exceeded a volume of 3,000 bales, and that the largest ginnings received by any plants reported as owned by partnerships were less than 3501 bales.

Table 13 shows the average number of saws per plant for the gins of various ownerships that reported these figures for the year 1932-33. The figures show that the cooperative plants are considerably larger in size than the gins under other types of ownership. With the exception of the cooperatives there is comparatively little difference in size of plants within either section of the state. However, the plants under all types of ownership averaged larger in size in the western part of the state than in the eastern part. The average number of saws per plant was 401 for the total number of cooperative gins reporting, which is equivalent to an average plant of five stands of eighty saws each for this entire group. It is apparent that the various types of owners operate gins of a saw capacity that is somewhat related to the volume per plant which they usually receive.

TABLE 13.—Average Number of Saws per Gin in Oklahoma According to Types of Ownership, 1932-33.

Type of ownership	STATE		EAST		WEST	
	Number of gins	Average number of saws per gin	Number of gins	Average number of saws per gin	Number of gins	Average number of saws per gin
Corporation	312	347	121	320	191	367
Cooperative	84	401	10	368	74	405
Individual	123	321	83	300	40	365
Partnership	101	331	72	322	29	354
Others	19	374	---	---	19	374

SOURCE: Data secured from the Oklahoma Corporation Commission.

#### FINANCIAL ACHIEVEMENTS OF GINS

Repeated mention has been made of the reports which the operators of each gin plant in the state are supposed to file annually with the Corporation Commission, but it seems desirable to explain more fully those portions of the reports which deal with the financial phases of gin operation. Every gin reporting each season to the Corporation Commission is required to include a statement of all revenues derived from the ginning of

cotton and to itemize the amounts of certain specified expenses which have been incurred in the actual ginning operations. The fiscal aspects of any industry which has been designated as a public service business are especially significant due to the matter of the costs of the service to the consumers and the financial returns to the industry which are produced by the regulated schedule of rates. The importance of cotton as a crop in Oklahoma and the important part in the marketing of cotton which is played by the ginning business further intensifies interest in the financial aspects of the industry.

The fact that cotton ginning constitutes the only type of business in the state which is controlled as a public utility and which sells its services entirely to the agricultural population adds an additional importance to the study of the financial affairs of the ginning industry because of the recent economic distress of the cotton growers of the state, and because of the fact that Oklahoma is the only major cotton producing state which has enacted such legislation. It would seem that such an innovation in the extension of governmental authority might well be analyzed both from the standpoint of the cotton farmers and the ginners in the light of the financial situation created by this measure of control.

The revenues, as reported by the gins to the Corporation Commission, consist of two separate items, one of which might be termed ginning revenue, and the other, profits received by the ginners from the sale of bagging and ties. Ginning revenue is calculated by multiplying the number of pounds of both picked and snapped cotton received at the gins by the rates which have been announced for these types of seed cotton by the Corporation Commission each season. The total of these two forms of revenue derived from the actual ginning operations, that is, the processing and packaging of lint, is called the operating revenue. This operating revenue represents the amount of money which each gin would have received for the services rendered in ginning had all the seed cotton been ginned at the rates prescribed annually by the Corporation Commission. Also it must be remembered that this operating revenue in no way reflects any income accruing to the industry from subsidiary enterprises, as the buying of cotton, cottonseed, or other allied operations, which are usually conducted in connection with the operation of a gin plant in Oklahoma.

The operating expenses as shown by the reports of individual ginners represent a three-fold classification of expense items. The first general group is termed "expenses" and consists of the gin operating payroll exclusive of managerial and clerical salaries, plus the total operating costs of the power plant used in operating the gin with the exception of repairs.

The second category of expenses is that of repairs, in which is included freight and drayage on supplies purchased, labor, and supplies used. This classification does not include costs of actual replacements of machinery or equipment or any additions or betterments to a gin plant, as such expenditures are supposed to be incorporated in the capital investment reported for the gins.<sup>40</sup> The Corporation Commission has minutely outlined the various mechanical adjustments which can be classified as repairs for a gin plant for the guidance of the individual operators in calculating the cost of repairs.<sup>41</sup>

The third type of ginning costs is called "general expenses," which include managerial and clerical salaries, general office supplies, printing and stationery, telephone and telegraph, office rents, insurance premiums and several other minor items. The total of these three expense groups is adjusted by the addition of the amount of taxes paid on the gin property and

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<sup>40</sup> See page 21.

<sup>41</sup> The Corporation Commission of the State of Oklahoma, Order 2657, Rule 12.

a deduction made for that portion of the general expenses which are chargeable to outside operations. This grand total of operating expenses supposedly represents the annual expenditures by the individual plants in ginning operations alone.

This classification seems to exclude several commonly accepted forms of expenditure which are usually employed in the determination of operating costs by most types of business. Among these omissions are allowances for depreciation and obsolescence. The rates prescribed by the Corporation Commission are expected to provide a rate of return on the undepreciated capital investment in ginning machinery sufficient to allow for adequate compensation for these items of expense.

While these accounting methods do not embody all the conventional practices, the figures secured are highly important because of the fact that the Corporation Commission has established this routine of procedure and has judged the financial condition of the industry and established ginning rates on the basis of data calculated from these reports.

**TABLE 14.—Total Number of Bales of Cotton Ginned, Total Operating Revenues, Operating Expense, and Net Income for Cotton Gins in Oklahoma, 1924-25 and 1926-27 to 1932-33.**  
(Thousands of dollars)

	Number of gins	Number of bales ginned	Operating revenue	Operating expense	Net income <sup>1</sup>
<b>State</b>					
1924-25	738	1,308,474	\$ 8,518	\$ 4,833	\$ 3,685
1926-27	899	1,570,553	11,039	7,203	3,836
1927-28	778	893,922	4,620	4,415	205
1928-29	894	1,149,790	7,258	5,041	2,217
1929-30	822	961,210	6,510	4,610	1,900
1930-31	850	792,022	5,235	3,873	1,362
1931-32	816	1,110,779	5,686	3,793	1,893
1932-33	771	945,344	4,812	3,153	1,659
<b>East</b>					
1924-25	487	666,191	3,915	2,541	1,374
1926-27	568	730,461	4,473	3,587	886
1927-28	431	230,999	1,197	1,615	418
1928-29	515	470,095	2,738	2,161	577
1929-30	426	303,171	1,862	1,716	146
1930-31	448	351,642	2,103	1,669	434
1931-32	419	486,243	2,206	1,703	503
1932-33	380	331,073	1,430	1,212	218
<b>West</b>					
1924-25	251	642,283	4,603	2,292	2,311
1926-27	331	840,092	6,566	3,616	2,950
1927-28	347	662,923	3,423	2,800	623
1928-29	379	679,695	4,520	2,880	1,640
1929-30	396	658,039	4,648	2,894	1,754
1930-31	402	440,380	3,132	2,204	928
1931-32	397	624,536	3,480	2,090	1,390
1932-33	391	614,271	3,382	1,941	1,441

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.



In Table 14 the total operating revenue, operating expenses, and net incomes of the gins are given for the year 1924-25 and 1926-27 to 1932-33. The rates for ginning established by the Corporation Commission for these years are shown in Table 1. The variations noted in operating revenue were due both to the changes in ginning rates and to the varying sizes of the crops. In 1930-31, with the same rate as was in effect the prior season, the operating revenue for the plants in the western portion of the state suffered a reduction of 33.1 percent below that received the previous year. While the short crop in the western area was drastically curtailing the revenue of gins in that section of the state, the gin plants in the east received a slight increase in operating revenue above the previous year. The operating revenue in the west in 1931-32 was slightly above that of the prior season, even with the reduction in ginning rates which was made that year.

The operating revenue of the gins must not be confused with the total costs which the cotton farmers of the state have paid for ginning service during the period, because these figures include only the ginners' profits on bagging and ties rather than the total amount for which the ginners sold these articles. The costs of bagging and ties to the ginners, if added to these figures, would yield this result; but since separate charges were established by the Corporation Commission in certain years for two-pound jute bagging and sugar-cloth bagging, it is possible only to approximate the total cost of ginning to the growers. However, a rough estimate would indicate that about \$930,000 would have to be added to the total operating revenue each year to approach even closely the probable total costs of ginning services to the growers.

The operating expenses represent the totals of the allowable items of expenditures, which were explained previously. The total net income is simply a deduction of the total operating expenses from the total operating revenues. These figures readily indicate the more lucrative financial position of the gin plants in the western area, as total net income in the west for the eight seasons averaged 39 percent of the total operating revenues as compared with 19 percent for the gins in the eastern division of the state.

The totals of the various items shown in Table 14 are presented on a per gin and per bale basis in Table 15. This tabular summary indicates that the average operating revenue per plant for all gins ranged from \$5,938 in 1927-28 to \$12,279 in 1926-27. The average operating expenses per gin, during the same period, declined from \$8,012 in 1926-27 to \$4,090 in 1932-33. The net income per gin was comparatively large during the first two years of the period and very low in 1927-28. During the last five years of the period it varied from \$1,602 in 1930-31 to \$2,480 in 1928-29. The operating revenue per gin in the eastern section of the state was less than one-half that received by the plants in the western area in all except two years, while the expenses per plant on the east side averaged 58.8 percent of the expenses in the western section of the state. The net income per plant in the eastern area averaged \$955 for the period as compared with \$4,767 or almost five times as much for the gins in the western part of the state. It is to be expected that the gins in the western section of the state should receive larger net incomes because of the larger volumes of ginnings per plant in this area. While the capital investments per gin in the west as shown in Table 7 were much greater than those of the plants in the eastern area, the difference was not nearly as great as the difference in the net incomes of the gins; and accordingly the percentage of return on investment as calculated from the relationship of the average per plant income to the average book value per plant was much higher for the gins in the west than for those in the east.

TABLE 15.—Average Number of Bales Ginned, Operating Revenue, Operating Expense, and Net Income per Gin and per Bale for Cotton Gins in Oklahoma, 1924-25 and 1926-27 to 1932-33.

Year	Number of gins	Number of bales per gin	DOLLARS PER GIN			DOLLARS PER BALE		
			Operating revenue	Operating expense	Net income <sup>1</sup>	Operating revenue	Operating expense	Net income <sup>1</sup>
<b>State</b>								
1924-25	738	1,773	\$11,542	\$6,549	\$4,993	\$6.51	\$3.69	\$2.82
1926-27	899	1,747	12,279	8,012	4,267	7.03	4.59	2.44
1927-28	778	1,136	5,938	5,674	264	5.23	5.00	.23
1928-29	894	1,302	8,119	5,639	2,480	6.33	4.40	1.93
1929-30	822	1,169	7,920	5,608	2,312	6.78	4.80	1.98
1930-31	850	932	6,158	4,556	1,602	6.61	4.89	1.72
1931-32	816	1,361	6,968	4,649	2,319	5.11	3.41	1.70
1932-33	771	1,226	6,242	4,090	2,152	5.09	3.33	1.76
<b>East</b>								
1924-25	487	1,368	8,040	5,218	2,822	5.88	3.82	2.06
1926-27	568	1,286	7,874	6,314	1,560	6.12	4.91	1.21
1927-28	431	529	2,778	3,750	-972	5.25	7.00	-1.84
1928-29	515	919	5,383	4,239	1,144	5.86	4.61	1.25
1929-30	426	711	4,370	4,028	342	6.14	5.66	.48
1930-31	448	785	4,694	3,726	968	5.98	4.75	1.23
1931-32	419	1,160	5,265	4,064	1,201	4.53	3.50	1.03
1932-33	380	871	3,764	3,190	574	4.32	3.66	.66
<b>West</b>								
1924-25	251	2,559	18,338	9,133	9,205	7.17	3.57	3.60
1926-27	331	2,538	19,837	10,926	8,911	7.82	4.31	3.51
1927-28	347	1,891	9,862	8,062	1,800	5.22	4.27	.95
1928-29	379	1,842	11,836	7,541	4,295	6.65	4.24	2.41
1929-30	396	1,662	11,738	7,307	4,431	7.07	4.40	2.67
1930-31	402	1,096	7,790	5,483	2,307	7.11	5.00	2.11
1931-32	397	1,573	8,765	5,266	3,499	5.57	3.35	2.22
1932-33	391	1,571	8,650	4,965	3,685	5.50	3.15	2.35

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

The use of per bale amounts of these financial items permits a method of comparison in which the variations caused by differences in the number of bales ginned per plant have been removed. Operating revenues per bale have been higher in the western part of the state than in the eastern part each season except 1927-28. This occurred in spite of the fact that in some years ginning rates have been higher in the east than in the west. This seemingly contradictory situation was possible because of the higher rates allowed for snapped cotton in both areas. Most of the cotton in western Oklahoma is harvested by snapping, while in eastern Oklahoma it is mostly picked. The rates were such as to yield higher revenues per bale for snapped cotton in the western part of the state than for picked cotton in the eastern area. In 1931-32 ginning charges were reduced and made uniform throughout the state. In 1931-32 the revenue per bale on the west side of the state was \$1.06 more than in the eastern section and in 1932-33 the advantage was \$1.15 per bale. The reduction in rates and limitation in preference allowed to snapped cotton reduced the per bale of the eastern gins, for the average of the years 1931-32 and 1932-33, 26.4 percent below that received in 1929-30 and 1930-31, while the decline in revenue per bale for the western gins was 21.7 percent.

Other factors responsible for part of the differences in revenue per bale are differences in the weight of the bales and in the percent of lint in the seed cotton. Obviously the more the bales weigh, the greater the revenue received by the gin because of the greater amount of seed cotton required. Also the smaller the percentage of lint in the seed cotton, the larger the revenue per bale, since more seed cotton is required to make a pound of lint. However, it is doubtful if there are any consistent differences in these factors between different sections of the state, except as the proportion of snapped varies. The influence of this factor has already been discussed.

The average expenses of gin operation for all gins in the state decreased from \$5.00 per bale in 1927-28 to \$3.33 in 1932-33. The decrease in the expense per bale cotton ginning during these years reflects the falling price level of the period. The gins in the eastern area in 1932-33 had an expense per bale which was 35.3 percent below the cost per bale of ginning in 1929-30 and 48.3 percent below the cost in 1927-28, while the plants on the west side decreased the expense per bale by 28.4 percent and 26.2 percent for the same years. It can be seen that the relative declines in revenues per bale were matched by even larger proportional decreases in the expense per bale of gin operations. The result of the shifts in the seasonal volumes of ginnings upon the costs of operating cotton gins is evidenced by a comparison of the expenses per bale shown in 1929-30 and 1930-31. In 1930-31 the plants in the eastern division were able to effect a decrease of \$.91 per bale below the figure of the previous season; the gins in the western portion of the state, due to the extremely short crop in 1930, were subjected to an increased cost of \$.60 per bale above the previous year. This season of 1930-31 was in fact the only year when the cost per bale of ginning operations was lower in the east than in the west side of the state.

The net income per bale in the eastern area has varied widely but has been declining each season since 1930-31, while during the same three years there has been an increase in income per bale in the western division. For the eight-year period, the net income per bale for the plants in the west has been more than three times as much as that earned by the gins in the eastern part of the state. The combination of higher revenues produced by the larger proportion of the crop ginned as snapped cotton, coupled with a smaller expense per bale due to the larger volumes of

ginnings per plant, appears to have been largely responsible for this result.

The packaging of the bales of cotton, while seemingly a rather minor part of the ginning operation, contributed a significant share to the total operating revenue of the gins. Table 16 shows, for the four years 1929-30 to 1932-33, the gross profit made on bagging and ties by the gins. These figures represent only the difference between the price at which the gins sold these articles and the cost to the gins of procuring them. These profits varied from 17.5 percent to 19.5 percent of the total operating revenue of the gins. These percentages were higher each year for the gins in the western part of the state than for those in the eastern part. The average gross profits per gin varied from \$218 in the eastern area in 1932-33 to \$595 in the western section in 1929-30. Each year they were substantially higher in the west than in the east. The gross profits generally declined from 1930-31 to 1932-33, but still amounted to \$.27 per bale for the entire state in the last year. The sale price as set by the Corporation Commission that year was \$1.00 per pattern (per bale) for most of the bagging and ties sold. This would indicate that their average cost to the gins was about \$.73 per pattern. The \$.27 profit represents 37 percent of the approximate cost of the bagging and ties.

TABLE 16.—Profit Received by Oklahoma Gins from the Sale of Bagging and Ties, 1929-30 to 1932-33.

Year	Number of gins	Number of bales ginned	GROSS PROFIT ON BAGGING AND TIES <sup>1</sup>			
			Total	Per gin	Per bale	Percent of operating revenue
<b>State</b>						
1929-30	822	961,210	\$333,284	\$405	\$.35	19.5
1930-31	850	792,022	306,139	360	.39	17.1
1931-32	816	1,110,779	324,952	398	.29	17.5
1932-33	771	945,344	255,888	332	.27	18.8
<b>East</b>						
1929-30	426	303,171	97,785	230	.32	19.0
1930-31	448	351,642	126,202	282	.36	16.7
1931-32	419	486,243	148,692	355	.30	14.8
1932-33	380	331,073	83,005	218	.25	17.2
<b>West</b>						
1929-30	396	658,039	235,499	595	.36	19.7
1930-31	402	440,380	179,937	448	.41	17.4
1931-32	397	624,536	176,260	444	.28	19.7
1932-33	391	614,271	172,883	442	.28	19.6

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> Costs of handling, bagging and ties have not been considered in calculating these figures.

#### Relation of Volume of Business to the Financial Success of Cotton Gins

So far in this discussion the financial achievements of the gins in Oklahoma have been treated only in an aggregate manner by areas and by years. Such figures naturally include a wide degree of fluctuation in the amount of revenue, expenses, and net income which have been realized by different gins. For instance, in 1932-33 the expense per bale varied from \$1.28 to \$54.08 for individual gins. There are a number of factors associated with the industry, such as volume of ginning, book values of the plants, and type of ownership, which affect the financial success of the

gins. The influence of volume of ginning on the financial results secured by the gins is shown in Tables 17 and 18. It might be expected that the revenue per bale would not be influenced by the number of bales ginned because the ginning rate is the same regardless of volume. However, it is apparent in both tables that as the volume ginned increases the revenue per bale usually increases, when the entire state is considered. It is probable that this was largely caused by the fact that most of the gins with larger volumes were situated in the western part of the state. The gins in this area ginned a larger proportion of snapped cotton than the gins in the eastern section of the state, and since the ginning rate for snapped cotton has been higher than the rate for picked cotton, the revenue per bale has been higher.

TABLE 17.—Relation of the Financial Achievements of Cotton Gins in Oklahoma to the Number of Bales of Cotton Ginned per Gin, Average 1924-25 and 1926-27 to 1928-29.

Number of bales ginned	Number of gins	Book value per plant	DOLLARS PER BALE		
			Revenue	Expense	Income <sup>1</sup>
<b>State</b>					
1- 500	592	\$12,669	\$5.54	\$9.03	—\$3.49
501-1000	736	15,804	5.91	5.80	.11
1001-1500	616	18,077	6.09	4.87	1.22
1501-2000	452	19,924	6.24	4.30	1.94
2001-2500	344	21,545	6.54	4.04	2.50
2501-3000	240	23,335	6.81	3.78	3.03
3001-3500	144	23,808	6.87	3.59	3.28
3501-4000	80	26,026	6.71	3.30	3.41
Over 4000	96	31,068	6.53	2.98	3.55
Total	3300	18,340	6.46	4.35	2.11
<b>East</b>					
1- 500	532	12,847	5.53	8.75	—3.22
501-1000	592	13,469	5.72	5.60	.12
1001-1500	412	14,580	5.85	4.63	1.22
1501-2000	224	16,709	5.93	4.11	1.82
2001-2500	116	19,111	6.01	3.80	2.21
2501-3000	56	24,489	6.20	3.66	2.54
3001-3500	28	20,756	5.84	3.43	2.41
3501-4000	16	27,439	6.45	3.59	2.86
Over 4000	8	24,049	6.13	2.96	3.17
Total	1984	14,654	6.04	4.75	1.29
<b>West</b>					
1- 500	60	11,148	5.67	12.37	—6.70
501-1000	144	25,447	6.63	6.59	.04
1001-1500	204	25,142	6.55	5.34	1.21
1501-2000	228	23,061	6.54	4.48	2.06
2001-2500	228	22,795	6.81	4.16	2.65
2501-3000	184	987	7.01	3.81	3.20
3001-3500	116	24,550	7.12	3.63	3.49
3501-4000	64	25,673	6.77	3.23	3.54
Over 4000	88	31,689	6.56	2.98	3.58
Total	1316	23,885	6.77	4.06	2.71

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

**TABLE 18.—Relation of the Financial Achievements of Cotton Gins in Oklahoma to the Number of Bales of Cotton Ginned per Gin, Average 1929-30 to 1932-33.**

Number of bales ginned	Number of gins	Book value per plant	DOLLARS PER BALE		
			Revenue	Expense	Income <sup>1</sup>
<b>State</b>					
1- 500	572	\$12,817	\$5.55	\$6.93	—\$1.38
501-1000	1029	16,425	5.72	5.08	.64
1001-1500	791	21,018	5.75	4.10	1.65
1501-2000	442	23,167	5.91	3.60	2.31
2001-2500	228	25,776	5.87	3.28	2.59
2501-3000	94	26,124	6.10	3.13	2.97
3001-3500	47	31,483	6.26	3.20	3.06
3501-4000	25	34,130	6.29	3.25	3.04
4001-4500	14	35,647	5.90	2.88	3.02
Over 4500	17	36,949	5.68	2.78	2.90
Total	3259	19,295	5.84	4.05	1.79
<b>East</b>					
1- 500	461	11,586	5.36	6.61	—1.25
501-1000	666	14,131	5.25	4.88	.37
1001-1500	335	17,815	5.16	3.93	1.23
1501-2000	130	18,587	5.05	3.35	1.70
2001-2500	45	23,878	4.97	3.03	1.95
2501-3000	23	22,060	5.02	2.94	2.08
3001-3500	5	44,000	5.50	3.79	1.71
3501-4000	1	43,000	4.24	2.34	1.90
4001-4500	3	25,833	4.27	2.38	1.89
Over 4500	4	55,625	4.84	3.15	1.69
Total	1673	15,112	5.16	4.28	.88
<b>West</b>					
1- 500	111	17,930	6.32	8.18	—1.86
501-1000	363	20,634	6.53	5.41	1.12
1001-1500	456	23,372	6.17	4.22	1.95
1501-2000	312	25,075	6.26	3.70	2.56
2001-2500	183	26,243	6.10	3.34	2.76
2501-3000	71	27,440	6.44	3.19	3.25
3001-3500	42	29,992	6.36	3.12	3.24
3501-4000	24	33,760	6.37	3.29	3.08
4001-4500	11	38,323	6.34	3.02	3.32
Over 4500	13	31,203	5.98	2.64	3.34
Total	1586	23,707	6.27	3.91	2.36

SOURCE: Data secured from the Oklahoma Corporation Commission.

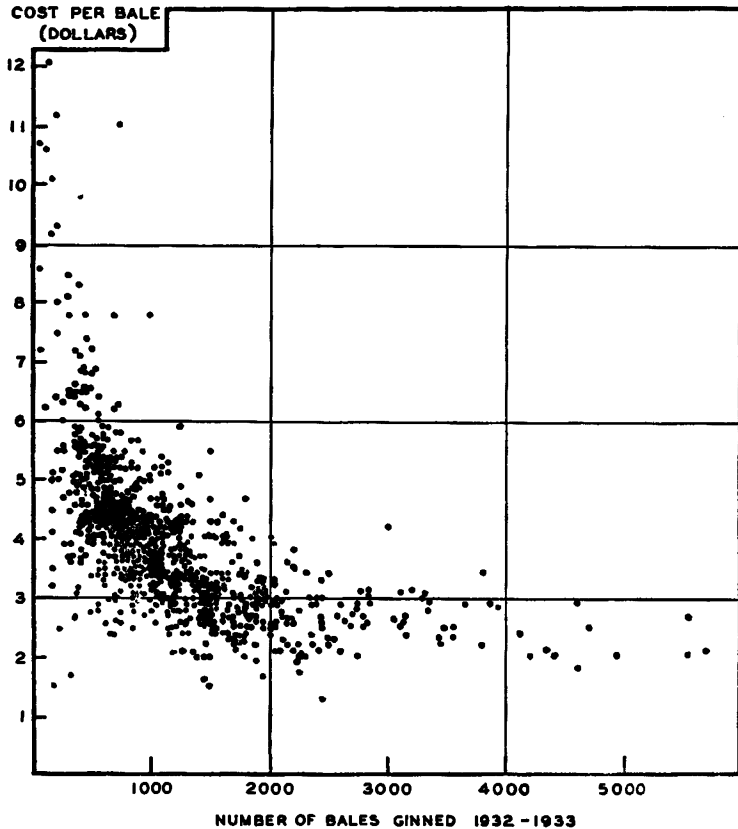
<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

The real significance of variations in volumes per plant is apparent from a study of the expenses per unit of operation. It will be noted that for all plants in the state, as shown in both tables, there was a marked reduction in the costs per bale of gin operation as the ginnings per plant increased. The addition of each successive 500-bale group of gins, almost without exception, was accompanied by a decrease in the expenses per bale. From 1929-30 to 1932-33 the average expense of gins in the entire state shows that the expense per bale of the plants ginning less than 500 bales was 149.3 percent greater than the expense of the group of gins handling more than 4500 bales.

Costs of gin operation per bale in the eastern section of the state show a decrease for each succeeding increase in volume until the group of 2501 to 3000 bales is reached; at that point a slight increase occurred during the four-year period 1929-30 to 1932-33. During the earlier period shown in Table 17 the decrease was somewhat more regular. The number of gins with large volumes in the eastern part of the state was comparatively small so that it is not possible to attach much significance to the irregularities which occur among these gins. An increase in volume from the group handling 1 to 500 bales to the next larger group was accompanied by a reduction in expenses per bale of 36 percent during the earlier period studied and 26.2 percent during the period 1929-30 to 1932-33. The addition of 500 bales to the interval of 501 to 1000 results in a reduction of expenses per bale of 17.3 and 19.4 percent during the two periods, and another increase of 500 bales in volume effects a saving in cost of operation of 11.2 and 17.3 percent as compared with the expenses per bale of the lower volume groups. The financial benefits of added volumes declines consistently for the gins on the east side of the state until there was a curtailment of expenses per bale of only 3.7 and 2.9 percent in each group between the groups of 2001 to 2500 bales and 2501 to 3000 bales. For the period 1929-30 to 1932-33, the group above 3000 bales shows an increase in expenses compared to the preceding interval, which may have been caused by the very large increases in book values which occurred in most of the higher volume groups. It may be possible that this sudden increase in book values per plant with proportionally less gains in volumes created a lack of proper relationship between the size of the physical plant and the output of the gins in these groups. The expense per bale of the most economical volume group was \$5.79 per bale or 66.2 percent below the expense of the most costly volume group in the earlier period and \$4.27 or 64.6 percent below in the later four-year period.

The influence of the number of bales ginned per plant was more noticeable among the gins on the west side of the state than for those on the east side. From the original to the final volume group there was during the period 1929-30 to 1932-33 only one case that did not show a reduction in expenses per bale from the preceding group. During the earlier period there were no exceptions. The costs per bale of ginning in the western area are greater than those of like volume classes in the eastern section, except in two or three cases where the gins handled rather large volumes. The book values per plant would indicate that this might be expected, because, for all groups under 3001 bales, the gins in the eastern area show an investment figure ranging from approximately \$5,000 to \$7,000 less per plant than do gins in corresponding groups in the west. However, the large increase in book values per plant in the eastern section for the groups ginning above 3000 bales is not evident in the west. For the period 1929-30 to 1932-33 the expenses per bale for the group which ginned from 1 to 500 bales in the west were \$1.57 greater than those of the like group in the east, but an additional 500 bales lowers this difference in cost to \$.53 per bale and still another 500-bale increase in volume reduces the comparative disadvantage to \$.29 per bale. The greater decrease in expense for the western gins which accompanied increases in volume possibly was caused by the higher investments and larger physical capacity of the plants in this area which required larger volumes in order to assure economical operation. An addition of 500 bales per plant to the lowest group resulted in a decrease in expenses per bale of 46.7 percent during the earlier period shown in Table 17 and 33.8 percent in the later period, while the 500 bales added to the class of 501 to 1000 bales resulted in a decline in expense per bale of 19.0 and 22.0 percent. The respective difference between the highest cost per bale and the lowest was \$9.39 and \$5.54. The lowest costs amounted to only 24.1 percent and 32.3 percent of the highest.

Figure IV shows the relationship between cost and volume for individual gins for the year 1932-33. Each dot represents a single gin. The curved line shows approximately the average relationship between cost and volume. As the number of bales ginned increased the costs declined very rapidly, until a volume of about 1500 bales was reached. After that the decline was much slower, and after a volume of about 3000 bales was reached there was very little tendency for costs to decrease with further increases in volume. The scatter of the dots above and below the line of average relationship indicates that some of the gins did not conform very well to the average relationship. However, there were comparatively few gins which deviated very from the average relationship.



DEPARTMENT OF AGRICULTURAL ECONOMICS

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Figure 4.—

These disparities in expenses per bale, which were produced by variations in volume per plant, were, of course, directly reflected in the net incomes per bale. The average net income per bale of all gins in the group which handled from 1 to 500 bales showed a net loss for both the



eastern and western divisions and for both periods studied. Although the western gins had a revenue per bale larger than that of the gins in the eastern area, they reported a loss per bale that was greater than that suffered by the eastern gins in this group. The most profitable group of gins in most cases were those with the largest volumes, which also usually ginned larger than average proportions of snapped cotton. During the period 1929-30 to 1932-33 the eastern section of the state presented a decided exception to this condition, since the largest revenue per bale was received by plants ginning from 2501 to 3000 bales. The lower revenues per bale of the larger volume groups in the eastern part of the state was in a measure responsible for this situation. This is also reflected to some extent in the figures for the entire state. The more uniform range of revenues per bale among the western plants shows an almost constant betterment of incomes per bale resulting from the effect of lower expenses as volumes increase.

These fiscal items have been presented as averages of a period that was marked by a sharp decline in price levels and by a reduction in ginning rates. In order to examine in a more detailed manner the data which comprised the foregoing summaries, separate tables have been prepared showing the more significant data by years.

Table 19 shows the revenue per bale of the various volume groups for each of the eight seasons. It will be noted that for the state as a whole, the smallest revenue per bale was found in the lowest volume group each season except 1928-29. This was probably caused by the large proportion of eastern gins included in this class and the small proportion of snapped cotton which they received. There was no consistent relationship between revenue per bale and number of bales ginned in either the eastern or western sections of the state. This differs greatly from the situation with respect to expenses and income. A comparatively uniform decline in revenue occurred in all groups for the seasons of 1931-32 and 1932-33 as compared with the revenue per bale which was received in earlier years. The variations in revenues per bale between the various volume intervals is comparatively slight in the eastern section, ranging from \$.22 per bale in 1924-25 to \$1.52 in 1928-29. The highest revenue per bale in western Oklahoma occurred in the lower volume intervals during the first years of the period and in intervals of above 2,000 bales in the last four years. The differences in revenues per bale between the various groups is somewhat greater in the western than in the eastern area, as the smallest spread was \$.44 in 1930-31 and the largest \$1.77 in 1924-25.

Table 20 shows the yearly array of expenses per bale in the several volume groups. The average expenses were highest in 1927-28 and lowest in 1932-33. The average expenses per bale for all gins were slightly greater in 1930-31 than in 1929-30, while the expenses in most of the volume groups were higher in 1929-30. This was apparently due to the fact that a larger proportion of the plants were in the lower volume groups in 1930-31, and not to an actual increase in costs of operation for gins obtaining similar volumes per plant.

TABLE 19.—Relation of Revenue per Bale to the Number of Bales Ginned by Cotton Gins in Oklahoma, 1924-25 and 1926-27 to 1932-33.

Years	REVENUE PER BALE									
	All gins	NUMBER OF BALES GINNED								
		1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	3001-3500	3501-4000	Over 4000
<b>State</b>										
1924-25	\$6.51	\$5.82	\$6.13	\$6.10	\$6.31	\$6.52	\$6.78	\$6.97	\$7.06	\$6.68
1926-27	7.01	5.69	6.11	6.22	6.68	7.20	7.46	7.47	7.29	7.71
1927-28	5.21	5.04	5.24	5.32	5.22	5.30	5.35	5.28	5.26	4.74
1928-29	6.34	6.10	6.06	6.35	6.49	6.54	6.51	6.29	6.68	5.66
1929-30	6.78	6.17	6.34	6.69	7.10	6.69	7.43	7.08	7.09	6.82
1930-31	6.61	6.14	6.54	6.61	6.71	7.18	6.36	6.88	---	---
1931-32	5.11	4.56	5.87	5.10	5.17	5.20	5.31	5.70	5.13	4.70
1932-33	5.09	4.40	4.70	4.96	5.15	5.40	5.42	5.65	5.74	5.52
<b>East</b>										
1924-25	5.88	5.68	5.77	5.85	5.90	5.87	5.75	5.86	7.07	5.82
1926-27	6.08	5.64	5.89	5.95	6.08	6.25	6.45	6.06	6.14	6.83
1927-28	5.22	5.03	5.17	5.27	5.22	5.27	6.49	---	---	---
1928-29	5.92	6.14	5.87	5.93	5.95	5.94	6.03	4.59	6.11	5.46
1929-30	6.14	6.08	6.04	6.23	6.39	6.03	6.23	5.82	---	6.46
1930-31	5.98	5.83	5.99	6.03	6.05	5.91	5.72	6.17	---	---
1931-32	4.53	4.33	4.50	4.54	4.50	4.66	4.74	4.35	---	4.40
1932-33	4.32	4.22	4.34	4.39	4.24	4.33	4.28	4.35	4.24	3.98
<b>West</b>										
1924-25	7.17	7.14	8.58	7.44	7.21	7.24	7.15	7.42	7.06	6.81
1926-27	7.82	7.46	8.37	6.43	7.77	7.77	7.86	7.87	7.90	7.81
1927-28	5.21	5.17	5.36	5.35	5.22	5.30	5.18	5.28	5.26	4.74
1928-29	6.61	5.66	6.66	6.81	6.81	6.78	6.59	6.45	6.73	5.87
1929-30	7.07	6.85	6.98	6.96	7.26	6.81	7.47	7.20	7.09	6.63
1930-31	7.11	6.96	7.16	7.02	7.04	7.40	7.01	7.23	---	---
1931-32	5.57	5.41	5.78	5.59	5.61	5.42	5.63	5.82	5.13	5.57
1932-33	5.50	5.12	5.43	5.35	5.42	5.60	5.59	5.74	5.98	5.66

SOURCE: Data secured from the Oklahoma Corporation Commission.

**TABLE 20.—Relation of Expense per Bale to the Number of Bales Ginned by Cotton Gms in Oklahoma, 1924-25 and 1926-27 to 1932-33.**

Years	EXPENSE PER BALE									
	All gins	NUMBER OF BALES GINNED								
		1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	3001-3500	3501-4000	Over 4000
<b>State</b>										
1924-25	\$3.70	\$6.74	\$4.99	\$4.20	\$3.77	\$3.46	\$3.31	\$3.35	\$3.46	\$2.93
1926-27	4.60	8.47	6.37	5.21	4.81	4.59	4.12	3.90	3.80	3.50
1927-28	4.97	10.48	6.56	5.41	4.48	4.03	3.69	3.41	3.28	3.08
1928-29	4.28	8.01	5.45	4.76	4.25	3.85	3.63	3.33	2.30	1.81
1929-30	4.80	8.16	6.07	5.01	4.40	4.03	3.68	3.67	3.68	3.44
1930-31	4.89	7.18	5.47	4.60	4.20	3.96	3.27	3.83	—	—
1931-32	3.41	5.84	4.32	3.65	3.15	2.94	2.87	2.85	2.95	2.65
1932-33	3.33	5.50	4.25	3.43	3.00	2.70	2.67	2.73	2.72	2.24
<b>East</b>										
1924-25	3.82	6.64	4.80	4.06	3.59	3.25	2.84	3.17	3.79	2.75
1926-27	4.94	8.36	6.25	5.10	4.66	4.51	4.02	3.77	3.51	3.46
1927-28	6.96	10.43	6.55	5.10	4.60	3.62	4.21	—	—	—
1928-29	4.69	7.22	5.16	4.45	4.14	3.54	3.61	2.74	3.37	2.45
1929-30	5.66	7.98	6.02	4.94	4.44	3.71	4.12	3.59	—	4.32
1930-31	4.75	6.56	5.16	4.26	3.82	3.48	2.85	4.04	—	—
1931-32	3.50	5.62	4.20	3.60	2.97	2.90	2.94	2.85	—	2.75
1932-33	3.66	5.16	4.12	3.30	2.88	2.62	2.70	4.21	2.34	—
<b>West</b>										
1924-25	3.57	7.68	6.28	4.96	4.16	3.70	3.47	3.40	3.20	2.95
1926-27	4.31	12.43	7.67	5.71	5.09	4.64	4.16	3.94	3.95	3.51
1927-28	4.27	10.96	6.68	5.60	4.51	4.05	3.65	3.41	3.28	3.08
1928-29	4.01	16.71	6.36	5.10	4.31	3.98	3.63	3.38	2.21	1.77
1929-30	4.40	9.47	6.16	5.04	4.39	4.09	3.67	3.68	3.68	3.34
1930-31	5.00	8.79	5.83	4.85	4.39	4.09	3.69	3.73	—	—
1931-32	3.35	6.66	4.60	3.70	3.27	2.96	2.84	2.85	2.95	2.36
1932-33	3.15	6.83	4.51	3.52	3.04	2.71	2.67	2.63	2.78	2.25

SOURCE: Data secured from the Oklahoma Corporation Commission.

TABLE 21.—Relation of Income<sup>1</sup> Per Bale to the Number of Bales Ginned by Cotton Gins in Oklahoma, 1924-25 and 1926-27 to 1932-33.

Years	INCOME PER BALE									
	All gins	NUMBER OF BALES GINNED								
		1-500	501-1000	1001-1500	1501-2000	2001-2500	2501-3000	3001-3500	3501-4000	Over 4000
<b>State</b>										
1924-25	\$2.81	— .92	\$1.14	\$1.90	\$2.54	\$3.06	\$3.47	\$3.62	\$3.60	\$3.75
1926-27	2.41	— 2.78	— .26	1.01	1.87	2.61	3.34	3.57	3.49	4.21
1927-28	.24	— 5.44	— 1.32	— .09	.74	1.27	1.66	1.87	1.98	1.66
1928-29	2.06	— 1.91	.61	1.59	2.24	2.69	2.88	2.96	4.38	3.85
1929-30	1.98	— 1.99	.27	1.68	2.70	2.66	3.65	3.41	3.41	3.18
1930-31	1.72	— 1.04	1.07	2.01	2.51	3.22	3.09	3.05	—	—
1931-32	1.70	— 1.28	.55	1.45	2.02	2.26	2.44	2.85	2.18	2.05
1932-33	1.76	— 1.10	.45	1.53	2.14	2.70	2.75	2.92	3.02	.28
<b>East</b>										
1924-25	2.06	— .96	.97	1.79	2.31	2.62	2.91	2.69	3.28	3.07
1926-27	1.14	— 2.72	— .36	.85	1.42	1.74	2.43	2.29	2.62	3.37
1927-28	— 1.74	— 5.40	— 1.38	.17	.92	1.65	2.28	—	—	—
1928-29	1.23	— 1.08	.71	1.48	1.81	2.40	2.42	1.85	2.74	3.01
1929-30	.48	— 1.90	.02	1.29	1.85	2.32	2.11	2.22	—	2.14
1930-31	1.23	.73	.83	1.77	2.23	2.73	2.87	2.13	—	—
1931-32	1.03	— 1.29	.30	.94	1.53	1.76	1.80	1.50	—	1.65
1932-33	.66	— .94	.22	1.09	1.36	1.71	1.58	.14	1.90	1.90
<b>West</b>										
1924-25	3.60	— .54	2.30	2.48	3.05	3.54	3.68	4.02	3.86	3.86
1926-27	3.51	— 4.97	.70	1.72	2.68	3.13	3.70	3.93	3.95	4.30
1927-28	.94	— 5.79	— 1.32	— .25	.71	1.25	1.53	1.87	1.98	1.66
1928-29	2.60	— 11.05	.30	1.71	2.50	2.80	2.96	3.07	4.52	3.90
1929-30	2.67	— 2.62	.82	1.92	2.87	2.72	3.80	3.52	3.41	3.29
1930-31	2.11	— 1.83	1.33	2.18	3.65	3.31	3.32	3.50	—	—
1931-32	2.22	— 1.25	1.18	1.89	2.34	2.46	2.79	2.97	2.18	3.21
1932-33	2.35	— 1.71	.92	1.83	2.38	2.89	2.92	3.11	3.20	3.41

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

Another matter of interest is the slight effect of the annual decline in expenses per bale upon the reduction in costs shown by the volume relationships. While the lowest expenses per bale were not always found in the largest volume groups, it appeared each season in one of the highest. The spread between this lowest cost and the highest cost, which occurred each year in the initial group of 1 to 500 bales, was seemingly little affected by the annual decrease in cost per bale of gin operation. On the east side the volume groups which showed the greatest reduction of expenses per bale represented a decreased cost of operation below the highest cost per bale ranging from 55.0 percent in 1929-30 to 66.1 percent in 1928-29. In the western division this relative decline in expenses per bale from the highest cost to the lowest because of the influence of added volume of ginning varied from 89.4 percent in 1928-29 to 58.0 percent in 1930-31. The effect of the relative distribution of the gins in the volume groups is again shown by the increased expenses per bale of all eastern gins in 1932-33 above those of the prior year, while the expense in each volume group was with one exception lower. The added expense per bale of the western plants in 1930-31 over the average costs per bale for all gins for 1929-31 was again reflected only in increased expense per bale in two classes. During the period studied, practically all gins with similar volumes per plant were able to reduce the expense per bale of gin operation.

Table 21 shows the average net income per bale during the eight years included in this analysis. The income per bale tends to increase as the number of bales ginned per plant becomes greater, although generally there seems to be some indication that the net income per bale of a number of the groups of like volumes has decreased slightly during the term of this study. The initial group of 1 to 500 bales shows a net loss per bale for all years in both areas, and in two of the eight years there was a loss in the eastern area for the group of plants ginning from 501 to 1000 bales. In 1927-28 a loss was suffered by all of the groups of gins in the western section of the state handling less than 1500 bales.

From the preceding discussion of the influence of the number of bales ginned per plant upon the financial operation of gins, it is apparent that gins which are unable to obtain a volume larger than 1000 bales are very likely to suffer a loss from their operations or else receive only a small profit. It is likely that very few gins in the state were originally erected with the expectation of normally ginning less than 1000 bales per season; but in view of the large numbers of plants which annually receive a volume of 1000 bales or less, it is probable that some areas of the state were seriously over-supplied with ginning facilities. The fact that gins in those groups often seem to operate at a loss should in time cause a reduction in the existing number of gins if the farmer's interest dictates. From the ginners' viewpoint it may be desirable to discontinue these gins if the profits accruing from subsidiary operations offset the apparent unprofitableness of gin plants receiving a small number of bales to gin. The gins which normally occur in these two lowest volume groups, while they probably were not intentionally designed for the low volumes of ginning which they obtain, have low book values or investment costs which indicate that they are mainly plants of smaller size or inferior equipment. The analysis of the relation of book values to volume of ginning per plant indicates that the flow of capital into the erection of gins in the state probably has followed the most profitable channels and that most of the gins of larger size or more costly equipment tend to receive larger volumes per gin.

The presence in the state of a group of gins which receive a total revenue less than the expenses they incur encourages the examination of the individual gins composing the industry on a basis of the plants operating at a loss and those which received profits for their services. Table 22

**TABLE 22.—Number of Gins, Bales per Plant, Revenue, Expense, and Net Income per Bale for all Gins, Gins making a Profit, and for Gins Suffering a Loss; Oklahoma, 1929-30 to 1932-33.**

Years and Items	STATE			EAST			WEST		
	All gins	Earn- ing gins	Gins sus- taining a loss	All gins	Earn- ing gins	Gins sus- taining a loss	All gins	Earn- ing gins	Gins sus- taining a loss
<b>1929-30</b>									
Number of gins ----	822	557	265	426	205	221	396	352	44
Bales per plant ----	1169	1505	464	711	1020	425	1662	1787	661
Revenue per bale ---	\$6.78	\$6.85	\$6.20	\$6.14	\$6.11	\$6.20	\$7.07	\$7.11	\$6.18
Expense per bale ---	4.80	4.35	7.85	5.66	4.63	7.96	4.40	4.25	7.51
Net income per bale <sup>1</sup>	1.98	2.51	— 1.65	.48	1.48	— 1.76	2.67	2.86	— 1.33
<b>1930-31</b>									
Number of gins ----	850	681	169	448	332	116	402	349	53
Bales per plant ----	932	1056	432	785	914	417	1096	1191	466
Revenue per bale ---	\$6.61	\$6.66	\$6.15	\$5.98	\$6.01	\$5.79	\$7.11	\$7.13	\$6.85
Expense per bale ---	4.89	4.63	7.42	4.75	4.40	6.94	5.00	4.81	8.34
Net income per bale <sup>1</sup>	1.72	2.03	— 1.27	1.23	1.61	— 1.15	2.11	2.32	— 1.49
<b>1931-32</b>									
Number of gins ----	816	692	124	419	312	107	397	380	17
Bales per plant ---	1361	1502	573	1160	1356	590	1573	1622	469
Revenue per bale ---	\$5.11	\$5.17	\$4.44	\$4.53	\$4.57	\$4.32	\$5.57	\$5.57	\$5.34
Expense per bale ---	3.41	3.28	5.45	3.50	3.24	5.26	3.35	3.02	6.75
Net income per bale <sup>1</sup>	1.70	1.89	— .99	1.03	1.33	— .94	2.22	2.55	— 1.41
<b>1932-33</b>									
Number of gins ----	771	610	161	380	258	122	391	352	39
Bales per plant ----	1226	1410	528	871	1035	524	1571	1685	540
Revenue per bale ---	\$5.09	\$5.16	\$4.38	\$4.32	\$4.34	\$4.24	\$5.50	\$5.53	\$4.80
Expense per bale ---	3.33	3.14	5.32	3.66	3.31	5.12	3.15	3.07	5.93
Net income per bale <sup>1</sup>	1.76	2.02	— .94	.66	1.03	— .88	2.35	2.46	— 1.13
<b>All years</b>									
Number of gins ----	3259	2540	719	1673	1107	566	1586	1433	153
Bales per plant ----	1169	1361	490	880	1086	476	1472	1573	541
Revenue per bale ---	\$5.84	\$5.88	\$5.39	\$5.16	\$5.15	\$5.22	\$6.27	\$6.28	\$5.95
Expense per bale ---	4.05	3.78	6.66	4.28	3.79	6.47	3.91	3.78	7.28
Net income per bale <sup>1</sup>	1.79	2.10	— 1.27	.88	1.36	— 1.25	2.36	2.50	— 1.33

**SOURCE:** Data secured from the Oklahoma Corporation Commission.  
<sup>1</sup>As calculated from the accounting practices established by the Oklahoma Corporation Commission which differ somewhat from those used by accountants.

TABLE 23.—Percentage of Gins Operating at a Loss and Percentage of Cotton Ginned at a loss in Oklahoma, 1929-30 to 1932-33.

Year	PERCENTAGE OF TOTAL NUMBERS OF PLANTS AND BALES					
	STATE		East		West	
	Gins	Bales	Gins	Bales	Gins	Bales
1929-30	32.2	12.8	51.9	31.0	11.1	4.4
1930-31	19.9	9.2	25.9	13.8	13.2	5.6
1931-32	15.2	6.4	25.5	13.0	4.3	1.3
1932-33	20.9	9.0	32.1	19.3	10.0	3.4
All years	22.1	9.2	33.8	18.3	9.6	3.5

SOURCE: Data secured from the Oklahoma Corporation Commission.

presents these data by years from 1929-30 to 1932-33 for the entire state and for two geographic sections of the state. During the four seasons, 719 gins, or 22.1 percent of all gins reporting, operated at a loss. Of these gins which reported a deficit during the period, 78.7 percent were located in the eastern section of the state and 21.3 percent were in the western area.

Table 23 shows not only the proportion of gins which suffered a loss each season but also, what is perhaps more significant, the relative amounts of cotton which were ginned at a loss. While the proportion of gins operating at a loss has ranged from 32.2 percent in 1929-30 to 15.2 percent in 1931-32, the relative amount of cotton ginned at a loss has ranged from 12.8 percent in 1929-30 to only 6.4 percent in 1931-32. In every case the percentage of cotton ginned at a loss was much smaller than the percentage of gins operating at a loss.

The effect of a reduced crop available for ginning seems to be much more disastrous to the eastern ginners than to those in the west because of their lower average net income. In 1929-30, a season of poor cotton yields in the eastern area and consequently a year of low volumes per gin plant, over half of the gins reported a deficit for their ginning operations, while in the western zone in the year 1930-31, which was a small crop year in that territory, only 13.2 percent of the plants operated at a loss. It is likely that the more restricted ginning territories and normally smaller volumes make the equilibrium between successful and unsuccessful operation more delicate and easily disturbed in the eastern portion of the state. While 33.8 percent of the gins in the east apparently lost money for the four years, there were only 9.6 percent in this position in the western section and the proportion of cotton ginned at a loss was 18.3 percent for the eastern plants as compared with 3.5 percent in the western area.

The revenues per bale received by the gin plants reporting a loss were practically the same as the revenues received by those operating at a profit for the average of the four seasons on the east side, but the plants in the western section that were subject to losses received less revenue per bale than those gins obtaining a profit. It seems likely that this can be accounted for by the fact that the gins reporting a deficit probably ginned a smaller percentage of snapped cotton than the other plants.

The expense per bale incurred in gin operations by the loss group of gins is 76.2 percent above that reported by all gins obtaining a profit during the period studied. The difference between the expense per bale of the two fiscal groups is much more marked in the western area than in the eastern division of the state. In the western portion of the state the expense per bale of the loss group of gins was 92.6 percent more than that

of the profit gins, while for the eastern section the relative decrease in expenses for the profit gins was 70.7 percent. This narrower relationship in expenses per bale between the two groups in the eastern area merely tends to confirm the above statement concerning the more delicate financial balance of the eastern plants. The expense per bale for the loss group of plants in the eastern part of the state was less than the corresponding group of gins in the western area in all seasons except 1929-30. This was due to the larger size of the plants in the western division, which makes a small volume per plant relatively more costly in expenses per bale than for the less expensive gins in the eastern area. The expenses per bale of the gins in the west reporting a profit were practically identical with those of the same group of plants in the other section of the state for the term of the study, but an examination of the annual figures reveals that in three of the four seasons the gins on the west side which earned a profit reported a smaller expense per bale than those in the eastern section. This lower cost of operation per bale would be expected because the differences between the number of bales per plant of the profit gins of the two regions seem large enough to produce some effect upon the expenses per unit. For the four years the profit gins in the west received 487 bales per plant more than the plants reporting a profit in the eastern section. The benefits of such an increase in volume have already been pointed out. Between the first and last years shown in Table 22 a considerable decline in expenses per bale occurred. This reduction in costs of operation per bale has amounted to 27.8 percent for the four years for all profit gins in the state and 32.2 percent for those comprising the loss group. The relative decrease in expenses per bale for the plants of the eastern section has been 28.5 percent for plants reporting a profit and 35.7 percent for those recording a loss. In the western area the reduction in expenses per bale was 27.8 percent for the profit gins and 21.0 percent for the loss group. It is probable that the greater reduction in relative ginning costs per bale in the loss group in the east may arise from the fact that the decrease in active plants in this area during the period was in the larger plants which were able to secure only small volumes per plant. The gradual decrease in book values per plant in the eastern section during the four years offers a partial substantiation of this point.

The net income per bale for the profitable gins tended to decline during the seasons included in the sample. This has been caused, probably, by larger reductions in ginning rates than occurred in the expenses of ginning. However, the loss per bale of the gins in the eastern area declined because, for this group, the decrease in expenses was greater than the decrease in revenue. The revenue per bale declined 31.6 percent between 1929-30 and 1932-33, while the expenses per bale were lowered 35.7 percent. The loss per bale in the western area has declined slightly during the four seasons, but has not been as consistent nor important as in the case of the eastern plants.

It has been shown that while a large number of gin plants reported a deficit for gin operations some seasons, the relative amount of cotton ginned by this group was small. The gins showing a loss were mainly located in the eastern portion of the state. For the state as a whole, the average ginnings of the plants which secured a profit exceeded by 871 bales per gin the average ginnings of the plants which showed a profit. This difference in volumes per plant was much smaller in the eastern area than in the western section of the state, as the profit gins in the eastern area averaged only 610 bales per plant more than the loss group while in the west the added volume per plant of the profit over the loss gins was 1032 bales. The average number of bales ginned per plant from 1929-30 to 1932-33 by the loss group was 490 bales for the entire state, 476 bales in the eastern area and 541 bales in the western section.



**Type of Ownership in Relation to the Finances of Cotton Gins**

Volume of business is only one, although perhaps the most important one, of the factors determining the financial success of cotton gins. The financial significance of the various forms of ownership is shown in Table 24 for the period 1929-30 to 1932-33. The cooperative gins in the state received the largest average revenue per bale, had the lowest expense of ginning, and the highest profit per bale. The fact that the cooperative ginning associations secured such higher net incomes per bale seems due to the large proportion of these gins found on the west side of the state and to the relatively large proportion of bollie and snapped cotton ginned. Furthermore, their net income per bale was \$.78 above the nearest group, "others," which is also a type of ownership confined almost entirely to gins located in the western section of the state. The corporation gins report the highest expense per bale and the lowest income per bale of any form of ownership.

In the eastern ginning territory the revenue per bale is very similar for all ownership groups although the corporation gins received slightly more per bale than the gins of any other type of ownership. The expense per bale in the eastern area according to ownerships shows little variation among the several groups except for the gins operated as corporations; these incurred an expense per bale of \$1.25 more than any other group. Due to the high expenses of the corporation gins, they received a much smaller net income per bale than the gins under any other type of ownership. The net income per bale of the cooperatives in the eastern area was almost three times as large as the income of the corporation gins. There was only a small difference between the incomes per bale of the gins owned by individuals and those conducted as partnerships.

The gins in the western portion of Oklahoma were subject to much wider variations in the revenue per bale received by the various forms of ownership. While the extreme range between the groups of the eastern plants was only \$.22 per bale, the range in the western section amounted to \$.68 per bale. In the western area the highest revenue per bale was received by the partnership gins, while the corporation gins received the lowest. The revenues per bale for the several ownership groups were much higher in the west than for the identical groups in the east. The difference was largest for the partnership gins, where it amounted to \$1.46 per bale. The cooperative gins, partnerships, and "others" had lower average expenses per bale in the eastern section of the state than in the western section. There was very little difference in the expenses per bale of the gins owned by individuals, while the corporation gins had higher per bale expenses in the eastern than in the western part of the state. These lower costs per bale in the eastern part of the state (with the exception of the corporation gins) are especially significant in view of the lower volumes per gin received by the eastern plants. This would indicate that if the revenues per bale could be equalized between the two districts, the disparities in net incomes would be largely removed. The five classifications of ownership in the west, while having some rather large variations in the number of bales per plant ginned by the different groups, seem to all have secured a sufficient volume per plant to allow reasonably low expenses per bale for each type of ownership. The difference between the corporation gins, which have the highest expense, and the cooperatives, which have the lowest, is only \$.44 per bale. From the standpoint of net income per bale the cooperatives were more profitable than any other group, while the gins classed as partnerships were second in this respect. The corporation gins received a net income per bale of \$.57 less than the cooperatives during

the period studied. The lowest net income per bale was secured by the gins termed "others," and was \$.83 per bale below the income received by the cooperatives.

**TABLE 24.—Relation of the Financial Achievements of Cotton Gins in Oklahoma to Type of Ownership of the Gins, Average 1929-30 to 1932-33.**

Type of ownership	Number of gins	Number of bales per plant	DOLLARS PER BALE		
			Operating revenue	Operating expense	Net income <sup>1</sup>
<b>State</b>					
Corporation	1686	1030	5.82	4.31	1.51
Cooperative	378	2034	6.25	3.60	2.65
Individual	541	1016	5.56	3.95	1.61
Partnership	539	1116	5.64	3.98	1.66
Others	115	1260	5.85	3.98	1.87
Total	3259	1169	5.84	4.05	1.79
<b>East</b>					
Corporation	873	800	5.25	4.68	.57
Cooperative	38	1339	5.14	3.47	1.67
Individual	373	852	5.03	3.98	1.05
Partnership	384	1015	5.12	3.94	1.18
Others	5	1550	5.07	3.43	1.64
Total	1673	880	5.16	4.28	.88
<b>West</b>					
Corporation	813	1277	6.20	4.06	2.14
Cooperative	340	2111	6.33	3.62	2.71
Individual	168	1379	6.30	3.92	2.38
Partnership	155	1367	6.58	4.04	2.54
Others	110	1247	5.90	4.02	1.88
Total	1586	1472	6.27	3.91	2.36

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

While there were considerable differences between the revenue, expense, and net income per bale of cotton gins under different types of ownership, it seems probable that at least a part of these differences may have been caused by the larger volumes of ginnings which were obtained by the gins in certain ownership groups. In an attempt to remove as much as possible of the influence of variations in volume of ginnings per plant upon the financial success of gins under different types of ownership, a comparison is presented in Table 25 which shows results of the operation of the gins in each separate ownership group which ginned from 1001 to 1500 bales during the four-year period, 1929-30 to 1932-33. This group of gins was selected because nearly one-fourth of the gins in the study secured volumes within these limits and the use of this interval also allows an adequate representation of gains in both the eastern and western ginning areas. It can be seen for the state as a whole that, while there were some differences in both revenue and expense per bale between the various kinds of ownership, the profits per bale for each group are very similar, showing an average difference of only \$.09 per bale except for the group classified as "others." All of this group were situated in the western area,

**TABLE 25.—Relation of the Financial Achievements of Cotton Gins in Oklahoma to Type of Ownership of the Gins for Plants Ginning from 1001 to 1500 Bales, Average 1929-30 to 1932-33.**

Type of ownership	Number of gins	DOLLARS PER BALE		
		Operating revenue	Operating expense	Net income <sup>1</sup>
<b>State</b>				
Corporation	428	5.77	4.13	1.64
Cooperative	85	6.11	4.44	1.67
Individual	109	3.58	3.90	1.68
Partnership	128	5.55	3.96	1.59
Others	40	5.88	4.07	1.81
Total	790	5.75	4.10	1.65
<b>East</b>				
Corporation	168	5.28	4.13	1.15
Cooperative	18	5.19	3.64	1.55
Individual	64	4.91	3.68	1.23
Partnership	84	5.12	3.78	1.34
Others <sup>2</sup>	---	---	---	---
Total	334	5.16	3.93	1.23
<b>West</b>				
Corporation	260	6.08	4.13	1.95
Cooperative	67	6.37	4.67	1.70
Individual	45	6.49	4.19	2.30
Partnership	44	6.37	4.29	2.08
Others	40	5.88	4.07	1.81
Total	456	6.17	4.22	1.95

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

<sup>2</sup> The sample of this type of ownership was too small to show reliable results.

so that they do not present a situation comparable to that of the rest of the gins. The variations in revenue per bale in the entire state were caused mainly by the differences in proportions of gins of each type of ownership that were located in the eastern and western areas of the state because of the larger revenue received by the gins in the west.

The analysis of this volume interval for the eastern gins shows that there was a range between types of ownership of only \$.37 per bale for revenue, \$.49 for expense, and \$.40 for net income. Again, as in Table 24, the cooperative gins had the highest net income per bale and the corporation gins the lowest, but while this additional profit secured by the cooperatives was \$1.10 per bale for the entire sample, the increased net income was only \$.40 per bale when the plants studied ginned a similar number of bales.

In the western area the cooperative plants show the highest expense per bale of any ownership group while the remaining classifications show only small differences in this figure. The largest net income per bale in this area was secured by the gins owned by individuals, and the cooperatives showed the least profit per bale of any group. The gins of corporation own-

ership made a much better showing when an adjustment was made for volume, while the cooperatives which were the most successful financially in both areas when the entire sample was considered, secured the smallest net income per bale in the western section of the state. The poor showing of the cooperatives in this instance may be partially explained by the fact that most of this group of gin plants appear to have been constructed with the expectation that the volumes received would be large, and the cooperative gins which were included in the group ginning from 1001 to 1500 bales might include a large proportion of plants which received ginnings that were considerably below the volume expected when the plants were constructed.

**TABLE 26.—Relation of the Financial Achievements of Cotton Gins in the Western Section of Oklahoma to Type of Ownership of the Gins for Plants Ginning from 2001 to 2500 Bales, Average 1929-30 to 1932-33.**

Type of ownership	Number of gins	DOLLARS PER BALE		
		Operating revenue	Operating expense	Net income <sup>1</sup>
Corporation	75	6.23	3.32	2.91
Cooperative	70	6.01	3.40	2.61
Individual	13	6.18	3.34	2.84
Partnership	15	6.10	3.27	2.83
Others	10	5.70	3.32	2.38
<b>TOTAL</b>	<b>185</b>	<b>6.10</b>	<b>3.34</b>	<b>2.76</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

In view of the fact that the average number of bales ginned per plant for all cooperative associations during the period 1920-1930 to 1932-1933 was 2111 bales, it seems evident that the volume interval used might have been somewhat more consistent with the plant capacity of the other types of ownership than with the plant capacity of the cooperatives. In view of this possibility, the comparison of ownership groups with similar ginnings per plant was made for volume groups with larger ginnings than the one just examined. As the eastern gin plants occur infrequently in the larger volume classes, this comparison was made only for the gins in the western area; but in view of the fact that nearly all of the cooperatives are situated in this division of the state, the comparison is still important. Table 26 presents for each type of ownership the revenue, expense, and income per bale of the gins on the west side which ginned from 2001 to 2500 bales during the period 1929-30 to 1932-33. In this analysis the corporation gins, which appeared to be the least profitable of any group in Table 24, appear as the most profitable group. The expense per bale shows remarkably little difference, with the operations of the cooperatives being the most costly on a per bale basis.

The data in Table 27 show the financial achievements of gins under different types of ownership for the volume interval of 2501 to 3000 bales. In this table the group which is termed "others" has been excluded due to the small number of gins in that category which ginned as many as 2501 bales. Although the low revenue of the gins operated by individuals caused this group to obtain the smallest net income per bale, the table appears to show little difference that might have been caused by the type of ownership of the gins. The cooperative gins show neither the lowest expenses nor the largest receipts per bale. The corporation gins again show the largest net income per bale of any group.

**TABLE 27.—Relation of the Financial Achievements of Cotton Gins in the Western Section of Oklahoma to Type of Ownership of the Gins for Plants Ginning from 2501 to 3000 Bales, Average 1929-30 to 1932-33.**

Type of ownership	Number of gins	DOLLARS PER BALE		
		Operating revenue	Operating expense	Net income <sup>1</sup>
Corporation	16	6.56	3.05	3.51
Cooperative	36	6.39	3.23	3.16
Individual	8	6.07	3.08	2.99
Partnership	9	6.69	3.31	3.38
<b>TOTAL</b>	<b>69</b>	<b>6.43</b>	<b>3.18</b>	<b>3.25</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

The data presented in the tables which have been adjusted as to the number of bales per plant seem to indicate that the financial prominence and success of the cooperative plants as shown in Table 24 was largely due to the large volume of ginnings that this group of gins had secured. When a comparison is made with the volumes that are approximately equal for the several types of ownership, there appears to be little advantage that might be credited to the form of ownership alone, although in both the volume intervals of 2001 to 2500 bales and 2501 to 3000 bales, the gins classed as corporations received the highest net income of any group and were able to operate the plants at a cost per bale for ginning that contrasted favorably with the remaining groups. It appears likely that the main influence of ownership upon the financial success of gin plants would depend upon whether or not the particular type of ownership was able to influence greatly the number of bales of cotton which the plants of that ownership were able to secure for ginning over any period. The cooperatives seem to have been superior in this respect, for the average number of bales per plant which they secured was greatly in excess of those received by other classes of ownership. However, it should be remembered that comparison with other types of ownership for gins receiving similar volumes showed that the cooperative gins were at a slight financial disadvantage. The superiority of the corporation gins in the higher volume groups, slight as it was, possibly indicated that certain advantages accrued to large groups of gins conducted by central organizations. The large scale purchase of supplies and materials, the employment of a trained staff of technical experts, and many other factors might account for the small financial superiority of the corporate units which ginned a large number of bales per plant.

#### Relation of Book Value to the Financial Success of Cotton Gins

Another variable factor in the ginning business which would seem to be important to the financial status of the individual units comprising the industry is the book value or cost of investment. The proper significance of this term as used in this study has been treated earlier in a discussion which explained at length the exact manner in which this figure was determined.<sup>22</sup> While these amounts do not represent the actual or appraisal value of the various gin plants in the state, the original or net costs which are shown by these book values should likely have a significant effect upon the financial success of gin plants. Table 28 shows the average revenue, expense, and net income per bale of all gins studied for the years 1929-30 to

<sup>22</sup> See page 21.

1932-33 by \$7500 book value groups for the entire state and for the eastern and western divisions of the state. For the state as a unit the revenue per bale tended to increase as the book value of the gins became greater, which was probably caused by the predominance of the western plants in the higher book value intervals. There was evidence of a marked reduction for the state as a whole in the expense per bale of gin operation as the book values of the gins increased. The lower cost of ginning per bale among the more costly gin plants was paralleled by a corresponding increase in the average number of bales per plant which was ginned by each succeeding larger book value group. This cheaper cost of operation per bale would seem to have been occasioned mainly by the increased volumes available to the plants of larger physical capacity. The net income per bale for the gins in the state showed an increase in all intervals except the final group with a book value of more than \$37,500.

**TABLE 28.—Relation of the Financial Achievements of Cotton Gins in Oklahoma to the Book Value of the Plants, Average 1929-30 to 1932-33.**

Book value (dollars)	Number of gins	Number of bales per gin	DOLLARS PER BALE		
			Revenue	Expenses	Net income <sup>1</sup>
<b>State</b>					
1- 7,500	150	554	\$4.97	\$4.40	\$ .57
7,501-15,000	1090	782	5.24	4.42	.82
15,001-22,500	1025	1169	5.77	3.97	1.80
22,501-30,000	632	1541	6.14	3.90	2.24
30,001-37,500	266	1821	6.42	3.91	2.51
Over 37,500	96	2256	6.24	3.85	2.39
<b>TOTAL</b>	<b>3259</b>	<b>1169</b>	<b>5.84</b>	<b>4.05</b>	<b>1.79</b>
<b>East</b>					
1- 7,500	146	549	4.96	4.44	.52
7,501-15,000	915	737	5.06	4.51	.55
15,001-22,500	420	1028	5.26	4.13	1.13
22,501-30,000	131	1404	5.22	3.85	1.37
30,001-37,500	46	1563	5.28	3.87	1.41
Over 37,500	15	1964	6.04	4.35	1.69
<b>TOTAL</b>	<b>1673</b>	<b>880</b>	<b>5.16</b>	<b>4.28</b>	<b>.88</b>
<b>West</b>					
1- 7,500	4	739	5.11	3.40	1.71
7,501-15,000	175	1018	5.94	4.08	1.86
15,001-22,500	605	1287	6.05	3.88	2.17
22,500-30,000	501	1577	6.36	3.92	2.44
30,001-37,500	220	1874	6.62	3.92	2.70
Over 37,500	81	2310	6.27	3.77	2.50
<b>TOTAL</b>	<b>1586</b>	<b>1474</b>	<b>6.27</b>	<b>3.91</b>	<b>2.36</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

The eastern area shows a greater uniformity than does the entire state in the revenues per bale that were received by the various book value groups. The sharp increase in the last group is due to the fact that eleven out of the fifteen gins shown in this group were reported in 1929-30 and 1930-31, when ginning rates were somewhat higher than in the two subsequent seasons. The small increase of \$.32 in revenue per bale from the first group to the group of \$30,001 to \$37,500 was probably caused by the larger percent of snapped cotton received by the better equipped and larger plants. The expenses per bale in the eastern section showed no consistent tendency either to increase or decrease, but the net income per bale showed a regular increase as the book values of the gin plants increased.

The four gins in the lowest book value group in the western section were all reported in a single season, 1932-33, which accounts for both the low revenue and low expense per bale shown by this group. The other book value intervals in the west show mainly an increase in revenue per bale as the book values of the gin plants increased, which probably was caused by the larger proportion of snapped cotton which was handled by those gins. As was evident in the eastern area, the gin plants show no definite trend in the expense per bale, although the group with book values between \$7,501 to \$15,000 had the largest expense, which was \$.31 per bale more than the expense of the interval which had the lowest expense per bale. The net income of the plants in the west increased as the book values became larger until the last group, when a slight decrease occurred.

Although it appears that the gins with the larger book values usually received more revenue per bale and earned a greater net income per bale than the other gins, the influence of the increasing volumes of ginning which was associated with the gins which had the larger book values per plant probably was of considerable importance in determining the character of the relationship.

#### **Length of Operating Season and the Financial Aspects of Gin Operation**

The business of ginning cotton is highly seasonal, nearly all seed cotton being ginned within a few days after it is harvested. Consequently the ginning season corresponds very closely to the harvesting season. The annual reports made by each gin to the Corporation Commission of Oklahoma contain a statement showing the total number of days the gin was operated. Not all gins placed this information in their reports. However, Table 29 shows that a total of 2,856 gins reported the number of days which they operated during the four-year period 1929-30 to 1932-33. This is an average of 689 gins reporting each year. More than one-half of them were corporation gins, while the remainder were divided fairly evenly between cooperatives, gins owned by individuals, and partnerships. There were a few reporting gins under other types of ownership.

The percentage of the total number of gins, which operated various lengths of time is shown by types of ownership in Table 29. More than one-half of all the gins in the state operated 100 days or less and 1.9 percent of them operated 25 days or less. At the other extreme were .1 percent of the gins which operated more than 225 days. However, less than 2 percent of the gins operated more than 175 days. There were certain fairly marked differences in the number of days operated by gins under different types of ownership. For instance, 60.7 percent of the gins controlled by individuals operated 100 days or less, as compared with 56.8 percent for the corporation gins, 52.5 percent for the partnership gins, 42.9 percent for the cooperatives, and only 30.1 percent for gins under other types of ownership. The larger number of bales ginned by the cooperative gins may account, in part at least, for their longer operating period, although their cooperative character

**TABLE 29.—Percentage Distribution of Cotton Gins in Oklahoma According to the Number of Days Operated—Average 1929-30 to 1932-33.**

Type of ownership	Number of gins	NUMBER OF DAYS OPERATED									
		1-25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	Over 225
Percent of all gins in each class.											
<b>State</b>											
Corporation -----	1,448	1.4	3.5	15.8	36.1	25.7	11.0	4.5	1.5	0.5	0.0
Cooperative -----	357	0.6	1.4	9.5	31.4	30.5	16.2	8.1	1.7	0.3	0.3
Individual -----	501	3.4	11.0	18.0	28.3	23.7	9.6	4.6	1.0	0.2	0.2
Partnership -----	490	3.1	8.2	13.9	27.1	26.1	14.1	5.5	1.8	0.0	0.2
Others -----	60	1.7	5.0	6.7	16.7	36.6	23.3	10.0	0.0	0.0	0.0
<b>TOTAL -----</b>	<b>2,856</b>	<b>1.9</b>	<b>5.4</b>	<b>14.9</b>	<b>32.2</b>	<b>26.3</b>	<b>12.2</b>	<b>5.2</b>	<b>1.5</b>	<b>0.3</b>	<b>0.1</b>
<b>East</b>											
Corporation -----	727	2.2	5.9	20.9	38.4	20.9	7.7	3.0	0.8	0.2	0.0
Cooperative -----	36	2.8	2.8	22.2	27.8	38.8	5.6	0.0	0.0	0.0	0.0
Individual -----	344	5.0	15.7	22.1	27.6	21.2	5.8	1.7	0.6	0.3	0.0
Partnership -----	340	4.1	10.3	17.1	29.4	24.4	10.6	2.6	1.2	0.0	0.3
Others -----	6	0.0	16.7	16.7	16.7	0.0	16.7	33.2	0.0	0.0	0.0
<b>TOTAL -----</b>	<b>1,453</b>	<b>3.3</b>	<b>9.2</b>	<b>20.3</b>	<b>33.4</b>	<b>22.2</b>	<b>7.9</b>	<b>2.7</b>	<b>0.8</b>	<b>0.1</b>	<b>0.1</b>
<b>West</b>											
Corporation -----	721	0.6	1.1	10.7	33.7	30.5	14.4	6.0	2.2	0.8	0.0
Cooperative -----	321	0.3	1.2	8.1	31.8	29.6	17.5	9.0	1.9	0.3	0.3
Individual -----	157	0.0	0.6	8.9	30.0	29.3	17.8	10.9	1.9	0.0	0.6
Partnership -----	150	0.7	3.3	6.7	22.0	30.0	22.0	12.0	3.3	0.0	0.0
Others -----	54	1.9	3.6	5.6	16.7	40.7	24.1	7.4	0.0	0.0	0.0
<b>TOTAL -----</b>	<b>1,403</b>	<b>0.5</b>	<b>1.4</b>	<b>9.3</b>	<b>31.0</b>	<b>30.5</b>	<b>16.7</b>	<b>7.9</b>	<b>2.1</b>	<b>0.5</b>	<b>0.1</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.



may have been partly responsible since they may have been anxious to provide convenient service to their members.

**TABLE 30.—The Relation of the Number of Days Operated by Cotton Gins to the Volume of Ginning and the Financial Achievements of Gins in Oklahoma, Average 1929-30 to 1932-33.**

Number of days operated	Number of gins	Number of bales per gin	Book value per gin	DOLLARS PER BALE		
				Revenue	Expense	Income <sup>1</sup>
<b>State</b>						
1- 25	55	187	\$12,582	\$5.58	\$6.96	\$1.38
26- 50	154	418	12,672	5.24	5.57	.33
51- 75	425	736	15,579	5.49	4.66	.83
76-100	919	1,120	19,099	5.71	4.05	1.66
101-125	750	1,377	21,131	6.06	3.94	2.12
126-150	349	1,766	24,053	5.94	3.66	2.28
151-175	150	1,923	24,240	6.40	3.78	2.62
176-200	42	1,859	22,765	5.97	3.83	2.14
201-225	9	1,621	19,320	6.19	3.93	2.26
Over 225	3	2,542	25,037	6.21	3.46	2.75
<b>TOTAL</b>	<b>2,856</b>	<b>1,209</b>	<b>19,573</b>	<b>5.89</b>	<b>4.01</b>	<b>1.88</b>
<b>East</b>						
1- 25	48	180	11,198	5.18	6.36	1.18
26- 50	134	392	11,350	5.09	5.49	.40
51- 75	295	679	13,907	5.16	4.68	.48
76-100	485	919	15,277	5.14	4.26	.88
101-125	322	1,058	16,301	5.21	4.14	1.07
126-150	115	1,557	19,920	4.90	3.63	1.27
151-175	39	1,359	16,346	5.08	3.98	1.15
176-200	12	1,758	17,669	5.05	3.53	1.52
201-225	2	2,535	12,250	4.98	3.33	1.65
Over 225	1	754	24,500	4.58	5.35	.77
<b>TOTAL</b>	<b>1,453</b>	<b>899</b>	<b>15,147</b>	<b>5.12</b>	<b>4.24</b>	<b>.88</b>
<b>West</b>						
1- 25	7	235	22,072	7.59	10.07	2.48
26- 50	20	588	21,527	5.90	5.97	.07
51- 75	130	866	19,376	6.07	4.62	1.45
76-100	434	1,344	23,371	6.13	3.90	2.23
101-125	428	1,616	24,764	6.48	3.84	2.64
126-150	234	1,869	26,085	6.36	3.67	2.69
151-175	111	2,122	27,014	6.70	3.74	2.96
176-200	30	1,900	24,804	6.30	3.94	2.36
201-225	7	1,359	21,334	6.83	4.25	2.58
Over 225	2	3,435	25,305	6.39	3.25	3.14
<b>TOTAL</b>	<b>1,403</b>	<b>1,530</b>	<b>24,157</b>	<b>6.36</b>	<b>3.87</b>	<b>2.49</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

In general a larger proportion of the gins in eastern Oklahoma operated 100 days, or less than was true of the gins in the western section of the state. This was true for all types of ownership. Consideration of all the gins in the eastern part of the state shows that 66.2 percent of them operated 100 days or less, while only 45.2 percent of the gins in the western section had that short an operating period. It seems probable that the larger number of bales of cotton ginned by the plants in western sec-

tion of Oklahoma caused them to remain in operation for a somewhat longer period of time than the gins in the eastern part of the state.

An examination of the data in Table 30, which shows the relationship between the number of days operated by cotton gins and the number of bales ginned, seems to support the conclusion that gins in the western part of Oklahoma operated longer periods because of larger volumes. The figures for the entire state show that the number of bales ginned increased steadily as the number of days operated increased until an operating period of 175 days was reached. There was no very consistent relationship between further increases in the number of days operated and the volume of ginning. The number of gins which operated more than 175 days amounted to only 1.9 percent of the total number in the state, which may account in part for the lack of relationship between the length of operating period and volume ginned for these gins.

The relative number of gins which operated for a comparatively long period was smaller in the eastern part of the state than in the western section. For instance, in the east only 1.0 percent of the gins operated more than 175 days as compared with 2.8 percent of the gins in the western part of the state. It is also true that a larger proportion of the gins in the eastern than in the western part of the state operated for short periods of time only. Approximately two-thirds of the gins in the east operated 100 days or less, while only 42.1 percent of those in the west were in operation for that short a period of time. Also, 12.5 percent of the eastern gins operated 50 days or less as compared with only 1.9 percent of the western gins which were in that group.

Table 30 also shows the relationship between the number of days operated by the gins, the average book value per gin, and the revenue, expense, and income per bale of the gins. Book values generally increased as the number of days operated by the gins increased until an operating period of more than 175 days was reached, although the relationship was not particularly consistent in the western part of the state. The book value of the gins in the eastern part of the state was uniformly lower than of those in the west. However, calculation of the book value per bale of the gins shows that there was comparatively little difference so far as the average of all the gins in each section was concerned. The book value per bale in the east was \$16.85 and in the west \$15.79.

Revenues per bale were higher in the western part of the state than in the eastern section, but there was no discernable relationship between the amount of the revenue per bale and the number of days operated by the gins in either section. The figures for the entire state do show some increase in revenue as the number of days operated by the gins increased, but this was apparently caused by the larger proportion of gins from the western section of the state in the groups which operated the largest number of days.

The expenses per bale of the gins show a decided tendency to decrease as the number of days operated by the gins increases. For the entire state they vary from \$6.96 for those gins which operated 25 days or less to \$3.46 for the gins which operated more than 225 days. The average expense per bale for all gins situated in the eastern part of the state was \$4.24, which was \$.37 higher than the average expense for the gins in the western section of Oklahoma. The principal reason for lower average costs in the west than in the east seems to be that a larger proportion of the western gins were in the groups which operated for relatively long periods of time and had lower costs. Except for the groups of gins which operated 50 days or less there was no consistent tendency for the gins in the western part of the state to have either higher or lower costs per bale than the gins in the eastern part of the state which operated the same number of days.

**TABLE 31.—Relation of the Expense per Bale of Ginning to the Number of Days Operated by Cotton Gins in Oklahoma by Years, 1929-30 to 1932-33.**

Years	EXPENSE PER BALE										
	All gins	NUMBER OF DAYS OPERATED									
		1-25	26-50	51-75	76-100	101-125	126-150	151-175	176-200	201-225	Over 225
<b>State</b>											
1929-30	4.75	7.13	6.67	5.82	6.21	4.70	4.30	4.23	4.23	4.07	4.95
1930-31	4.88	8.12	5.69	5.20	4.97	4.71	4.50	4.47	4.80	---	---
1931-32	3.41	6.23	4.63	3.98	3.50	3.46	3.31	3.50	2.84	3.32	---
1932-33	3.29	5.93	4.33	3.93	3.13	3.30	3.17	3.03	3.44	4.44	2.86
<b>East</b>											
1929-30	5.66	7.04	7.07	6.32	5.83	5.32	4.73	5.07	4.99	---	---
1930-31	4.71	7.10	5.58	4.84	4.77	4.44	4.16	5.05	4.02	---	---
1931-32	3.49	4.90	4.32	3.98	3.50	3.46	3.31	3.50	2.84	3.32	---
1932-33	3.61	5.83	4.30	3.92	3.40	3.67	3.18	2.92	5.30	---	5.35
<b>West</b>											
1929-30	4.35	7.33	5.82	4.99	4.38	4.45	4.18	4.14	4.15	4.07	4.95
1930-31	5.01	58.78	7.97	5.82	5.13	4.89	4.58	4.32	5.80	---	---
1931-32	3.34	14.78	6.92	3.66	3.42	3.24	3.25	3.36	3.87	5.19	---
1932-33	3.13	8.60	4.49	3.95	2.93	3.18	3.10	3.04	3.31	4.44	2.46

SOURCE: Data secured from the Oklahoma Corporation Commission.

The income per bale of the gins increased as the number of days operated increased. This result might be expected because of the decrease in expenses as the length of operating period increased and because of the lack of relationship between revenue per bale and number of days operated by the gins. The groups of gins which operated 50 days or less lost money on the average, while the others earned a net income. The average income per bale was only \$.88 for the gins in the eastern part of the state, while it was \$2.49, or \$1.61 more, in the west. Most of this difference was caused by the larger revenue per bale received by the western gins, which resulted from the higher rates for snapped cotton and the larger volume of ginning. The importance of snapping and its effect on the expenses and income of the gins is analyzed in a later section of the study.

The per bale expenses of the gins according to the number of days operated is shown for each year from 1929-30 to 1932-33 in Table 31. In general, expenses were highest in 1930-31 and much lower in the two following seasons. Each year there was a definite, consistent tendency for the expense per bale to decline as the number of days operated by the gins increased. The percentage decline in expenses from the group which operated 25 days or less to the group operating from 176 to 200 days was 40.7 percent in 1929-30, 40.9 percent in 1930-31, 47.2 percent in 1931-32, and 42.1 percent in 1932-33. The average decline in expenses between similar groups in the eastern part of the state was 44.5 percent for the four years, while in the western section it was 60.9 percent. The larger decline in costs for the gins in western Oklahoma was caused mainly by the higher costs per bale of the gins in that section of the state which operated only 25 days or less.

One of the principal reasons for the decline in costs and increase in income per bale for the gins which operated the larger number of days is the increase in the number of bales of cotton which accompanied the increase in the number of days operated. If the influence of this factor is largely removed by considering only the plants which ginned between 1001 and 1500 bales there is little tendency for the expenses or income per bale to change in any consistent way with changes in the number of days operated by the gins. This analysis is shown in Table 32. The figures for the entire state do show that there was a slight tendency for the revenue and expense per bale to increase as the number of days operated increased. This is caused primarily by the fact that the proportion of gins from the western part of the state in each interval increased as the number of days operated increased. Revenues and expenses were higher in the western than in the eastern part of the state, because of the larger proportion of snapped cotton produced in that section.

The revenue per bale received by the gins in the eastern part of the state showed more tendency to decline as the length of period operated by the gins increased. However, expenses showed no consistent tendency either to increase or decrease; consequently the income per bale decreased about as much as the revenue. In the western part of the state both revenue and expense per bale showed some tendency to increase as the number of days operated by the gins increased. However, expenses did not increase as much as the revenue, so that the income per bale also tended to increase. None of these relationships are very marked. Apparently the number of days a gin is operated is a comparatively minor factor in determining either the expense or the income involved in ginning a bale of cotton, except as it is related to the total amount of cotton handled by the gin.

**TABLE 32.—Relation to the Financial Achievements of Gins of the Number of Days Operated by Cotton Gins, Ginning Between 1001 and 1500 Bales; in Oklahoma, Average 1929-30 to 1932-33.**

Number of days operated <sup>1</sup>	Number of gins	Book value per gin	DOLLARS PER GIN		
			Revenue	Expense	Income <sup>2</sup>
<b>State</b>					
51- 75	71	\$19,666	\$5.63	\$3.96	\$1.67
76-100	256	20,769	5.77	4.04	1.73
101-125	216	21,216	5.80	4.17	1.63
126-150	102	21,791	5.74	4.04	1.70
151-175	35	22,087	6.18	4.35	1.83
<b>TOTAL</b>	<b>680</b>	<b>20,794</b>	<b>5.78</b>	<b>4.09</b>	<b>1.69</b>
<b>East</b>					
51- 75	41	18,300	5.30	3.79	1.51
76-100	121	17,293	5.22	3.92	1.30
101-125	91	17,764	5.12	3.93	1.19
126-150	36	18,271	4.81	3.76	1.05
151-175	10	15,570	4.84	3.84	1.00
<b>TOTAL</b>	<b>299</b>	<b>17,635</b>	<b>5.13</b>	<b>3.88</b>	<b>1.25</b>
<b>West</b>					
51- 75	30	21,533	6.08	4.20	1.88
76-100	135	22,762	6.25	4.15	2.10
101-125	125	23,730	6.28	4.33	1.95
126-150	66	23,711	6.24	4.19	2.05
151-175	25	24,693	6.70	4.55	2.15
<b>TOTAL</b>	<b>381</b>	<b>23,274</b>	<b>6.27</b>	<b>4.25</b>	<b>2.02</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> Nineteen gins which operated less than 51 days or more than 175 days were omitted from this tabulation because of the small number of gins in any interval.

<sup>2</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

#### Effect on the Financial Success of Gins of Number of Bales Ginned per Day of Operation

The volume obtained by the gins has been shown to be one of the most important factors controlling the expense and income of cotton gins. Not only is the total volume received during the year of importance; the number of bales handled per day the gin is in operation is also of significance. However, as shown in Table 33, there was very little consistent relationship between the average number of bales ginned per day operated and the number of days the gins were operated. The increase in total number of bales ginned was, on the average, just about enough to offset the increase in number of days operated. The gins on the west side of the state secured an average of 13.8 bales for each day they operated as compared with 9.9 for the gins on the east side. This is an advantage of 39 percent possessed by the gins in the western part of the state. This occurred in spite of the fact that the average number of days operated by the gins in the west was 111.0 as compared with 90.8 for the gins in the eastern part of the state. Apparently the gins on the east side partly

made up for their lack of volume by reducing the length of their operating period but could not reduce it sufficiently to enable them to secure as many bales per day operated as the gins on the west side of the state.

**TABLE 33.—The Relation of the Number of Days Operated by Cotton Gins in Oklahoma to the Number of Bales Ginned per Day Operated, Average 1929-30 to 1932-33.**

Number of days operated	Number of gins	AVERAGE NUMBER PER GIN		
		Days operated	Bales ginned	Bales ginned per day operated
<b>State</b>				
1- 25	55	17.0	187	10.9
26- 50	154	40.2	418	10.4
51- 75	425	65.7	736	11.2
76-100	919	90.0	1,120	12.4
101-125	750	114.8	1,377	12.0
126-150	349	137.9	1,766	12.8
151-175	150	168.0	1,723	11.4
176-200	42	183.6	1,859	10.1
201-225	9	210.8	1,621	7.7
Over 225	3	271.6	2,542	9.4
<b>TOTAL</b>	<b>2,856</b>	<b>100.7</b>	<b>1,209</b>	<b>12.0</b>
<b>East</b>				
1- 25	48	17.4	180	10.4
26- 50	134	39.8	392	9.9
51- 75	295	64.9	679	10.5
76-100	485	90.1	919	10.2
101-125	322	117.0	1,058	9.0
126-150	115	139.0	1,557	11.2
151-175	39	161.5	1,359	8.4
176-200	12	184.5	1,758	9.6
201-225	2	211.0	2,535	12.0
Over 225	1	275.0	754	2.7
<b>TOTAL</b>	<b>1,453</b>	<b>90.8</b>	<b>899</b>	<b>9.9</b>
<b>West</b>				
1- 25	7	14.4	235	15.7
26- 50	20	43.0	588	13.7
51- 75	130	67.6	866	12.8
76-100	434	89.9	1,344	15.0
101-125	428	113.0	1,616	14.3
126-150	234	137.3	1,869	13.6
151-175	111	170.3	2,122	12.5
176-200	30	183.3	1,900	10.4
201-225	7	210.7	1,359	6.5
Over 225	2	270.0	3,435	12.7
<b>TOTAL</b>	<b>1,403</b>	<b>111.0</b>	<b>1,530</b>	<b>13.8</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

**TABLE 34.—The Relation of the Number of Bales Ginned per Day Operated to the Volume of Ginning and the Financial Achievements of Gins in Oklahoma, Average 1929-30 to 1932-33.**

Bales ginned per day operated	Number of gins	Bales per gin	Book value per gin	DOLLARS PER BALE		
				Revenue	Expense	Income <sup>1</sup>
<b>State</b>						
1.0- 4.0	198	283	\$12,607	\$5.95	\$7.84	—\$ 1.89
4.1- 8.0	710	621	15,567	5.77	5.45	.32
8.1-12.0	765	1,035	18,740	5.84	4.37	1.47
12.1-16.0	570	1,406	21,637	5.95	3.89	2.06
16.1-20.0	309	1,812	23,127	5.57	3.41	2.16
20.1-24.0	145	2,150	25,751	5.87	3.28	2.59
24.1-28.0	79	2,769	29,873	5.96	2.14	3.82
Over 28.0	80	3,368	30,492	5.88	2.97	2.91
<b>TOTAL</b>	<b>2,856</b>	<b>1,208</b>	<b>19,572</b>	<b>5.88</b>	<b>4.01</b>	<b>1.87</b>
<b>East</b>						
1.0- 4.0	153	275	11,543	5.62	7.66	— 2.04
4.1- 8.0	476	580	13,185	5.26	5.38	— .12
8.1-12.0	416	930	15,165	5.10	4.21	.89
12.1-16.0	217	1,198	17,585	5.18	3.79	1.39
16.1-20.0	112	1,456	17,421	4.99	3.37	1.62
20.1-24.0	40	1,796	21,363	4.88	3.20	1.68
24.1-28.0	20	2,107	22,034	4.84	2.88	1.96
Over 28.0	19	3,337	31,876	5.06	3.32	1.74
<b>TOTAL</b>	<b>1,453</b>	<b>899</b>	<b>15,154</b>	<b>5.13</b>	<b>4.23</b>	<b>.90</b>
<b>West</b>						
1.0- 4.0	45	310	16,225	7.23	8.94	— 1.71
4.1- 8.0	234	704	20,412	6.62	5.56	1.06
8.1-12.0	349	1,160	23,001	6.55	4.53	2.02
12.1-16.0	353	1,533	24,127	6.32	3.93	2.39
16.1-20.0	197	2,015	26,365	6.23	3.45	2.78
20.1-24.0	105	2,285	27,423	6.17	3.30	2.87
24.1-28.0	59	2,993	32,531	6.23	3.20	3.03
Over 28.0	61	3,377	30,061	6.14	2.86	3.28
<b>TOTAL</b>	<b>1,403</b>	<b>1,528</b>	<b>24,147</b>	<b>6.33</b>	<b>3.88</b>	<b>2.45</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

The number of bales actually ginned per day operated, during the four-year period 1929-30 to 1932-33, as shown in Table 34, varied from 4 bales or less for 198 gins to more than 28 bales for 80 gins. For the entire state 78.5 percent of the gins handled 16 bales or less per day operated. On the east side of the state 86.9 percent of the gins were in this category, as compared with only 69.9 percent of the gins on the west side of the state. Only 1.3 percent of the gins on the east side ginned more than 28 bales per day they operated, while 4.3 percent of the west-side gins achieved volumes that large. The number of bales ginned increased consistently as the bales ginned per day increased, for both the east and west sides of

the state. However, the number was larger on the west than on the east side, both for all the gins in each division and for the gins in each of the groups shown. The larger number of days operated by the gins on the west side of the state would be sufficient to account for this difference.

As might be expected the book values of the gins also increased as the number of bales ginned per day operated increased. This increase was surprisingly regular, both for the entire state and for each of its divisions. Also, the gins on the west side of the state had larger book values than those on the east side. The size of the book values was quite closely related to the number of bales of cotton ginned as shown in Table 34. Whenever larger volumes were secured, the book values of the gins were larger because larger plants were needed to handle the cotton.

Table 34 shows also the revenue, expense and income per bale of the gins by groups according to the number of bales ginned per day operated. The revenue per bale showed some tendency to decline as the number of bales ginned per day operated increased. This can be explained partly by the fact that ginning rates were lower during the last two years of the period studied, and also partly by the fact that during those years a larger proportion of the gins were in the groups which secured a large number of bales to gin per day operated. Because of this situation the relationship shown is probably not very significant and might not appear if data were secured for a different period of years.

The expense of ginning a bale of cotton also decreased as the number of bales ginned per day operated increased, and the rate of decrease was much more rapid than the rate of decrease in revenue. On the east side of the state the expense per bale for the group of gins which handled more than 28 bales per day was 56.7 percent lower than the expense for the gins which handled 4 bales or less per day. The decline in revenue per bale between these groups was 10.0 percent. For the gins on the west side of the state the decline for the same groups was 68.0 percent for expenses and 15.1 percent for revenue. The expense per bale was higher, for all except one group of gins, on the west than on the east side of the state. This was the usual situation which has already been explained in connection with other tables.

Since expense declined more rapidly than revenue, the income per bale necessarily increased as the number of bales ginned per day operated increased. The gins, on both the east and west sides of the state, which ginned 4 bales or less per day operated, lost money. There was even a slight loss per bale for the gins on the east side which ginned from 4.1 to 8.0 bales per day. In all the other groups the gins earned a net income. The income realized in each of the groups was larger, or the loss smaller, for the gins on the west side of the state than for those on the east side. The difference in revenue per bale, which was largely caused by the higher ginning rates for snapped cotton and the larger proportion of that kind of cotton on the west side of the state, was entirely responsible for the difference in income, since expense per bale was higher on the west side.

Some of the increase in the income which accompanied the increase in number of bales ginned per day operated apparently was caused by the larger number of bales handled per gin by those gins which secured a large number of bales per day. Table 35 shows the relationship between the number of bales ginned per day operated and the financial aspects of ginning for those gins which handled between 1001 and 1500 bales. There was some tendency for the income per bale to increase until the group of gins handling from 20.1 to 24.0 bales was reached, when there was a decrease. Although the rate of increase was slower than that shown in Table 34 for all gins, there apparently was some tendency for an increase in number of bales ginned per day operated to result in increased profits



**TABLE 35.—The Relation of the Number of Bales Ginned per Day Operated to the Volume of Ginning and the Financial Achievements of Gins in Oklahoma for Gins Ginning from 1001 to 1500 Bales, Average 1929-30 to 1932-33.**

Bales ginned per day operated <sup>1</sup>	Number of gins	Bales per gin	Book value per gin	DOLLARS PER BALE		
				Revenue	Expense	Income <sup>2</sup>
<b>State</b>						
4.1- 8.0	58	1,108	\$21,607	\$5.87	\$4.39	\$1.48
8.1-12.0	317	1,206	20,489	5.80	4.16	1.64
12.1-16.0	243	1,265	21,495	5.80	4.03	1.77
16.1-20.0	56	1,298	19,324	5.65	3.89	1.76
20.1-24.0	17	1,305	22,226	5.27	3.67	1.60
<b>TOTAL</b>	<b>691</b>	<b>1,228</b>	<b>20,885</b>	<b>5.78</b>	<b>4.09</b>	<b>1.69</b>
<b>East</b>						
4.1- 8.0	19	1,112	16,931	4.94	4.27	.67
8.1-12.0	147	1,178	16,975	5.10	3.92	1.18
12.1-16.0	92	1,245	18,668	5.16	3.85	1.31
16.1-20.0	32	1,287	17,212	5.39	3.85	1.54
20.1-24.0	9	1,330	19,218	4.82	3.35	1.47
<b>TOTAL</b>	<b>299</b>	<b>1,211</b>	<b>17,576</b>	<b>5.13</b>	<b>3.89</b>	<b>1.24</b>
<b>West</b>						
4.1- 8.0	39	1,106	23,885	6.33	4.45	1.88
8.1-12.0	170	1,229	23,551	6.38	4.35	2.03
12.1-16.0	151	1,278	23,211	6.18	4.13	2.05
16.1-20.0	24	1,313	22,140	5.99	3.94	2.05
20.1-24.0	8	1,277	25,609	5.80	4.04	1.76
<b>TOTAL</b>	<b>392</b>	<b>1,242</b>	<b>23,409</b>	<b>6.26</b>	<b>4.24</b>	<b>2.02</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> Eight gins which ginned less than 4.1 bales or more than 24.0 bales per day operated were omitted from this tabulation because of the small number of gins in any interval.

<sup>2</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

for the gins, even when there was no appreciable increase in the number of bales handled per gin. This would appear logical because the gins which handled the larger number of bales per day operated must have operated fewer days than the other gins. This would reduce their expense per bale but would not affect their revenue.

The actual effect on expenses and revenue is shown in Table 35. Expenses per bale did generally decrease on both the east and west sides of the state as the number of bales ginned per day operated increased. The revenue per bale changed much less consistently, although it showed but little tendency to decrease except perhaps on the west side of the state and even there the decrease in revenue was materially less than the decrease in expenses. Book values resembled revenue in their lack of consistent relationship to the number of bales ginned per day operated by the gins.

Although the gins used in the analysis shown in Table 35 were restricted to those which ginned between 1001 and 1500 bales, it is noticeable that the actual average number of bales ginned increased slightly as the number

of bales ginned per day operated increased. The increase shown in the table was from 1112 to 1330 bales on the east side and from 1106 to 1277 bales on the west side of the state. The reason for this increase probably is to be found in the fact that the gins which handled the largest number of bales per day operated also tended to handle the largest number of bales during the entire season, consequently a larger proportion of them had volumes near the upper limit of 1500 bales than was true for the gins which handled only a small number of bales per day operated. However, it is not likely that this fact seriously affects the conclusions reached from the data because the increase in the number of bales ginned was too small to be very significant.

#### THE IMPORTANCE OF SNAPPING AS A MEANS OF HARVESTING COTTON IN OKLAHOMA AND ITS INFLUENCE ON THE FINANCIAL STRUCTURE OF GINS<sup>48</sup>

Previous discussions of the financial phases of gin operation have indicated that a portion of the gins received much larger revenues per bale than others because of the larger percentage of seed cotton which they handled as snapped cotton. The higher rates for snapped cotton and the larger number of pounds required to produce a bale of lint both contributed to this result. The analysis of the effect of type of ownership on the financial aspects of cotton gins revealed that the plants in the western division received much larger revenue per bale, were often subject to slightly higher expenses per bale, but were able to secure a higher net income per bale than eastern gins which received an almost identical number of bales per plant. This greater financial success was attributed to the higher rates set by the Corporation Commission for snapped cotton as compared with picked cotton. The amount of these differentials in rates for snapped cotton was discussed in a previous section which dealt with the establishment of rates in Oklahoma by the Corporation Commission. This practice of harvesting cotton by pulling or snapping bolls from the plant appears to be largely confined, as a normal procedure of harvesting, to the more western portions of the cotton sections of the United States and was very prevalent in southwestern Oklahoma during the period 1929-30 to 1932-33.

Table 36 shows, by years, the number of gins in Oklahoma which handled as snapped cotton different percentages of the total amount of seed cotton they received for ginning. It should be remembered that these figures represent, not the proportion of lint cotton which was harvested by snapping, but the proportion of seed cotton. The proportion of seed cotton would be higher than the proportion of lint cotton because of the extra dirt and trash in the snapped seed cotton. The importance of this manner of harvesting cotton is shown by the large number of gins which obtained as snapped cotton over 60.0 percent of the total weights of seed cotton which they ginned during the four years. During this period, 1079 plants or 33.1 percent of all gins were found in these groups. There were 1341 plants which ginned 20.0 percent or less of snapped cotton and 94.5 percent of the plants in this group were in the eastern section of the state. Only 2.7 percent of the gins on the east side of the state handled more than 60 percent of snapped cotton as compared with 65.1 percent of the gins on the west side. Nearly nine-tenths of all gins in the state which ginned

<sup>48</sup> Additional information concerning certain aspects of this problem is contained in Oklahoma Experiment Station Bulletin No. 227, "Relative Economic Advantages of Harvesting Cotton by Picking and Snapping in Western Oklahoma," by Clyde C. McWhorter and Roy A. Ballinger.

more than 80 percent of snapped cotton were located in the western section of the state.

**TABLE 36.—Number of Gins in Oklahoma Handling Different Proportions of the Total Seed Cotton Which They Received as Snapped Cotton, Average 1929-30 to 1932-33.**

Percent of total cotton ginned as snapped cotton	NUMBER OF GINS					
	Total	Percent of all gins	1929-30	1930-31	1931-32	1932-33
<b>State</b>						
0- 20.0	1341	41.15	328	359	279	375
20.1- 40.0	542	16.63	147	127	155	113
40.1- 60.0	297	9.12	79	52	101	65
60.1- 80.0	306	9.38	68	99	89	50
80.1-100.0	773	23.72	200	213	192	168
<b>TOTAL</b>	<b>3259</b>	<b>100.00</b>	<b>822</b>	<b>850</b>	<b>816</b>	<b>771</b>
<b>East</b>						
0- 20.0	1267	75.73	321	342	266	338
20.1- 40.0	299	17.87	87	67	109	36
40.1- 60.0	61	3.65	13	12	31	5
60.1- 80.0	25	1.49	3	16	5	1
80.1-100.0	21	1.26	2	11	8	--
<b>TOTAL</b>	<b>1673</b>	<b>100.00</b>	<b>426</b>	<b>448</b>	<b>419</b>	<b>380</b>
<b>West</b>						
0- 20.0	74	4.66	7	17	13	37
20.1- 40.0	243	15.32	60	60	46	77
40.1- 60.0	236	14.88	66	40	70	60
60.1- 80.0	281	17.72	65	83	84	49
80.1-100.0	752	47.42	198	202	184	168
<b>TOTAL</b>	<b>1586</b>	<b>100.00</b>	<b>396</b>	<b>402</b>	<b>397</b>	<b>391</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

Table 37 shows the total number of pounds of all seed cotton ginned during the four-year period studied, the number of pounds of snapped cotton, and the percentage of total cotton which was classed by the ginners as snapped cotton. It is important to note that over one-half of all seed cotton ginned in the state was brought to the gins in the form of snapped cotton. The proportion of the total number of bales of cotton which was obtained from this amount of unginned snapped cotton would, of course, be somewhat less than the percentage indicated, due to the lower gin turnouts received from snapped cotton. Snapping as a means of gathering cotton in the eastern area was relatively unimportant; only 13.3 percent of the total weight of seed cotton brought to the gins in this region was reported as snapped cotton.

The important position of snapped cotton in the western part of the state is evident as nearly three-fourths of all cotton ginned in this area during the four years was snapped cotton. Of the total amount of snapped cotton received at the gins of the state during the four years, 91.2 percent was ginned by the western plants. The annual fluctuations noted in both

areas in the proportions of the total cotton which was designated as snapped were probably caused by weather conditions, and do not indicate any trend in the percentage of cotton harvested in this manner.

**TABLE 37.—Total Number of Pounds of All Seed Cotton and of Snapped Cotton Received by the Gins, and the Percent Snapped Cotton Was of the Total; by Years, 1929-30 to 1932-33.**

Year	Number of gins	Total number pounds of all seed cotton (1,000 pounds)	Total number pounds of snapped cotton (1,000 pounds)	Percent snapped cotton was of total seed cotton
<b>State</b>				
1929-30	822	1,699,791	1,028,216	60.5
1930-31	850	1,341,086	632,620	47.2
1931-32	816	1,950,067	997,323	51.1
1932-33	771	1,649,225	830,251	50.3
<b>TOTAL</b>	<b>3259</b>	<b>6,640,169</b>	<b>3,488,410</b>	<b>52.5</b>
<b>East</b>				
1929-30	426	468,795	73,709	15.7
1930-31	448	520,521	35,559	6.8
1931-32	419	790,843	146,757	18.6
1932-33	380	528,761	50,358	9.5
<b>TOTAL</b>	<b>1673</b>	<b>2,308,920</b>	<b>306,383</b>	<b>13.3</b>
<b>West</b>				
1929-30	396	1,230,996	954,507	77.5
1930-31	402	820,565	597,061	72.8
1931-32	397	1,159,224	850,566	73.4
1932-33	391	1,120,464	779,893	69.6
<b>TOTAL</b>	<b>1586</b>	<b>4,331,249</b>	<b>3,182,027</b>	<b>73.5</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

The tabular presentation in Table 38 of the number of gins, number of bales per plant, and the revenue, expense, and net income per bale according to the percent of cotton ginned as snapped cotton includes only the years 1931-32 and 1932-33, as in both of these seasons the rates were uniform over the state and were identical for the same types of cotton. In the eastern section of the state most of the gins handled 40 percent or less of snapped cotton and because of the small number of gins which handled a large proportion of snapped cotton it is impossible to put much reliance in the data shown for them. The gins in the western portion of the state showed a significant increase in revenues per bale as the proportion of snapped cotton increased. The increase in revenue per bale in the final group above the revenue per bale for the group with the lowest percentage of snapped cotton was 27.2 percent. The highest expense per bale for the western gins occurred in the final group, which received 80.1 to 100.0 percent of their cotton as snapped cotton, which indicates that the expense of gin operation per bale may be somewhat greater for gins which handle principally this type of cotton. The net income per bale for both the gins as a whole and for those in the western area showed material increases as the relative proportion of snapped cotton ginned increased. The probable effect upon these data of the number of bales ginned per plant precludes any positive conclusions except that the revenue per bale seemed to be greatly increased when more snapped cotton was handled.

**TABLE 38.—Number of Gins, Bales per Plant, Revenue, Expense, and Income per Bale for Gins in Oklahoma by Percentage of Total Seed Cotton Ginned as Snapped Cotton, Average 1931-32 and 1932-33.**

Percent snapped cotton was of total cotton	Number of gins	Bales per gin	DOLLARS PER BALE		
			Revenue	Expense	Net income <sup>1</sup>
<b>State</b>					
0- 20.0	654	974	\$4.33	\$3.51	\$ .82
20.1- 40.0	268	1346	4.78	3.40	1.38
40.1- 60.0	166	1460	5.17	3.34	1.83
60.1- 80.0	139	1600	5.55	3.18	2.37
<b>TOTAL</b>	<b>1587</b>	<b>1295</b>	<b>5.10</b>	<b>3.38</b>	<b>1.72</b>
<b>East</b>					
0- 20.0	604	946	4.28	3.56	.72
20.1- 40.0	145	1260	4.75	3.54	1.21
40.1- 60.0	36	1291	5.31	3.63	1.68
60.1- 80.0	6	1202	4.84	5.12	.28
80.1-100.0	8	1194	4.40	3.43	.97
<b>TOTAL</b>	<b>789</b>	<b>1022</b>	<b>4.45</b>	<b>3.56</b>	<b>.89</b>
<b>West</b>					
0- 20.0	50	1316	4.70	3.14	1.56
20.1- 40.0	123	1447	4.80	3.26	1.54
40.1- 60.0	130	1507	5.13	3.27	1.86
60.1- 80.0	133	1618	5.58	3.12	2.46
80.1-100.0	442	1657	5.98	3.31	2.67
80.1-100.0	442	1657	5.98	3.31	2.67
<b>TOTAL</b>	<b>788</b>	<b>1572</b>	<b>5.54</b>	<b>3.25</b>	<b>2.29</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

<sup>1</sup> As calculated from the accounting practices established by the Oklahoma Corporation Commission, which differ somewhat from those usually used by accountants.

#### COTTON BUYING ACTIVITIES OF GINNERS

The financial phases of the ginning industry which have been discussed are supposedly only those directly arising from the ownership and operation of the plants and the use of labor, material, and supplies in the actual ginning of cotton. However, cotton ginner frequently engage in numerous sideline or supplementary activities which are not necessarily connected with the ginning of cotton, and many gin owners or managers no doubt engage in enterprises which are not in any way connected with their gin plants; but such activities are entirely beyond the scope of this discussion. The major activities of gin operators aside from the actual ginning process are mainly the purchase of cottonseed, seed cotton, and cotton lint. The buying of cottonseed from the grower by the ginner seems to be almost universal, but data with respect to the extent and profitableness of the practice in Oklahoma are not available.

However, data are available showing the amount of cotton purchased, although the data do not show the prices at which the cotton was purchased or sold nor the profit or loss realized by the gins from this activity. In

Table 39, the gins are shown distributed according to the percentage of the number of bales ginned which were purchased by the ginner. The group which has been termed, "no data," is probably comprised both of gins which purchased no cotton and those which failed to report the number of bales bought during the season. However, it was not possible to segregate those plants which omitted to report the amount of cotton they purchased from the group which actually bought no cotton and failed to report this

**TABLE 39.—Number of Gins in Oklahoma Which Purchased Different Percentages of the Amount of Cotton They Ginned; By Years, 1929-30 to 1932-33.**

Percent of total ginnings purchased	NUMBER OF GINS				
	All years	YEARS			
		1929-30	1930-31	1931-32	1932-33
<b>State</b>					
No data	448	142	128	98	90
0- 12.5	250	79	79	55	37
12.6- 25.0	64	17	29	12	6
25.1- 37.5	65	17	21	18	9
37.6- 50.0	84	23	27	22	12
50.1- 62.5	183	41	48	62	32
62.6- 75.0	303	68	101	90	44
75.1- 87.5	588	112	152	186	138
87.6-100.0	1146	274	240	256	376
Over 100.0	128	49	25	17	37
<b>TOTAL</b>	<b>3259</b>	<b>822</b>	<b>850</b>	<b>816</b>	<b>771</b>
<b>East</b>					
No data	278	77	87	58	56
0- 12.5	71	19	21	19	12
12.6- 25.0	23	7	11	4	1
25.1- 37.5	15	4	2	5	4
37.6- 50.0	29	6	12	8	3
50.1- 62.5	59	14	14	24	7
62.6- 75.0	134	18	55	43	18
75.1- 87.5	255	42	75	85	53
87.6-100.0	716	203	154	157	202
Over 100.0	93	36	17	16	24
<b>TOTAL</b>	<b>1673</b>	<b>426</b>	<b>448</b>	<b>419</b>	<b>380</b>
<b>West</b>					
No data	170	65	41	40	24
0- 12.5	179	60	58	36	25
12.6- 25.0	41	10	18	8	5
25.1- 37.5	50	13	19	13	5
37.6- 50.0	55	17	15	14	9
50.1- 62.5	124	27	34	38	25
62.6- 75.0	169	50	46	47	26
75.1- 87.5	333	70	77	101	85
87.6-100.0	430	71	86	99	174
Over 100.0	35	13	8	1	--
<b>TOTAL</b>	<b>1586</b>	<b>396</b>	<b>402</b>	<b>397</b>	<b>391</b>

SOURCE: Data secured from the Oklahoma Corporation Commission.

fact. The distribution of the gins shows not only that a large number of them bought amounts of cotton equal to from 87.6 to 100.0 percent of their ginnings, but that 3.9 percent purchased a larger number of bales than they ginned. The largest number of plants in the state as a whole for the four seasons occurs in the class which purchased from 87.6 to 100.0 percent of the cotton they ginned. More than one-third of the total number of gins were in this group. At the other extreme there were 7.7 percent of the gins which purchased 12.5 percent or less of the cotton which they ginned and 2.0 percent which purchased between 12.6 and 25 percent of their ginnings.

The gins on the east side of the state have proportionally more of their numbers in the "no data" group than those in the western division. The gins in the eastern area are concentrated heavily in the groups which purchased a large percentage of their ginnings, as 15.2 percent of the plants were in the class which purchased from 75.1 to 87.5 percent, 42.8 percent in the group purchasing 87.6 to 100.0 percent, and 5.6 percent in the class which purchased more cotton than they ginned. A total of 63.6 percent of the gins purchased more than 75.0 percent of the cotton they ginned. In this area during the period studied there has been a general increase in the proportion of gins which purchased more than 62.5 percent of their ginnings.

In the western portion of the state during the four seasons, 11.3 percent of the gins were in the group which purchased less than 12.5 percent of their ginnings, while only 2.6 percent were in the group which purchased from 12.6 to 25.0 percent of the cotton they ginned. Increases were noted in each succeeding interval above 25 percent until the group of 87.6 to 100.0 percent was reached, which group contained 27.1 percent of the total number of gins in this region. That gin operators in the western part of the state do not as frequently buy cotton in excess of the amount they gin as do the eastern ginners is shown by the fact that only 2.2 percent of the gin plants in the west reported purchases in excess of their ginnings. There was a phenomenal increase in the proportion of gins in the group purchasing from 87.6 to 100.0 percent of their ginning in the year 1932-33 above that of the prior year. In 1932-33, 44.5 percent of the gins in the western part of the state were in that group, while only 24.9 percent were present in 1931-32. For the period of this analysis, 50.3 percent of the gins in the western division reported purchases which amounted to more than three-fourths of their ginnings.

The frequency distribution just discussed has indicated something of the importance of cotton buying by ginners. In the eastern area of Oklahoma much of the cotton purchased at the gins was purchased as seed cotton. Table 40 shows the number of bales purchased by ginners both in the seed and as bales of lint. The predominance of purchases of seed cotton by the ginners in the eastern section of the state is indicated by the large proportion of the total purchases made in this manner which were reported from the eastern area. Of all bales of cotton bought originally as seed cotton, 78.6 percent were purchased by the gin operators in the eastern section of the state. For the period of the study 63.5 percent of the total ginnings in the entire state were purchased by the ginners. The purchases of cotton in the seed during the four years amounted to 20.0 percent of the total ginnings, while purchases in the lint equaled 43.5 percent of the total amount ginned. While the number of bales purchased in the state in relation to the total ginnings had increased during the four seasons, 1929-30 to 1932-33, this growth of cotton-buying activities by the operators of cotton gins has been primarily in the western area where the proportion of cotton ginnings purchased at the plants has increased annually from 49.8 percent in 1929-30 to 71.1 percent in 1932-33. The relative unimportance of pur-

**TABLE 40.—Number of Bales of Cotton Purchased as Seed Cotton, as Lint Cotton, and Total Number Purchased by Ginnerers in Oklahoma; by Years, 1929-30 to 1932-33.**

Form of cotton purchases	1929-30		1930-31		1931-32		1932-33		All years	
	Number of bales	Percent of ginnings	Number of bales	Percent of ginnings	Number of bales	Percent of ginnings	Number of bales	Percent of ginnings	Number of bales	Percent of ginnings
<b>State</b>										
Purchases in seed	184,951	19.3	171,889	21.7	224,051	20.2	182,252	19.3	763,143	20.0
Purchases of lint	381,804	39.7	292,749	37.0	477,318	43.0	504,889	53.4	1,656,760	43.5
Total purchases	566,755	59.0	464,638	58.7	701,369	63.2	687,141	72.7	2,419,903	63.5
Total ginnings	961,210	100.0	792,022	100.0	1,110,779	100.0	945,344	100.0	3,809,355	100.0
<b>East</b>										
Purchases in seed	140,654	46.4	135,331	38.5	183,579	37.8	140,289	42.4	599,853	40.7
Purchases of lint	98,143	32.4	91,488	26.0	148,992	30.6	109,806	33.2	448,429	30.5
Total purchases	238,797	78.8	226,819	64.5	332,571	68.4	250,095	75.6	1,048,282	71.2
Total ginnings	303,171	100.0	351,642	100.0	486,243	100.0	331,073	100.0	1,472,129	100.0
<b>West</b>										
Purchases in seed	44,297	6.7	36,558	8.3	40,472	6.5	41,963	6.8	163,290	7.0
Purchases of lint	283,661	43.1	201,261	45.7	328,326	52.6	395,083	64.3	1,208,331	51.7
Total purchases	327,958	49.8	237,819	54.0	368,798	59.1	437,046	71.1	1,371,621	58.7
Total ginnings	658,039	100.0	440,380	100.0	624,536	100.0	614,271	100.0	2,337,226	100.0

SOURCE: Data secured from the Oklahoma Corporation Commission.



chases of seed cotton in the west is shown by the fact that only 7.0 percent of the total number of bales ginned during the period were obtained as seed cotton. This would indicate that the practice consisted mainly of the purchase of remnants of seed cotton in lots too small to form a bale. Although the number of gins used in this study does not represent all those operating in the state and data on cotton purchases for the sample group is not complete, it is apparent that approximately 63.5 percent of the total state crop is sold by the grower to the gin operators. As 16.7 percent of the total crops for the years represented by this study was received from the farmers by the Oklahoma Cotton Growers' Association and marketed cooperatively, it seems that roughly about 19.8 percent of the total ginnings of these years were directly released into other trade channels by the growers. These approximate estimates of the methods of sale utilized by the farmer show the pre-dominance of ginner-buying of cotton from the producers. While the enterprise of buying cotton may greatly affect the financial success of the ginning business, data with respect to this phase of the business are not available.

#### SUMMARY

Although the cultivation of cotton in Oklahoma on a large scale is of comparatively recent origin, the state has become one of the leading cotton producing states. The rapid erection of ginning facilities which paralleled the increases in cotton acreage in the state occurred during a period in which many improvements were being made in ginning practices and in which the mechanical equipment and machinery used in the ginning process was greatly improved. In a relatively short duration of time the state has acquired a ginning industry which is one of the best in the country in physical plant capacity and modernity of equipment.

In 1915, eight years after the territories comprising the present area of Oklahoma assumed statehood, the legislature of the state placed the ginning industry under the jurisdiction of the Corporation Commission as a public utility. Certain rules and regulations were promulgated by the Commission with respect to the industry. Under these regulations new gin plants can only be established by permission of the regulatory body and service can not be discontinued by any existing gin without express authorization from the Corporation Commission. The plants are licensed and are required to file an annual report describing the entire scope of each season's operations. The rates to be charged for ginning and the charges for bagging and ties are set yearly by the Corporation Commission. Various other provisions outline the practices to be followed by the industry in bookkeeping procedure, installation of equipment, marking of the bales, protection against fire hazards, and numerous other matters.

According to the reports of the United States Bureau of Census the state had 438 active plants in 1909 and the number had increased to 1068 gins by 1911. A small but gradual decline during the next decade reduced the number of active plants to 737 in 1921. By 1926 the number of gins had increased to 1047, but by 1932, after another period of decrease, only 879 gin plants were in operation. Certain data compiled from the annual reports of the gins to the Corporation Commission for the seasons 1929-30 to 1932-33 present some interesting information on the operation of the industry in the state. While these individual gin reports do not represent all gins actively operating in the state as reported by the Bureau of Census, the sample contains 87.4 percent of the component units of the industry and the volume per plant of this study group was very nearly the same as that of the gins reported by the Census. The large size of the gins in Oklahoma is indicated by the fact that during the four years the average number of

saws per plant was 314 in the eastern division of the state and 375 in the western area, indicating greater physical capacity in the latter area of approximately 20.0 percent.

For the seasons 1929-30 to 1932-33 the average number of bales ginned per plant was 1169 for all gins. In the eastern area the average number of bales received per gin was 880 as compared with 1472 in the west. This larger volume per plant of 67.3 percent by the western gins above those in the east is considerably more than the difference of approximately 20 percent in saw capacity and shows that the gins in the western part of the state received a larger volume of ginning per unit of physical size than the gins in the eastern part of Oklahoma. During the period studied 67.2 percent of all plants reporting from the eastern area ginned less than 1001 bales, while in the western division only 30.3 percent of the plants received volumes of less than that amount. The relative number of gins in the east obtaining volumes in excess of 2000 bales was 4.5 percent, but the proportion of gins in this higher volume range was 21.6 percent in the western area.

The average book value per plant for the years 1929-30 to 1932-33 was \$15,112 in the eastern division and \$23,707 in the western portion of the state. During the period, book values per plant declined in both sections of the state.

The principal form of ownership found in the state was that by corporations. The gins owned by corporations comprised, for the four seasons, 52.2 percent of all gins reporting in the eastern part of the state and 51.3 percent of those in the western part. This form of ownership has declined slightly in relative numbers in the eastern section but has gained 9.9 percent in the western section. Of the 418 gins of corporate ownership in the state in 1932, 208, or 49.8 percent, were reported by nine companies, each of which operated one or more gins and these "line" gins constituted 27.0 percent of all gins recorded in the state that season by the Corporation Commission. During the term of the study, 16.6 percent of all plants were partnerships, 16.5 percent were operated by individuals, 11.6 percent were cooperative ginning associations, and 3.5 percent were classified in a miscellaneous category termed "others." The cooperatives and the gins classed as "others" were mainly located in the western area, as 89.9 percent of the former and 95.7 percent of the latter were found in that portion of the state. The gins organized as cooperatives received the largest volumes per plant in the state of any ownership types for the period. While the cooperatives ginned 2034 bales per plant for the four years, the group of corporation gins averaged only 1030 bales per gin. The special importance of cooperative ginning in the western division is shown by the fact that while this form of ownership represented only 21.4 percent of the gins in that area they ginned 31.7 percent of the cotton.

The financial importance of the industry is shown by the fact that the total operating revenue of all the gins varied from \$11,039,000 in 1926-27 to \$4,620,000 in 1927-28. The total expenses varied from \$7,203,000 in 1926-27 to \$3,153,000 in 1932-33; while net income ranged from \$3,836,000 in 1926-27 to \$205,000 in 1927-28. The operating revenue per plant of the western gins was more than double that of the eastern gins but the difference in expenses per plant was much less, so that the net income of the gins in the western part of the state was several times larger than that of the gins in the east. The reduction of rates between 1929-30 and 1932-33 was reflected by a relative decline in revenue per bale of 29.6 percent in the eastern area and 22.2 percent in the western part of the state. This loss of revenue per bale because of lower rates for ginning services was more than offset by a decrease in expenses per bale of 37.1 percent from 1929-30 to 1932-33 in the eastern

portion of the state and of 28.4 percent in the west. Since 1930-31 the net income per bale of the eastern plants had declined, while it has increased in the west.

It was found that for the state as a whole and for both of its divisions the expense per bale of ginning declined rather consistently as the number of bales ginned increased. For the period 1929-30 to 1932-33 the expense per bale for plants obtaining from 1 to 500 bales was 149.3 percent greater than for plants receiving more than 4500 bales. The influence of greater volumes in reducing the cost of gin operation per bale was more apparent for the plants operating in the west than for those in the eastern part of the state. Gins in both divisions of the state ginning between 1 to 500 bales reported a deficit and the profits per bale for the plants in the interval of 501 to 1000 bales were relatively insignificant when compared with those enjoyed by the plants in the upper volume classes. The largest net income per bale for the periods studied was usually found in one of the groups of gins which handled a large number of bales. During the four years, 1929-30 to 1932-33, 719 gins or 22.1 percent of all plants reporting, were shown to have operated at a loss. The eastern section of the state contained 78.7 percent of the number of gins which suffered a loss as compared with 21.3 percent for the western area. While a rather large proportion of the gins apparently lost money in their ginning operations, the amount of cotton ginned by this group was only 9.2 percent of the total amount ginned in the state. The gins showing a loss during this period obtained an average of only 490 bales per plant while the number of bales per gin secured by the profit group was 1361.

The relationship of type of ownership to the financial success of gin operation appeared to be significant when the various ownership classifications were studied as a whole. The net profit per bale of the cooperative gins was much larger than it was for the gins in any of the other ownership classifications. However, when the effect of volume was eliminated by analyzing only gins which obtained approximately the same number of bales to gin, little, if any, significant difference between the different types of ownership is found. The data on ownership groups and book values both indicated that the major relationship of these factors on expense and income per bale was the result of the relationship between them and the number of bales of cotton ginned.

The business of ginning cotton is highly seasonal and the number of days operated by a gin during the season has an important relationship to the number of bales ginned and to the expense and income per bale of ginning. As the number of days operated by the gins increased, the number of bales ginned increased and the expense per bale decreased, while the income per bale increased. However, the number of days operated had very little relation to the expense or income per bale when the effect of volume of ginning was removed by analyzing only gins which handled approximately the same number of bales. The expense per bale declined and the income increased as the number of bales ginned per day operated increased, but there was also an increase in the number of bales handled per gin. When the effect of the increase in number of bales handled per gin is removed some of the effect of the number of bales ginned per day operated on expense and income per bale is removed, but not all of it. Apparently expense per bale declined somewhat when more bales were ginned per day operated even if the gins did not receive a larger volume for the entire season.

The larger incomes of the gins in western Oklahoma were not due entirely to the larger volumes per plant, because the revenue per bale of the gins was higher than that of gins in the east. This was caused by the

larger proportion of snapped cotton which was ginned in that part of the state. During the four seasons 1929-30 to 1932-33, 1079 plants or 33.1 percent of all gins were found to have received as snapped cotton over 60.0 percent of the total weights of seed cotton which they ginned and 93.7 percent of these gins were located in the western area of the state. Of the gins which received 20.0 percent or less of their unginned cotton in the form of snapped cotton, 94.5 percent were in the eastern part of the state. During the four years, 52.5 percent of all seed cotton ginned was reported as snapped cotton.

Any statements made concerning the financial operations of cotton gins that are based only on the ginning service itself must be considered as incomplete so far as the financial aspects of the industry are concerned, because of the importance of the outside or supplementary enterprises, such as the purchase and sale of cotton and cottonseed, conducted in connection with the ginning of cotton. As no financial data are available concerning these phases of the ginning industry it can be only pointed out that a large percentage of the cottonseed was purchased by the ginners. Also for the period 1929-30 to 1932-33, 63.5 percent of the total ginnings reported by the gins to the Corporation Commission were purchased by the gin operators. Of the total amount of purchases 31.5 percent were bought in the seed and 68.5 percent as bales of lint. This practice of buying bale lots of seed cotton was confined principally to the eastern area of the state.