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MANHATTAN, KANSAS

# THE TREND OF REAL ESTATE TAXATION IN KANSAS FROM 1910 TO 1923

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## SUMMARY

1. The purpose of this study is to show the trend of taxes relative to selling value of farm and city real estate in Kansas and to measure the causes of the increase in real-estate taxes. Selling value is used as a basis for showing trends, since "true value in money" is the legal basis of assessment and taxation in Kansas.

2. Total taxes on farm real estate in Kansas increased from $9,706,000 in 1910 to $25,995,000 in 1923. The latter amount is 139 per cent greater than the average levy from 1910 to 1914.

3. Taxes per acre of all land in the state in 1923 were 134 per cent higher than the 1910 to 1914 average. The selling value per acre increased only 28 per cent in the same period.

4. In 1910, taxes on farm real estate were 0.53 per cent of selling value compared to 1.01 per cent in 1923, an increase of 90.6 per cent. The ratio of taxes to selling value was marked by an accelerated rate of increase from 1910 to 1923. (Fig. 25.)

5. The average tax levy per $1,000 selling value of farm real estate from 1919 to 1923 was $8.52, compared to $5.56 from 1910 to 1914, an increase of $2.96. Higher levies for the state government and state institutions, and for political subdivisions of the state, were responsible for this increase in the following proportions: State, 11.8 per cent; county, 39.6 per cent; township, 8.8 per cent; school districts, 39.3 per cent; drainage, 0.5 per cent.

6. The average tax levy per $1,000 selling value of farm real estate from 1921 to 1923 was $9.42, compared to $6.84 from 1916 to 1918, an increase of $2.58. The following public purposes, state and local, were responsible for this increase, in the proportions indicated: Education, 63.9 per cent; roads and bridges, 21.3 per cent; interest, 1.2 per cent; sinking fund, 0.4 per cent; drainage, no change; miscellaneous, 19.4 per cent; and a *decrease* in total levies for administration, or general revenue, per $1,000 selling value, this decrease being 6.2 per cent of the total increase of all levies.

7. Total taxes on city real estate in Kansas increased from $5,842,000 in 1910 to $21,068,000 in 1923. The state levy became a decreasing share of all taxes on city real estate in the period under study. This was due to a rapid increase in local levies, which made the state levy a decreasing proportionate part of the total. The total levy on city real estate in 1923 was 201 per cent above the 1910 to 1914 average.

8. In 1910, taxes on city real estate were 1.07 per cent of selling value, compared to 2.29 per cent in 1923, an increase of 114 per cent. The ratio of taxes to selling value of city real estate was marked by

an accelerated rate of increase, but this rate decreased from 1919 to 1923. (Fig. 25.)

9. The average annual tax levy per $1,000 of selling value of city real estate from 1919 to 1923 was $20.87, compared to $12.11 from 1910 to 1914, an increase of $8.76. The state and its political subdivisions were responsible for this increase in the following proportions: State, 3.6 per cent; county, 12.9 per cent; city, general revenue, 23.8 per cent; and city schools, 59.7 per cent.

10. The average tax levy per $1,000 of selling value of city real estate from 1921 to 1923 was $22.14 compared to $14.48 from 1916 to 1918, an increase of $7.66. Various public purposes, state and local, were responsible for this increase in the following proportion: Education, 63.7 per cent; roads and bridges, streets and alleys, 8.0 per cent; interest, 2.5 per cent; sinking fund, 5.0 per cent; miscellaneous, 23.4 per cent; and a *decrease* in total levies for administration or general revenue per $1,000 selling value, this decrease being 2.6 per cent of the total increase of all levies.

11. The ratio of taxes to selling value of city real estate was more than twice as high as in the case of farm real estate, in the period under study. The rate of increase of this ratio was greater in city real estate.

12. But these differences between farm and city real estate are not as disadvantageous to the latter as they might seem on the surface, because of the following mitigating factors: (1) Greater shiftability of the tax on city real estate; (2) services rendered by municipal governments and the probable effect of these services on rents and on real-estate values; and (3) the probability that the owner of city real estate has more taxable capacity than the farmer, in addition to that which is represented by the ownership of real estate.

13. The increase in the ratio of taxes to selling value of real estate in the period under study was due chiefly to greater expenditures for improvements and services rendered by state and local government.

14. Since expenditures for administration or general revenue became a decreasing levy on the selling value of real estate, it is incorrect to attribute the increase in the ratio of tax to selling value to "increased cost of government." It should be attributed to increased expenditures for specific improvements and services which the public demanded of state and local government.

15. The trend of the ratio of taxes to selling value of real estate in the future depends upon the trend of public opinion, which ultimately determines policies of public expenditures and of taxation.

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### APPENDIX.

*Methods of Calculation and Supplementary Statistics.*

# THE TREND OF REAL ESTATE TAXATION IN KANSAS FROM 1910 TO 1923[1]

ERIC ENGLUND

## I. INTRODUCTION

The purpose of this investigation is to show the trend of taxes on farm and city real estate in Kansas from 1910 to 1923, and to measure the causes of the increase in the tax burden on each. An attempt has been made to allocate to each class the correct share of the annual tax levy, and to show the trend of taxes relative to the selling value of real estate. No claim is made to absolute accuracy in the allocation of tax levies, but the results are believed to be sufficiently accurate for a substantially correct presentation of trends.

Although the fundamental reason for the increase in taxes is found in the expanding service functions of government, it is necessary to find more specific measurements of the reasons for the rising trend of real-estate taxes. Therefore, an effort has been made in this investigation to determine to what extent the increase in real-estate taxes was caused by higher levies for the state and for its subdivisions, and to what extent it was due to increased expenditures for each public purpose, such as general administration, education, roads and bridges, etc., irrespective of political subdivisions promoting these purposes.

**Bases for Showing Trends of Real Estate Taxes.—** In order to show trends of real-estate taxes, it is necessary to find a logical basis for comparing the real-estate levy of each year with the levies of a base period. In this study, all comparisons are based on 1910 to 1914 averages, with the one exception that data showing the extent to which each public purpose is responsible for the increase in real-estate taxes are based on 1916 to 1918 averages. The reason for this exception is explained in detail in section B of the Appendix. Four bases for showing trends of real-estate taxes will be evaluated briefly, from the standpoint of the purpose of this investigation:

1. *Tax Levies in Dollars.—* A trend may be shown in terms of dollars levied on a class of property irrespective of volume or valuation of the property taxed. The total levy in any year may be expressed in per cent of the average levy in the base period. While this means of expressing trends may be useful for certain purposes,

1. Contribution No. 19 from the Department of Agricultural Economics.

it is nevertheless inadequate and often misleading when left to stand unqualified and unaccompanied by other means of expressing trends. The fault of a tax trend which is based merely on dollars is that it fails to take into account fluctuations in the value of money and changes in the volume, total assessed valuation, and selling value of the property on which the tax is levied.

2. *Value of Money.*—The total tax levy on a class of property may be expressed in terms of an index of the value of money. For example, the trend can be shown in terms of the all-commodity index with the prewar years 1910 to 1914 as 100. This means of showing trends has an advantage over the method described above in that it eliminates apparent and often unreal changes in the tax levy that are due to fluctuations in monetary values; but like the first method, it fails to take into account changes in the volume or value of the property taxed.

3. *Assessed Valuation of Property.*—The trend of taxes levied on a given class of property may also be shown in terms of assessed valuation of that property. Data showing a given increase in property taxes would reveal no significant fact concerning the actual increase in the tax burden, if the volume of property increased in proportion to the rise in taxes. Although this basis of comparison would be conducive to a better understanding of the trend of real-estate taxes, it is nevertheless inadequate because it does not take into account changes in the ratio of assessed valuation to true value of property. That important changes occur in the rate of assessment is shown in Tables XXVIII and XLI of the Appendix.

4. *Selling Value of Property.*—Finally, wherever selling value of a class of property is the legal basis of assessment and taxation, as is the case in Kansas, the trend of real-estate taxes should be expressed in terms of the relation of the tax levy to the selling value of the property taxed. This is the primary basis used in this report to show the trend of real-estate taxation in Kansas. The trend of taxes on each class of real estate has been given only secondary consideration relative to each of the first three bases of showing trends, mentioned above. The method used in determining the selling value of each class of real estate is explained in Part C of the Appendix.

It has been found desirable to divide the state into five sections, because of differences in land, in type of agriculture, and in the degree of development attained in various parts of the state. The wheat belt has been subdivided into two parts, as shown in figure 1. The principal data presented in this bulletin are tabulated for each of these subdivisions and for the state as a whole.

This report is divided into three principal parts: (1) The trend of taxes on farm real estate; (2) the trend of taxes on city real estate; and (3) farm and city real estate compared. All detailed explanations of methods of calculation, and all statistical material supplementary to the main body of data and of sufficient importance to warrant publication, appear as an appendix to the report proper.[2]

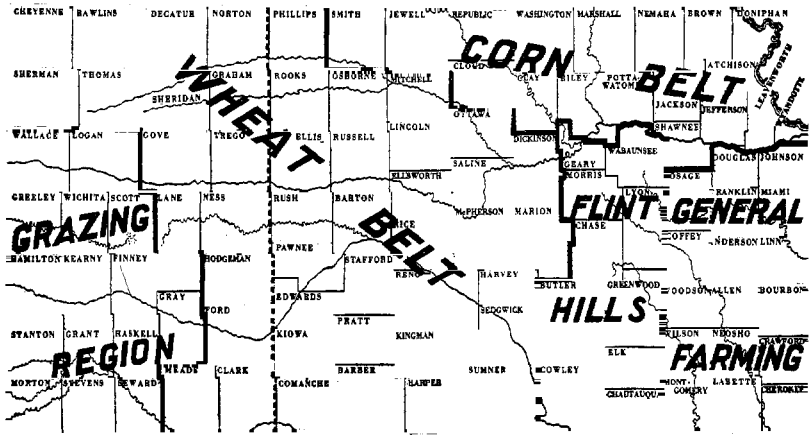


FIG. 1.—Map of Kansas showing the principal agricultural sections of the state. The dotted line between Norton and Phillips counties and to the southern border of the state, marks a division between the eastern and the western halves of the wheat belt. The principal tabulations in this study are given by sections and for the state as a whole.

## II. THE TREND OF TAXES ON FARM REAL ESTATE[3]

### 1. TOTAL LEVIES ON FARM REAL ESTATE

The first step in showing the trend of taxes on farm real estate is to determine the amount of taxes which this property bears. This has been calculated, as explained in section A of the Appendix. Taxes borne by all farm real estate in Kansas from 1910 to 1923 are shown in Table I, and the amount levied on farm real estate in each section of the state is found in Tables II to VII.

2. This bulletin is one of a series of three publications by the Kansas Agricultural Experiment Station on taxation problems in Kansas. The first of the series, Bulletin No. 232, "Assessment and Equalization of Farm and City Real Estate in Kansas," was published in July, 1924. Bulletin No. 234, "Tax Revision in Kansas," appeared in December of the same year. It contains a presentation of the need for fundamental changes in the fiscal system of Kansas, and includes a suggested program of tax revision for this state.

3. The term "farm real estate," as used in this bulletin, includes all taxable land and improvements outside of cities, except a small amount of real estate designated in the reports of the Kansas Tax Commission as "platted lands outside of cities." See footnote 32 of the Appendix for a more complete explanation of the nature of this property and of the reasons why it is not included with farm real estate. The term "taxes" includes all general property levies for state, county, township, school, and drainage purposes. It does not include special assessment or improvement taxes, which amounted to $383,451 on all property outside of cities in 1923.

TABLE I.—Taxes levied on farm real estate in Kansas for the state government and for subdivisions of the state, 1910 to 1923.

| YEAR. | Amounts in thousands. | | | | | | Per cent of total. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | Township. | School districts (a). | Drainage. | Total. | State. | County. | Township. | School districts (a). | Drainage. |
| 1910 | $9,706 | $1,426 | $2,736 | $2,112 | $3,373 | $59 | 100 | 14.7 | 28.2 | 21.8 | 34.7 | 0.6 |
| 1911 | 10,704 | 1,626 | 3,114 | 2,339 | 3,572 | 53 | 100 | 15.2 | 29.1 | 21.8 | 33.4 | .5 |
| 1912 | 10,914 | 1,632 | 3,199 | 2,287 | 3,708 | 88 | 100 | 14.9 | 29.3 | 21.0 | 34.0 | .8 |
| 1913 | 11,261 | 1,640 | 3,340 | 2,375 | 3,795 | 111 | 100 | 14.6 | 29.6 | 21.1 | 33.7 | 1.0 |
| 1914 | 11,882 | 1,685 | 3,699 | 2,474 | 3,911 | 113 | 100 | 14.2 | 31.1 | 20.8 | 32.9 | 1.0 |
| 1915 | 12,705 | 1,752 | 4,049 | 2,845 | 3,919 | 140 | 100 | 13.8 | 31.9 | 22.4 | 30.8 | 1.1 |
| 1916 | 14,428 | 1,866 | 4,217 | 2,910 | 5,324 | 111 | 100 | 12.9 | 29.2 | 20.2 | 36.9 | .8 |
| 1917 | 14,643 | 2,083 | 5,089 | 2,946 | 4,386 | 139 | 100 | 14.2 | 34.7 | 20.1 | 30.0 | 1.0 |
| 1918 | 16,027 | 1,853 | 5,388 | 3,668 | 4,972 | 146 | 100 | 11.6 | 33.6 | 22.9 | 31.0 | .9 |
| 1919 | 19,604 | 2,804 | 7,076 | 3,596 | 5,985 | 143 | 100 | 14.3 | 36.1 | 18.4 | 30.5 | .7 |
| 1920 | 23,453 | 2,618 | 8,104 | 4,144 | 8,412 | 175 | 100 | 11.2 | 34.5 | 17.7 | 35.9 | .7 |
| 1921 | 27,267 | 4,163 | 8,837 | 4,521 | 9,582 | 164 | 100 | 15.3 | 32.4 | 16.6 | 35.1 | .6 |
| 1922 | 24,259 | 2,886 | 7,826 | 3,979 | 9,405 | 163 | 100 | 11.9 | 32.3 | 16.4 | 38.8 | .6 |
| 1923 | 25,995 | (b) 4,043 | 7,981 | 4,190 | 9,602 | 179 | 100 | 15.6 | 30.7 | 16.1 | 36.9 | .7 |

(a) Rural high schools and school districts combined, from 1916 to 1923.
(b) Includes $1,172,000, soldier compensation fund.

TABLE II.—Taxes levied on farm real estate in the corn belt section, for the state government and for subdivisions, 1910 to 1923.

| YEAR. | Amounts in thousands. | | | | | | Per cent of total. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | Township. | School districts. | Drainage. | Total. | State. | County. | Township. | School districts. | Drainage. |
| 1910 | $2,446 | $360 | $649 | $541 | $839 | $57 | 100 | 14.7 | 26.5 | 22.1 | 34.3 | 2.4 |
| 1911 | 2,659 | 409 | 682 | 688 | 833 | 47 | 100 | 15.4 | 25.6 | 25.9 | 31.3 | 1.8 |
| 1912 | 2,795 | 410 | 732 | 679 | 890 | 84 | 100 | 14.7 | 26.2 | 24.3 | 31.8 | 3.0 |
| 1913 | 2,968 | 413 | 859 | 723 | 883 | 90 | 100 | 13.9 | 28.9 | 24.4 | 29.7 | 3.1 |
| 1914 | 3,133 | 439 | 908 | 745 | 935 | 106 | 100 | 14.0 | 29.0 | 23.8 | 29.8 | 3.4 |
| 1915 | 3,333 | 457 | 982 | 838 | 920 | 136 | 100 | 13.7 | 29.5 | 25.1 | 27.6 | 4.1 |
| 1916 | 3,703 | 470 | 1,047 | 833 | 1,247 | 106 | 100 | 12.7 | 28.3 | 22.5 | 33.7 | 2.8 |
| 1917 | 3,827 | 525 | 1,283 | 840 | 1,043 | 136 | 100 | 13.7 | 33.5 | 21.9 | 27.3 | 3.6 |
| 1918 | 4,686 | 463 | 1,305 | 1,603 | 1,177 | 138 | 100 | 9.9 | 27.9 | 34.2 | 25.1 | 2.9 |
| 1919 | 4,996 | 711 | 1,685 | 1,027 | 1,448 | 125 | 100 | 14.2 | 33.7 | 20.6 | 29.0 | 2.5 |
| 1920 | 6,072 | 672 | 2,004 | 1,192 | 2,053 | 151 | 100 | 11.1 | 33.0 | 19.6 | 33.8 | 2.5 |
| 1921 | 7,042 | 1,072 | 2,143 | 1,300 | 2,385 | 142 | 100 | 15.2 | 30.4 | 18.5 | 33.9 | 2.0 |
| 1922 | 6,105 | 734 | 1,871 | 1,139 | 2,214 | 147 | 100 | 12.0 | 30.6 | 18.7 | 36.3 | 2.4 |
| 1923 | 6,494 | (a) 1,028 | 1,874 | 1,226 | 2,211 | 155 | 100 | 15.8 | 28.9 | 18.9 | 34.0 | 2.4 |

(a) Includes $298,000, soldier compensation fund.

TABLE III.—Taxes levied on farm real estate in the general farming section, for the state government and for subdivisions, 1910 to 1923.

| YEAR. | Amounts in thousands. | | | | | | Per cent of total. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | Township. | School districts. | Drainage. | Total. | State. | County. | Township. | School districts. | Drainage. |
| 1910 | $1,858 | $235 | $423 | $609 | $589 | 2 | 100 | 12.6 | 22.7 | 32.9 | 31.7 | 0.1 |
| 1911 | 1,891 | 267 | 504 | 488 | 629 | 3 | 100 | 14.1 | 26.6 | 25.8 | 33.3 | .2 |
| 1912 | 1,941 | 270 | 571 | 475 | 622 | 3 | 100 | 13.9 | 29.4 | 24.5 | 32.1 | .1 |
| 1913 | 2,079 | 270 | 593 | 509 | 705 | 2 | 100 | 13.0 | 28.5 | 24.5 | 33.9 | .1 |
| 1914 | 2,115 | 280 | 632 | 507 | 692 | 4 | 100 | 13.3 | 29.9 | 23.9 | 32.7 | .2 |
| 1915 | 2,290 | 289 | 720 | 556 | 723 | 2 | 100 | 12.6 | 31.4 | 24.3 | 31.6 | .1 |
| 1916 | 2,423 | 307 | 710 | 551 | 850 | 5 | 100 | 12.7 | 29.3 | 22.7 | 35.1 | .2 |
| 1917 | 2,527 | 343 | 870 | 585 | 726 | 3 | 100 | 13.6 | 34.4 | 23.2 | 28.7 | .1 |
| 1918 | 2,605 | 303 | 940 | 562 | 797 | 3 | 100 | 11.6 | 36.1 | 21.6 | 30.6 | .1 |
| 1919 | 3,301 | 455 | 1,238 | 673 | 933 | 2 | 100 | 13.8 | 37.5 | 20.4 | 28.2 | .1 |
| 1920 | 3,870 | 420 | 1,399 | 784 | 1,262 | 5 | 100 | 10.8 | 36.2 | 20.3 | 32.6 | .1 |
| 1921 | 4,869 | 667 | 1,822 | 908 | 1,469 | 3 | 100 | 13.7 | 37.4 | 18.6 | 30.2 | .1 |
| 1922 | 4,358 | 465 | 1,565 | 804 | 1,521 | 3 | 100 | 10.7 | 35.9 | 18.4 | 34.9 | .1 |
| 1923 | 4,616 | (a) 650 | 1,586 | 897 | 1,478 | 5 | 100 | 14.1 | 34.4 | 19.4 | 32.0 | .1 |

(a) Includes $188,000, soldier compensation fund.

TABLE IV.—Taxes levied on farm real estate in the Flint Hills region, for the state government and for subdivisions, 1910 to 1923.

| YEAR. | Amounts in thousands. | | | | | | Per cent of total. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | Township. | School districts. | Drainage. | Total. | State. | County. | Township. | School districts. | Drainage. |
| 1910 | $1,018 | $148 | $295 | $227 | $348 | ..... | 100 | 14.5 | 29.0 | 22.3 | 34.2 | ..... |
| 1911 | 1,175 | 169 | 343 | 279 | 384 | ..... | 100 | 14.4 | 29.2 | 23.7 | 32.7 | ..... |
| 1912 | 1,209 | 171 | 379 | 277 | 382 | ..... | 100 | 14.1 | 31.4 | 22.9 | 31.6 | ..... |
| 1913 | 1,254 | 172 | 370 | 290 | 422 | ..... | 100 | 13.7 | 29.5 | 23.1 | 33.7 | ..... |
| 1914 | 1,330 | 176 | 415 | 290 | 449 | ..... | 100 | 13.2 | 31.2 | 21.8 | 33.8 | ..... |
| 1915 | 1,411 | 182 | 452 | 343 | 434 | ..... | 100 | 12.9 | 32.1 | 24.3 | 30.7 | ..... |
| 1916 | 1,572 | 194 | 458 | 340 | 580 | ..... | 100 | 12.3 | 29.1 | 21.7 | 36.9 | ..... |
| 1917 | 1,533 | 217 | 551 | 339 | 426 | ..... | 100 | 14.2 | 35.9 | 22.1 | 27.8 | ..... |
| 1918 | 1,572 | 206 | 572 | 322 | 472 | ..... | 100 | 13.1 | 36.4 | 20.5 | 30.0 | ..... |
| 1919 | 2,023 | 315 | 724 | 408 | 576 | ..... | 100 | 15.5 | 35.8 | 20.2 | 28.5 | ..... |
| 1920 | 2,396 | 283 | 847 | 453 | 813 | ..... | 100 | 11.8 | 35.4 | 18.9 | 33.9 | ..... |
| 1921 | 2,752 | 450 | 864 | 485 | 953 | ..... | 100 | 16.4 | 31.4 | 17.6 | 34.6 | ..... |
| 1922 | 2,437 | 309 | 800 | 432 | 896 | ..... | 100 | 12.7 | 32.8 | 17.7 | 36.8 | ..... |
| 1923 | 2,671 | (a) 434 | 792 | 454 | 991 | ..... | 100 | 16.3 | 29.6 | 17.0 | 37.1 | ..... |

(a) Includes $126,000, soldier compensation fund.

TABLE V.—Taxes levied on farm real estate in the eastern half of the wheat belt, for the state government and for subdivisions, 1910 to 1923.

| YEAR. | Amounts in thousands. | | | | | | Per cent of total. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government | County. | Township. | School districts. | Drainage. | Total. | State. | County. | Township. | School districts. | Drainage. |
| 1910 | $3,129 | $525 | $928 | $578 | $1,098 | ..... | 100 | 16.8 | 29.6 | 18.5 | 35.1 | ..... |
| 1911 | 3,535 | 601 | 1,076 | 696 | 1,159 | 3 | 100 | 17.0 | 30.4 | 19.7 | 32.8 | 0.1 |
| 1912 | 3,589 | 607 | 1,040 | 673 | 1,267 | 2 | 100 | 16.9 | 29.0 | 18.7 | 35.3 | .1 |
| 1913 | 3,588 | 612 | 1,042 | 691 | 1,224 | 19 | 100 | 17.1 | 29.0 | 19.3 | 34.1 | .5 |
| 1914 | 3,865 | 618 | 1,215 | 748 | 1,282 | 2 | 100 | 16.0 | 31.4 | 19.3 | 33.2 | .1 |
| 1915 | 4,156 | 646 | 1,328 | 888 | 1,292 | 2 | 100 | 15.5 | 31.9 | 21.4 | 31.1 | .1 |
| 1916 | 4,838 | 690 | 1,354 | 909 | 1,885 | ..... | 100 | 14.3 | 28.0 | 18.8 | 38.9 | ..... |
| 1917 | 4,855 | 769 | 1,681 | 900 | 1,505 | ..... | 100 | 15.8 | 34.6 | 18.6 | 31.0 | ..... |
| 1918 | 4,983 | 664 | 1,735 | 860 | 1,720 | 4 | 100 | 13.3 | 34.8 | 17.3 | 34.5 | .1 |
| 1919 | 6,455 | 997 | 2,274 | 1,106 | 2,062 | 16 | 100 | 15.4 | 35.3 | 17.1 | 32.0 | .2 |
| 1920 | 7,819 | 940 | 2,619 | 1,302 | 2,939 | 19 | 100 | 12.0 | 33.5 | 16.7 | 37.6 | .2 |
| 1921 | 8,758 | 1,491 | 2,762 | 1,355 | 3,131 | 19 | 100 | 17.1 | 31.6 | 15.5 | 35.5 | .3 |
| 1922 | 7,580 | 1,028 | 2,337 | 1,170 | 3,033 | 12 | 100 | 13.6 | 30.8 | 15.4 | 40.0 | .2 |
| 1923 | 8,015 | (a) 1,441 | 2,394 | 1,164 | 2,996 | 20 | 100 | 18.0 | 29.9 | 14.5 | 37.4 | .2 |

(a) Includes $418,000, soldier compensation fund.

TABLE VI.—Taxes levied on farm real estate in the western half of the wheat belt, for the state government and for subdivisions, 1910 to 1923.

| YEAR. | Amounts in thousands. | | | | | | Per cent of total. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | Township. | School districts. | Drainage. | Total. | State. | County. | Township. | School districts. | Drainage. |
| 1910 | $831 | $108 | $249 | $117 | $357 | ..... | 100 | 13.0 | 30.0 | 14.0 | 43.0 | ..... |
| 1911 | 951 | 124 | 291 | 139 | 397 | ..... | 100 | 13.0 | 30.6 | 14.6 | 41.8 | ..... |
| 1912 | 941 | 121 | 286 | 136 | 398 | ..... | 100 | 12.8 | 30.4 | 14.5 | 42.3 | ..... |
| 1913 | 914 | 117 | 277 | 123 | 397 | ..... | 100 | 12.9 | 30.3 | 13.4 | 43.4 | ..... |
| 1914 | 984 | 119 | 339 | 135 | 391 | ..... | 100 | 12.1 | 34.5 | 13.7 | 39.7 | ..... |
| 1915 | 1,003 | 121 | 343 | 174 | 365 | ..... | 100 | 12.1 | 34.2 | 17.3 | 36.4 | ..... |
| 1916 | 1,290 | 140 | 405 | 219 | 526 | ..... | 100 | 10.9 | 31.4 | 17.0 | 40.7 | ..... |
| 1917 | 1,263 | 157 | 435 | 219 | 452 | ..... | 100 | 12.4 | 34.4 | 17.4 | 35.8 | ..... |
| 1918 | 1,442 | 147 | 517 | 243 | 535 | ..... | 100 | 10.2 | 35.9 | 16.8 | 37.1 | ..... |
| 1919 | 1,921 | 222 | 749 | 298 | 652 | ..... | 100 | 11.6 | 39.0 | 15.5 | 33.9 | ..... |
| 1920 | 2,198 | 205 | 782 | 316 | 895 | ..... | 100 | 9.3 | 35.6 | 14.4 | 40.7 | ..... |
| 1921 | 2,490 | 327 | 739 | 368 | 1,056 | ..... | 100 | 13.1 | 29.7 | 14.8 | 42.4 | ..... |
| 1922 | 2,435 | 230 | 772 | 322 | 1,111 | ..... | 100 | 9.5 | 31.7 | 13.2 | 45.6 | ..... |
| 1923 | 2,762 | (a) 322 | 846 | 338 | 1,256 | ..... | 100 | 11.7 | 30.6 | 12.2 | 45.5 | ..... |

(a) Includes $93,000, soldier compensation fund.

TABLE VII.—Taxes levied on farm real estate in the southwestern grazing region, for the state government and for subdivisions, 1910 to 1923.

| YEAR. | Amounts in thousands. | | | | | | Per cent of total. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | Township. | School districts. | Drainage. | Total. | State. | County. | Township. | School districts. | Drainage. |
| 1910 | $423 | $50 | $191 | $40 | $142 | ..... | 100 | 11.8 | 45.1 | 9.4 | 33.7 | ..... |
| 1911 | 492 | 57 | 218 | 49 | 168 | ..... | 100 | 11.5 | 44.3 | 10.1 | 34.1 | ..... |
| 1912 | 439 | 52 | 192 | 47 | 148 | ..... | 100 | 11.8 | 43.7 | 10.8 | 33.7 | ..... |
| 1913 | 458 | 56 | 198 | 38 | 166 | ..... | 100 | 12.2 | 43.3 | 8.4 | 36.1 | ..... |
| 1914 | 455 | 53 | 190 | 49 | 163 | ..... | 100 | 11.7 | 41.8 | 10.8 | 35.7 | ..... |
| 1915 | 510 | 56 | 223 | 47 | 184 | ..... | 100 | 11.0 | 43.7 | 9.2 | 36.1 | ..... |
| 1916 | 602 | 65 | 243 | 57 | 237 | ..... | 100 | 10.8 | 40.3 | 9.5 | 39.4 | ..... |
| 1917 | 636 | 72 | 268 | 63 | 233 | ..... | 100 | 11.4 | 42.1 | 9.9 | 36.6 | ..... |
| 1918 | 738 | 70 | 319 | 78 | 271 | ..... | 100 | 9.5 | 43.2 | 10.5 | 36.8 | ..... |
| 1919 | 907 | 105 | 405 | 84 | 313 | ..... | 100 | 11.6 | 44.7 | 9.2 | 34.5 | ..... |
| 1920 | 1,100 | 98 | 453 | 97 | 452 | ..... | 100 | 8.9 | 41.2 | 8.8 | 41.1 | ..... |
| 1921 | 1,357 | 156 | 507 | 104 | 590 | ..... | 100 | 11.5 | 37.4 | 7.6 | 43.5 | ..... |
| 1922 | 1,344 | 120 | 481 | 112 | 631 | ..... | 100 | 8.9 | 35.8 | 8.3 | 47.0 | ..... |
| 1923 | 1,438 | (a) 168 | 489 | 112 | 669 | ..... | 100 | 11.7 | 34.0 | 7.8 | 46.5 | ..... |

(a) Includes $49,000, soldier compensation fund.

Tables I to VII show the increase in every tax levy in all parts of the state since 1910. This increase is also indicated in Table VIII which shows each levy and the total of all levies on farm real estate, in per cent of the 1910 to 1914 average.

TABLE VIII.—Taxes levied on farm real estate in Kansas in per cent of 1910 to 1914 average (*a*).

| YEAR. | Total. | State government. | County. | Township. | School district. | Drainage (*b*). |
|---|---|---|---|---|---|---|
| 1910 | 89 | 89 | 85 | 91 | 92 | 62 |
| 1911 | 98 | 102 | 97 | 101 | 97 | 70 |
| 1912 | 100 | 102 | 99 | 99 | 101 | 104 |
| 1913 | 103 | 102 | 104 | 102 | 103 | 131 |
| 1914 | 109 | 105 | 115 | 107 | 107 | 132 |
| 1915 | 117 | 109 | 126 | 123 | 107 | 165 |
| 1916 | 132 | 116 | 131 | 126 | 145 | 131 |
| 1917 | 134 | 130 | 158 | 127 | 119 | 164 |
| 1918 | 147 | 116 | 167 | 158 | 135 | 172 |
| 1919 | 180 | 175 | 220 | 155 | 163 | 169 |
| 1920 | 215 | 163 | 252 | 179 | 229 | 206 |
| 1921 | 250 | 260 | 275 | 195 | 261 | 194 |
| 1922 | 223 | 180 | 243 | 172 | 256 | 192 |
| 1923 | 239 | (*c*) 252 | 248 | 181 | 262 | 212 |

(*a*) Adapted from Table I.
(*b*) It will be noted in Table I that drainage is less than one per cent of the total tax levy on farm real estate.
(*c*) This figure includes levy for the soldiers' compensation fund. Exclusive of this levy, the state levy is 179 per cent of the 1910 to 1914 average.

**Trends of Tax Levies in Dollars.**—Figure 2, which is based on data given in Table VIII, shows the trend of each tax levy and of all levies in per cent of the 1910 to 1914 average. It also shows the trend of assessed valuation and of calculated selling value of farm real estate from 1910 to 1923. These values are given in detail in Tables XXX and XXXI of the Appendix.

While figure 2 shows the trend of each of the tax levies (state, county, city, schools, etc.) in relation to each other and to the trend of the total levy on farm real estate, it does not take into account either fluctuations in the value of money or changes in the value of real estate.

**Taxes Relative to Value of Money.**—The trend of taxes relative to changes in the value of money can be expressed only in general terms. Nevertheless, it seems worth while to show such a trend in order to call attention to the fact that the purchasing power of money

may, and often does, vary from year to year, in public as in private expenditures. It is a familiar fact that the value of money fluctuated greatly in the period under study. But changes in the value of money may not be the same for government as for a group of people, because the goods and the services bought by government may not be the same as the goods and the services bought by a group. The value of money is generally measured in terms of selected com-

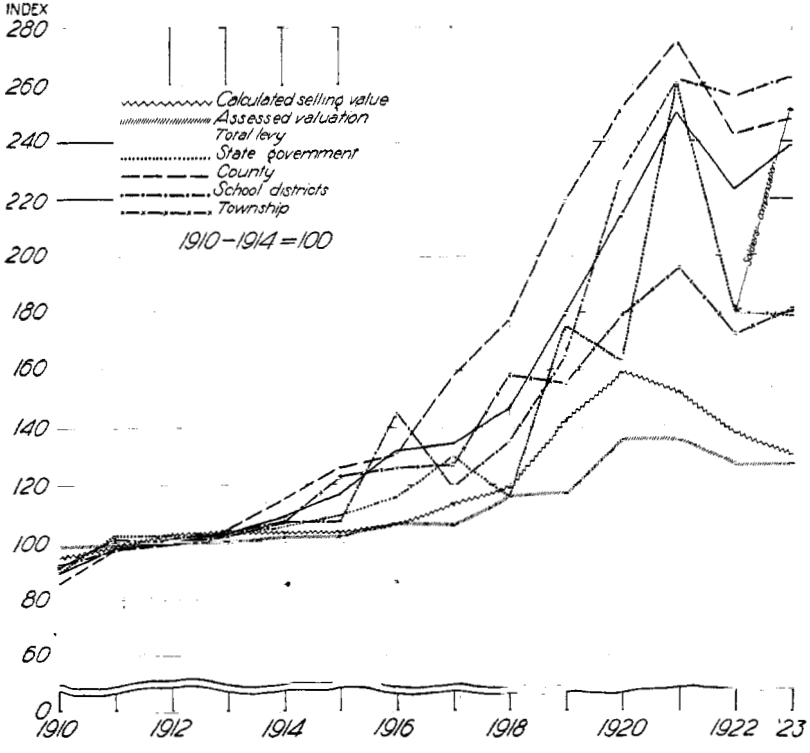


FIG. 2.—Trends of total taxes and of each levy on farm real estate in Kansas, in per cent of the 1910 to 1914 average. This figure also shows the trends of assessed valuation and of calculated selling value of farm real estate.

modities, the price of which is thought to represent fairly the general price level. As a matter of fact, such an index reflects the value of money only in terms of the particular commodities used as a basis for the index. It represents other commodities and services only to the extent that their price changes correspond to fluctuations in the price of the selected commodities included in the index.

The probable trend of taxes on farm real estate in terms of the all-commodity value of money is shown in figure 3. This trend reflects changes in the "purchasing power" of state and local revenue

only in so far as changes in the price of goods and services bought by government are in proportion to changes in the price of the commodities constituting the basis of the all-commodity index.[4] However, this trend represents the true cost of government, and of the services rendered by it, more closely than the trend of total levies in dollars. Figure 3 also shows the trend of farm real estate taxes, adjusted to changes in assessed valuation and in calculated selling value of farm real estate.

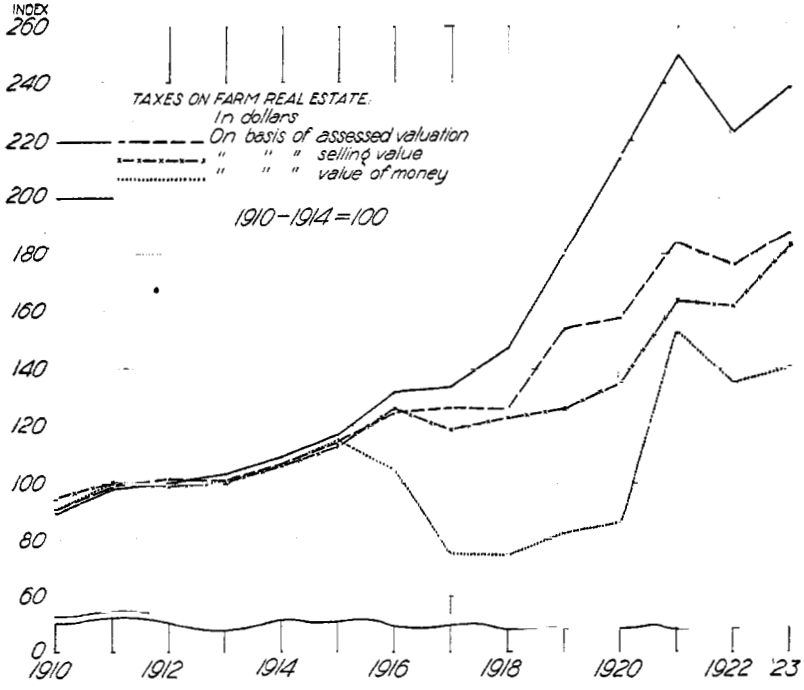


FIG. 3.—Total taxes on farm real estate in Kansas in per cent of the 1910 to 1914 average. The trends are based on total dollars, on assessed valuation, on calculated selling value of farm real estate, and on the all-commodity value of money.

### 2. TAXES COMPARED TO SELLING VALUE OF FARM REAL ESTATE

Although it is helpful to show trends of taxes in dollars, or on the basis of assessed valuation of property, or in terms of an all-commodity index of the value of money, none of these trends is as expressive of the real tendencies in real-estate taxation as a trend based on the selling value of real estate, "True value in money" is the basis of assessment and taxation in Kansas.[5] There-

4. Index based on United States Bureau of Labor, Bulletin 173, page 137, and later reports published in United States Department of Agriculture Bulletin 999, page 2.

5. Section 79-501 Revised Statutes of 1923.

fore, selling value of the property has been chosen as the basis for determining trends in the tax burden on farm real estate.[6]

**Taxes and Selling Value per Acre Compared.**[7]—The average tax per acre of all taxable land and improvements in Kansas and in each section of the state, from 1910 to 1923 is shown in Table IX. This table was constructed by dividing the total tax levies shown in Tables I to VII by the number of acres of taxable land given in

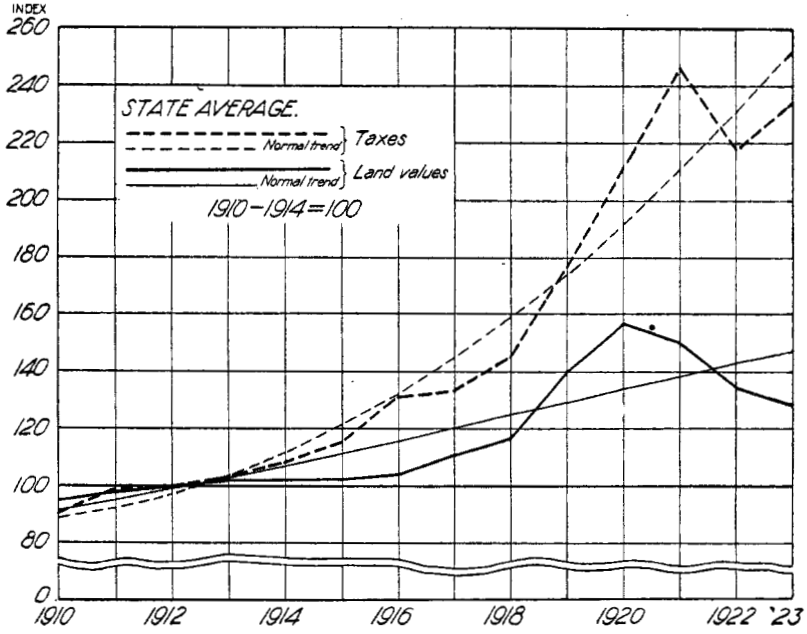


FIG. 4.—Trends of taxes and of selling value per acre of all taxable land and improvements in Kansas, in per cent of the 1910 to 1914 average. (Data for figures 4 to 10 are found in Table IX and in Tables XXXII to XXXVIII of the Appendix.)

Table XL of the Appendix. Table IX also shows the trend of taxes per acre, with the 1910-1914 average tax as 100. Six charts (figures 4 to 10) were constructed on the basis of these tax trends and on the basis of selling value per acre shown in Tables XXXII to XXXVIII of the Appendix. Figure 4 shows the average trends of taxes and of selling value per acre of all taxable land in Kansas, while figures 5 to 10 show the same for each section of the state.

6. The ratio of taxes to selling value for each section and for the state as a whole was determined by dividing the total tax levies given in Tables I to VII by the selling value of farm real estate shown in Table XXXI of the Appendix. These ratios of taxes to selling value are shown in Table X and in figure 11. See section C of the Appendix for a more detailed explanation of the method of determining the probable selling value of farm real estate.

7. Credit is due Professor A. E. White of the Department of Mathematics, Kansas State Agricultural College, for calculating the normal trends of taxes and of land values.

TABLE IX.—Taxes per acre of all farm real estate in Kansas, by sections, 1910 to 1928.

| YEAR. | Amount in cents per acre. | | | | | | | Per cent of 1910 to 1914 average. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | State average. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. |
| 1910 | 19.4 | 34.1 | 29.9 | 18.9 | 20.5 | 8.7 | 6.5 | 90 | 87 | 94 | 85 | 89 | 91 | 98 |
| 1911 | 21.3 | 37.9 | 30.5 | 21.8 | 23.2 | 9.9 | 7.2 | 99 | 97 | 96 | 98 | 100 | 103 | 109 |
| 1912 | 21.5 | 38.7 | 31.2 | 22.4 | 23.4 | 9.7 | 6.4 | 100 | 99 | 98 | 101 | 101 | 101 | 97 |
| 1913 | 22.1 | 41.1 | 33.4 | 23.2 | 23.4 | 9.4 | 6.4 | 103 | 105 | 105 | 105 | 101 | 98 | 97 |
| 1914 | 23.2 | 43.3 | 34.0 | 24.6 | 25.2 | 10.1 | 6.3 | 108 | 111 | 107 | 111 | 109 | 105 | 95 |
| 1915 | 24.8 | 46.1 | 36.8 | 26.1 | 27.1 | 10.3 | 7.0 | 115 | 118 | 116 | 118 | 117 | 107 | 106 |
| 1916 | 28.1 | 51.1 | 39.0 | 29.1 | 31.7 | 13.2 | 8.2 | 131 | 131 | 123 | 131 | 137 | 138 | 124 |
| 1917 | 28.5 | 52.8 | 40.6 | 28.4 | 31.6 | 12.9 | 8.6 | 133 | 135 | 128 | 128 | 137 | 134 | 130 |
| 1918 | 31.1 | 64.7 | 41.9 | 29.1 | 32.5 | 14.7 | 9.9 | 145 | 166 | 132 | 131 | 141 | 153 | 150 |
| 1919 | 38.1 | 68.9 | 53.0 | 37.4 | 42.3 | 19.6 | 12.1 | 177 | 177 | 167 | 168 | 183 | 204 | 183 |
| 1920 | 45.4 | 83.6 | 62.2 | 44.4 | 50.9 | 22.4 | 14.5 | 211 | 214 | 196 | 200 | 220 | 233 | 220 |
| 1921 | 52.8 | 97.0 | 78.2 | 50.9 | 57.4 | 25.4 | 17.7 | 246 | 249 | 246 | 229 | 248 | 265 | 268 |
| 1922 | 46.9 | 84.0 | 70.1 | 44.8 | 49.4 | 24.8 | 17.5 | 218 | 215 | 220 | 202 | 214 | 258 | 265 |
| 1923 | 50.3 | 89.0 | 74.8 | 49.4 | 52.2 | 28.1 | 18.7 | 234 | 228 | 235 | 223 | 226 | 293 | 283 |

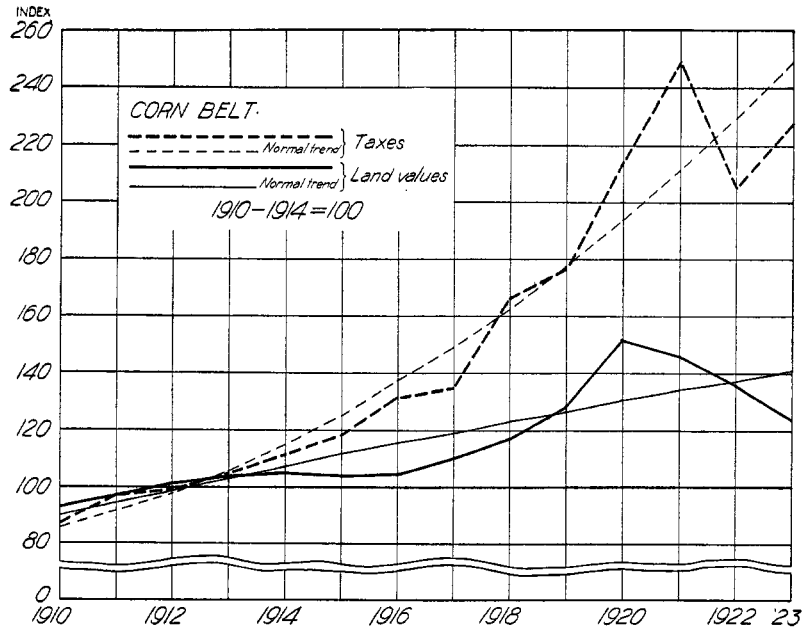


FIG. 5.—Trends of taxes and of selling value per acre of land and improvements in the corn belt section. (See figure 1 for the position of each section on the map of Kansas.)

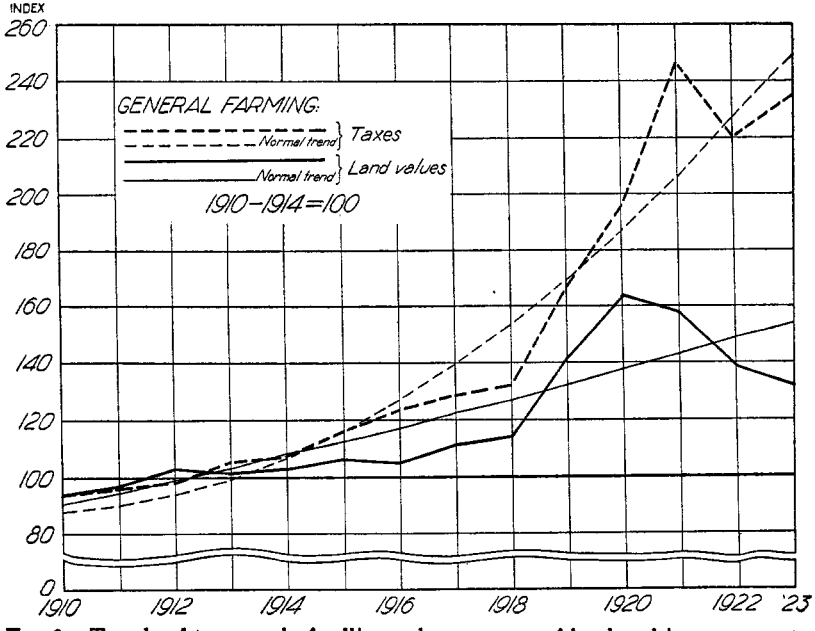


FIG. 6.—Trends of taxes and of selling value per acre of land and improvements in the southeastern general farming section.

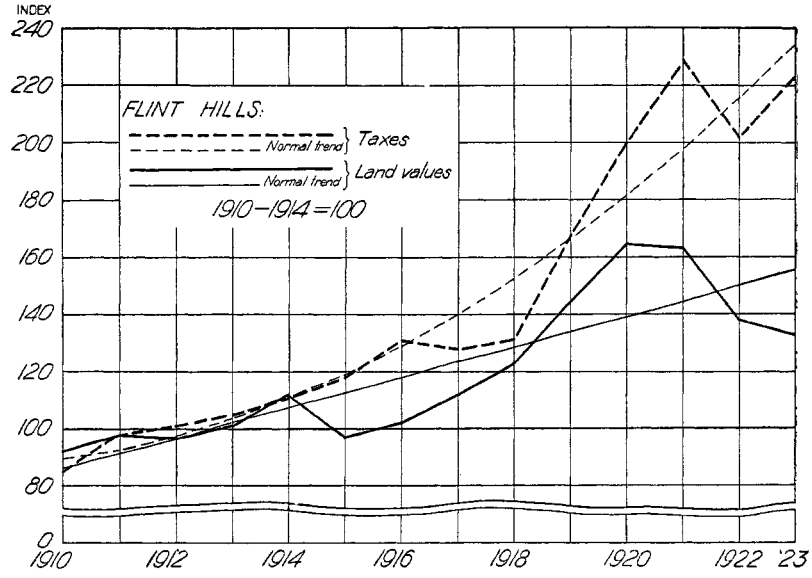


FIG. 7.—Trends of taxes and of selling value per acre of land and improvements in the Flint Hills section.

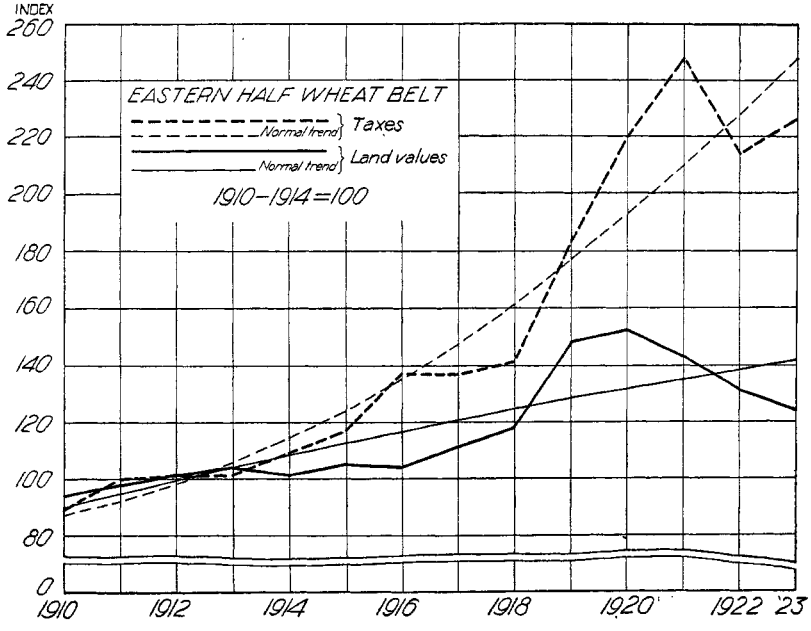


FIG. 8.—Trends of taxes and of selling value per acre of land and improvements in the eastern half of the wheat belt.

Figures 4 to 10 show a wide difference between the rates of increase in taxes and in selling value per acre of land in all parts of the state. The normal trend of taxes[8] is marked by an accelerated rate of increase from 1910 to 1920. Land values tended to follow the same general trend till 1920, although the rate of increase was not as great as in taxes. Following the boom period which ended

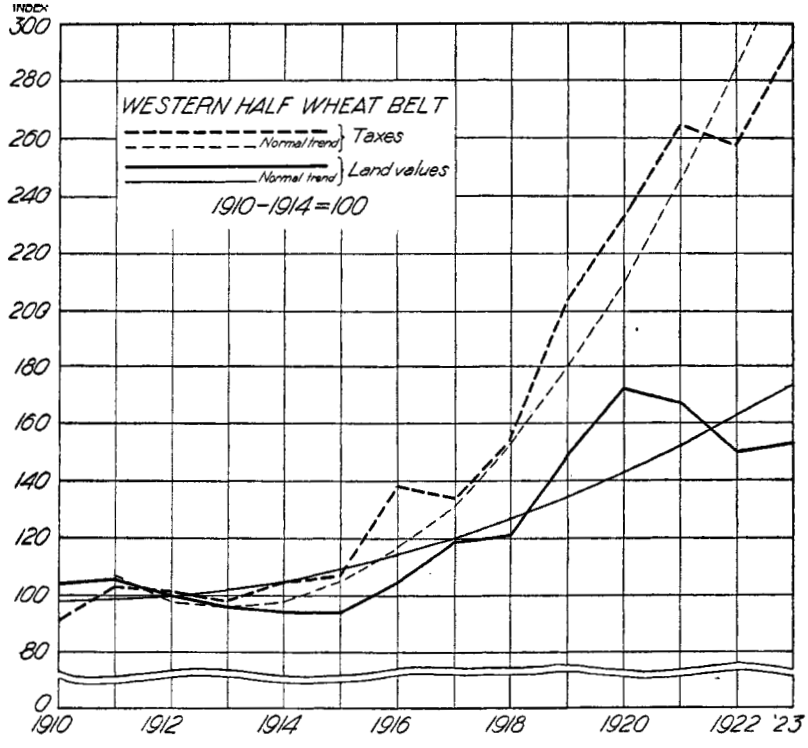


FIG. 9.—Trends of taxes and of selling value per acre of land and improvements in the western half of the wheat belt.

with 1920, land values declined rapidly, but there has been no indication of a significant abatement in the upward trend of taxes. It is true that taxes on farm real estate were lower in 1922 than in the previous year because of a general reduction in state, county, and township levies. But these levies rose again in 1923, and a new levy, for the soldier compensation fund, was added that year.[9] Thus the upward trend of taxes on farm real estate was increasingly

8. Curved line, or normal trend, calculated by least squares. The formulæ used in calculating these trends are given in section D of the Appendix.

9. See Tables I to VII for data on the increase in various tax levies.

rapid during the fourteen years covered by this study, but land values declined greatly after 1920. It is true that the principal reason for this decline in land values is found in the drop in farm prices since the war period, but it is also true that rising taxes influence the selling value of land. Increasing taxes are bound to depress land values, unless forces tending toward higher land values,

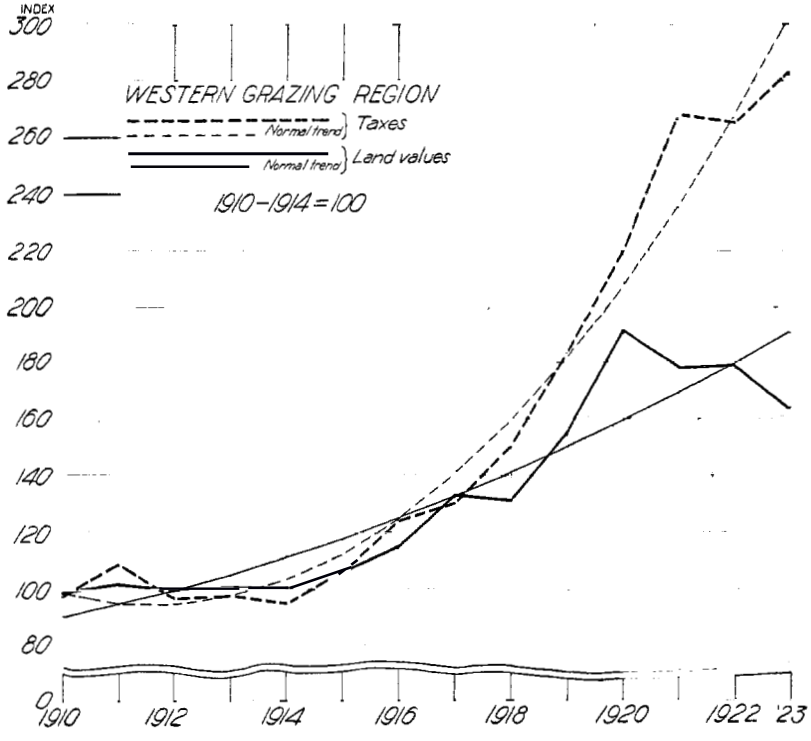


FIG. 10.—Trends of taxes and of selling value per acre of land and improvements in the southwestern grazing region.

such as advancing prices of farm products, are strong enough to off-set the depressing influence of heavier tax burdens.

**Ratio of Taxes to Selling Value of Farm Real Estate.**—Since selling value of property is the legal basis of levying taxes, it was deemed best to express the trend of taxes directly in terms of the selling value of farm real estate. This was done on the basis of the total tax levies shown in Tables I to VII, and on the calculated selling value as given in Table XXXI of the Appendix. The result is shown in Table X.

TABLE X.—Taxes on farm real estate in per cent of selling value, 1910 to 1923.

| YEAR OF LEVY. | State average. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. |
|---|---|---|---|---|---|---|---|
| 1910 | 0.53 | 0.54 | 0.64 | 0.54 | 0.46 | 0.50 | 0.70 |
| 1911 | .56 | .56 | .63 | .58 | .50 | .55 | .76 |
| 1912 | .55 | .56 | .60 | .60 | .50 | .57 | .68 |
| 1913 | .56 | .58 | .66 | .59 | .48 | .58 | .67 |
| 1914 | .59 | .60 | .66 | .57 | .53 | .64 | .66 |
| 1915 | .63 | .65 | .70 | .70 | .55 | .65 | .69 |
| 1916 | .70 | .72 | .75 | .74 | .64 | .74 | .75 |
| 1917 | .66 | .70 | .74 | .66 | .61 | .64 | .68 |
| 1918 | .69 | .81 | .74 | .62 | .59 | .72 | .79 |
| 1919 | .70 | .79 | .76 | .68 | .61 | .78 | .82 |
| 1920 | .75 | .81 | .77 | .70 | .71 | .77 | .80 |
| 1921 | .91 | .98 | 1.00 | .81 | .85 | .90 | 1.05 |
| 1922 | .90 | .94 | 1.01 | .85 | .80 | .98 | 1.03 |
| 1923 | 1.01 | 1.05 | 1.14 | .97 | .89 | 1.09 | 1.21 |

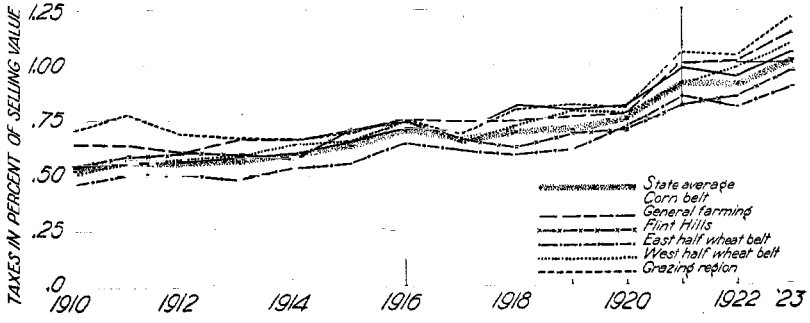


FIG. 11.—Taxes in per cent of selling value of all farm real estate in the state as a whole and in each section, from 1910 to 1923.

Taxes in per cent of selling value of farm real estate in each of the six sections of Kansas and in the state as a whole are shown in figure 11, which is based on Table X. There appear to be no significant differences in the ratio of taxes to selling value in the various sections of the state. The most noticeable deviation of the ratio in any section from that of the state average occurred in the southwestern grazing region in 1911. This was due to a combination of causes. In the first place, the assessed valuation of farm real estate in that region was 46 million dollars in 1911, 45

million in 1910 and only 44 million in 1912,[10] and calculated selling value for 1912 was about one million dollars less than in 1911. The second and the more important reason for the relatively high ratio of taxes to selling value in this section in 1911 is found in high tax levies in that year. It is shown in Table VII that the total tax levy on land and improvements in the southwest grazing region in 1911 was $192,000 as compared with $423,000 in 1910 and $439,000 in 1912. Levies for counties and school districts were especially high in 1911 compared with those of 1910 and of 1912.

A somewhat higher ratio of taxes to selling value in 1916 than in 1915 or in 1917 in the state as a whole is shown in figure 11. This is also due to a combination of explainable causes, the first of which is found in a high levy for the school district in 1916, as shown in Table I. Rural high schools appeared on the list of tax levies for the first time in 1916. The total levy on farm real estate for school districts, including rural high schools, in that year was $5,324,000, compared with $3,919,000 in 1915 and with $4,386,000 in 1917. Tables II to VII show that the school levy was higher throughout the state in 1916 than in the following year. But this alone was not enough to cause a higher ratio of taxes to selling value in 1916 than in 1917, because other levies were sufficiently greater in 1917 to make the total of all levies on farm real estate in that year about $215,000 above that of 1916. However, this increase was more than off-set by an increase of 152 million dollars in the calculated selling value of all farm real estate in Kansas[11] in 1917 above that of the previous year. Because of this increase in real-estate values, the ratio of taxes to selling value in 1917 was slightly lower than in 1916. Figures 4 to 10 show that 1917 marked the beginning of a general increase in land values in Kansas, which lasted till the close of 1920. Notwithstanding this increase in real estate values, tax levies advanced with a sufficiently greater rapidity to cause an almost uninterrupted upward trend in the ratio of taxes to selling value from 1917 to 1923.

With the decline in land values since 1920, together with the failure of tax levies to decline in proportion, the ratio of taxes to selling value increased with unusual rapidity from 1920 to 1923. It is true that this increase was somewhat retarded in 1922 because of a temporary decline in levies. But with 1923 came a general increase in levies, which again caused a rapid increase in the ratio of taxes to selling value of farm real estate.

10. See Table XXXI of the Appendix.
11. See Table XXXI of the Appendix.

TABLE XI.—Taxes per $1,000 of calculated selling value of farm real estate in Kansas, for the state and subdivisions, 1910 to 1923.

| YEAR OF LEVY. | Amounts in dollars. | | | | | | | Per cent of 1910 to 1914 average. | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | Township. | Rural high schools. | School districts. | Drainage. | Total. | State government. | County. | Township. | School districts. | Drainage. |
| 1910 | $5.27 | $0.77 | $1.49 | $1.15 | ..... | $1.83 | $0.03 | 95 | 95 | 91 | 97 | 98 | 75 |
| 1911 | 5.55 | .84 | 1.62 | 1.21 | ..... | 1.85 | .03 | 100 | 104 | 99 | 103 | 99 | 75 |
| 1912 | 5.52 | .82 | 1.62 | 1.16 | ..... | 1.88 | .04 | 99 | 101 | 99 | 98 | 101 | 100 |
| 1913 | 5.58 | .81 | 1.66 | 1.18 | ..... | 1.88 | .05 | 100 | 100 | 101 | 100 | 101 | 125 |
| 1914 | 5.87 | .83 | 1.83 | 1.22 | ..... | 1.93 | .06 | 106 | 102 | 112 | 103 | 103 | 150 |
| 1915 | 6.27 | .86 | 1.99 | 1.40 | ..... | 1.93 | .07 | 113 | 106 | 121 | 119 | 103 | 175 |
| 1916 | 7.01 | .91 | 2.05 | 1.41 | $0.05 | 2.54 | .05 | 126 | 112 | 125 | 119 | (a) 139 | 125 |
| 1917 | 6.63 | .94 | 2.30 | 1.33 | .13 | 1.85 | .06 | 119 | 116 | 140 | 113 | 106 | 150 |
| 1918 | 6.86 | .80 | 2.31 | 1.58 | .18 | 1.95 | .06 | 123 | 99 | 140 | 134 | 114 | 150 |
| 1919 | 7.03 | 1.01 | 2.54 | 1.29 | .23 | 1.92 | .05 | 126 | 125 | 155 | 109 | 115 | 125 |
| 1920 | 7.52 | .84 | 2.60 | 1.33 | .45 | 2.25 | .06 | 135 | 104 | 159 | 113 | 144 | 150 |
| 1921 | 9.14 | 1.40 | 2.96 | 1.52 | .61 | 2.61 | .06 | 164 | 173 | 180 | 129 | 172 | 150 |
| 1922 | 9.01 | 1.07 | 2.91 | 1.48 | .66 | 2.83 | .06 | 162 | 132 | 177 | 125 | 187 | 150 |
| 1923 | 10.13 | (b) 1.58 | 3.11 | 1.63 | .80 | 2.94 | .07 | 183 | (b) 195 | 190 | 138 | 200 | 175 |

(a) Includes levies for rural high schools from 1916 to 1923 inclusive, expressed in per cent of the 1910 to 1914 average of district school levies.
(b) Includes $0.46 for soldier compensation fund, or 56 per cent of the average state levy for 1910 to 1914.

The trend of taxes in relation to selling value of farm real estate for the state as a whole, as shown in figure 11, can perhaps be understood better by comparing the trends of the levies for the state and for each subdivision with each other and with the average of all levies. This comparison is made in Table XI which shows the amount of each levy per $1,000 of selling value of farm real estate.

Figure 12, which is based on Table XI, shows the trend of each tax levy relative to selling value of farm real estate, with the average ratio of each levy to selling value from 1910 to 1914 as 100.[12]

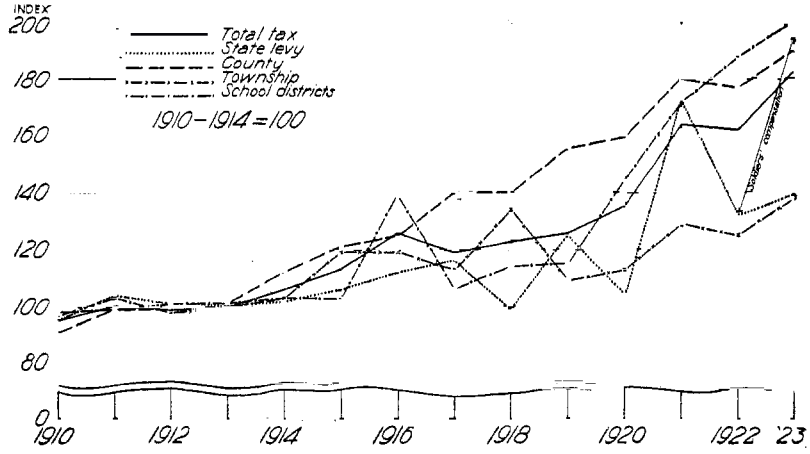


FIG. 12.—The trend of each tax levy relative to selling value of farm real estate, with the average ratio of each levy to selling value from 1910 to 1914 as 100. (The trend of the drainage levy, although included in Table XI, is not shown here since it averages less than one per cent of the total of all levies.)

The ratio of the levies for school districts and counties increased more rapidly relative to selling value than the other levies. As explained above, the exceptionally high ratio of the district school taxes to selling value in 1916 was due to unusually large school levies in that year.

### 8. REASONS FOR THE INCREASE IN TAXES ON FARM REAL ESTATE

**Levies for State Government and Subdivisions.—** The amount of each levy on farm real estate for the state and for each subdivision is shown in Table I. These data are the basis of figure 13, which shows the extent to which the state and each political subdivision (county, township, etc.) contributed to the increase in

12. Figure 12 is the same as figure 2 except that the latter shows only the trend of each tax levy in dollars, irrespective of changes in real estate values.

taxes on farm real estate from 1910 to 1923. It will be noted that the principal reason for this increase is found in the expanding levies for counties and for school districts.

The relation of each levy to the total of all levies on farm real estate is further illustrated in figure 14, which gives each levy in

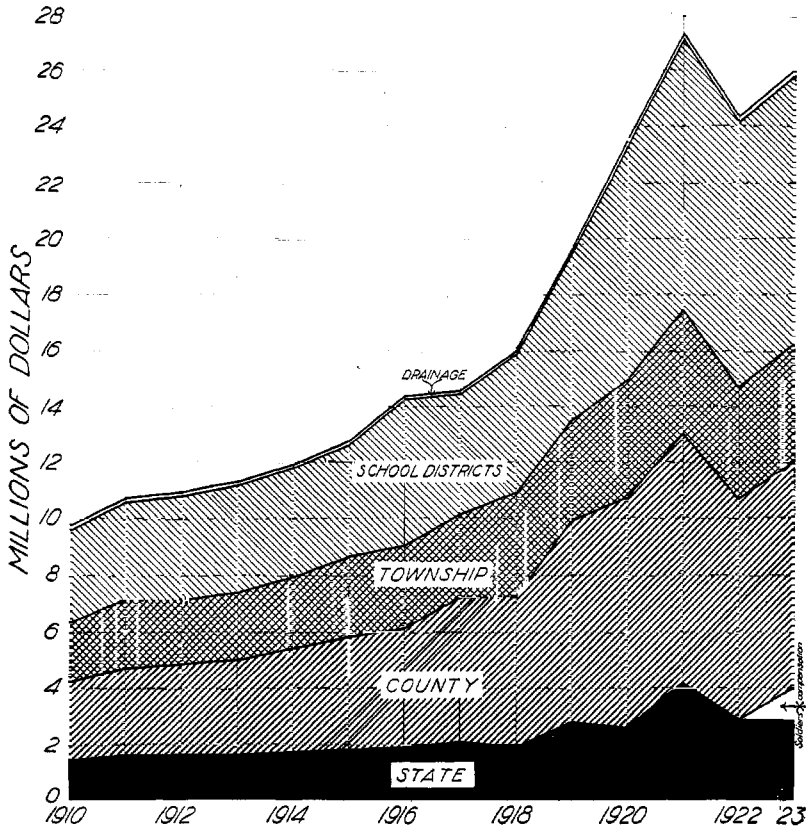


FIG. 13.—Taxes levied on farm real estate for the state and for each political subdivision, in millions of dollars.

per cent of the total, by years from 1910 to 1923. This figure again emphasizes the relatively large degree to which county and school levies are responsible for the increase in taxes on farm real estate.

**Levies for Various Public Purposes.**—Tax levies for the state and for each of the subdivisions, shown in Table I and in figure 14, yield a revenue which is used for a number of purposes. For example, the county levy in 1923 included ten sublevies for various

purposes in addition to the item designated as "general revenue." The township levy was divided into seven parts, and the state levy into six parts, according to groups of purposes for which legislative appropriations were made. It is therefore necessary to subdivide each levy, shown in Table I and figure 14, before the total levy can be divided into public purposes (schools, roads, general administration, etc.) for which the revenue is expended, irrespective

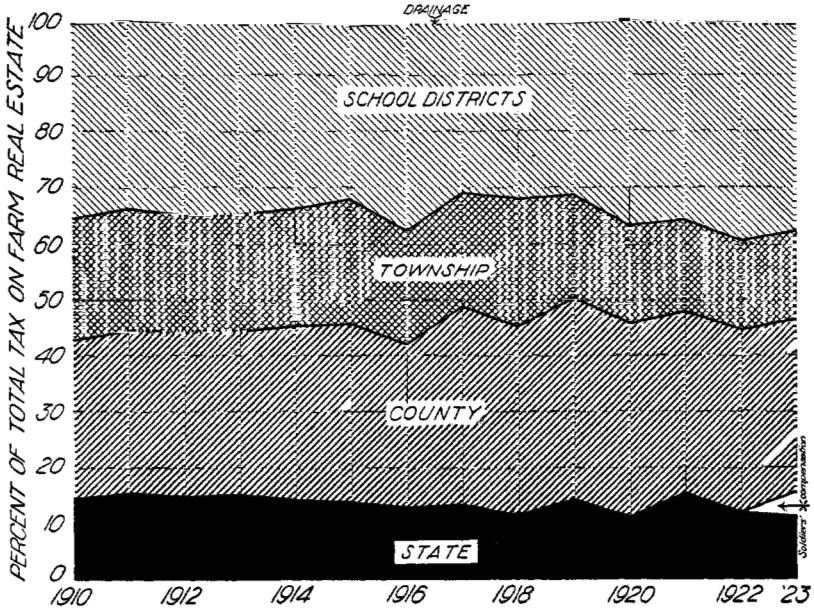


FIG. 14.—Taxes levied on farm real estate for the state and for each political subdivision, in per cent of the total of all levies.

of political subdivisions that might carry out these purposes. The method used in dividing each levy according to purposes served is explained in detail in Part B of the Appendix. Public reports on taxation in Kansas prior to 1916 do not contain data in sufficient detail to admit of a division of each levy according to purposes for which expended. Consequently, this division of the tax levy on real estate covers only the period 1916 to 1923, inclusive.

Table XII shows the approximate amount of taxes levied on farm real estate for each specified purpose, by years from 1916 to 1923.

Figures 15 and 16 are constructed on the basis of data given in Table XII, figure 15 showing taxes levied on farm real estate for each specified purpose in millions of dollars, and figure 16 the levy

TABLE XII.—Taxes levied on farm real estate for various public purposes in Kansas, 1916 to 1923.

| YEAR. | Amounts in thousands. | | | | | | | | Per cent of total. | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Administration. | Education. | Roads and bridges. | Interest. | Sinking fund. | Drainage. | Miscellaneous. | Total. | Administration. | Education. | Roads and bridges. | Interest. | Sinking fund. | Drainage. | Miscellaneous. |
| 1916..... | $14,427 | $3,259 | $6,612 | $2,969 | $324 | $436 | $111 | $716 | 100 | 22.6 | 45.8 | 20.6 | 2.3 | 3.0 | .8 | 4.9 |
| 1917..... | 14,643 | 3,380 | 5,775 | 3,727 | 263 | 451 | 139 | 908 | 100 | 23.1 | 39.4 | 25.5 | 1.8 | 3.1 | .9 | 6.2 |
| 1918..... | 16,027 | 3,495 | 6,306 | 4,517 | 317 | 437 | 146 | 809 | 100 | 21.8 | 39.3 | 28.2 | 2.0 | 2.7 | .9 | 5.1 |
| 1919..... | 19,603 | 3,784 | 7,912 | 5,473 | 260 | 426 | 143 | 1,605 | 100 | 19.3 | 40.4 | 27.9 | 1.3 | 2.2 | .7 | 8.2 |
| 1920..... | 23,453 | 4,020 | 10,344 | 6,466 | 326 | 444 | 175 | 1,678 | 100 | 17.1 | 44.1 | 27.6 | 1.4 | 1.9 | .7 | 7.2 |
| 1921..... | 27,267 | 4,368 | 12,451 | 6,848 | 515 | 631 | 164 | 2,290 | 100 | 16.0 | 45.7 | 25.1 | 1.8 | 2.3 | .6 | 8.5 |
| 1922..... | 24,259 | 3,506 | 11,997 | 5,785 | 476 | 569 | 163 | 1,763 | 100 | 14.5 | 49.5 | 23.8 | 2.0 | 2.3 | .7 | 7.2 |
| 1923..... | 25,995 | 3,470 | 12,220 | 5,941 | 481 | 573 | 179 | (a) 3,131 | 100 | 13.3 | 47.0 | 22.9 | 1.9 | 2.2 | .7 | (a)12.0 |

(a) Includes $1,172,000, soldier compensation fund, which is 4.5 per cent of total levy on farm real estate in 1923.

for each purpose in per cent of the total levy. These illustrations show that increased expenditures for education and for roads and bridges are the principal reason for the growing tax burden on farm real estate. At the same time levies classified in public records as "administration" or "general revenue" have remained almost the

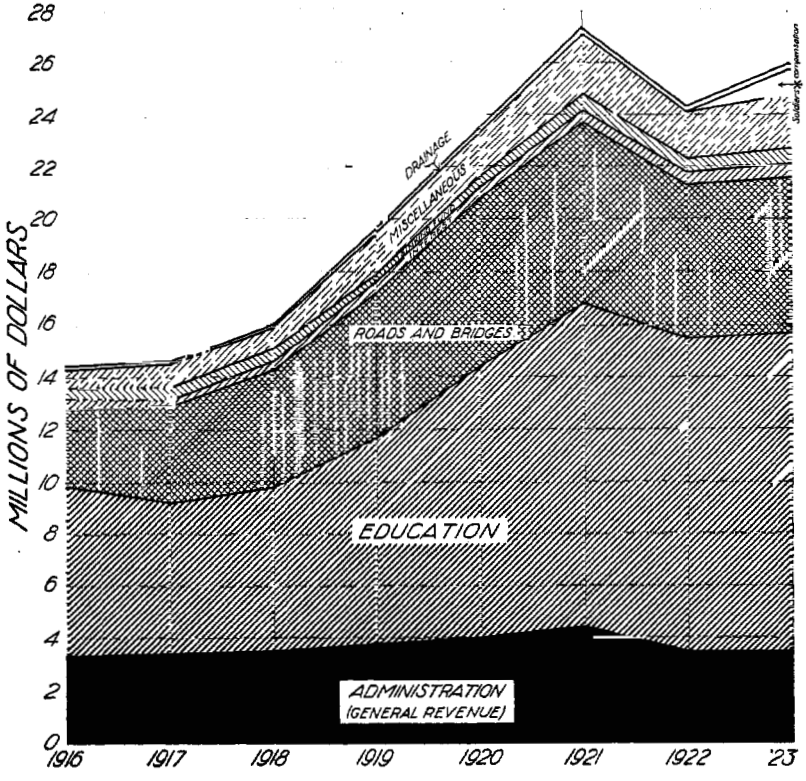


FIG. 15.—Taxes levied on farm real estate for each specified public purpose from 1916 to 1923, in millions of dollars.

same in amount since 1916, and have become a decreasing portion of the total levy by reason of increases in other levies. The items classified as "miscellaneous" [13] have increased in amount but have remained an almost constant per cent of the total levy for the last five years. The soldier compensation fund was an important item, contributing to the increase in taxes from 1922 to 1923.

13. See Part B of the Appendix for a classification of the various levies.

## III THE TREND OF TAXES ON CITY REAL ESTATE[14]

### 1. TOTAL LEVIES ON CITY REAL ESTATE

The amount of taxes levied on city real estate must be determined before it is possible to show the ratio of taxes to selling value of this class of property. This was done in the case of city real estate by the method used in allocating taxes to farm real estate,

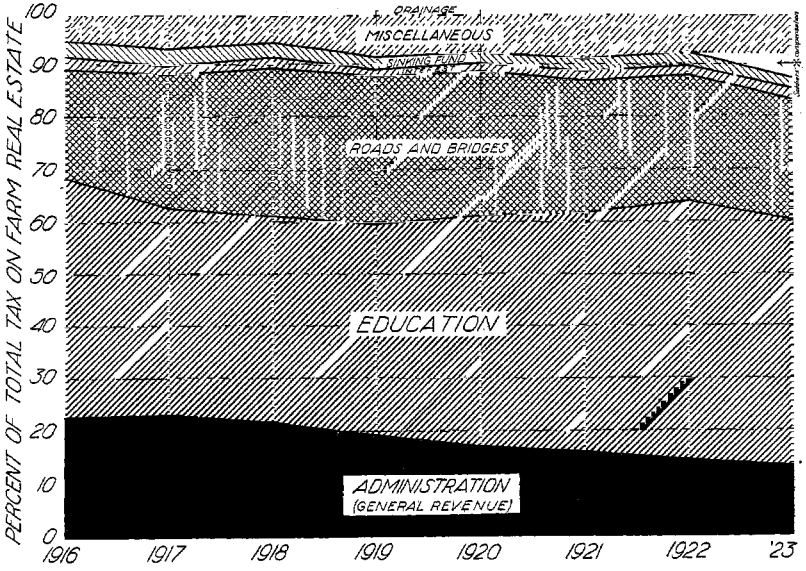


FIG. 16.—Taxes levied on farm real estate for each specified public purpose in per cent of the total levy. The decline in the levies for education from 1916 to 1917 is due to exceptionally high levies for the school districts in 1916.

which is explained in Part A of the Appendix. Tax levies allocated to all city real estate in Kansas from 1910 to 1923 are shown in Table XIII, and the corresponding levies for the six sections of the state are shown in Tables XIV to XIX.

14. The term city "real estate" as used in this bulletin includes all lots and improvements, and all unplatted land with improvements in cities. Real estate constituting a part of public service corporations is not included. The term "taxes" includes all general property levies for state, county, city and school purposes, but does not include special assessment or improvement taxes. The total of these special levies on all property in cities in 1923 was $4,809,586.

TABLE XIII.—Taxes levied on city real estate in Kansas for the state government and for the subdivisions of the state, 1910 to 1923.

| YEAR. | Amount in thousands. | | | | | Per cent of total. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | City (general). | City schools. | Total. | State government. | County. | City (general). | City schools. |
| 1910 | $5,842 | $447 | $911 | $2,401 | $2,083 | 100 | 7.7 | 15.6 | 41.1 | 35.7 |
| 1911 | 6,902 | 528 | 1,065 | 2,979 | 2,329 | 100 | 7.7 | 15.4 | 43.2 | 33.8 |
| 1912 | 6,952 | 532 | 1,107 | 2,828 | 2,485 | 100 | 7.7 | 15.9 | 40.7 | 35.7 |
| 1913 | 7,369 | 535 | 1,158 | 3,009 | 2,667 | 100 | 7.3 | 15.7 | 40.8 | 36.2 |
| 1914 | 7,903 | 537 | 1,229 | 3,194 | 2,943 | 100 | 6.8 | 15.6 | 40.4 | 37.2 |
| 1915 | 8,501 | 569 | 1,378 | 3,449 | 3,105 | 100 | 6.7 | 16.2 | 40.6 | 36.5 |
| 1916 | 8,214 | 625 | 1,452 | 3,616 | 2,521 | 100 | 7.6 | 17.7 | 44.0 | 30.7 |
| 1917 | 10,496 | 711 | 1,808 | 3,751 | 4,227 | 100 | 6.8 | 17.2 | 35.7 | 40.3 |
| 1918 | 10,731 | 605 | 1,856 | 3,416 | 4,854 | 100 | 5.6 | 17.3 | 31.8 | 45.2 |
| 1919 | 13,323 | 878 | 2,229 | 4,731 | 5,485 | 100 | 6.6 | 16.7 | 35.5 | 41.2 |
| 1920 | 15,618 | 702 | 2,148 | 5,335 | 7,432 | 100 | 4.5 | 13.8 | 34.2 | 47.6 |
| 1921 | 18,072 | 1,177 | 2,703 | 5,982 | 8,209 | 100 | 6.5 | 15.0 | 33.1 | 45.4 |
| 1922 | 18,622 | 922 | 2,635 | 6,356 | 8,708 | 100 | 5.0 | 14.2 | 34.1 | 46.8 |
| 1923 | 21,068 | (a) 1,331 | 2,840 | 7,024 | 9,873 | 100 | 6.3 | 13.5 | 33.3 | 46.9 |

(a) Includes $386,000, soldier compensation fund.

TABLE XIV.—Taxes levied on city real estate in the corn belt section of Kansas, for the state government and for each subdivision of the state, 1910 to 1923.

| YEAR. | Amount in thousands. | | | | | Per cent of total. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | City (general). | City schools. | Total. | State government. | County. | City (general). | City schools. |
| 1910 | $2,246 | $160 | $371 | $973 | $742 | 100 | 7.1 | 16.5 | 43.3 | 33.1 |
| 1911 | 2,565 | 190 | 394 | 1,175 | 806 | 100 | 7.4 | 15.4 | 45.8 | 31.4 |
| 1912 | 2,481 | 196 | 425 | 995 | 865 | 100 | 7.9 | 17.2 | 40.1 | 34.9 |
| 1913 | 2,678 | 195 | 455 | 1,059 | 968 | 100 | 7.3 | 17.0 | 39.6 | 36.1 |
| 1914 | 2,826 | 199 | 471 | 1,099 | 1,057 | 100 | 7.1 | 16.7 | 38.9 | 37.4 |
| 1915 | 3,165 | 212 | 532 | 1,310 | 1,111 | 100 | 6.7 | 16.8 | 41.4 | 35.1 |
| 1916 | 3,182 | 243 | 598 | 1,383 | 957 | 100 | 7.6 | 18.8 | 43.5 | 30.1 |
| 1917 | 3,770 | 272 | 769 | 1,341 | 1,388 | 100 | 7.2 | 20.4 | 35.6 | 36.8 |
| 1918 | 3,372 | 227 | 786 | 760 | 1,600 | 100 | 6.7 | 23.3 | 22.6 | 47.4 |
| 1919 | 4,447 | 307 | 846 | 1,631 | 1,663 | 100 | 6.9 | 19.0 | 36.7 | 37.4 |
| 1920 | 5,008 | 243 | 761 | 1,772 | 2,232 | 100 | 4.9 | 15.2 | 35.4 | 44.6 |
| 1921 | 5,864 | 399 | 991 | 2,025 | 2,448 | 100 | 6.8 | 16.9 | 34.5 | 41.7 |
| 1922 | 5,675 | 308 | 921 | 2,048 | 2,398 | 100 | 5.4 | 16.2 | 36.1 | 42.3 |
| 1923 | 6,727 | (a) 448 | 955 | 2,432 | 2,892 | 100 | 6.7 | 14.2 | 36.2 | 43.0 |

(a) Includes $130,000, soldier compensation fund.

TABLE XV.—Taxes levied on city real estate in the general farming section of Kansas for the state government and for each subdivision of the state, 1910 to 1923.

| YEAR. | Amount in thousands. | | | | | Per cent of total. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | City (general). | City schools. | Total. | State government. | County. | City (general). | City schools. |
| 1910 | $1,190 | $97 | $177 | $410 | $507 | 100 | 8.1 | 14.8 | 34.4 | 42.6 |
| 1911 | 1,603 | 112 | 221 | 697 | 573 | 100 | 7.0 | 13.8 | 43.5 | 35.7 |
| 1912 | 1,635 | 110 | 233 | 693 | 599 | 100 | 6.7 | 14.3 | 42.4 | 36.6 |
| 1913 | 1,735 | 112 | 262 | 738 | 623 | 100 | 6.5 | 15.1 | 42.5 | 35.9 |
| 1914 | 1,794 | 110 | 266 | 744 | 675 | 100 | 6.1 | 14.8 | 41.5 | 37.6 |
| 1915 | 1,891 | 115 | 307 | 773 | 696 | 100 | 6.1 | 16.2 | 40.9 | 36.8 |
| 1916 | 1,871 | 124 | 305 | 797 | 646 | 100 | 6.6 | 16.3 | 42.6 | 34.5 |
| 1917 | 2,359 | 140 | 365 | 868 | 986 | 100 | 5.9 | 15.5 | 36.8 | 41.8 |
| 1918 | 2,619 | 118 | 385 | 926 | 1,190 | 100 | 4.5 | 14.7 | 35.4 | 45.4 |
| 1919 | 3,118 | 176 | 509 | 1,080 | 1,354 | 100 | 5.6 | 16.3 | 34.6 | 43.4 |
| 1920 | 3,561 | 138 | 476 | 1,163 | 1,784 | 100 | 3.9 | 13.4 | 32.7 | 50.1 |
| 1921 | 4,170 | 229 | 644 | 1,328 | 1,969 | 100 | 5.5 | 15.5 | 31.8 | 47.2 |
| 1922 | 4,175 | 179 | 637 | 1,363 | 1,996 | 100 | 4.3 | 15.3 | 32.7 | 47.8 |
| 1923 | 4,536 | (a) 256 | 694 | 1,415 | 2,172 | 100 | 5.6 | 15.3 | 31.2 | 47.9 |

(a) Includes $74,000, soldier compensation fund.

TABLE XVI.—Taxes levied on city real estate in the Flint Hills region of Kansas, for the state government and for each subdivision of the state, 1910 to 1923.

| YEAR. | Amount in thousands. | | | | | Per cent of total. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | City (general). | City schools. | Total. | State government. | County. | City (general). | City schools. |
| 1910 | $437 | $34 | $70 | $167 | $167 | 100 | 7.7 | 15.9 | 38.1 | 38.2 |
| 1911 | 509 | 39 | 90 | 196 | 184 | 100 | 7.7 | 17.7 | 38.4 | 36.2 |
| 1912 | 543 | 40 | 97 | 203 | 203 | 100 | 7.4 | 17.8 | 37.4 | 37.4 |
| 1913 | 484 | 41 | 89 | 167 | 187 | 100 | 8.5 | 18.4 | 34.5 | 38.7 |
| 1914 | 587 | 41 | 101 | 243 | 202 | 100 | 7.0 | 17.2 | 41.5 | 34.4 |
| 1915 | 670 | 45 | 116 | 262 | 247 | 100 | 6.8 | 17.3 | 39.1 | 36.9 |
| 1916 | 570 | 46 | 112 | 262 | 150 | 100 | 8.1 | 19.7 | 45.9 | 26.3 |
| 1917 | 862 | 53 | 139 | 279 | 391 | 100 | 6.2 | 16.1 | 32.4 | 45.4 |
| 1918 | 1,024 | 49 | 140 | 363 | 472 | 100 | 4.8 | 13.6 | 35.5 | 46.1 |
| 1919 | 1,299 | 76 | 183 | 442 | 598 | 100 | 5.9 | 14.1 | 34.0 | 46.0 |
| 1920 | 1,536 | 59 | 183 | 472 | 822 | 100 | 3.8 | 11.9 | 30.7 | 53.5 |
| 1921 | 1,642 | 98 | 193 | 508 | 842 | 100 | 6.0 | 11.7 | 31.0 | 51.3 |
| 1922 | 1,762 | 76 | 202 | 573 | 911 | 100 | 4.3 | 11.5 | 32.5 | 51.7 |
| 1923 | 1,911 | (a) 109 | 207 | 639 | 957 | 100 | 5.7 | 10.8 | 33.4 | 50.1 |

(a) Includes $32,000, soldier compensation fund.

TABLE XVII.—Taxes levied on city real estate in the eastern half of the wheat belt of Kansas, for the state government and for each subdivision of the state, 1910 to 1923.

| YEAR. | Amount in thousands. | | | | | Per cent of total. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | City (general). | City schools. | Total. | State government. | County. | City (general). | City schools. |
| 1910 | $1,786 | $141 | $253 | $771 | $620 | 100 | 7.9 | 14.2 | 43.2 | 34.7 |
| 1911 | 2,023 | 169 | 309 | 828 | 717 | 100 | 8.3 | 15.3 | 41.0 | 35.4 |
| 1912 | 2,087 | 167 | 303 | 854 | 763 | 100 | 8.0 | 14.5 | 40.9 | 36.5 |
| 1913 | 2,284 | 169 | 305 | 983 | 827 | 100 | 7.4 | 13.4 | 43.0 | 36.2 |
| 1914 | 2,427 | 168 | 335 | 1,014 | 910 | 100 | 6.9 | 13.8 | 41.8 | 37.5 |
| 1915 | 2,478 | 178 | 365 | 994 | 941 | 100 | 7.2 | 14.8 | 40.1 | 38.0 |
| 1916 | 2,312 | 191 | 370 | 1,038 | 713 | 100 | 8.3 | 16.0 | 44.9 | 30.9 |
| 1917 | 3,093 | 219 | 459 | 1,111 | 1,305 | 100 | 7.1 | 14.8 | 35.9 | 42.2 |
| 1918 | 3,251 | 189 | 463 | 1,199 | 1,400 | 100 | 5.8 | 14.2 | 36.9 | 43.1 |
| 1919 | 3,913 | 287 | 571 | 1,378 | 1,677 | 100 | 7.3 | 14.6 | 35.2 | 42.9 |
| 1920 | 4,873 | 235 | 620 | 1,692 | 2,326 | 100 | 4.8 | 12.7 | 34.7 | 47.7 |
| 1921 | 5,626 | 406 | 754 | 1,834 | 2,631 | 100 | 7.2 | 13.4 | 32.6 | 46.8 |
| 1922 | 6,084 | 321 | 739 | 2,026 | 2,999 | 100 | 5.3 | 12.1 | 33.3 | 49.3 |
| 1923 | 6,816 | (a) 464 | 838 | 2,138 | 3,376 | 100 | 6.8 | 12.3 | 31.4 | 49.5 |

(a) Includes $135,000, soldier compensation fund.

TABLE XVIII.—Taxes levied on city real estate in the western half of the wheat belt of Kansas, for the state government and for each subdivision of the state, 1910 to 1923.

| YEAR. | Amount in thousands. | | | | | Per cent of total. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | City (general). | City schools. | Total. | State government. | County. | City (general). | City schools. |
| 1910 | $112 | $10 | $24 | $51 | $27 | 100 | 9.2 | 21.3 | 45.4 | 24.0 |
| 1911 | 125 | 12 | 30 | 55 | 27 | 100 | 9.8 | 24.3 | 44.0 | 21.9 |
| 1912 | 126 | 11 | 29 | 53 | 32 | 100 | 8.9 | 23.4 | 42.4 | 25.3 |
| 1913 | 114 | 12 | 29 | 39 | 35 | 100 | 10.3 | 25.2 | 34.0 | 30.5 |
| 1914 | 177 | 12 | 36 | 59 | 70 | 100 | 6.8 | 20.1 | 33.4 | 39.7 |
| 1915 | 197 | 12 | 35 | 69 | 81 | 100 | 6.3 | 17.6 | 35.1 | 41.0 |
| 1916 | 175 | 14 | 41 | 88 | 32 | 100 | 8.1 | 23.3 | 50.3 | 18.3 |
| 1917 | 256 | 17 | 44 | 95 | 100 | 100 | 6.5 | 17.3 | 37.1 | 39.2 |
| 1918 | 295 | 15 | 49 | 103 | 128 | 100 | 5.0 | 16.7 | 34.8 | 43.5 |
| 1919 | 333 | 21 | 74 | 118 | 120 | 100 | 6.4 | 22.1 | 35.5 | 36.1 |
| 1920 | 370 | 16 | 63 | 140 | 151 | 100 | 4.4 | 17.1 | 37.7 | 40.8 |
| 1921 | 449 | 28 | 66 | 169 | 186 | 100 | 6.2 | 14.7 | 37.7 | 41.4 |
| 1922 | 537 | 23 | 78 | 211 | 225 | 100 | 4.4 | 14.5 | 39.3 | 41.9 |
| 1923 | 633 | (a) 34 | 88 | 246 | 266 | 100 | 5.3 | 13.9 | 38.9 | 42.0 |

(a) Includes $10,000, soldier compensation fund.

TABLE XIX.—Taxes levied on city real estate in the southwestern grazing region of Kansas, for the state government and for each subdivision of the state, 1910 to 1923.

| YEAR. | Amount in thousands. | | | | | Per cent of total. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | City (general). | City schools. | Total. | State government. | County. | City (general). | City schools. |
| 1910 | $71 | $5 | $17 | $30 | $19 | 100 | 6.9 | 24.0 | 42.0 | 27.0 |
| 1911 | 76 | 6 | 21 | 28 | 21 | 100 | 7.7 | 27.4 | 36.9 | 28.0 |
| 1912 | 80 | 7 | 20 | 30 | 24 | 100 | 8.9 | 24.4 | 37.1 | 29.6 |
| 1913 | 73 | 6 | 17 | 23 | 27 | 100 | 7.7 | 23.5 | 31.4 | 37.3 |
| 1914 | 91 | 6 | 22 | 35 | 28 | 100 | 6.6 | 23.9 | 38.5 | 31.1 |
| 1915 | 101 | 6 | 23 | 42 | 29 | 100 | 6.2 | 22.8 | 41.9 | 29.1 |
| 1916 | 103 | 7 | 26 | 48 | 22 | 100 | 7.1 | 25.2 | 46.1 | 21.6 |
| 1917 | 157 | 10 | 33 | 57 | 57 | 100 | 6.4 | 20.8 | 36.4 | 36.5 |
| 1918 | 171 | 8 | 34 | 64 | 64 | 100 | 4.7 | 19.8 | 37.8 | 37.7 |
| 1919 | 213 | 12 | 46 | 82 | 73 | 100 | 5.5 | 21.6 | 38.7 | 34.3 |
| 1920 | 270 | 10 | 45 | 97 | 118 | 100 | 3.6 | 16.6 | 36.1 | 43.7 |
| 1921 | 322 | 17 | 55 | 117 | 133 | 100 | 5.2 | 17.1 | 36.4 | 41.3 |
| 1922 | 389 | 14 | 59 | 136 | 180 | 100 | 3.7 | 15.1 | 35.0 | 46.2 |
| 1923 | 444 | (a) 21 | 59 | 154 | 210 | 100 | 4.7 | 13.3 | 34.7 | 47.3 |

(a) Includes $6,000, soldier compensation fund.

**Trends of Tax Levies in Dollars.**—Table XX shows total taxes on city real estate and levies for the state government, counties, cities, and city schools, by years from 1910 to 1923, expressed in per cent of the average of each levy for 1910 to 1914. Figure 17, which is based on Table XX, shows the trend of total taxes on city real estate and the trend of each levy. This figure also shows the trend of assessed valuation and of calculated selling value of all city real estate.

TABLE XX.—Taxes levied on all city real estate, in per cent of 1910 to 1914 average (*a*).

| YEAR OF LEVY. | Total. | State government. | County. | City (general.) | City schools. |
|---|---|---|---|---|---|
| 1910 | 84 | 87 | 83 | 83 | 83 |
| 1911 | 99 | 102 | 97 | 103 | 93 |
| 1912 | 99 | 103 | 101 | 98 | 99 |
| 1913 | 105 | 104 | 106 | 104 | 107 |
| 1914 | 113 | 104 | 112 | 111 | 118 |
| 1915 | 122 | 110 | 126 | 120 | 124 |
| 1916 | 117 | 121 | 133 | 125 | 101 |
| 1917 | 150 | 138 | 165 | 130 | 169 |
| 1918 | 153 | 117 | 170 | 119 | 194 |
| 1919 | 191 | 170 | 204 | 164 | 219 |
| 1920 | 223 | 136 | 196 | 185 | 297 |
| 1921 | 258 | 228 | 247 | 208 | 328 |
| 1922 | 266 | 179 | 241 | 221 | 348 |
| 1923 | 301 | 258 | 260 | 244 | 395 |

(*a*) Adapted from Table XIII.

The principal usefulness of figure 17 is that it shows the trend of each of the tax levies (state, county, city, and schools) in relation to each other and to the trend of the total levy. But these trends do not take into account either fluctuations in the value of money or changes in the assessed valuation and in selling value of city real estate.

**Taxes Relative to Value of Money.**—The probable trend of all taxes on city real estate, adjusted to changes in the value of money is shown in figure 18.[15] But this trend shows changes in the pur-

15. Value of money in terms of the all-commodity index. Index based on United States Bureau of Labor, Bulletin 173, page 137, and later reports, published in United States Department of Agriculture Bulletin 999, page 2.

chasing power of all revenue collected from city real estate only in so far as changes in the price of goods and services bought by state and local government in Kansas correspond to changes in the prices of the commodities that are the basis of the all-commodity index.

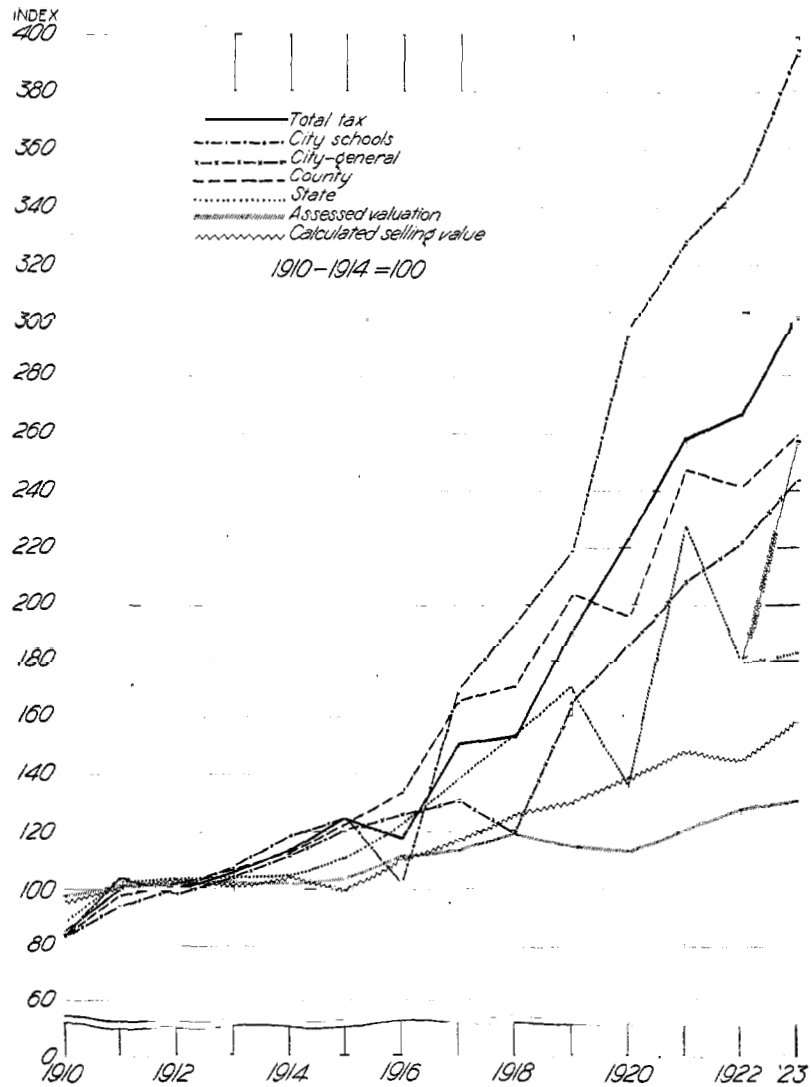


FIG. 17.—Trends of total taxes and of each levy on city real estate in Kansas, in per cent of the 1910 to 1914 average. This figure also shows the trend of assessed valuation and of selling value of all city real estate.

Figure 18 also shows the trend of all taxes on city real estate, adjusted to changes in assessed valuation and in calculated selling value of all city real estate in Kansas. The trend of total taxes in dollars levied on city real estate is included in figure 18 to facilitate direct comparison, although this trend is also shown in figure 17.

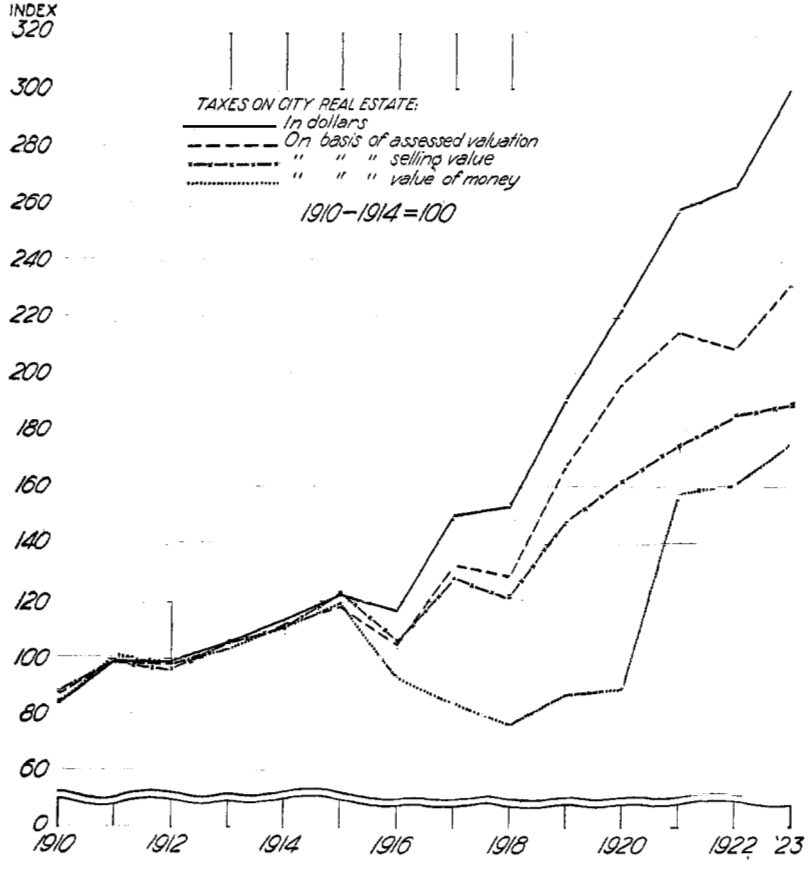


FIG. 18.—Total taxes on city real estate in Kansas in per cent of the 1910 to 1914 average. The trends are based on total dollars, on assessed valuation, on calculated selling value of city real estate, and on the all-commodity value of money.

### 2. TAXES COMPARED TO SELLING VALUE OF CITY REAL ESTATE

In order to show the trend of taxes in relation to selling value, it is necessary not only to ascertain the amount of the tax levy borne by city real estate but also to calculate the probable selling value of this property. The method used in determining the selling value of farm real estate was also used in evaluating city real estate. The

ratio of assessed valuation to selling value was determined for each year on the basis of a yearly average of 7,258 *bona fide* sales, representing an average annual transfer of 1.7 per cent of the assessed valuation of all city real estate in Kansas. The approximate selling value of city real estate in the state as a whole and in each section was calculated by means of this ratio. This method of calculation is described more fully in Part B of the Appendix, and the calculated selling value is shown in Table XLIII which accompanies the explanation of method.

**Ratio of Taxes to Selling Value of City Real Estate.—** Since "true value in money" is the basis of assessment and taxation in Kansas,[16] taxes in relation to selling value of property is the logical

TABLE XXI.—Taxes on city real estate in per cent of calculated selling value, 1910 to 1923.

| YEAR. | State average. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. |
|---|---|---|---|---|---|---|---|
| 1910 | 1.07 | 1.18 | 1.04 | 1.08 | 1.01 | 0.79 | 1.18 |
| 1911 | 1.19 | 1.24 | 1.39 | 1.24 | 1.05 | .78 | 1.23 |
| 1912 | 1.17 | 1.15 | 1.44 | 1.29 | 1.05 | .80 | (a) 87 |
| 1913 | 1.28 | 1.27 | 1.50 | 1.19 | 1.22 | .79 | 1.05 |
| 1914 | 1.34 | 1.34 | 1.46 | 1.37 | 1.28 | 1.12 | 1.46 |
| 1915 | 1.48 | 1.54 | 1.58 | 1.56 | 1.35 | 1.38 | 1.45 |
| 1916 | 1.30 | 1.34 | 1.51 | 1.21 | 1.20 | .97 | 1.30 |
| 1917 | 1.55 | 1.52 | 1.91 | 1.60 | 1.42 | 1.35 | 1.48 |
| 1918 | 1.49 | 1.30 | 1.88 | 1.75 | 1.44 | 1.30 | 1.38 |
| 1919 | 1.79 | 1.91 | 2.04 | 1.93 | 1.48 | 1.46 | 1.80 |
| 1920 | 1.95 | 2.05 | 2.25 | 2.07 | 1.65 | 1.41 | 2.00 |
| 1921 | 2.11 | 2.23 | 2.54 | 2.21 | 1.74 | 1.62 | 2.15 |
| 1922 | 2.23 | 2.29 | 2.49 | 2.38 | 1.92 | 1.93 | 2.87 |
| 1923 | 2.29 | 2.32 | 2.48 | 2.48 | 2.07 | 2.05 | 2.96 |

(a) See footnote (b) Table XLIII.

basis for showing the trend of taxes on city real estate. The probable selling value was calculated for each section and for the state as a whole on the basis of taxes allocated to city real estate as shown in Tables XIII to XIX, inclusive, and on calculated selling value shown in Table XLIII of the Appendix. These ratios of taxes to selling value are shown in Table XXI and in figure 19.

16. Section 79-501, Revised Statutes of 1923.

The trend of taxes in per cent of selling value of city real estate in the southwestern grazing region, as shown in figure 19, is possibly somewhat more irregular in 1912 than actual conditions would justify. Hence the break in 1912 in the curve for this section, in figure 19. This apparent irregularity is probably due to the fact that an exceptionally small body of data was available for this section in

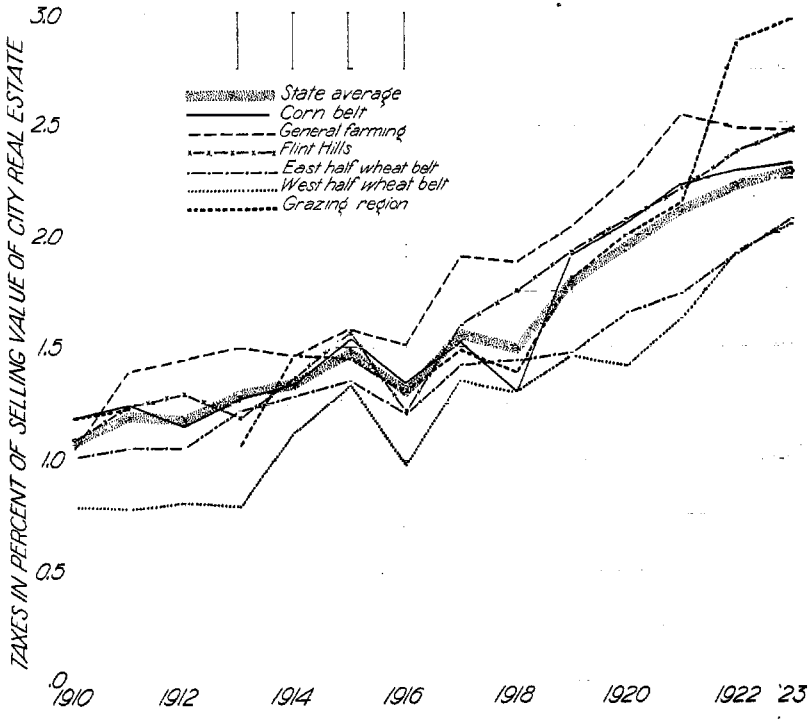


FIG. 19.—Taxes in per cent of selling value of all city real estate in the state as a whole and in each section, from 1910 to 1923.

1912 as a basis for calculating the probable selling value of city real estate.[17] But this possible discrepancy has no appreciable effect on the state average since the western grazing region includes a small part (1.4 per cent in 1912) of the total city real estate in Kansas, as shown in Table XLIV of the Appendix. The high ratios of taxes to selling value in this section of the state in 1922 and in 1923 is not due to a discrepancy in the data, but to increased city levies, as shown in Table XIX.

17. See Table XLII of the Appendix.

It will be noticed in figure 19 that the ratio of taxes to selling value of city real estate dropped from 1.48 per cent in 1915 to 1.30 per cent in 1916. This marked deviation from the general upward trend is due to two causes. In the first place, there was a decrease of $287,000 in the total tax levy on city real estate from 1915 to 1916, due chiefly to a reduction in the levy for city schools, as shown in Table XIII. Tables XIV to XIX, which give the tax levies in the various sections, show a general reduction in school levies throughout the state in 1916. The second cause for a lower tax ratio in 1916 is found in an increase in the selling value of city real estate in that year, as the calculated selling value increased 58 million dollars from 1915 to 1916, as shown in Table XLIII of the Appendix.

The sharp advance in the ratio of taxes to selling value in 1917 was due to an increase of $2,282,000 in total levies (Table XIII), without a corresponding increase in selling value of real estate. The decrease in the tax ratio from 1917 to 1918 was due to an increase of 6.2 per cent in the selling value, while the tax levies advanced only 2.2 per cent. After 1918, the increase in tax levies was sufficiently greater than the increase in selling value to result in a uniformly advancing ratio of taxes to selling value of city real estate. It will be noticed that the increase took place at a diminishing rate after 1918.

It would perhaps be an aid to a better understanding of the average trend shown in figure 19, if the state levy and the local levies were shown separately in relation to selling value, hence Table XXII, which shows each tax levy per $1,000 of selling value of city real estate.

Figure 20, like figure 17, shows the trend of each levy in comparison to the others and to the trend of the total of all levies, The difference between these illustrations is that figure 20 shows the trends in relation to calculated selling value, while figure 17 shows them only in terms of dollars of taxes, irrespective of changes in the value of property.

### 3. REASONS FOR THE INCREASE IN TAXES ON CITY REAL ESTATE

Reasons for the increase in taxes on city real estate may be shown in two ways: First, by indicating to what extent levies for the state government and for each subdivision of the state have contributed to the increase in taxes; and second, by showing to what extent each public purpose, irrespective of political units, has added to the increase in tax levies on city real estate.

TABLE XXII.—Taxes per $1,000 of calculated selling value of city real estate in Kansas, for the state and subdivisions, 1910 to 1923.

| YEAR OF TAX LEVY. | Amount in dollars. | | | | | Per cent of 1910 to 1914 average. | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | State government. | County. | City, except schools. | City schools. | Total. | State government. | County. | City, except schools. | City schools. |
| 1910 | $10.67 | $0.82 | $1.66 | $4.39 | $3.81 | 88 | 92 | 88 | 89 | 88 |
| 1911 | 11.93 | .91 | 1.84 | 5.15 | 4.03 | 99 | 102 | 97 | 105 | 93 |
| 1912 | 11.66 | .89 | 1.86 | 4.74 | 4.17 | 96 | 100 | 98 | 96 | 97 |
| 1913 | 12.76 | .93 | 2.01 | 5.21 | 4.61 | 106 | 104 | 106 | 106 | 107 |
| 1914 | 13.43 | .91 | 2.09 | 5.43 | 5.00 | 111 | 102 | 111 | 110 | 116 |
| 1915 | 14.78 | .99 | 2.39 | 6.00 | 5.40 | 122 | 111 | 126 | 122 | 125 |
| 1916 | 12.97 | .99 | 2.29 | 5.71 | 3.98 | 107 | 111 | 121 | 116 | 92 |
| 1917 | 15.47 | 1.05 | 2.66 | 5.53 | 6.23 | 128 | 118 | 141 | 112 | 144 |
| 1918 | 14.88 | .84 | 2.57 | 4.74 | 6.73 | 123 | 94 | 136 | 96 | 156 |
| 1919 | 17.91 | 1.18 | 3.00 | 6.36 | 7.37 | 148 | 133 | 159 | 129 | 171 |
| 1920 | 19.51 | .88 | 2.68 | 6.67 | 9.28 | 161 | 99 | 142 | 136 | 215 |
| 1921 | 21.10 | 1.38 | 3.16 | 6.98 | 9.58 | 175 | 155 | 167 | 142 | 222 |
| 1922 | 22.34 | 1.11 | 3.16 | 7.62 | 10.45 | 185 | 125 | 167 | 155 | 242 |
| 1923 | 22.94 | (a) 1.45 | 3.09 | 7.65 | 10.75 | 190 | (a) 163 | 163 | 155 | 249 |

(a) These figures include taxes levied for the soldier compensation fund. Of the $1.45 of state levy on each $1,000 of selling value of city real estate, $0.42 is for the compensation fund and $1.03 for the state government and state institutions. The state levy in 1923, exclusive of the compensation fund is 116 per cent of the 1910 to 1914 average, and the levy for the compensation fund is 47 per cent of that average.

**Levies for State Government and Subdivisions.**—Figure 21, adapted from Table XIII, shows the tax levy on city real estate for the state government, counties, cities, and city schools, from 1910 to 1923, in millions of dollars. Figure 22 shows the same levies in per cent of the total of all levies on city real estate.

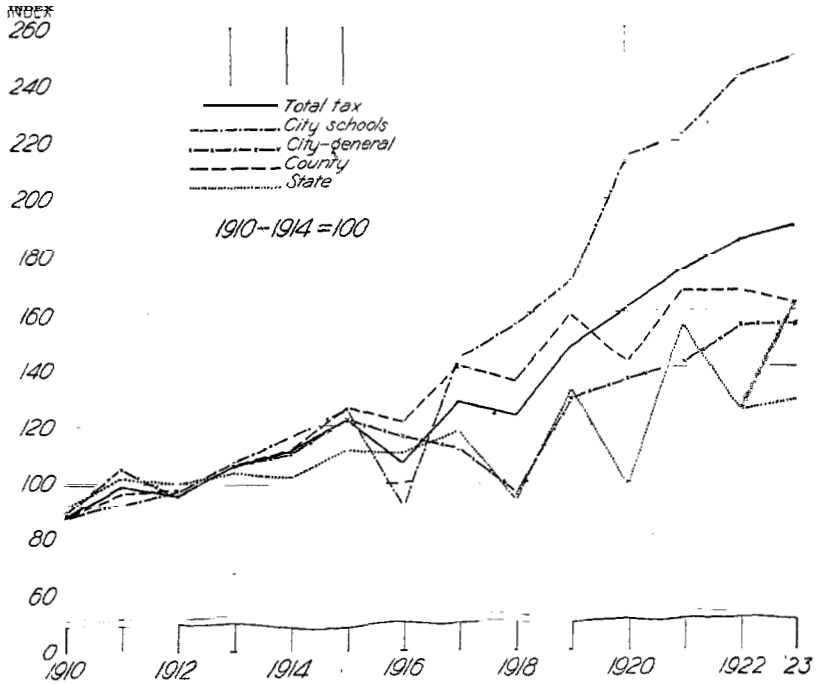


FIG. 20.—The trend of each tax levy relative to selling value of city real estate, with the average ratio of each levy to selling value from 1910 to 1914 as 100.

Figures 21 and 22 show that increased expenditures for city schools are the principal cause for the rising tax burden on city real estate. City schools not only required 46.9 per cent of the total tax levy on city real estate in 1923, but the rate of increase in school levies from 1910 to 1923 was greater than in the case of any other levy, as shown in figures 17 and 20. Next to the school levy, county taxes showed the greatest rate of increase; but general city taxes are a larger share of the total levy than county taxes.

It will be noted in figures 17 and 20 that the rate of increase in the state levy on city real estate was less than in any other levy.

Figures 21 and 22 show that the state tax is a relatively small and a proportionately decreasing part of the total. These data serve to emphasize the fact that causes for the increase in taxes on city real estate lie in the rapidly advancing expenditures within the cities themselves, and not in increased cost of the state government.

In considering the increase in the state levy, it should be noted that the levy for the soldier compensation fund, amounting to $368,000 on city real estate in 1923, is included in the "state levy"

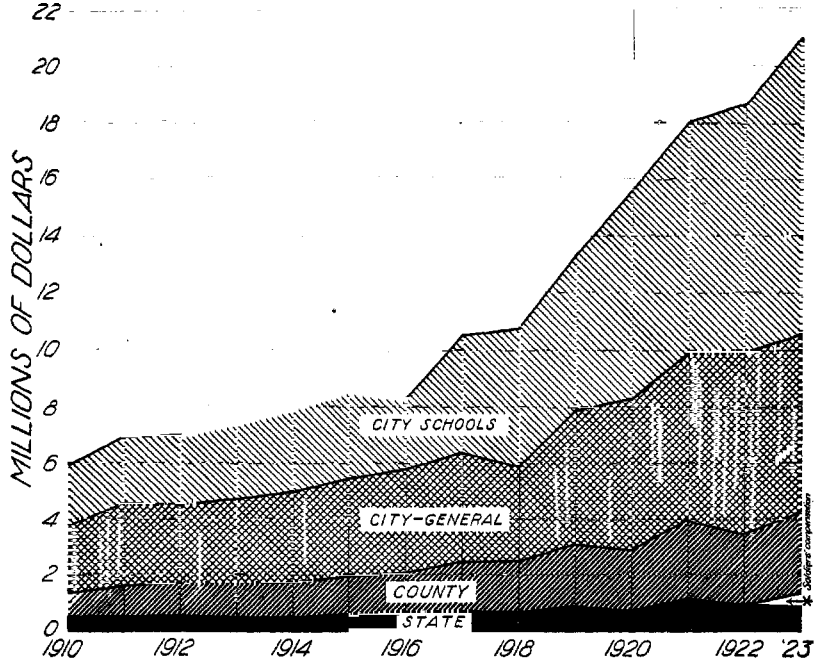


FIG. 21.—Taxes levied on city real estate for the state and for each political subdivision, in millions of dollars.

for that year. The 1923 levy for the compensation fund is 76 per cent of the average state levy from 1910 to 1914.

**Levies for Various Public Purposes.**—It was necessary to divide the levies for the state and for each subdivision into their component parts before it could be shown to what extent each public purpose (administration, education, etc.) was responsible for the increase in taxes on city real estate. The method used in dividing each levy, according to the purposes for which the revenue was used, is the same as in the case of farm real estate, and is explained

in detail in Part B of the Appendix. Data necessary to a division of each tax levy are not available in sufficient detail prior to 1916. Consequently, this division is made only for the period 1916 to 1923. The various levies were divided according to the following purposes: Administration or general revenue; education; roads and bridges, streets and alleys; interest[18]; sinking funds and miscellaneous. Taxes levied on city real estate for each public purpose by years from 1916 to 1923 are shown in Table XXIII.

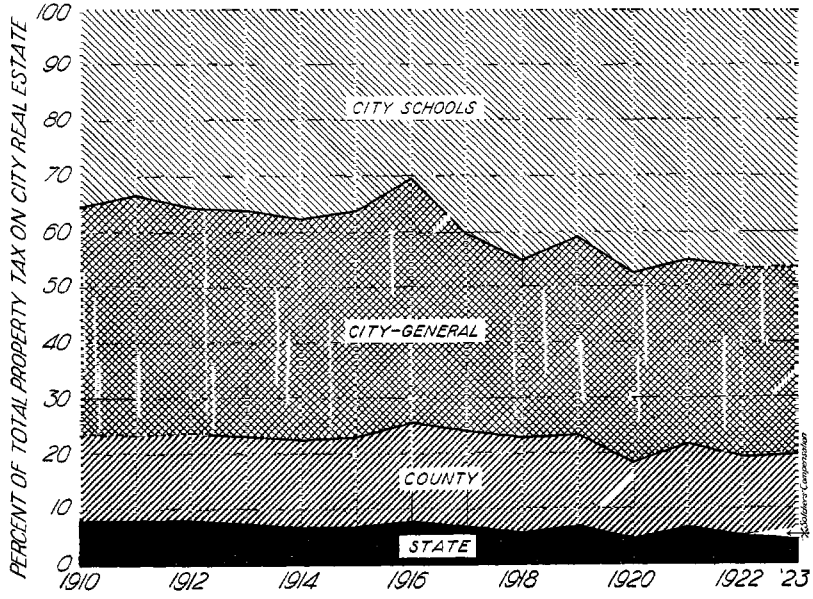


FIG. 22.—Taxes levied on city real estate in per cent of the total of all levies.

The tax levy on city real estate for each specified purpose is shown in figure 23, in millions of dollars, and in figure 24, in per cent of the total levy.

It is again emphasized, in Table XXIII, and in figures 23 and 24, that the increase in taxes on city real estate is due principally to increased expenditures for education, as the portion of the total city real-estate levy expended for education increased from 35.9 per cent in 1916 to 51.0 per cent in 1923.

18. Interest on school bonds is included with other levies for education.

TABLE XXIII.—Taxes levied on city real estate for various public purposes in Kansas, 1916 to 1923.

| YEAR. | Amount in thousands. | | | | | | | Per cent of total. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total. | Administration. | Education. | Roads, bridges, streets, alleys. | Interest. | Sinking fund. | Miscellaneous. | Total. | Administration. | Education. | Roads, bridges, streets, alleys. | Interest. | Sinking fund. | Miscellaneous. |
| 1916 | $8,214 | $2,190 | $2,951 | $868 | $781 | $671 | $753 | 100 | 26.7 | 35.9 | 10.6 | 9.5 | 8.2 | 9.1 |
| 1917 | 10,497 | 2,263 | 4,702 | 970 | 690 | 807 | 1,065 | 100 | 21.5 | 44.8 | 9.2 | 6.6 | 7.7 | 10.2 |
| 1918 | 10,731 | 2,126 | 5,289 | 1,021 | 715 | 651 | 929 | 100 | 19.8 | 49.3 | 9.5 | 6.7 | 6.1 | 8.6 |
| 1919 | 13,323 | 2,772 | 6,078 | 1,433 | 796 | 602 | 1,552 | 100 | 20.8 | 45.6 | 10.7 | 6.0 | 5.2 | 11.7 |
| 1920 | 15,618 | 2,817 | 7,934 | 1,507 | 792 | 888 | 1,680 | 100 | 18.0 | 50.8 | 9.7 | 5.1 | 5.7 | 10.7 |
| 1921 | 18,072 | 2,640 | 9,035 | 1,787 | 941 | 1,151 | 2,518 | 100 | 14.6 | 50.0 | 9.9 | 5.2 | 6.4 | 13.9 |
| 1922 | 18,622 | 2,606 | 9,549 | 1,662 | 1,072 | 1,208 | 2,525 | 100 | 14.0 | 51.3 | 8.9 | 5.8 | 6.5 | 13.5 |
| 1923 | 21,068 | 2,685 | 10,755 | 1,802 | 1,288 | 1,383 | 3,155 | 100 | 12.7 | 51.0 | 8.6 | 6.1 | 6.6 | 15.0 |

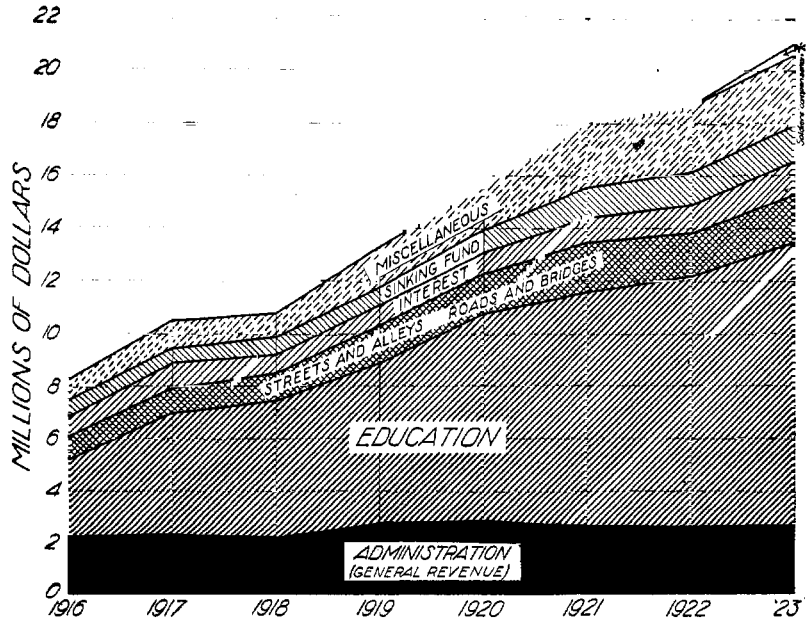


FIG. 23.—Taxes levied on all city real estate in Kansas for each specified public purpose from 1916 to 1923, in millions of dollars.

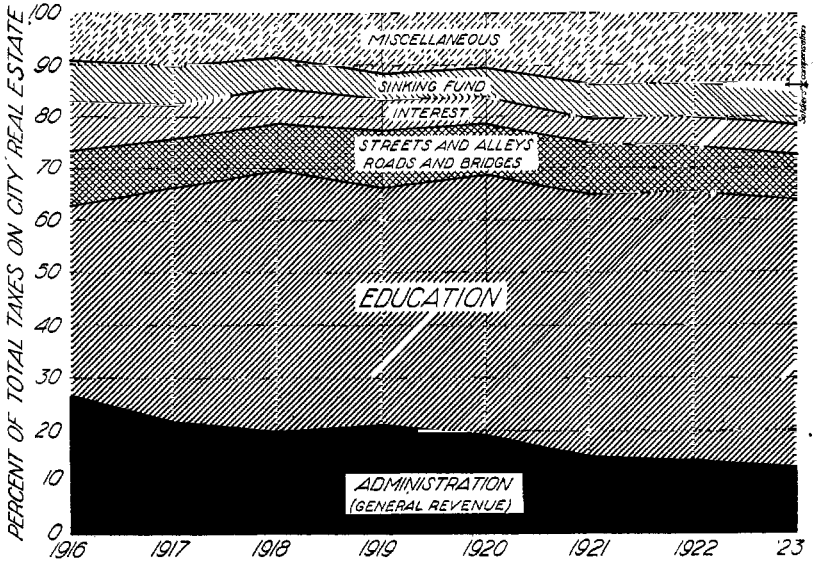


FIG. 24.—Taxes levied on all city real estate in Kansas for each specified public purpose in per cent of the total levy.

## IV. FARM AND CITY REAL ESTATE COMPARED

The ratio of taxes to selling value of city real estate was more than twice as high as in the case of farm real estate from 1910 to 1923. Moreover, the rate of increase in this ratio was greater in city real estate than in farm real estate, as shown in figure 25.

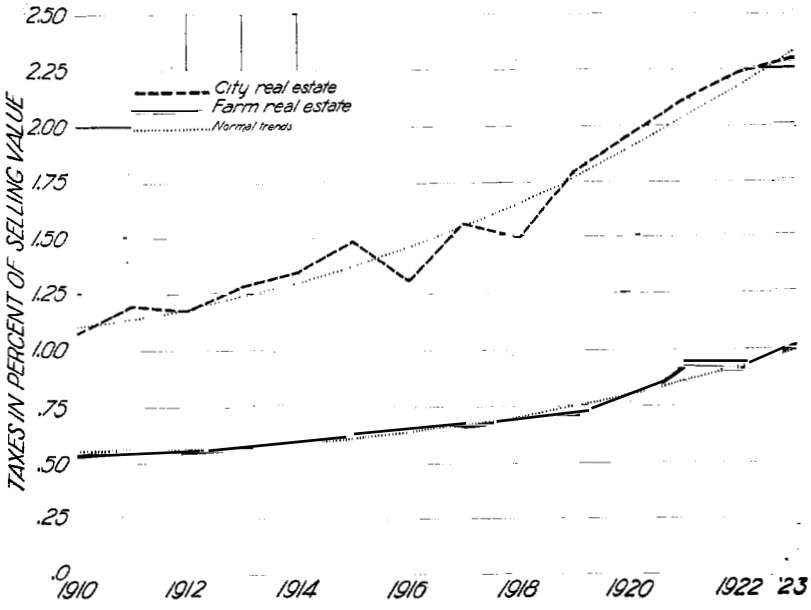


FIG. 25—Taxes on farm and on city real estate, in per cent of selling value, by years from 1910 to 1923.

### 1. COMPARISON AND SUMMARY OF REASONS FOR INCREASE IN TAXES ON FARM AND CITY REAL ESTATE

Reasons for the increase in taxes on both farm and city real estate may be summarized under the following heads:

1. The increase in the state levy and in the levy for each political subdivision (county, township, etc.) from 1910-1914 to 1919-1923 in per cent of the total increase in taxes on each class of real estate in this period, irrespective of changes in the value of real estate, and relative to selling value of real estate.

2. The increase in expenditures for each public purpose from 1916-1918 to 1921-1923 in per cent of the total increase in taxes on each class of real estate in this period, irrespective of changes in the value of real estate, and relative to selling value of real estate.

### 1. Increase in State and Local Levies.

**Increase Irrespective of Selling Value.**—Table XXIV shows the average annual levy on farm real estate from 1910 to 1914 compared with the average levy for 1919 to 1923. It also shows the average levies for the state and for each subdivision for these periods, and the increase in each average levy. This table also shows the increase in each levy in per cent of the total increase. The average annual tax on all farm real estate in Kansas from 1919 to 1923 was $13,222,000 greater than the average from 1910 to 1914. Of this increase the state government and state institutions, and the soldiers' compensation fund in 1923, were responsible for only 12.9 per cent. Local government was responsible for 87.1 per cent, subdivided as follows: Counties, 35.9 per cent; townships, 13.4 per cent; school districts, 37.2 per cent; and drainage, 0.6 per cent,

The average annual levy on city real estate from 1919 to 1923 was $10,347,000 greater than from 1910 to 1914. Local expenditures were responsible for 95.3 per cent of the total increase, in the following proportions: Counties, 13.7 per cent; general city revenue, 29.0 per cent and city schools, 52.6 per cent; while state levies were responsible for only 4.7 per cent. The fact that the state levies were responsible for only 4.7 per cent of the increase in taxes on city real estate in this period, compared to 12.9 per cent of the total increase on farm real estate, does not mean that state taxes fall more heavily on farm real estate. It merely means that the increase in taxes within cities was so great as to make the increase in the state levy appear small in comparison to the increase in local levies.

**Increase in State and Local Levies Relative to Selling Value.**—The increase in taxes per $1,000 of selling value of farm and city real estate from 1910-1914 to 1921-1923 and the extent to which the state and each subdivision is responsible for this increase are shown in Table XXV and in figure 26.

The average state levy per $1,000 selling value of farm real estate increased $0.35 from 1910-1914 to 1919-1923. The corresponding increase on city real estate was $0.32. Although the difference between these figures is small, the question might be raised: Why was the increase on city real estate less when the state tax was levied at a uniform rate each year? The answer is found in the difference between the rates of decline in the ratios of assessed valuation to selling value of the two classes of real estate, as shown in Tables XXVIII and XLI of the Appendix.

TABLE XXIV.—Taxes levied on farm and city real estate for the state government and subdivisions from 1910 to 1914 compared with average levy from 1919 to 1923.

| LEVIES. | Farm real estate. | | | | City real estate. | | | |
|---|---|---|---|---|---|---|---|---|
| | Average levy, 1910 to 1914. | Average levy, 1919 to 1923. | Increase. | Per cent of total increase. | Average levy, 1910 to 1914. | Average levy, 1919 to 1923. | Increase. | Per cent of total increase. |
| | *Thousands.* | *Thousands.* | *Thousands.* | | *Thousands.* | *Thousands.* | *Thousands.* | |
| Total | $10,893 | $24,116 | $13,222 | 100 | $6,993 | $17,340 | $10,347 | 100 |
| State government | 1,602 | (a) 3,303 | 1,701 | 12.9 | 516 | (a) 1,002 | 486 | 4.7 |
| County | 3,218 | 7,965 | 4,747 | 35.9 | 1,094 | 2,511 | 1,417 | 13.7 |
| Township | 2,317 | 4,086 | 1,769 | 13.4 | ..... | ..... | ..... | ..... |
| City, general | ..... | ..... | ..... | ..... | 2,882 | 5,886 | 3,004 | 29.0 |
| School districts | 3,672 | 8,597 | 4,926 | 37.2 | ..... | ..... | ..... | ..... |
| City schools | ..... | ..... | ..... | ..... | 2,501 | 7,941 | 5,440 | 52.6 |
| Drainage | 85 | 165 | 80 | 0.6 | ..... | ..... | ..... | ..... |

(a) Includes levy for soldiers' compensation fund in 1923. Amounts of this levy: Farm real estate, $1,172,000; city real estate, $386,000.

TABLE XXV.—Taxes levied on farm and city real estate per $1,000 selling value from 1910 to 1914 compared with average levy from 1919 to 1923 (*a*).

| STATE AND SUBDIVISIONS. | Farm real estate. | | | | City real estate. | | | |
|---|---|---|---|---|---|---|---|---|
| | Average levy, 1910 to 1914. | Average levy, 1919 to 1923. | Increase. | Per cent of total increase. | Average levy, 1910 to 1914. | Average levy, 1919 to 1923. | Increase. | Per cent of total increase. |
| Total | $5.56 | $8.52 | $2.96 | 100 | $12.11 | $20.87 | $8.76 | 100 |
| State government | .82 | (*b*) 1.17 | .35 | 11.8 | .89 | (*b*) 1.21 | .32 | 3.6 |
| County | 1.64 | 2.81 | 1.17 | 39.6 | 1.89 | 3.02 | 1.13 | 12.9 |
| Township | 1.18 | 1.44 | .26 | 8.8 | ..... | ..... | ..... | ..... |
| City, general | ..... | ..... | ..... | ..... | 4.99 | 7.08 | 2.09 | 23.8 |
| School districts | 1.88 | 3.04 | 1.16 | 39.3 | ..... | ..... | ..... | ..... |
| City schools | ..... | ..... | ..... | ..... | 4.33 | 9.56 | 5.23 | 59.7 |
| Drainage | .04 | .06 | .02 | .5 | ..... | ..... | ..... | ..... |

(*a*) Calculated selling value of real estate: Average for 1910 to 1914—farm real estate, 1,958 million; city real estate, 578 million. Average for 1919 to 1923—farm real estate, 2,830 million; city real estate, 831 million.

(*b*) Includes levy for soldiers' compensation fund in 1923. Amounts of this levy: Farm real estate, $1,172,000; city real estate, $386,000.

The following are the arithmetic averages of the rates of assessment shown in these tables:

| | *Five-year average, 1910-1914* | *Five-year average, 1919-1923* | *Fourteen-year average, 1910-1923* |
|---|---|---|---|
| Farm real estate ..... | 69.6 per cent | 62.2 per cent | 66.4 per cent |
| City real estate ..... | 76.0 per cent | 63.9 per cent | 71.5 per cent |

Since the tax rate within each taxing district is uniform on *assessed valuation* and not on selling value, it follows that a change in the rate of assessment must necessarily result in a change in the ratio of taxes to selling value of the property taxed. The above average rates of assessment show that the ratio of assessed valuation

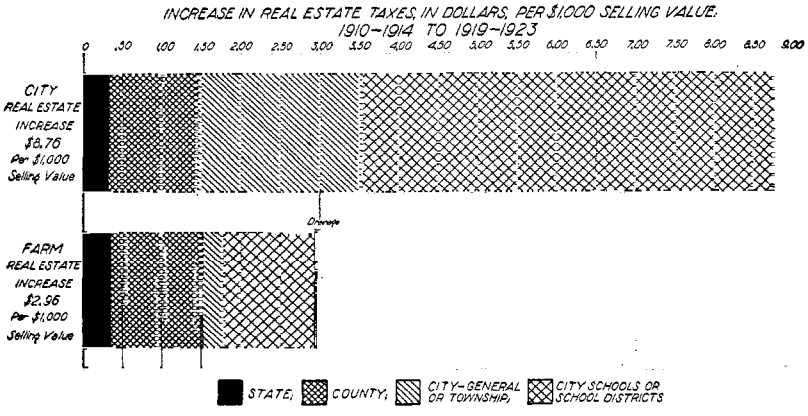


FIG. 26.—Increase in taxes per $1,000 selling value of farm and city real estate in Kansas from 1910-1914 to 1919-1923, for the state and for its subdivisions.

to selling value of both classes of real estate declined from 1910-1914 to 1919-1923, and that the decline was greater in the case of city real estate. This is the reason for a somewhat greater increase in the ratio of the state tax to selling value of farm real estate.

A comparison of Tables XI and XXII shows that the ratio of the *state tax* to selling value was consistently higher on city real estate than on farm real estate throughout the period under study. The arithmetic averages of these ratios for the fourteen years were $0.96 per $1,000 of selling value of farm real estate and $1.02 per $1,000 for city real estate. This is due to a consistently higher rate of assessment of city real estate. As shown above, the arithmetic averages of the fourteen assessment ratios, given in Tables XXVIII and XLI of the Appendix were 66.4 per cent for farm real estate and 71.5 per cent for city real estate.

### 2. Increase in Expenditures for Public Purposes

**Increase Irrespective of Selling Value.**—Table XXVI shows that the average annual tax levy on farm real estate increased $10,808,000 from 1916-1918 to 1921-1923, and that the corresponding increase on city real estate was $9,440,000. This table also shows to what extent each public purpose was responsible for this increase.[19] It will be seen that increased expenditures for education were responsible for 55.5 per cent, and roads and bridges for 22.7 per cent of the total increase on farm real estate. Increases in educational levies were responsible for 57.9 per cent of the total increase on city real estate. It is also important to note that increases in expenditures for administration (general revenue) were only 3.7 per cent of the total increase on farm real estate and 4.8 per cent in the case of city real estate.

**Increased Levies for Public Purposes, Relative to Selling Value.**—When the increased expenditures for various public purposes, already shown in Table XXVI, are expressed on the basis of selling value of real estate, it becomes apparent that the expenditures for administration, or general revenue, were a *decreasing* burden on the selling value of both farm and city real estate from 1916 to 1923. This *decrease,* as shown in Table XXVII, was 6.2 per cent of the total *increase* of all levies on farm real estate. The corresponding *decrease* in taxes, for administrative purposes, on the selling value of city real estate was 2.6 per cent. Education was responsible for 63.9 per cent of the total increase in taxes per $1,000 selling value of farm real estate, and for 63.7 per cent of the total increase per $1,000 selling value of city real estate. It is mainly a coincidence that the relative amounts which education contributed to the increase in taxes on both classes of real estate from 1916-1918 to 1921-1923 are almost identical. The greater impetus to higher levies for city schools came somewhat earlier than the movement to increase expenditures for rural schools. (See figures 13 and 21.) Furthermore, it is probable that changes in selling value of the two classes of city real estate were such as to make the increase in educational levies almost the same per cent of the total increase per $1,000 selling value of the two classes of real estate.

Figure 27, which is based on Table XXVII, shows the increase in real-estate taxes per $1,000 selling value, on account of expenditures for each specified public purpose, from 1916-1918 to 1921-1923.

19. See section B of the Appendix for an explanation of the method of dividing the various tax levies according to public purposes.

TABLE XXVI.—Taxes levied on farm and city real estate for various public purposes from 1916 to 1918 compared with average levy from 1921 to 1923.

| PUBLIC PURPOSE. | Farm real estate. | | | | City real estate. | | | |
|---|---|---|---|---|---|---|---|---|
| | Average levy, 1916 to 1918. | Average levy, 1921 to 1923. | Increase. | Per cent of total increase. | Average levy, 1916 to 1918. | Average levy, 1921 to 1923. | Increase. | Per cent of total increase. |
| | *Thousands.* | *Thousands.* | *Thousands.* | | *Thousands.* | *Thousands.* | *Thousands.* | |
| Total | $15,032 | $25,840 | $10,808 | 100 | $9,814 | $19,254 | $9,440 | 100 |
| Administration | 3,378 | 3,781 | 403 | 3.7 | 2,193 | 2,644 | 450 | 4.8 |
| Education | 6,231 | 12,223 | 5,992 | 55.5 | 4,314 | 9,779 | 5,466 | 57.9 |
| Roads and bridges (*b*) | 3,738 | 6,191 | 2,454 | 22.7 | 953 | 1,750 | 797 | 8.4 |
| Interest | 301 | 491 | 189 | 1.7 | 729 | 1,100 | 372 | 3.9 |
| Sinking fund | 441 | 591 | 149 | 1.4 | 710 | 1,247 | 538 | 5.7 |
| Drainage | 132 | 169 | 37 | 0.3 | ..... | ..... | ..... | ..... |
| Miscellaneous | 811 | (*a*) 2,395 | 1,584 | 14.7 | 916 | (*a*) 2,733 | 1,817 | 19.3 |

(*a*) Includes levy for soldiers' compensation fund in 1923. Amounts of this levy: Farm real estate, $1,172,000; city real estate, $386,000.
(*b*) Includes streets and alleys in the city levy.

TABLE XXVII.—Taxes levied on farm and city real estate per $1,000 selling value from 1916 to 1918 compared with average levy from 1921 to 1923 (*a*).

| PUBLIC PURPOSE. | Farm real estate. | | | | City real estate. | | | |
|---|---|---|---|---|---|---|---|---|
| | Average levy, 1916 to 1918. | Average levy, 1921 to 1923. | Increase. | Per cent of total increase. | Average levy, 1916 to 1918. | Average levy, 1921 to 1923. | Increase. | Per cent of total increase. |
| Total | $6.84 | $9.42 | $2.58 | 100 | $14.48 | $22.14 | $7.66 | 100 |
| Administration (general revenue) | 1.54 | 1.38 | (*b*)— .16 | —6.2 | 3.23 | 3.04 | (*b*) —.19 | —2.6 |
| Education | 2.83 | 4.48 | 1.65 | 63.9 | 6.37 | 11.25 | 4.88 | 63.7 |
| Roads and bridges (*c*) | 1.70 | 2.25 | .55 | 21.3 | 1.40 | 2.01 | .61 | 8.0 |
| Interest | .14 | .17 | .03 | 1.2 | 1.08 | 1.27 | .19 | 2.5 |
| Sinking fund | .20 | .21 | .01 | .4 | 1.05 | 1.43 | .38 | 5.0 |
| Drainage | .06 | .06 | 0 | 0 | ..... | ..... | ..... | ..... |
| Miscellaneous | .37 | (*d*) .87 | .50 | 19.4 | 1.35 | (*d*) 3.14 | 1.79 | 23.4 |

(*a*) Calculated selling value of real estate: Average for 1916 to 1918—farm real estate, 2,198 million; city real estate, 678 million. Average for 1921 to 1923—farm real estate, 2,747 million; city real estate, 870 million.

(*b*) The decrease in levies for administration or general revenue per $1,000 of selling value, is due to the fact that the rate of increase in selling value of real estate was greater than the rate of increase in these levies.

(*c*) Also includes streets and alleys, in the city levy.

(*d*) Includes levy for soldiers' compensation fund in 1923. Amounts of this levy: Farm real estate, $1,173,000; city real estate, $386,000.

A superficial comparison of Tables XXVI and XXVII might lead to a question regarding the reasons for the differences in these tables, in the proportions which the increase in taxes for each public purpose bears to the total increase on each class of real estate. For example, the increase in levies for purposes of administration or general revenue was 3.7 per cent of the total increase on farm real estate as shown in Table XXVI, while the *decrease* in these levies was 6.2 per cent of the total increase in all levies per $1,000 of selling value, as shown in Table XXVII. Other ratios in

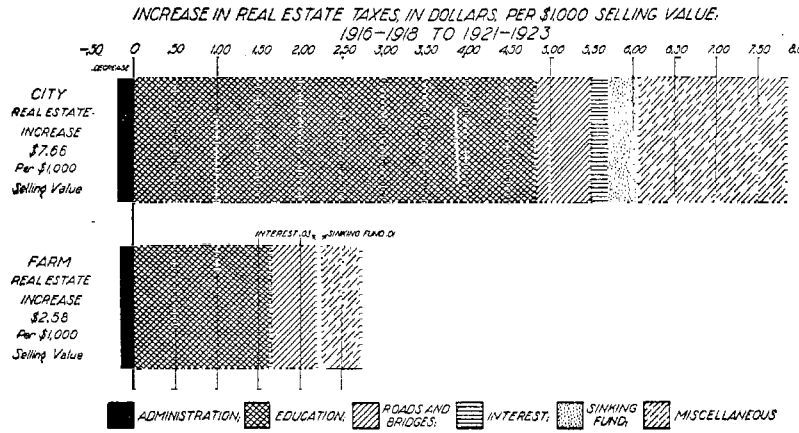


FIG. 27.—Increase in taxes per $1,000 selling value of real estate, for specified public purposes, from 1916-1918 to 1921-1923. Note the decrease in the cost of general administration per $1,000 of selling value, and the increase in the expenditures for specified service functions, especially for education.

both farm and city real estate show similar though not such extensive differences. These apparent differences in the two tables are due to the fact that Table XXVI gives total levies irrespective of changes in the value of property, while Table XXVII shows levies in relation to selling value. When the rate of increase in the selling value of a class of property is greater than the rate of increase in a tax levy on that property, the differences in these rates will result in a decrease in that tax levy when expressed in terms of the selling value of the property. In proportion as the rate of increase in a tax levy approaches the rate of increase in the selling value of the property taxed, the increase in that levy approaches zero when expressed in terms of the selling value.

### 2. MITIGATING FACTORS IN HIGH LEVIES ON CITY REAL ESTATE

The ratio of taxes to selling value was more than twice as great in city real estate as in farm real estate, and the rate of increase in the former ratio was greater than in the latter, from 1910 to 1923, as shown in figure 25 and elsewhere in this report. On the basis of these facts alone it might seem that city real estate is at a serious disadvantage compared to farm real estate, and that the owner of city property would therefore have just grounds for complaint. But these apparent differences between farm and city real estate are minimized by the following factors: (1) Greater shiftability of the tax on city real estate; (2) services rendered by municipal governments and the probable effect of these services on rents and real-estate values; and (3) the probability that the owner of city real estate has more taxable capacity than the farmer, in addition to that which is represented by the ownership of real estate. Each of these factors will be considered separately.

**1. Greater Shiftability of the Tax on City Real Estate.—** Taxes on farm real estate are not shifted to the buyers of farm products to any appreciable extent, if at all, but are borne by the land owner. Taxes levied on city real estate are shifted, in an important measure, by the real estate owner to other persons through his economic relation with them.[20]

*Price of Farm Products Not Advanced by State and Local Taxes.* —Taxes can be shifted only through the medium of price in an economic relationship between the person from whom the tax is collected and other persons. Therefore, taxes levied on farm real estate could not possibly be shifted to the consumers of farm products except through an increase in the price of those products. Such an advance in the price of farm products could not take place unless there should be a sufficient diminution in the quantity of these products to affect their market price. But the prices of farm products in Kansas, and throughout the United States, are determined mainly by forces that are national and even world-wide in their influence. It has been demonstrated abundantly in the past several years that an increased tax burden on farm real estate has not resulted in an advance in farm prices. These prices in

20. See Professor Edwin R. A. Seligman, *The Shifting and the Incidence of Taxation* (fourth edition), Part II, Chapters II and III. "Our conclusion, hence, is that under actual conditions in America to-day the landowner may virtually be declared to pay in last instance the taxes that are imposed on his land. At all events, it is erroneous to assume any general shifting to the consumer. To the extent that our land tax is a part of a general property tax, it cannot possibly be shifted; to the extent that it is more or less an exclusive tax, it is even then apt to remain where it is first imposed—namely, on the landowner." *Ibid.*, p. 271.

Kansas have increased or declined according to world conditions of competition and demand for grain and live-stock products, and not according to the trend of state and local taxes.

Rising real-estate taxes may have a tendency to increase rather than to diminish the quantity of farm products offered in the market, because of the probable effect of these taxes on land utilization. An increase in the land tax has been heralded as a blessing by certain types of "economic reformers," because it would force "idle" land into use. As a program of economic reform, this doctrine has apparently lost an important portion of what little following it had among farmers, because of a relative overproduction and the resulting low farm prices since 1920. If higher taxes would force "unused" land into use, it should be equally true that such taxes would spur owners of land already in use to put it to a higher use, if to do so would hold any promise of greater income. For example, pasture land might be broken up and seeded to wheat, and thus increase the quantity of wheat offered in the market. Be this as it may, the primary fact is that prices of farm products are established by competitive conditions that are national and often world-wide in scope, while land taxes are far from uniform throughout the national or world-wide areas over which price-determining forces exercise their influence. Therefore, farm real estate taxes in Kansas cannot be shifted by the land owner to other persons, because these taxes are powerless to increase the market price of Kansas farm products.

*Shiftability of City Real Estate Tax Depends on the Effect of the Tax on Improvements.*—The tax on city real estate presents a different and perhaps a more complex problem. The value of city lots, like that of farm land, is determined by net income. More specifically, the value of land equals the present value of all anticipated incomes. Other things being equal, net income from farm land depends upon the price of farm products, which, as mentioned above, is in turn dependent upon national and world conditions of competition and demand. The income from city lots depends upon location which is generally determined by factors that are far more local in character than the factors influencing farm prices. It is often true that the location value of lots in one section of a city remains stationary or declines while lots in another section of the city are gaining in desirability, because of a gradual shifting of residential and business districts. But the value of lots generally advances in cities with a growing and not merely a shifting popu-

lation. Factors influencing the location value of lots, and hence their rental value, are unaffected by taxation.[21] Hence the tax on the lot itself must necessarily be borne by the owner.[22]

A different problem is presented by the tax on city improvements, which constitute about 64 per cent of the combined valuation of lots and improvements in Kansas. Taxes are levied on both alike. The following figures show the ratios of the assessed valuation of lots and of improvements to the assessed valuation of both:[23]

| | Per cent of total | | | |
|---|---|---|---|---|
| | 1923 | 1922 | 1921 | 1920 |
| All lots alone | 35.7 | 36.1 | 37.6 | 36.6 |
| All improvements | 64.3 | 63.9 | 62.4 | 63.4 |

In contrast to these figures, the assessed valuation of improvements in farm real estate is less than 8 per cent of the combined valuation of land and improvements. This is shown in detail in Table XLVI of the Appendix. This relatively small valuation of improvements in farm real estate, together with the extent and complexity of forces that determine farm prices, preclude any practical possibility of a shifting of the tax on farm improvements to the consumers of farm products.

Improvements are a capital investment. An increasing tax rate on city real estate makes investment in city improvements less attractive. This will be reflected in a scarcity of housing accommodations in growing communities which will in turn cause rents to rise to a point where capital will be attracted into improvements notwithstanding the high tax. Thus the taxes on city improvements are in a considerable measure shifted by the owner to other persons through the medium of higher rents.[24] Consequently the

21. Exception might well be taken to this statement when considering the desirability of city lots as a whole. Revenue used to provide improvements and services in a municipality, might have an indirect effect on the value of lots, because of the effect of such improvements and services on the desirability of living conditions in that community.

22. City real estate is not as a rule subject to such short time fluctuations in value as are farm lands. (Compare the calculated selling value of farm real estate in figure 2 and that of city real estate in figure 17; and note the fluctuation in average value per acre of farm land in the various sections of the state, figures 4 to 9.) But individual city properties are often subject to pronounced fluctuations in value because of the erection of structures in the vicinity that detract from the residential value of lots and because of other factors. The new owner of a city lot has a better opportunity than the farm owner to "buy himself free" of the tax by capitalizing it in the purchase price, especially where city real estate values are fairly stable. But this possibility is sharply limited by the relative instability and uncertainty of the tax itself. Few, if any, of those who bought lots in Kansas from 1910 to 1913 were then able to foresee the ratio of taxes to selling value of city real estate from 1921 to 1923.

23. Based on the Eighth and the Ninth Biennial reports of the Kansas Tax Commission.

24. Exception to this general principle is found in declining urban communities where improvements exceed the demands of a diminishing population. In such a community, the deteriorating improvements may be occupied at a low rental notwithstanding the tax, since such improvements are a form of specialized capital and therefore cannot be put to other uses. Under such conditions, the owner's bargaining power is low; he must take what he can get and bear the tax.

high ratio of taxes to selling value of city real estate shown in figure 25 is not as severe a burden as it might seem.

**2. Services Rendered by Municipalities.—** When comparing the tax burdens of the farmer and of the city dweller, it is necessary to take into account the fact that city governments provide many improvements and services which are not ordinarily enjoyed in rural communities. The general city levy varied between 31 and 44 per cent of all levies on city real estate in Kansas from 1910 to 1923 as shown in figure 22. City schools were responsible for 46.9 per cent of the total levy on city real estate in 1923. Municipal governments are, in a large measure, cooperative institutions through which city people provide themselves with a number of advantages which are seldom enjoyed in rural communities.

It is impossible to say to what extent city real estate values are influenced by the advantages which city people provide for themselves through their municipal governments. It seems probable that improvements and services which add to the safety, convenience, and attractiveness of an urban community serve to increase the value of urban property.

**3. Taxable Capacity in Cities, in Addition to Ownership of Real Estate.—** The third mitigating factor that should be taken into account, when considering the high ratio of taxes to selling value of city real estate, is that owners of city real estate often have a taxable capacity in addition to that which is represented by real-estate ownership. The greater share of personal property in cities consists of intangible personalty which usually has escaped taxation. Furthermore, city dwellers frequently enjoy substantial income from sources other than real estate, in the form of salaries, wages, or returns for professional services rendered in medicine, law, etc. These types of income escape direct state and local taxes in a state like Kansas where general property taxation is almost the only means of raising revenue. Tangible property of which real estate is the principal item, must bear the burden.

Real estate and tangible personal property are the principal forms of investment in rural communities. These forms of capital are the principal basis for the farmer's income. Therefore, the property tax levy, under the present system, necessarily must be a large direct deduction from the income of the rural population. In cities, on the other hand, the real estate tax may or may not be an important direct demand upon the taxable capacity of the individual owner.

## V. CONCLUSION

The purpose of this report is to present the facts pertaining to the trend of real-estate taxation in Kansas, as shown by this investigation, and not to advocate changes in the present fiscal system.[25] However, certain inferences may be drawn from the trends that have been presented, and from the causes that made these trends what they were in the period under study.

The general property tax was the means of raising 86.8 per cent of all state and local revenues in Kansas in 1922.[26] This extensive reliance on general property taxation, together with the increasing expenditures of the state and of local, government, caused taxes to rise rapidly on real estate, which, of all classes of property, is least able to escape taxation. Consequently, the ratio of taxes to selling value of farm real estate almost doubled from 1910 to 1923, and that of city real estate more than doubled in the same period. The normal trends of these ratios advanced at an increasing rate in the period covered by this study, as shown in figure 25.[27] It was inevitable that taxes should increase more rapidly than the selling value of real estate because of rapidly increasing expenditures and an extensive reliance on general property taxation, as mentioned above.

This study shows that expenditures for the general or administrative functions of state and local government in Kansas became a decreasing burden on the selling value of farm and city real estate,[28] and that the increase in real estate taxes was due principally to greater expenditures for roads and bridges, education, and other improvements and services. It is, therefore, inaccurate to say that the increase in the "cost, of government" caused the ratio of taxes to selling value of real estate in Kansas to advance approximately 100 per cent from 1910 to 1923. It would be more accurate to say that taxes rose because of increased expenditures for the improvements

25. A tax program for this state is presented in Kansas Agricultural Experiment Station Bulletin No. 234, "Tax Revision in Kansas" (December, 1924), which was written after the present study was well under way.

26. Bureau of the Census, *Wealth, Public Debt, and Taxation;* 1922. The total revenue in Kansas in 1922 was $75,983,000 raised by various taxes in the following proportions: General property taxes, 86.8 per cent; special taxes (including the inheritance tax amounting to $369,000), 1.0 per cent; poll taxes, 0.5 per cent; licenses and permits, 5.3 per cent; and special assessments, 6.4 per cent.

27. A rapid increase in taxes on real estate is by no means confined to Kansas. It is general throughout the United States, as shown in Table XLVIII of the Appendix; but the rate of increase from 1912 to 1922 was not the same in all parts of the country. Studies of the Bureau of Agricultural Economics, United States Department of Agriculture, show that taxes on farm real estate increased rapidly in the last several years, and that taxes took a greater share of the farm income than of the income in several other businesses. These findings appear in "Taxation of Farm Real Estate in Indiana" and "Taxation of Rented Farms—1919" (both published in March, 1925) and in earlier reports.

28. See figure 27.

and the services which public opinion demanded of government for the common welfare. The expansion in the service functions of government in the period under study necessarily resulted in the socialization of an increasing share of the income of the people. However, since popular demand for more improvements and services was the cause of the increase in public disbursements, it must be admitted that the increase in taxes was not only inevitable but also proper, unless one should presume to judge the wisdom of public opinion.

It is beside the purpose of this report to attempt to say whether the cost of these improvements and services has been as widely diffused among persons having ability to pay taxes as the benefits have been diffused among the people as a whole. When considering the increase in taxes on real estate, it should not be forgotten that taxes are paid, in the last analysis, by persons and not by things. Increasing taxes on real estate mean increasing taxes on the real-estate owner, unless he is able to shift the tax to other persons, which is a negligible possibility in the case of farm real estate. But the problem of whether the increase in the tax burden on the landowner has been excessive in recent years, compared to the increase in the burden on the taxable capacity of other persons, is also beside the scope of this study.

If the ratio of taxes to selling value of farm real estate in Kansas should continue to rise as rapidly as in the 14 years under study, it would be only a relatively few years till the tax burden would virtually confiscate property in land; that is, the tax would equal the annual land income.[29] If the normal trends shown in figure 25 should continue 14 years beyond the period under study, that is till 1937, the ratio of taxes to selling value of farm and city real estate would be 2.48 per cent and 5.53 per cent, respectively. But a continuation of the rate of increase which prevailed from 1910 to 1923 seems highly improbable. It is possible that this period was marked by an abnormal increase in the service functions of state and local government, principally of the latter. Be this as it may, three possibilities present themselves: [30] In the first place, the pressure of taxes may arouse sufficient public opposition to additional expansion in the service functions of government, to cause a substantial reduction

29. This statement is less applicable to city real estate because of a greater shiftability of the city real-estate tax. See subdivision 2 of section IV.

30. A change from selling value to rental value, or land income, as the basis for taxing land has been suggested as a remedy for the present land taxation problem. Such a change would perhaps be helpful in many ways, although it may be questioned as a fundamental solution. So long as additional means of raising revenue are not found, the cost of state and of local government will fall mainly on land whether it is taxed on the basis of selling value or on net rent.

in the rate of increase in state and local expenditures. Secondly, new means of raising revenue may be found to supplement general property taxation, in an effort to diffuse more widely the cost of public improvements and services. Thirdly, the value of property may increase more rapidly in the future, and thus be able to sustain somewhat higher tax levies without an increase in the ratio of taxes to selling value.

In view of recent events in Kansas[31], relief from high real-estate taxes may be sought both in retrenchment and in supplementary sources of revenue. Only conjecture is possible, not positive prediction, as to future fiscal policies of this state. But one thing is certain, namely, that the trend of the ratio of taxes to selling value of real estate in the future depends upon the rate of increase in taxable property and upon the trend of public opinion, which ultimately determines policies of public expenditures and of taxation.

31. The voters of Kansas adopted an amendment to the state constitution at the 1924 election, permitting classification of intangible property and mineral products for taxation. A similar amendment had been defeated at two previous elections. The 1925 legislature adopted a mortgage registration fee of 25 cents per $100, in lieu of all other taxes on mortgages; a mill tax of 25 cents per $100 of money and certain other intangibles; and a 2 cents a gallon gasoline tax for roads.

# APPENDIX

## METHODS OF CALCULATION AND SUPPLEMENTARY STATISTICS

### A. METHOD OF ALLOCATING STATE AND LOCAL TAX LEVIES TO FARM AND CITY REAL ESTATE

One of the most important steps in determining the trend of real-estate taxation, on the scale attempted in this study, is to allocate to each class of real estate the correct portion of each tax levy. The assessed valuation of each class of property, as compiled by the Kansas State Tax Commission, is the basis used in this study for allocating the tax levies. The reports of the Tax Commission also give property tax levies under the following heads: State, county, township, rural high schools (since 1916), district schools, drainage, city (general revenue), and city schools.

1. **Allocating the State Levy.**—State taxes are levied at a uniform rate on all taxable property. The amount of the state levy borne by each of the two classes of real estate may be determined by multiplying the assessed valuation of each class by the state tax rate. Hence the proper portion of the state tax was allocated to farm and city real estate in each section by multiplying the total valuation of each class of real estate in the section by the state tax rate. It was possible to ascertain accurately the valuation of the various classes of property by sections since valuations are given by counties in the reports of the Tax Commission. All levies, except the county levy, were allocated by sections.[32] For the purpose of checking multiplications, the assessed valuation of classes of property other than real estate was also multiplied by the tax rate in each section.

2. **Allocating the County Levy.**—County taxes borne by each of the two classes of real estate were calculated separately by counties. In the early stages of this study, an effort was made to allocate the county tax by sections, that is, by groups of counties. Because of differences in the county tax rates and in the ratio of city real estate to farm real estate in the various counties, this method introduced an error of nearly 3 per cent in the total tax on city real estate and of about 1 per cent on farm real estate, in 1923, the year for which special analysis of data was made to measure this error. In the county tax alone, the error on city real estate was 7 per cent and on farm real estate 2.5 per cent. But when the county levy was merged with other levies these errors were reduced to about 1 and 3 per cent on farm and city real estate, respectively. Because of these errors, the method of allocating the county tax by groups of counties was abandoned, and the allocation made by individual counties.

The following steps were taken in allocating the county tax to each class of real estate: (1) The total county levy was divided by the assessed valuation of all taxable property in the county to find the county tax rate, which was carried to six decimal places; (2) the assessed valuation of each class of real estate was multiplied by the county tax rate to determine the amount of county tax borne by farm real estate and by city real estate; (3) the county

32. See figure 1 for the position of each section on the map of Kansas.

tax levies on each class of real estate, thus determined for individual counties in each section, were added to find the county tax on each class of real estate in each section, or group of counties. These steps were repeated for each of the 105 counties, for each of the 14 years under study.

**3. Allocating the Township Tax.**—It was necessary to determine the total valuation of all property in cities and outside of cities, as the first step in allocating to either class of real estate the proper amount of a levy chargeable exclusively to property outside of cities or to property in cities. Published reports of the Tax Commission list real estate under the heads of "farm lands exclusive of improvements," "value of improvements," "platted tracts outside of cities";[33] "unplatted lands in cities"; "improvements on unplatted lands in cities"; "city lots exclusive of improvements"; and "value of improvements in cities." With this classification, real estate may easily be divided into two general classes—*farm real estate* and *city real estate.* But personal property and public-service corporations are not reported separately in cities and outside, in the published reports of the Tax Commission. It was, therefore, necessary to make special segregation of these properties. This was possible through the courtesy of the Tax Commission whose office records and unpublished data were made available for this study.

After having divided all taxable property in the state into two groups—"in cities" and "outside of cities"--the township levy was allocated to farm real estate, (1) by dividing the total township tax in each section of the state (that is, in each group of counties) by all taxable property outside of cities in those counties, to determine the *average township rate;* and (2) by multiplying the assessed valuation of farm real estate in each section by the average township rate. This rate was also applied to the valuation of property outside of cities, other than real estate, to check the calculations.

It is almost correct, although not wholly so, to assume that all township taxes fall on property outside of cities. The general township tax is also levied on property of cities of the third class.[34] But third-class cities "having a population of 1,000 or over and an assessed valuation of real and personal property of not less than one hundred and fifty thousand dollars, shall be and constitute separate townships for all township purposes."[35] The law also provides that a city of the third class, having a population of at least 1,000, may become a separate township by two-thirds of the votes polled at a regular city election.

Before ascertaining whether or not it would be feasible, for the purpose of this study, to "charge" property outside of cities with all township taxes, it was necessary to ascertain the error resulting from the assumption that all township taxes fall on property outside of cities. Two methods of calcula-

33. "Platted tracts outside of cities" are not included in either farm or city real estate in this report. As far as tax levies are concerned, this class of real estate does not belong within cities. Nevertheless, it is mainly urban in character and therefore could not be logically included with farm land. From the standpoint of total valuation, platted tracts outside of cities are a relatively unimportant class of real estate. In 1922 the valuation of this class of property was only 0.8 per cent of the total valuation of farm land and improvements in Kansas. The urban character of platted land outside of cities is shown by the fact that the assessed valuation of improvements on these tracts in 1922 was 59 per cent of the total valuation of this class of property.

34. Cities of the third class include all municipal corporations having a population of not more than 2,000.—Paragraphs 15-101, Revised Statutes of Kansas, 1923.

35. Paragraphs 15-104, Revised Statutes of Kansas, 1923.

tion were applied to the data for 1922, to ascertain the magnitude of these possible errors. The valuation of all property in cities having a population of 2,000 or less was determined from the records of assessment by cities and townships, published in the biennial reports of the State Board of Agriculture.[36] The error on account of not charging the general township tax against property in cities of the third class is here called *"maximum error."* In the same manner, the valuation was determined for all cities of the third class not eligible to become separate townships, that is, cities having a population of less than 1,000 and an assessed valuation of not less than $150,000. The excess charge against property outside of cities on account of not charging a portion of the general township tax against property in cities not eligible to become separate townships, is called *"minimum error."*

By adding the valuation of property in cities described above, to the valuation of all property outside of cities, to which township taxes had been allocated, it was possible to calculate the probable overcharge against the property outside of cities and the probable undercharge against city property.

The maximum error, that is, the overcharge of township taxes on farm real estate, amounted to 1.6 per cent of the correct amount of township taxes onfarm real estate in 1922. But, since township taxes are only a small part of the total tax levy on real estate, this maximum error amounted only to 0.27 per cent of the total tax levy on farm real estate in 1922. The minimum error amounted to 1.2 per cent of the correct township levy, and only to 02 per cent of the corrected total tax on farm real estate.

An overcharge of township taxes on farm real estate also means a corresponding undercharge on city real estate. The maximum error, or undercharge, on city real estate was 0.8 per cent of the general city levy in 1922, and the minimum error 0.6 per cent. These maximum and minimum errors amounted to only 0.28 per cent and 0.2 per cent, respectively, of the total city real-estate tax levy of 1922.

These errors on account of allocating the whole township tax to property outside of cities, are too small to be of any practical consequence in this study, and have therefore been ignored in the calculations.

**4. Allocating the District School Tax.**—The district school levy was allocated to property outside of cities. The total levy for school districts in a group of counties constituting one section of the state was divided by the total taxable property outside of cities in those counties. This gave an average rate of the district school levy. The assessed valuation of farm real estate was multiplied by this rate to determine the approximate amount of the district school tax borne by farm real estate.

**5. Allocating the Rural High-school Levy.**—The levy for rural high schools appears as a separate levy in the tax commission reports, beginning with 1916, and was allocated to property outside of cities and to farm real estate in the same manner as in the case of the district school levy. This was assumed to be sufficiently accurate for the purpose of showing trends.

**6. Allocating the Drainage Levy.**—This levy is a very small part, usually less than 1 per cent of the total levy on farm real estate, to which it was allocated in the same manner as the levies for the school districts.

36. Twenty-third Biennial Report, Kansas State Board of Agriculture, 1921-1922, pages 280 and 489.

**7. Allocating the General City Levy.** — The general city levy in a group of counties, that is in a section of the state, was divided by all taxable property in the cities, to determine an average rate of the general city levy. This rate was then applied to the valuation of city real estate to find the probable amount of the general city levy borne by city real estate. This rate was also applied to other property in cities, to check the calculations.

**8. Allocating the City School Levy.** — The portion of the city school levy borne by city real estate was determined in the same manner as in the case of the general city levy.

The ratio of the valuation of real estate to the combined valuation of personal property and public service corporations is not necessarily the same in all cities, townships, and school districts; and the rates of taxation in these subdivisions of the state are often not the same. Therefore, it cannot be claimed that the method of allocating portions of the various tax levies to real estate, described above, is quite as accurate as if a separate study had been made of every subdivision of the state having power to levy taxes. Nevertheless, it appears highly probable that the method used is sufficiently accurate to show trends of real-estate taxation. These differences among counties resulted in a relatively small error, as described above, when an attempt was made in the early stages of this study to allocate county taxes by groups of counties. Political subdivisions smaller than counties, that is, townships, cities, school districts, etc., are so numerous in the state, and in each of the six sections, as to minimize greatly any possible error in the allocation of tax levies that might result from differences in the ratio of the assessed valuation of real estate to that of other property and to differences in the tax rates among these subdivisions.

### B. METHOD OF DIVIDING REAL-ESTATE TAX LEVIES AMONG PUBLIC PURPOSES FOR WHICH EXPENDED

Data showing the increase in tax levies for the state government and for the various subdivisions of the state (county, township, city, school districts, etc.) do not, show to what extent each public purpose is responsible for the rise in taxes. Levies for the state and for nearly all of the subdivisions serve to finance a number of enterprises. The allocation of the tax levies to the various public purposes, irrespective of political subdivision, consists of separating each levy into its parts and of grouping these parts according to purposes served by each part. The groups chosen for this purpose are: Administration, or general revenue; education; roads and bridges, streets and alleys; interest;[37] sinking funds; drainage; and miscellaneous.[38]

The total levy on each class of real estate for the state government in any one year was divided according to the ratio of each state appropriation to the total of the appropriations for the same year. County, township, and city levies were divided in the same manner, that is, the total real-estate levy was divided according to the ratio which each part of the levy bore to the total of

37. Except interest on school bonds, which was allocated to education.
38. In addition to expenditures classified as miscellaneous in the public records, this item in this report also includes expenditures for charitable, penal, and patriotic institutions.

all county levies. The following exhibit shows the ratios by which the total levy on farm real estate in 1923 was allocated to the various public purposes:

| | *Per cent of total state appropriation* | *Purpose to which allocated.* |
|---|---|---|
| **State Levy:** | 100 | |
| State boards, offices, etc. | 20.5 | Administration |
| Educational institutions and experiment stations | 50.4 | Education |
| Charitable institutions | 15.0 | Miscellaneous |
| Penal institutions | 11.2 | Miscellaneous |
| Patriotic institutions | 2.9 | Miscellaneous |

| | *Per cent of total county levy* | *Purpose to which allocated* |
|---|---|---|
| **County Levy:** | 100 | |
| General revenue | 26.4 | Administration |
| Poor | 5.4 | Miscellaneous |
| Roads | 16.1 | Roads and bridges |
| Bridges | 20.9 | Roads and bridges |
| Interest | 4.3 | Interest |
| Sinking fund | 5.4 | Sinking fund |
| Barnes high school | 6.6 | Education |
| County high school | 4.6 | Education |
| County high school, interest and sinking fund | .1 | Education |
| High-school tuition tax | 3.0 | Education |
| Miscellaneous | 7.2 | Miscellaneous |

| | *Per cent of total township levy* | *Purpose to which allocated* |
|---|---|---|
| **Township Levy:** | 100 | |
| General revenue | 18.5 | Administration |
| Roads and bridges | 71.3 | Roads and bridges |
| Interest | 3.3 | Interest |
| Sinking fund | 3.4 | Sinking fund |
| Township high school | .6 | Education |
| Township high school, interest and sinking fund | .1 | Education |
| Miscellaneous | 2.8 | Miscellaneous |

| | *Per cent of total levy* | *Purpose to which allocated* |
|---|---|---|
| **Separate Levies:** | | |
| Rural high school | 100 | Education |
| District school | 100 | Education |
| Drainage | 100 | Drainage |
| Soldiers' compensation | 100 | Soldiers' compensation |

Data for the allocation of the tax levies to the various public purposes, as illustrated above, were obtained from the biennial reports of the State Tax Commission to the legislature and from the reports of the state auditor. But these data, do not appear in the state reports in sufficient detail prior to 1916 to make possible an allocation of the tax levies to the various public purposes. Hence these allocations in this study cover only eight years, 1916 to 1923.

### C. METHOD OF DETERMINING SELLING VALUE OF REAL ESTATE

Records of *bona fide* sales of real estate, reported by the county assessors to the State Tax Commission, are the basis for calculating the trend of real-estate values. The Tax Commission is empowered by law to call upon local officers for such information as is deemed necessary in carrying out the duties of the commission.[39] Accordingly, county assessors are required to make a detailed

39. Chapter 408, Laws of Kansas, 1907. The State Tax Commission was abolished by the 1925 legislature, and all powers and duties of that body were transferred to the newly created Public Service Commission.

report each year of the items of real estate sold for a *bona fide* consideration in their respective counties. Each item is reported separately, showing date of transfer, description of the land (section, township, and range, or block and lot number in case of city property), number of acres, selling value, assessed valuation at the time of transfer, and assessed valuation in per cent of selling value. County assessors are specifically instructed to report *bona fide* sales only, and to reject all transfers for "one dollar and other considerations" and those showing inflated values such as might be involved in trading real estate.

1. **Calculating the Selling Value of Farm Real Estate.**—The selling value of farm real estate, shown in this report, is based on the *bona fide* sale of 16,978,160 acres of land in 113,932 transfers over a period of 14 years, or an annual average of 1,212,726 acres and 8,138 transfers. These and other data for the state as a whole are shown in detail in Table XXVIII, and for each of the six sections of the state in Table XXIX.

It was a simple matter to find the average value per acre reported sold in each section, by dividing the total selling value of the land sold by the number of acres transferred. The corresponding average selling value per acre of land in the state as a whole was determined by weighting the average value per acre by the total number of acres of taxable land in each section. The resulting average value per acre for the state as a whole is shown in the first column of Table XXXII and in Tables XXXIII to XXXVIII for the six subdivisions of the state.[40] While these averages show the value per acre of the land reported sold, it is not self-evident that they represent correctly the value of all land in a section or in the state as a whole. If there were a more rapid turnover of the cheaper land than of the better and more high-priced acres, the average selling value per acre, as calculated above, would be lower than the average of all land in the state. Because of this possibility,

TABLE XXVIII-Number of reported sales of farm real estate in Kansas, assessed valuation of sales, number of acres reported sold, and acres sold in per cent of acres taxable.

| YEAR. | Number of sales. | Assessed valuation of sales. | Assessed valuation in per cent of selling value. | Number of acres reported sold. | Acres sold in per cent of acres taxable. | Assessed valuation of sales in per cent of total valuation of farm real estate. |
|---|---|---|---|---|---|---|
| | | *Thousands* | | | | |
| 1910 | 14,544 | $50,920 | 72.4 | 2,378,827 | 4.8 | 3.8 |
| 1911 | 9,020 | 32,787 | 70.3 | 1,312,651 | 3.7 | 2.4 |
| 1912 | 7,477 | 28,075 | 68.8 | 1,066,745 | 2.1 | 2.1 |
| 1913 | 7,219 | 27,477 | 67.6 | 1,005,410 | 2.0 | 2.0 |
| 1914 | 7,070 | 27,246 | 69.1 | 1,024,787 | 2.0 | 2.0 |
| 1915 | 8,342 | 27,337 | 67.9 | 1,269,359 | 2.5 | 2.0 |
| 1916 | 9,122 | 29,584 | 68.9 | 1,405,886 | 2.7 | 2.0 |
| 1917 | 8,417 | 31,552 | 64.6 | 1,345,271 | 2.6 | 2.2 |
| 1918 | 8,463 | 38,478 | 68.8 | 1,205,883 | 2.3 | 2.4 |
| 1919 | 12,563 | 55,087 | 57.3 | 1,774,534 | 3.5 | 3.5 |
| 1920 | 9,612 | 50,449 | 59.5 | 1,405,901 | 2.7 | 2.7 |
| 1921 | 4,773 | 23,289 | 62.3 | 751,817 | 1.5 | 1.3 |
| 1922 | 3,801 | 17,000 | 64.1 | 542,821 | 1.1 | 1.0 |
| 1923 | 3,409 | 15,011 | 67.7 | 488,268 | 1.0 | .9 |

40. These are the values used by the author of this report in a paper on "The Place of Taxation in a Constructive Agricultural Policy," read before the American Farm Economics Association at Chicago on December 31, 1924.

it was deemed desirable to use another method of calculating the selling value of land, and to compare the results.

Records of land transfers include the selling value and the assessed valuation of each item of real estate, as noted above. This made it possible to determine the rate of assessment of the farm real estate reported sold in the state as a whole, and in each section, in each of the 14 years under study, as shown in Tables XXVIII and XXIX. It appears safe to assume that the rate of assessment given in these tables is adequately representative of the rate of assessment of land improvements throughout the state, in view of the rather large number of sales recorded each year, on which these ratios are based.

It was possible to find the assessed valuation of all land and improvements in each section, that is, in each group of counties, since the reports of the Tax Commission give the assessed valuation of land and improvements, by counties. A theoretical selling value of all land and improvements was then determined on the basis of the assessed valuation, with the rates of assessment found in Tables XXVIII and XXIX.[41] The average selling value per acre was found by dividing the calculated selling value in each section by the number of acres of taxable land. The resulting value per acre is shown in the second column, headed "calculated," in Tables XXXII to XXXVIII, in comparison to the value per acre based on *bona fide* sales, which appear in the first columns of the same tables.

The assessed valuation of farm real estate is shown in round figures in Table XXX, and the calculated selling value in Table XXXI. The acres of taxable land are found in Table XL.

Data found in the first two columns of Tables XXXII to XXXVIII show a fairly close relation between the value per acre of land transferred in *bona fide* sales and the calculated selling value per acre. It will also be noted that the difference is greater from 1910 to 1918 than during the years 1919 to 1922. A greater difference again appears in 1923. Where differences occur, the value of land per acre according to *bona fide* sales is usually lower than the calculated value. This difference is quite evident when both sets of figures are expressed in per cent of the 1910 to 1914 average, as shown in the second pair of columns of Tables XXXII to XXXVIII. The upward trend of land values is less rapid on the basis of calculated selling value because of the fact that the *bona fide* sale value is lower in comparison to calculated values in 1910 to 1914 than in later years. In 1920 calculated selling value was only 159 per cent of the 1910 to 1914 average, as compared to 175 per cent on the basis of *bona fide* sales.

41. Thus, assessed valuation divided by rate of assessment equals "calculated selling value."

TABLE XXIX.—Number of reported sales of farm real estate in each section of Kansas, assessed valuation of sales, number of acres reported sold, and acres sold in per cent of acres taxable.

| YEAR. | Number of sales. | Assessed valuation of sales. | Assessed valuation in per cent of selling value. | Number of acres reported sold. | Acres sold in per cent of acres taxable. | Assessed valuation of sales in per cent of total valuation of farm real estate. |
|---|---|---|---|---|---|---|
| **Corn Belt Section** | | | | | | |
| | | *Thousands.* | | | | |
| 1910 | 2,427 | $11,856 | 75.1 | 268,448 | 3.7 | 3.5 |
| 1911 | 1,926 | 9,132 | 71.2 | 206,706 | 2.9 | 2.7 |
| 1912 | 1,451 | 7,080 | 69.1 | 163,750 | 2.3 | 2.1 |
| 1913 | 1,680 | 7,955 | 67.0 | 176,917 | 2.5 | 2.3 |
| 1914 | 1,568 | 7,438 | 69.3 | 167,857 | 2.3 | 2.1 |
| 1915 | 1,240 | 5,917 | 70.1 | 125,098 | 1.7 | 1.6 |
| 1916 | 1,295 | 6,213 | 72.6 | 126,104 | 1.7 | 1.7 |
| 1917 | 1,580 | 8,320 | 69.0 | 167,747 | 2.3 | 2.2 |
| 1918 | 2,049 | 12,869 | 70.0 | 234,115 | 3.2 | 3.2 |
| 1919 | 3,483 | 15,687 | 63.7 | 277,797 | 3.8 | 3.9 |
| 1920 | 2,478 | 18,105 | 63.4 | 264,768 | 3.7 | 3.8 |
| 1921 | 1,133 | 7,136 | 57.7 | 107,032 | 1.5 | 1.5 |
| 1922 | 812 | 4,331 | 67.8 | 74,292 | 1.0 | 1.0 |
| 1923 | 661 | 3,939 | 71.7 | 66,866 | 1.0 | 1.0 |
| **General Farming Section** | | | | | | |
| | | *Thousands.* | | | | |
| 1910 | 1,748 | $6,418 | 76.9 | 217,214 | 3.5 | 2.9 |
| 1911 | 1,762 | 5,588 | 74.3 | 174,668 | 2.8 | 2.5 |
| 1912 | 1,546 | 4,927 | 69.9 | 151,294 | 2.4 | 2.2 |
| 1913 | 1,199 | 4,006 | 72.0 | 114,417 | 1.8 | 1.8 |
| 1914 | 1,217 | 3,975 | 72.9 | 114,619 | 1.8 | 1.7 |
| 1915 | 1,110 | 3,555 | 70.6 | 101,694 | 1.6 | 1.5 |
| 1916 | 1,041 | 3,353 | 73.0 | 93,301 | 1.5 | 1.4 |
| 1917 | 970 | 3,258 | 69.1 | 89,593 | 1.4 | 1.4 |
| 1918 | 1,533 | 6,433 | 73.5 | 151,853 | 2.4 | 2.5 |
| 1919 | 2,115 | 9,217 | 59.8 | 230,076 | 3.7 | 3.6 |
| 1920 | 1,577 | 8,120 | 58.7 | 160,420 | 2.6 | 2.7 |
| 1921 | 774 | 3,444 | 60.7 | 71,450 | 1.2 | 1.2 |
| 1922 | 605 | 2,430 | 65.2 | 50,473 | .8 | .9 |
| 1923 | 587 | 2,329 | 69.1 | 50,750 | .8 | .8 |
| **Flint Hills** | | | | | | |
| | | *Thousands.* | | | | |
| 1910 | 1,343 | $5,373 | 74.2 | 213,883 | 4.0 | 3.8 |
| 1911 | 916 | 3,686 | 69.9 | 145,097 | 2.7 | 2.6 |
| 1912 | 861 | 3,233 | 70.6 | 131,743 | 2.4 | 2.3 |
| 1913 | 764 | 3,072 | 67.6 | 113,495 | 2.1 | 2.2 |
| 1914 | 589 | 2,206 | 62.8 | 80,134 | 1.5 | 1.5 |
| 1915 | 517 | 2,045 | 72.6 | 73,227 | 1.4 | 1.4 |
| 1916 | 527 | 2,107 | 70.2 | 75,648 | 1.4 | 1.4 |
| 1917 | 499 | 2,127 | 64.3 | 79,526 | 1.5 | 1.4 |
| 1918 | 769 | 3,843 | 68.6 | 124,964 | 2.3 | 2.2 |
| 1919 | 776 | 3,805 | 58.7 | 115,188 | 2.1 | 2.2 |
| 1920 | 735 | 3,839 | 58.5 | 127,373 | 2.4 | 1.9 |
| 1921 | 279 | 1,361 | 59.3 | 35,285 | .7 | .7 |
| 1922 | 206 | 866 | 64.8 | 24,052 | .5 | .5 |
| 1923 | 263 | 1,202 | 67.6 | 32,619 | .6 | .6 |

TABLE XXIX.—CONCLUDED.

| YEAR. | Number of sales. | Assessed valuation of sales. | Assessed valuation in per cent of selling value. | Number of acres reported sold. | Acres sold in per cent of acres taxable. | Assessed valuation of sales in per cent of total valuation of farm real estate. |
|---|---|---|---|---|---|---|
| **Eastern Half of Wheat Belt** | | | | | | |
| | | *Thousands.* | | | | |
| 1910 | 3,749 | $17,599 | 73.5 | 599,794 | 3.9 | 3.5 |
| 1911 | 2,313 | 10,485 | 70.3 | 350,544 | 2.3 | 2.1 |
| 1912 | 2,176 | 10,316 | 69.7 | 340,029 | 2.2 | 2.0 |
| 1913 | 2,108 | 9,822 | 67.6 | 317,773 | 2.1 | 1.9 |
| 1914 | 2,184 | 11,068 | 70.7 | 362,034 | 2.4 | 2.2 |
| 1915 | 2,389 | 10,923 | 68.3 | 347,153 | 2.3 | 2.1 |
| 1916 | 2,300 | 10,600 | 70.6 | 332,530 | 2.2 | 2.0 |
| 1917 | 2,237 | 11,868 | 66.5 | 366,148 | 2.4 | 2.2 |
| 1918 | 2,329 | 11,786 | 66.8 | 335,010 | 2.2 | 2.1 |
| 1919 | 3,315 | 19,637 | 53.4 | 521,253 | 3.4 | 3.5 |
| 1920 | 2,138 | 13,077 | 60.8 | 311,920 | 2.0 | 2.0 |
| 1921 | 1,241 | 7,481 | 64.9 | 181,807 | 1.2 | 1.1 |
| 1922 | 1,082 | 6,569 | 65.6 | 166,104 | 1.1 | 1.1 |
| 1923 | 960 | 5,469 | 69.2 | 138,783 | 1.0 | .9 |
| **Western Half of Wheat Belt** | | | | | | |
| | | *Thousands.* | | | | |
| 1910 | 2,949 | $7,144 | 61.6 | 649,214 | 6.8 | 6.9 |
| 1911 | 1,277 | 2,724 | 60.6 | 268,267 | 2.8 | 2.6 |
| 1912 | 902 | 1,881 | 58.8 | 186,689 | 1.9 | 1.9 |
| 1913 | 964 | 1,974 | 62.0 | 188,157 | 1.9 | 2.0 |
| 1914 | 943 | 1,869 | 62.1 | 187,632 | 1.9 | 2.0 |
| 1915 | 1,805 | 3,248 | 61.7 | 360,926 | 3.7 | 3.4 |
| 1916 | 2,318 | 4,990 | 62.2 | 463,402 | 4.8 | 4.6 |
| 1917 | 1,729 | 4,037 | 55.3 | 362,792 | 3.7 | 3.7 |
| 1918 | 983 | 2,315 | 63.1 | 200,663 | 2.1 | 1.8 |
| 1919 | 1,639 | 4,462 | 51.0 | 354,593 | 3.6 | 3.5 |
| 1920 | 1,474 | 4,703 | 51.1 | 284,026 | 2.9 | 3.2 |
| 1921 | 768 | 2,633 | 52.7 | 226,966 | 2.3 | 1.8 |
| 1922 | 580 | 1,759 | 55.5 | 112,498 | 1.2 | 1.3 |
| 1923 | 436 | 1,165 | 54.7 | 85,682 | .9 | .8 |
| **Southwestern Grazing Region** | | | | | | |
| | | *Thousands.* | | | | |
| 1910 | 2,328 | $2,530 | 74.0 | 130,274 | 2.0 | 5.7 |
| 1911 | 826 | 1,122 | 70.4 | 167,369 | 2.5 | 2.4 |
| 1912 | 541 | 639 | 69.2 | 93,240 | 1.3 | 1.4 |
| 1913 | 504 | 648 | 67.6 | 94,651 | 1.3 | 1.4 |
| 1914 | 569 | 690 | 64.0 | 112,511 | 1.6 | 1.6 |
| 1915 | 1,281 | 1,649 | 60.7 | 261,261 | 2.8 | 3.7 |
| 1916 | 1,641 | 2,271 | 62.0 | 314,901 | 4.3 | 4.6 |
| 1917 | 1,402 | 1,942 | 53.8 | 279,465 | 4.9 | 3.9 |
| 1918 | 800 | 1,232 | 64.3 | 159,278 | 2.1 | 2.1 |
| 1919 | 1,235 | 2,279 | 54.6 | 275,627 | 3.7 | 3.8 |
| 1920 | 1,210 | 2,605 | 50.8 | 257,394 | 3.4 | 3.7 |
| 1921 | 578 | 1,234 | 54.5 | 129,277 | 1.7 | 1.8 |
| 1922 | 516 | 1,045 | 55.4 | 115,402 | 1.5 | 1.5 |
| 1923 | 502 | 907 | 60.8 | 114,568 | 1.5 | 1.3 |

TABLE XXX.—Assessed valuation of farm real estate in Kansas, by sections, 1910 to 1923.

| YEAR. | Amount in millions (a). | | | | | | | Per cent of 1910 to 1914 average. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. |
| 1910 | $1,353 | $342 | $224 | $141 | $498 | $103 | $45 | 99 | 99 | 99 | 99 | 98 | 104 | 100 |
| 1911 | 1,354 | 339 | 223 | 141 | 501 | 104 | 46 | 99 | 98 | 99 | 99 | 99 | 105 | 102 |
| 1912 | 1,358 | 343 | 226 | 142 | 506 | 97 | 44 | 99 | 99 | 100 | 99 | 100 | 98 | 98 |
| 1913 | 1,365 | 344 | 225 | 143 | 509 | 98 | 46 | 100 | 99 | 99 | 100 | 101 | 99 | 102 |
| 1914 | 1,394 | 361 | 232 | 147 | 515 | 95 | 44 | 102 | 104 | 103 | 103 | 102 | 96 | 98 |
| 1915 | 1,394 | 360 | 231 | 147 | 516 | 96 | 44 | 102 | 104 | 102 | 103 | 102 | 97 | 98 |
| 1916 | 1,448 | 373 | 237 | 149 | 531 | 108 | 50 | 106 | 108 | 105 | 104 | 105 | 109 | 111 |
| 1917 | 1,453 | 376 | 237 | 150 | 531 | 108 | 50 | 106 | 109 | 105 | 105 | 105 | 109 | 111 |
| 1918 | 1,593 | 405 | 259 | 175 | 568 | 126 | 60 | 117 | 117 | 115 | 122 | 112 | 127 | 133 |
| 1919 | 1,593 | 404 | 259 | 175 | 569 | 126 | 60 | 117 | 117 | 115 | 122 | 112 | 127 | 133 |
| 1920 | 1,857 | 477 | 297 | 201 | 667 | 145 | 70 | 136 | 138 | 131 | 141 | 132 | 146 | 155 |
| 1921 | 1,858 | 477 | 297 | 201 | 667 | 146 | 70 | 136 | 138 | 131 | 141 | 132 | 147 | 155 |
| 1922 | 1,738 | 442 | 280 | 187 | 619 | 138 | 72 | 127 | 128 | 124 | 131 | 122 | 139 | 160 |
| 1923 | 1,740 | 442 | 280 | 187 | 620 | 139 | 72 | 127 | 128 | 124 | 131 | 123 | 140 | 160 |

(a) Although amounts are published in millions, the thousands and the hundreds were carried in all calculations.

TABLE XXXI.—Calculated selling value of all farm real estate in Kansas, by sections, 1910 to 1923.

| YEAR. | Amount in millions (a). | | | | | | | Per cent of 1910 to 1914 average. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. |
| 1910 | $1,842 | $454 | $292 | $190 | $678 | $168 | $60 | 94 | 92 | 92 | 92 | 94 | 103 | 92 |
| 1911 | 1,928 | 476 | 300 | 202 | 712 | 171 | 65 | 98 | 97 | 95 | 98 | 99 | 105 | 100 |
| 1912 | 1,976 | 497 | 323 | 201 | 725 | 164 | 64 | 101 | 101 | 102 | 97 | 101 | 101 | 98 |
| 1913 | 2,017 | 514 | 313 | 211 | 753 | 158 | 68 | 103 | 104 | 99 | 102 | 105 | 97 | 105 |
| 1914 | 2,024 | 520 | 319 | 234 | 728 | 154 | 69 | 103 | 106 | 101 | 113 | 101 | 94 | 106 |
| 1915 | 2,027 | 514 | 327 | 202 | 755 | 155 | 74 | 103 | 104 | 103 | 98 | 105 | 95 | 114 |
| 1916 | 2,057 | 514 | 324 | 213 | 752 | 174 | 80 | 105 | 104 | 103 | 103 | 105 | 107 | 123 |
| 1917 | 2,209 | 545 | 343 | 233 | 798 | 196 | 94 | 113 | 111 | 109 | 113 | 111 | 120 | 145 |
| 1918 | 2,329 | 578 | 353 | 255 | 851 | 199 | 93 | 119 | 117 | 112 | 123 | 118 | 122 | 143 |
| 1919 | 2,788 | 634 | 434 | 298 | 1,065 | 247 | 110 | 142 | 129 | 137 | 144 | 148 | 152 | 169 |
| 1920 | 3,120 | 752 | 506 | 344 | 1,096 | 285 | 137 | 159 | 153 | 160 | 166 | 152 | 175 | 211 |
| 1921 | 2,984 | 722 | 489 | 339 | 1,028 | 277 | 129 | 152 | 147 | 155 | 164 | 143 | 170 | 198 |
| 1922 | 2,692 | 652 | 429 | 288 | 944 | 249 | 130 | 138 | 133 | 136 | 139 | 131 | 153 | 200 |
| 1923 | 2,566 | 617 | 405 | 276 | 896 | 253 | 119 | 131 | 125 | 128 | 133 | 125 | 155 | 183 |

(a) Although amounts are published in millions, the thousands and the hundreds were carried in all calculations.

TABLE XXXII.—Value of farm real estate in Kansas, state average, 1910 to 1923.

| YEAR. | Value of farm real estate per acre. | | In per cent of 1910 to 1914 average. | | Three-year moving average. | |
|---|---|---|---|---|---|---|
| | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. |
| 1910 | $33.38 | $36.79 | 93 | 95 | ..... | ..... |
| 1911 | 35.32 | 38.31 | 98 | 99 | $34.93 | $38.01 |
| 1912 | 36.08 | 38.94 | 100 | 100 | 36.48 | 38.92 |
| 1913 | 38.05 | 39.51 | 106 | 102 | 36.99 | 39.33 |
| 1914 | 36.83 | 39.54 | 103 | 102 | 36.50 | 39.53 |
| 1915 | 34.63 | 39.55 | 96 | 102 | 36.55 | 39.72 |
| 1916 | 38.19 | 40.09 | 106 | 104 | 37.98 | 40.88 |
| 1917 | 41.13 | 43.00 | 114 | 111 | 40.99 | 42.78 |
| 1918 | 43.65 | 45.25 | 121 | 117 | 46.38 | 47.44 |
| 1919 | 54.35 | 54.19 | 151 | 140 | 53.40 | 53.30 |
| 1920 | 62.21 | 60.46 | 173 | 157 | 57.49 | 57.48 |
| 1921 | 57.72 | 57.83 | 161 | 150 | 56.78 | 56.79 |
| 1922 | 52.41 | 52.07 | 146 | 135 | 52.95 | 53.17 |
| 1923 | 48.73 | 49.62 | 136 | 128 | ..... | ..... |

The last pair of columns in each of Tables XXXII to XXXVIII shows the value of land on a three-year moving average. This average was calculated in order to smooth the trend, and to give a clearer comparison of the value per acre of land by the two methods. Figure 28 gives a comparison of the trends of land values in the state as a whole, calculated by the two methods.

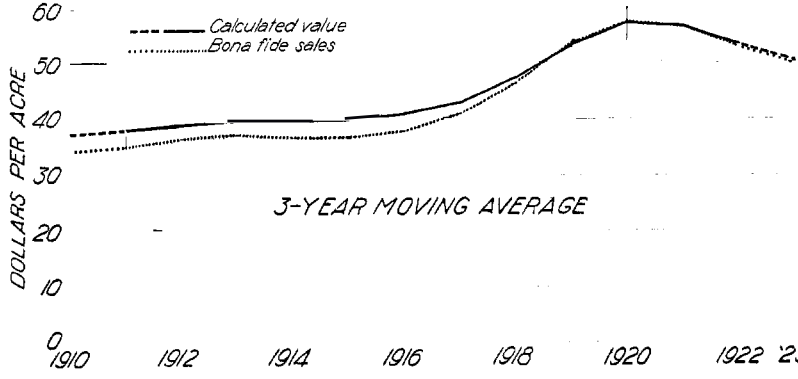


FIG. 28.—Selling value per acre of land in Kansas, based on *bona fide* sales, and on calculated selling value. The difference in the values per acre by the two methods before and, to a slight degree after, the "land boom" was probably due to a relatively greater turnover of the cheaper land.

A relatively more rapid turnover of cheaper land than of the more valuable land is the most probable reason for the differences between the land values, as determined by the two methods described above. During the years 1918 to 1923, and especially in 1919 to 1921, there probably was a relatively greater turnover of the more valuable land than in the years 1910 to 1918. Hence, the gradual rise in the per acre value of *bona fide* sales, until the level of calculated values was reached in the period 1918 to 1922. That this assumption is probably correct is indicated by the fact that relatively more valuable farm land changed hands during the "land boom" than before, which fact was then a matter of common observation. Further indication of a relatively greater turnover of the cheaper land is found in the last two columns of Table XXVIII where the number of acres reported sold bears a higher ratio to the total acres of all taxable land from 1910 to 1917, than the assessed valuation of the land sold bears to the total assessed valuation of all taxable land. It is highly improbable that this difference could be accounted for on any ground other than that the rate of turnover of the cheaper land is relatively more rapid than of the dearer land. It will be noted in Tables XXXIII to XXXVI that values in the corn belt section, according to *bona fide* sales, were higher than the calculated values in three successive years, 1919 to 1921. The same was true in the general farming section from 1920 to 1923, and in the Flint Hills from 1919 to 1923. The same tendency is noted in the other sections, although to a lesser degree than in the sections named.

TABLE XXXIII.—Value of farm real estate in the Corn Belt section, 1910 to 1923.

| YEAR. | Value of farm real estate per acre. | | In per cent of 1910 to 1914 average. | | Three-year moving average. | |
|---|---|---|---|---|---|---|
| | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. |
| 1910 | $58.79 | $63.41 | 93 | 93 | ..... | ..... |
| 1911 | 62.08 | 66.39 | 99 | 97 | $61.16 | $66.23 |
| 1912 | 62.61 | 68.88 | 100 | 101 | 63.92 | 68.79 |
| 1913 | 67.08 | 71.11 | 107 | 104 | 64.57 | 70.65 |
| 1914 | 64.03 | 71.97 | 102 | 105 | 66.20 | 71.39 |
| 1915 | 67.50 | 71.10 | 107 | 104 | 66.47 | 71.35 |
| 1916 | 67.87 | 70.98 | 108 | 104 | 69.10 | 72.44 |
| 1917 | 71.92 | 75.24 | 114 | 110 | 72.75 | 75.30 |
| 1918 | 78.48 | 79.68 | 125 | 117 | 79.69 | 80.79 |
| 1919 | 88.67 | 87.44 | 141 | 128 | 91.65 | 90.25 |
| 1920 | 107.82 | 103.64 | 171 | 152 | 99.13 | 96.84 |
| 1921 | 100.91 | 99.45 | 160 | 146 | 98.22 | 97.60 |
| 1922 | 85.93 | 89.72 | 137 | 131 | 89.67 | 91.26 |
| 1923 | 82.17 | 84.62 | 131 | 124 | ..... | ..... |

TABLE XXXIV.—Value of farm real estate in the General Farming section, 1910 to 1923.

| YEAR. | Value of farm real estate per acre. | | In per cent of 1910 to 1914 average. | | Three-year moving average. | |
|---|---|---|---|---|---|---|
| | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. |
| 1910 | $38.43 | $46.86 | 86 | 94 | ..... | ..... |
| 1911 | 43.08 | 48.28 | 96 | 97 | $42.71 | $49.03 |
| 1912 | 46.62 | 51.94 | 104 | 104 | 46.11 | 50.15 |
| 1913 | 48.62 | 50.24 | 108 | 101 | 47.59 | 51.14 |
| 1914 | 47.55 | 51.25 | 106 | 103 | 48.55 | 51.38 |
| 1915 | 49.50 | 52.65 | 110 | 106 | 48.77 | 52.02 |
| 1916 | 49.26 | 52.16 | 110 | 105 | 50.47 | 53.32 |
| 1917 | 52.65 | 55.14 | 117 | 111 | 53.17 | 54.65 |
| 1918 | 57.61 | 56.65 | 128 | 114 | 59.09 | 60.48 |
| 1919 | 67.00 | 69.64 | 149 | 140 | 70.29 | 69.18 |
| 1920 | 86.27 | 81.24 | 192 | 163 | 77.58 | 76.46 |
| 1921 | 79.46 | 78.49 | 177 | 158 | 79.84 | 76.27 |
| 1922 | 73.80 | 69.08 | 165 | 139 | 73.22 | 71.06 |
| 1923 | 66.40 | 65.60 | 148 | 132 | ..... | ..... |

TABLE XXXV.—Value of farm real estate in the Flint Hills region, 1910 to 1923.

| YEAR. | Value of farm real estate per acre. | | In per cent of 1910 to 1914 average. | | Three-year moving average. | |
|---|---|---|---|---|---|---|
| | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. |
| 1910 | $33.87 | $35.33 | 90 | 92 | ..... | ..... |
| 1911 | 36.35 | 37.59 | 96 | 98 | $34.99 | $36.74 |
| 1912 | 34.77 | 37.31 | 92 | 97 | 37.06 | 37.98 |
| 1913 | 40.07 | 39.04 | 106 | 101 | 39.56 | 39.87 |
| 1914 | 43.84 | 43.27 | 129 | 112 | 40.79 | 39.92 |
| 1915 | 38.47 | 37.45 | 102 | 97 | 40.67 | 40.05 |
| 1916 | 39.69 | 39.44 | 105 | 102 | 39.91 | 39.98 |
| 1917 | 41.57 | 43.05 | 110 | 112 | 42.02 | 43.22 |
| 1918 | 44.81 | 47.18 | 119 | 123 | 47.54 | 48.47 |
| 1919 | 56.24 | 55.17 | 149 | 143 | 56.14 | 55.33 |
| 1920 | 67.37 | 63.65 | 178 | 165 | 62.86 | 60.50 |
| 1921 | 64.98 | 62.70 | 172 | 163 | 62.64 | 59.98 |
| 1922 | 55.58 | 53.30 | 147 | 138 | 58.36 | 55.72 |
| 1923 | 54.53 | 51.16 | 144 | 133 | ..... | ..... |

TABLE XXXVI.—Value of farm real estate in the eastern half of the Wheat Belt, 1910 to 1923.

| YEAR. | Value of farm real estate per acre. | | In per cent of 1910 to 1914 average. | | Three-year moving average. | |
|---|---|---|---|---|---|---|
| | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. |
| 1910 | $39.91 | $44.36 | 93 | 94 | ..... | ..... |
| 1911 | 42.54 | 46.66 | 99 | 99 | $41.99 | $46.11 |
| 1912 | 43.52 | 47.32 | 101 | 101 | 43.93 | 47.68 |
| 1913 | 45.73 | 49.07 | 106 | 104 | 44.17 | 47.95 |
| 1914 | 43.26 | 47.47 | 101 | 101 | 45.02 | 48.58 |
| 1915 | 46.06 | 49.19 | 107 | 105 | 44.82 | 48.54 |
| 1916 | 45.13 | 48.97 | 105 | 104 | 46.63 | 50.06 |
| 1917 | 48.71 | 52.02 | 113 | 111 | 48.84 | 52.15 |
| 1918 | 52.69 | 55.46 | 123 | 118 | 57.31 | 59.07 |
| 1919 | 70.54 | 69.73 | 164 | 148 | 64.06 | 65.54 |
| 1920 | 68.96 | 71.44 | 160 | 152 | 67.64 | 69.50 |
| 1921 | 63.41 | 67.35 | 147 | 143 | 64.23 | 66.77 |
| 1922 | 60.31 | 61.51 | 140 | 131 | 60.22 | 62.41 |
| 1923 | 56.94 | 58.37 | 132 | 124 | ..... | ..... |

TABLE XXXVII.—Value of farm real estate in the western half of the Wheat Belt, 1910 to 1923.

| YEAR. | Value of farm real estate per acre. | | In per cent of 1910 to 1914 average. | | Three-year moving average. | |
|---|---|---|---|---|---|---|
| | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. |
| 1910 | $17.87 | $17.60 | 105 | 104 | ..... | ..... |
| 1911 | 16.76 | 17.88 | 99 | 106 | $17.24 | $17.46 |
| 1912 | 17.11 | 16.99 | 101 | 100 | 16.93 | 17.04 |
| 1913 | 16.91 | 16.25 | 100 | 96 | 16.69 | 16.35 |
| 1914 | 16.05 | 15.81 | 95 | 94 | 15.85 | 15.99 |
| 1915 | 14.59 | 15.92 | 86 | 94 | 15.98 | 16.50 |
| 1916 | 17.31 | 17.78 | 102 | 105 | 17.34 | 17.93 |
| 1917 | 20.13 | 20.08 | 119 | 119 | 18.57 | 19.41 |
| 1918 | 18.28 | 20.37 | 108 | 121 | 21.02 | 21.88 |
| 1919 | 24.66 | 25.20 | 146 | 149 | 25.12 | 24.88 |
| 1920 | 32.43 | 29.07 | 191 | 172 | 29.19 | 27.43 |
| 1921 | 30.48 | 28.14 | 180 | 167 | 30.35 | 27.87 |
| 1922 | 28.14 | 25.41 | 166 | 150 | 27.82 | 26.45 |
| 1923 | 24.85 | 25.79 | 147 | 153 | ..... | ..... |

TABLE XXXVIII.—Value of farm real estate in the southwestern Grazing Region, 1910 to 1923.

| YEAR. | Value of farm real estate per acre. | | In per cent of 1910 to 1914 average. | | Three-year moving average. | |
|---|---|---|---|---|---|---|
| | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. | *Bona fide* sales. | Calculated. |
| 1910 | $7.94 | $9.32 | 84 | 98 | ..... | ..... |
| 1911 | 9.52 | 9.77 | 101 | 103 | $9.61 | $9.46 |
| 1912 | 9.90 | 9.31 | 105 | 100 | 9.85 | 9.56 |
| 1913 | 10.12 | 9.60 | 108 | 101 | 9.86 | 9.47 |
| 1914 | 9.57 | 9.49 | 102 | 100 | 10.03 | 9.70 |
| 1915 | 10.40 | 10.03 | 111 | 106 | 10.54 | 10.16 |
| 1916 | 11.64 | 10.97 | 124 | 115 | 11.65 | 11.22 |
| 1917 | 12.92 | 12.66 | 137 | 133 | 12.19 | 12.04 |
| 1918 | 12.02 | 12.49 | 128 | 131 | 13.35 | 13.28 |
| 1919 | 15.13 | 14.70 | 161 | 155 | 15.69 | 15.11 |
| 1920 | 19.93 | 18.13 | 212 | 191 | 17.53 | 16.57 |
| 1921 | 17.53 | 16.88 | 186 | 178 | 17.93 | 17.32 |
| 1922 | 16.34 | 16.96 | 174 | 179 | 15.63 | 16.44 |
| 1923 | 13.01 | 15.49 | 138 | 163 | ..... | ..... |

**Selling Value Compared to Census Valuation.**—The results of the above methods of determining the selling value of land are compared in Table XXXIX to the United States Census valuation. Comparisons are made for the cenus years 1910 and 1920, although the latter census was taken near the close of 1919. It will be noted in this table that the calculated selling value of land and improvements is almost the same as the census valuation of land and buildings. For the purpose of closer comparison of these values, a simple analysis was made of the figures given in Table XXXIX. The sum of the deviations of the value of *bona fide* sales and of the calculated value from the census valuation of land and buildings, in the six sections of the state, was divided by six to find the average deviation of these values from the census valuation, with the following results:

| | Deviation of *bona fide* sale value from census valuation | | Deviation of calculated value from census valuation | |
|---|---|---|---|---|
| | *1910* | *1920* | *1910* | *1920* |
| Sum of deviations | $25.40 | $25.04 | $8.64 | $12.47 |
| Average deviation | 4.23 | 4.17 | 1.44 | 2.08 |
| Arithmetic average of census valuation per acre | 37.04 | 60.33 | 37.04 | 60.33 |
| Per cent of deviation | 11.4 | 6.9 | 3.9 | 3.4 |

This measurement of the deviations found in Table XXXIX indicates that the calculated value of land is a better basis for showing trends in farm real-estate values than is the average of the *bona fide* sales. The census valuation may not be entirely correct, but it affords an opportunity for comparison and check.

TABLE XXXIX.—Census valuation of farm real estate in Kansas compared with value of *bona fide* sales and calculated value, 1910 and 1920.

| SECTION OF KANSAS. | Census year. | Value of farm real estate per acre. | | Census valuation per acre. | | Acres taxable | Acres in farms (Census data). |
|---|---|---|---|---|---|---|---|
| | | *Bona fide* sales. | Calculated value. | Land and buildings. | Land only. | | |
| | | | | | | *Thousands.* | *Thousands.* |
| State average | 1910 | $33.38 | $36.79 | $40.05 | $35.45 | 50,079 | 43,385 |
| | 1920 | 62.21 | 60.46 | 62.30 | 54.50 | 51,617 | 45,425 |
| Corn belt | 1910 | 58.79 | 63.41 | 63.03 | 55.19 | 7,171 | 7,017 |
| | 1920 | 107.82 | 103.64 | 102.09 | 88.80 | 7,259 | 6,903 |
| General farming | 1910 | 38.43 | 46.86 | 45.57 | 38.65 | 6,226 | 5,830 |
| | 1920 | 86.27 | 81.24 | 76.05 | 63.97 | 6,224 | 5,708 |
| Flint Hills | 1910 | 33.87 | 35.33 | 35.51 | 31.11 | 5,374 | 4,995 |
| | 1920 | 67.37 | 63.65 | 61.79 | 53.89 | 5,403 | 4,700 |
| East half of wheat belt | 1910 | 39.91 | 44.36 | 45.33 | 40.91 | 15,283 | 14,451 |
| | 1920 | 68.96 | 71.44 | 70.73 | 62.78 | 15,347 | 14,547 |
| West half of wheat belt | 1910 | 17.87 | 17.60 | 19.71 | 17.90 | 9,531 | 7,853 |
| | 1920 | 32.43 | 29.07 | 31.06 | 27.59 | 9,801 | 8,967 |
| Grazing region | 1910 | 7.94 | 9.32 | 13.06 | 11.80 | 6,494 | 3,239 |
| | 1920 | 19.93 | 18.13 | 20.30 | 18.15 | 7,583 | 4,600 |

It will also be noted in Table XXXIX that the difference between the census valuation and the calculated value of land is greater in sections where a marked difference is found between the area of land in farms and the area of taxable land. Land that is taxable but not included in farms is in all probability cheaper land than that which is included in farms. Therefore, it is logical that a difference between the area taxable and the area in farms should reflect difference between the census valuation and the calculated value per acre shown in Table XXXIX.

*Possible Influence of an Increase in Taxable Land in Western Kansas on State Average of Land Values.*—The number of acres of taxable land in Kansas, and in each section of the state, by years from 1910 to 1923, is shown in Table XI. It will be noted in this table that the taxable land increased 1,636,000 acres from 1910 to 1923 and that this increase took place almost entirely in the western part of the state.

This increase, shown in Table XL, of taxable land in the western part of the state, where land is cheaper and where the tax is less per acre than in other parts of the state, might reduce the average value and the average tax per acre in the state as a whole. It might seem that the weight of an increased proportion of cheaper land in the state total would seriously disturb the accuracy of the average trends both in selling value and in the tax per acre.

The effect of this increase in taxable land in western Kansas, on the state average, was determined by calculating the average value and the average tax per acre in the state, as these averages would have been if there had been no increase in taxable acres in the western half of the wheat belt and in the southwest grazing region. The taxable land in these sections was reduced to the 1910 to 1914 average, and the calculated selling value and the total acres for

TABLE XL.—Acres of taxable land in Kansas, and in the subdivisions, 1910 to 1923.

(Thousands).

| YEAR. | State total. | Corn belt section. | General farming section. | Flint Hills region. | East half of wheat belt. | West half of wheat belt. | Southwestern grazing region. |
|---|---|---|---|---|---|---|---|
| 1910..... | 50,079 | 7,171 | 6,226 | 5,374 | 15,283 | 9,531 | 6,494 |
| 1911..... | 50,315 | 7,176 | 6,221 | 5,383 | 15,261 | 9,598 | 6,676 |
| 1912..... | 50,744 | 7,216 | 6,226 | 5,405 | 15,331 | 9,660 | 6,906 |
| 1913..... | 51,053 | 7,221 | 6,227 | 5,407 | 15,352 | 9,727 | 7,119 |
| 1914..... | 51,195 | 7,234 | 6,218 | 5,402 | 15,347 | 9,727 | 7,267 |
| 1915..... | 51,255 | 7,228 | 6,218 | 5,401 | 15,347 | 9,746 | 7,315 |
| 1916..... | 51,305 | 7,242 | 6,216 | 5,402 | 15,349 | 9,759 | 7,337 |
| 1917..... | 51,372 | 7,245 | 6,222 | 5,402 | 15,351 | 9,771 | 7,381 |
| 1918..... | 51,466 | 7,247 | 6,226 | 5,400 | 15,347 | 9,787 | 7,459 |
| 1919..... | 51,454 | 7,251 | 6,227 | 5,403 | 15,275 | 9,794 | 7,504 |
| 1920..... | 51,617 | 7,259 | 6,224 | 5,403 | 15,347 | 9,801 | 7,583 |
| 1921..... | 51,595 | 7,259 | 6,227 | 5,403 | 15,247 | 9,805 | 7,654 |
| 1922..... | 51,707 | 7,265 | 6,216 | 5,399 | 15,347 | 9,812 | 7,668 |
| 1923..... | 51,715 | 7,295 | 6,167 | 5,400 | 15,347 | 9,819 | 7,687 |
| | | | **Per cent of 1910 to 1914 Average** | | | | |
| 1910..... | 98.8 | 99.5 | 100.0 | 99.7 | 99.7 | 98.8 | 94.2 |
| 1911..... | 99.3 | 99.6 | 99.9 | 99.9 | 99.6 | 99.4 | 96.8 |
| 1912..... | 100.1 | 100.1 | 100.0 | 100.3 | 100.1 | 100.1 | 100.2 |
| 1913..... | 100.7 | 100.2 | 100.0 | 100.3 | 100.2 | 100.8 | 103.3 |
| 1914..... | 101.0 | 100.4 | 99.9 | 100.2 | 100.2 | 100.8 | 105.4 |
| 1915..... | 101.1 | 100.3 | 99.9 | 100.2 | 100.2 | 101.0 | 106.1 |
| 1916..... | 101.2 | 100.5 | 99.9 | 100.2 | 100.2 | 101.1 | 106.4 |
| 1917..... | 101.4 | 100.6 | 99.9 | 100.2 | 100.2 | 101.3 | 107.1 |
| 1918..... | 101.6 | 100.6 | 100.0 | 100.2 | 100.2 | 101.4 | 108.2 |
| 1919..... | 101.5 | 100.7 | 100.0 | 100.2 | 99.7 | 101.5 | 108.8 |
| 1920..... | 101.9 | 100.7 | 100.0 | 100.2 | 100.2 | 101.6 | 110.0 |
| 1921..... | 101.8 | 100.7 | 100.0 | 100.2 | 99.5 | 101.6 | 111.1 |
| 1922..... | 102.0 | 100.8 | 99.9 | 100.1 | 100.2 | 101.7 | 111.2 |
| 1923..... | 102.0 | 101.2 | 99.1 | 100.1 | 100.2 | 101.7 | 111.5 |

the state as a whole were adjusted accordingly. The resulting calculated selling value for the state as a whole in 1923 was $50.23 per acre as compared to $49.62 before allowance was made for the increase in taxable land in the western part of the state. This difference is an error of only 1.2 per cent of the corrected average. The average tax per acre in 1923, after making the above correction, was 50.8 cents as compared to 50.3 cents before correction, an error of slightly less than 1 per cent of the corrected average. The difference in taxes in per cent of selling value was also small, the corrected figure being 1.012 per cent as compared to 1.013 before correction. It was concluded from these figures that any error in state averages, on account of an increase of taxable land in the western part of the state, was too small to be of any practical consequence in this study.

**2. Calculating the Selling Value of City Real Estate.**—The calculated selling value of city real estate was determined in the same manner as the calculated selling value of farm real estate. The probable value of city real estate was determined on the basis 101,612 *bona fide* sales from 1910 to 1923, an average of 7,258 sales per year. Records of these sales were obtained in the same manner as in the case of farm real estate. Since the record of every transfer includes both selling value and assessed valuation at the time of sale, it was possible to calculate the rate of assessment for each year, for each section, and for the state as a whole. These and other data for the whole state are shown in Table XLI, and for each section in Table XLII.

TABLE XLI.—Number of reported sales of city real estate in Kansas; assessed valuation of sales in thousands and in per cent of all city real estate, 1910 to 1923.

| YEAR. | Number of sales. | Assessed valuation of sales in per cent of selling value (a). | Assessed valuation of sales. | Valuation of sales, in per cent of valuation of all city real estate. |
|---|---|---|---|---|
| | | | *Thousands.* | |
| 1910 | 6,671 | 77.6 | $6,745 | 1.6 |
| 1911 | 5,516 | 75.9 | 5,825 | 1.3 |
| 1912 | 5,081 | 73.9 | 5,393 | 1.2 |
| 1913 | 5,931 | 77.2 | 5,959 | 1.3 |
| 1914 | 6,427 | 75.5 | 5,972 | 1.3 |
| 1915 | 6,479 | 78.7 | 6,246 | 1.4 |
| 1916 | 7,720 | 76.9 | 7,448 | 1.5 |
| 1917 | 7,748 | 73.4 | 7,310 | 1.5 |
| 1918 | 7,594 | 72.3 | 8,250 | 1.6 |
| 1919 | 12,139 | 67.1 | 14,493 | 2.9 |
| 1920 | 10,567 | 62.1 | 13,585 | 2.7 |
| 1921 | 8,774 | 61.3 | 9,855 | 1.9 |
| 1922 | 5,369 | 66.6 | 8,093 | 1.5 |
| 1923 | 5,596 | 62.4 | 9,489 | 1.7 |

(a) One more decimal place was carried than is published.

The calculated selling value of city real estate in each section of Kansas, and in the state as a whole, is found in Table XLIII, which is based on the assessed valuation, given in Table XLIV, divided by the rate of assessment shown in Tables XLI and XLII. As in the case of farm real estate, the accuracy of this method of determining probable selling value depends on how closely the rate of assessment in Tables XLI and XLII represents the ratio

of assessed valuation to true value of city real estate in the state as a whole, and in each section. Because of the large number of *bona fide* sales recorded throughout the state, it is assumed that these rates of assessment are sufficiently representative to afford a fairly accurate estimate of the true value of city real estate.

TABLE XLII.—Number of reported sales of city real estate in each section of Kansas; and assessed valuation of sales in thousands and in per cent of all city real estate, 1910 to 1923.

| YEAR. | Number of sales. | Assessed valuation of sales in per cent of selling value. | Assessed valuation of sales. | Valuation of sales, in per cent of valuation of all city real estate. |
|---|---|---|---|---|
| **Corn Belt Section** | | | | |
| | | | *Thousands.* | |
| 1910 | 1,755 | 79.5 | $2,174 | 1.4 |
| 1911 | 1,627 | 76.1 | 1,858 | 1.2 |
| 1912 | 1,211 | 74.7 | 1,532 | 1.0 |
| 1913 | 2,312 | 77.1 | 2,474 | 1.5 |
| 1914 | 1,837 | 77.5 | 1,824 | 1.1 |
| 1915 | 1,822 | 81.3 | 1,949 | 1.2 |
| 1916 | 1,993 | 81.3 | 2,335 | 1.2 |
| 1917 | 2,043 | 78.8 | 2,410 | 1.2 |
| 1918 | 2,099 | 76.4 | 2,811 | 1.4 |
| 1919 | 4,245 | 74.7 | 6,085 | 3.5 |
| 1920 | 3,656 | 70.6 | 5,882 | 3.4 |
| 1921 | 3,305 | 67.7 | 4,371 | 2.5 |
| 1922 | 1,142 | 75.0 | 3,473 | 1.9 |
| 1923 | 963 | 66.6 | 4,197 | 2.2 |
| **General Farming Section** | | | | |
| 1910 | 967 | 80.5 | $919 | 1.0 |
| 1911 | 1,098 | 81.1 | 1,222 | 1.3 |
| 1912 | 1,189 | 81.1 | 1,159 | 1.3 |
| 1913 | 1,032 | 80.7 | 971 | 1.0 |
| 1914 | 1,591 | 74.5 | 1,420 | 1.6 |
| 1915 | 1,382 | 76.9 | 1,081 | 1.2 |
| 1916 | 1,632 | 77.0 | 1,563 | 1.6 |
| 1917 | 1,798 | 78.3 | 1,536 | 1.6 |
| 1918 | 1,982 | 72.7 | 1,860 | 1.8 |
| 1919 | 3,027 | 65.4 | 3,255 | 3.3 |
| 1920 | 1,948 | 61.7 | 2,231 | 2.3 |
| 1921 | 1,801 | 62.0 | 1,796 | 1.8 |
| 1922 | 1,408 | 64.5 | 1,640 | 1.5 |
| 1923 | 1,537 | 60.2 | 1,898 | 1.7 |
| **Flint Hills** | | | | |
| | | | *Thousands.* | |
| 1910 | 632 | 79.9 | $700 | 2.2 |
| 1911 | 523 | 80.1 | 550 | 1.7 |
| 1912 | 569 | 79.9 | 555 | 1.7 |
| 1913 | 449 | 83.7 | 506 | 1.5 |
| 1914 | 551 | 80.1 | 614 | 1.8 |
| 1915 | 653 | 85.2 | 661 | 1.8 |
| 1916 | 763 | 75.5 | 638 | 1.8 |
| 1917 | 803 | 67.9 | 707 | 1.9 |
| 1918 | 919 | 70.8 | 988 | 2.4 |
| 1919 | 767 | 62.8 | 790 | 1.9 |
| 1920 | 1,059 | 56.4 | 1,106 | 2.6 |
| 1921 | 478 | 58.9 | 458 | 1.0 |
| 1922 | 404 | 61.6 | 407 | .9 |
| 1923 | 465 | 60.7 | 616 | 1.3 |

TABLE XLII.—CONCLUDED.

| YEAR. | Number of sales. | Assessed valuation of sales in per cent of selling value. | Assessed valuation of sales. | Valuation of sales, in per cent of valuation of all city real estate. |
|---|---|---|---|---|
| **Eastern Half of Wheat Belt** | | | | |
| 1910 | 2,422 | 75.9 | $2,487 | 1.9 |
| 1911 | 1,799 | 72.9 | 1,851 | 1.3 |
| 1912 | 1,713 | 69.9 | 1,909 | 1.4 |
| 1913 | 1,648 | 75.5 | 1,720 | 1.2 |
| 1914 | 2,106 | 74.1 | 1,903 | 1.4 |
| 1915 | 1,997 | 77.2 | 2,212 | 1.6 |
| 1916 | 2,446 | 76.0 | 2,473 | 1.7 |
| 1917 | 2,287 | 69.3 | 2,234 | 1.5 |
| 1918 | 2,010 | 71.5 | 2,219 | 1.4 |
| 1919 | 3,121 | 61.8 | 3,572 | 2.2 |
| 1920 | 2,955 | 56.4 | 3,668 | 2.2 |
| 1921 | 2,230 | 56.2 | 2,658 | 1.5 |
| 1922 | 1,708 | 61.0 | 2,026 | 1.0 |
| 1923 | 1,887 | 60.5 | 2,211 | 1.1 |
| **Western Half of Wheat Belt** | | | | |
| 1910 | 619 | 69.5 | $357 | 3.6 |
| 1911 | 288 | 64.6 | 203 | 2.0 |
| 1912 | 278 | 61.8 | 199 | 2.0 |
| 1913 | 337 | 68.1 | 216 | 2.2 |
| 1914 | 253 | 61.8 | 144 | 1.5 |
| 1915 | 444 | 68.5 | 246 | 2.5 |
| 1916 | 572 | 60.5 | 271 | 2.5 |
| 1917 | 436 | 60.4 | 251 | 2.2 |
| 1918 | 273 | 55.7 | 165 | 1.3 |
| 1919 | 423 | 52.9 | 327 | 2.7 |
| 1920 | 449 | 44.1 | 280 | 2.4 |
| 1921 | 552 | 44.9 | 324 | 2.6 |
| 1922 | 427 | 50.8 | 321 | 2.3 |
| 1923 | 414 | 46.7 | 300 | 2.1 |
| **Southwestern Grazing Region** | | | | |
| 1910 | 276 | 73.3 | $109 | 2.5 |
| 1911 | 181 | 76.8 | 142 | 3.0 |
| 1912 | 79 | 55.9 | 40 | .7 |
| 1913 | 153 | 67.1 | 71 | 1.5 |
| 1914 | 89 | 79.1 | 67 | 1.4 |
| 1915 | 181 | 71.2 | 98 | 2.0 |
| 1916 | 314 | 70.5 | 168 | 3.0 |
| 1917 | 381 | 65.5 | 173 | 2.5 |
| 1918 | 311 | 55.8 | 206 | 3.0 |
| 1919 | 556 | 56.3 | 465 | 7.0 |
| 1920 | 500 | 51.6 | 418 | 6.0 |
| 1921 | 408 | 50.7 | 248 | 3.3 |
| 1922 | 280 | 63.9 | 225 | 2.6 |
| 1923 | 330 | 59.8 | 267 | 3.0 |

TABLE XLIII.—Calculated selling value of all city real estate in Kansas by sections, 1910 to 1923.

| YEAR. | Amount in millions (a). | | | | | | | Per cent of 1910 to 1914 average. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. |
| 1910 | $547 | $191 | $114 | $40 | $177 | $14.2 | $6.1 | 95 | 92 | 98 | 98 | 94 | 93 | 86 |
| 1911 | 579 | 207 | 115 | 41 | 193 | 16.0 | 6.2 | 100 | 100 | 99 | 100 | 102 | 107 | 86 |
| 1912 | 596 | 216 | 113 | 42 | 200 | 15.8 | (b) 9.3 | 103 | 104 | 97 | 102 | 106 | 107 | (b) 129 |
| 1913 | 578 | 211 | 116 | 41 | 187 | 14.4 | 7.0 | 100 | 102 | 100 | 100 | 99 | 93 | 100 |
| 1914 | 588 | 211 | 123 | 43 | 189 | 15.7 | 6.3 | 102 | 102 | 106 | 105 | 100 | 107 | 86 |
| 1915 | 575 | 205 | 120 | 43 | 183 | 14.3 | 6.9 | 99 | 100 | 103 | 105 | 97 | 93 | 100 |
| 1916 | 633 | 237 | 124 | 47 | 193 | 18.0 | 7.9 | 110 | 109 | 107 | 115 | 102 | 120 | 114 |
| 1917 | 679 | 248 | 123 | 54 | 218 | 19.0 | 10.6 | 117 | 114 | 106 | 132 | 115 | 127 | 157 |
| 1918 | 721 | 259 | 139 | 59 | 226 | 22.7 | 12.4 | 125 | 125 | 120 | 144 | 120 | 153 | 171 |
| 1919 | 744 | 233 | 153 | 67 | 265 | 22.8 | 11.8 | 129 | 113 | 132 | 163 | 140 | 153 | 171 |
| 1920 | 800 | 245 | 158 | 74 | 296 | 26.2 | 13.5 | 138 | 118 | 136 | 180 | 157 | 173 | 186 |
| 1921 | 857 | 263 | 164 | 74 | 324 | 27.7 | 15.0 | 148 | 127 | 141 | 180 | 171 | 187 | 214 |
| 1922 | 834 | 248 | 167 | 74 | 317 | 27.9 | 13.6 | 144 | 118 | 144 | 180 | 168 | 187 | 200 |
| 1923 | 919 | 290 | 183 | 77 | 330 | 31.0 | 15.0 | 159 | 140 | 158 | 188 | 175 | 207 | 214 |

(a) Although amounts are published in millions, the thousands and the hundreds were carried in all calculations.
(b) The marked deviation of these figures from the general trend is in all probability due to the fact that the calculated selling value in the grazing region for 1912 is based on a small number of transfers, aggregating only 0.36 per cent of the assessed valuation of all city real estate in that section in 1912. Any error in this figure could be of no real consequence in the total since the assessed valuation of city real estate in this section was only 1.4 per cent of the valuation of all city real estate in Kansas in 1912.

TABLE XLIV.—Assessed valuation of city real estate in Kansas by sections, 1910 to 1923.

| YEAR. | Amount in millions (a). | | | | | | | Per cent of 1910 to 1914 average. | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. | State total. | Corn belt. | General farming. | Flint Hills. | East half of wheat belt. | West half of wheat belt. | Grazing region. |
| 1910 | $425 | $152 | $92 | $32 | $134 | $9.9 | $4.4 | 97 | 95 | 99 | 97 | 97 | 100 | 89 |
| 1911 | 439 | 157 | 94 | 33 | 140 | 10.3 | 4.7 | 100 | 99 | 101 | 99 | 101 | 104 | 95 |
| 1912 | 442 | 161 | 92 | 34 | 139 | 9.8 | (b) 6.1 | 101 | 101 | 99 | 101 | 100 | 99 | (b) 123 |
| 1913 | 446 | 163 | 94 | 34 | 141 | 9.8 | 4.7 | 102 | 102 | 101 | 102 | 101 | 99 | 94 |
| 1914 | 444 | 164 | 91 | 34 | 140 | 9.7 | 4.9 | 101 | 103 | 99 | 102 | 101 | 98 | 99 |
| 1915 | 452 | 167 | 92 | 37 | 142 | 9.8 | 4.9 | 103 | 105 | 100 | 109 | 102 | 99 | 99 |
| 1916 | 487 | 193 | 95 | 36 | 147 | 10.9 | 5.6 | 111 | 121 | 103 | 106 | 106 | 110 | 112 |
| 1917 | 498 | 195 | 97 | 36 | 151 | 11.5 | 6.9 | 113 | 122 | 105 | 109 | 109 | 116 | 139 |
| 1918 | 522 | 198 | 101 | 42 | 161 | 12.7 | 6.9 | 119 | 124 | 109 | 124 | 116 | 128 | 139 |
| 1919 | 499 | 174 | 100 | 42 | 164 | 12.1 | 6.7 | 114 | 109 | 108 | 126 | 118 | 122 | 134 |
| 1920 | 497 | 173 | 98 | 42 | 167 | 11.5 | 6.9 | 113 | 108 | 105 | 125 | 120 | 117 | 139 |
| 1921 | 525 | 178 | 102 | 44 | 182 | 12.5 | 7.6 | 120 | 112 | 110 | 131 | 131 | 126 | 152 |
| 1922 | 555 | 186 | 108 | 46 | 193 | 14.1 | 8.7 | 127 | 117 | 117 | 137 | 139 | 143 | 174 |
| 1923 | 573 | 193 | 110 | 47 | 200 | 14.5 | 9.0 | 130 | 121 | 119 | 140 | 144 | 146 | 180 |

(a) Although amounts are published in millions, the thousands and the hundreds were carried in all calculations.
(b) See footnote (b), Table XLIII.

## D. MISCELLANEOUS DATA

**1. Ratio of Real Estate Levies to All General Property Taxes in Kansas.** —The ratio of taxes borne by farm and by city real estate, as calculated in this study, to all general property taxes in Kansas by years from 1910 to 1923, is shown in Table XLV. This table is based on real-estate taxes given in Tables I and XIII of this report, and on general property tax levies as shown on page 310 of the ninth biennial report of the State Tax Commission.

TABLE XLV.—Total taxes on farm and city real estate in per cent of total property taxes in Kansas, 1910 to 1923.

| YEAR. | Farm real estate. | City real estate. | Farm and city real estate combined. | YEAR. | Farm real estate. | City real estate. | Farm and city real estate combined. |
|---|---|---|---|---|---|---|---|
| 1910 | 39.6 | 23.8 | 63.4 | 1917 | 35.6 | 25.5 | 61.1 |
| 1911 | 38.5 | 24.8 | 63.3 | 1918 | 36.0 | 24.1 | 60.1 |
| 1912 | 39.2 | 25.0 | 64.2 | 1919 | 35.3 | 24.0 | 59.3 |
| 1913 | 38.2 | 25.0 | 63.2 | 1920 | 34.5 | 23.0 | 57.5 |
| 1914 | 38.3 | 25.5 | 63.8 | 1921 | 35.9 | 23.8 | 59.7 |
| 1915 | 37.5 | 25.1 | 62.6 | 1922 | 35.0 | 26.8 | 61.8 |
| 1916 | 40.3 | 23.0 | 63.3 | 1923 | 34.4 | 27 9 | 62.3 |

The proportion of farm real-estate taxes to all general property levies decreased from 39.6 per cent in 1910 to 34.4 per cent in 1923, while the share borne by city real estate increased from 23.8 per cent to 27.9 per cent in the same period. There was little change in the proportion borne by both farm and city real estate, this change being a decrease from 63.4 per cent in 1910 to 62.3 per cent in 1923. No data are at hand showing the increase in intangible property, and in income from sources other than property, in the period under study. However, if an important increase in such property in Kansas took place from 1910 to 1923, it evidently did not become an important supplement to real estate in the total base for state and local taxation. Otherwise, there would have been a greater decrease than is shown in Table XLV, in the proportion which real-estate levies bear to all general property taxes. However, a portion of the taxable capacity represented by intangible property and by unfunded income was probably reached indirectly through the shifting of a part of the city real-estate tax from the real-estate owner to other persons, as explained in subdivision 2 of Part IV of this bulletin,

**2. Ratios of the Assessed Valuation of Land and of Improvements to the Combined Valuation of Both.** —The assessed valuation of improvements bore a slightly decreasing ratio to the combined valuation of land and improvements from 1910 to 1923, as shown in Table XLVI. This decrease was greater in the corn belt section and in the southwest general farming region than elsewhere in the state,

It should not be taken for granted that the decrease in the valuation of improvernents relative to that of land and improvements combined, shown in Table XLVI, is due to a more rapid advance in the true value of the land than

TABLE XLVI.—Assessed valuation of land and of improvements, in per cent of total assessed valuation of farm real estate in Kansas, 1912 to 1923 (*a*).

| YEAR. | State average. | | Corn belt. | | General farming | | Flint Hills. | | East half of wheat belt. | | West half of wheat belt. | | Grazing region. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. |
| 1912 | 90.5 | 9.5 | 89.8 | 10.2 | 84.1 | 15.9 | 90.2 | 9.8 | 92.8 | 7.2 | 93.5 | 6.5 | 95.5 | 4.5 |
| 1913 | 90.4 | 9.6 | 89.7 | 10.3 | 84.4 | 15.6 | 90.1 | 9.9 | 92.6 | 7.4 | 93.3 | 6.7 | 95.5 | 4.5 |
| 1914 | 90.6 | 9.4 | 90.1 | 9.9 | 84.9 | 15.1 | 90.4 | 9.6 | 92.6 | 7.4 | 93.9 | 6.1 | 95.9 | 4.1 |
| 1915 | 90.7 | 9.3 | 90.4 | 9.6 | 85.2 | 14.8 | 90.3 | 9.7 | 92.5 | 7.5 | 93.8 | 6.2 | 95.8 | 4.2 |
| 1916 | 91.0 | 9.0 | 90.7 | 9.3 | 85.2 | 14.8 | 90.5 | 9.5 | 92.8 | 7.2 | 94.2 | 5.8 | 95.7 | 4.3 |
| 1917 | 90.1 | 9.1 | 90.7 | 9.3 | 85.0 | 15.0 | 90.4 | 9.6 | 92.7 | 7.3 | 93.7 | 6.3 | 95.3 | 4.7 |
| 1918 | 91.2 | 8.8 | 91.0 | 9.0 | 86.1 | 13.9 | 91.0 | 9.0 | 92.9 | 7.1 | 93.9 | 6.1 | 94.6 | 5.4 |
| 1919 | 91.1 | 8.9 | 90.9 | 9.1 | 86.1 | 13.9 | 90.8 | 9.2 | 92.8 | 7.2 | 93.8 | 6.2 | 94.5 | 5.5 |
| 1920 | 92.2 | 7.8 | 92.2 | 7.8 | 87.6 | 12.4 | 91.9 | 8.1 | 93.7 | 6.3 | 94.4 | 5.6 | 95.0 | 5.0 |
| 1921 | 92.1 | 7.9 | 92.1 | 7.9 | 87.5 | 12.5 | 91.9 | 8.1 | 93.5 | 6.5 | 94.2 | 5.8 | 94.8 | 5.2 |
| 1922 | 91.5 | 8.5 | 91.3 | 8.7 | 86.3 | 13.7 | 91.2 | 8.8 | 93.3 | 6.7 | 93.7 | 6.3 | 95.4 | 4.6 |
| 1923 | 91.5 | 8.5 | 91.2 | 8.8 | 86.3 | 13.7 | 91.2 | 8.8 | 93.2 | 6.8 | 93.7 | 6.3 | 95.4 | 4.6 |

(*a*) Assessed valuation as equalized by the State Board of Equalization.

TABLE XLVII.—Census valuation of farm land and of improvements in Kansas in per cent of the combined valuation of both, 1910 and 1920.

| YEAR. | State average. | | Corn belt. | | General farming. | | Flint Hills. | | East half of wheat belt. | | West half of wheat belt. | | Grazing region. | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. | Land. | Improvements. |
| 1910..... | 88.5 | 11.5 | 87.6 | 12.4 | 84.8 | 15.2 | 87.6 | 12.4 | 90.2 | 9.8 | 90.8 | 9.2 | 90.3 | 9.7 |
| 1920..... | 87.5 | 12.5 | 87.0 | 13.0 | 84.1 | 15.9 | 87.2 | 12.8 | 88.8 | 11.2 | 88.8 | 11.2 | 89.4 | 10.6 |

in that of the improvements. It may be due to a tendency on the part of the tax assessors to underassess the improvements relative to the land. In fact the latter is more likely to be the case, as shown in Table XLVII. The census valuation of buildings in Kansas increased from 1910 to 1920, relative to the combined valuation of both land and buildings. This was the case in all sections of the state. Therefore, it appears highly probable that the increase in the proportionate valuation of land for taxation from 1910 to 1920 was due to an inclination on the part of assessors to "favor" the improvements.

**3. Formulae for Calculating the Normal Trends of Taxes and of Land Values.**—The formulae[42] given below were used in calculating *normal trends* of taxes and of selling value per acre of land in the state as a whole and in each section, as shown in figures 4 to 10. In each instance $x$ = time in years counting 1910 as year 1; and $y$ = the normal trend of taxes and of land values in per cent of the 1910-1914 average.

State average (fig. 4):
Taxes, $y = 86.55 + 1.19x + 0.76x^2$
Land values, $y = 87.24 + 3.94x + 0.0266x^2$

Corn Belt section (fig. 5):
Taxes, $y = 81.36 + 3.764x + 0.588x^2$
Land values, $y = 85.045 + 4.685x - 0.05x^2$

General farming section (fig. 6):
Taxes, $y = 86.8 - 0.1x + 0.836x^2$
Land values, $y = 86.81 + 3.92x + 0.064x^2$

Flint Hills (fig. 7):
Taxes, $y = 80.804 + 5.334x - 0.0092x^2$
Land values, $y = 87.45 + 1.367x + 0.6524x^2$

Eastern half of the wheat belt (fig. 8):
Taxes, $y = 83.68 + 3.07x + 0.62x^2$
Land values, $y = 85.07 + 5.07x - 0.072x^2$

Western half of the wheat belt (fig. 9):
Taxes, $y = 136 - 19.43x + 2.38x^2$
Land values, $y = 98.57 - 0.93x + 0.45x^2$

Southwestern grazing region (fig. 10):
Taxes, $y = 86.54 + 3.58x + 0.28x^2$
Land values, $y = 106.95 - 8.91x + 1.64x^2$

The normal trends of the ratio of taxes to selling value of farm and of city real estate (fig. 25) were calculated by the following formulæ:
Farm real estate, $y = 0.5553 - 0.0071x + 0.0027x^2$
City real estate, $y = 1.079 + 0.019x + 0.005x^2$

**4. Increase in General Property Taxes in the United States as a Whole, and by Geographic Divisions.**—The increase in taxes on real estate in Kansas is a part of a nation-wide increase in general property taxes, as shown in Table XLVIII. The greater increase in estimated taxes per acre of farm land, and in general property taxes, took place in those parts of the United States where a greater reliance is placed on general property taxation for state and

42. These formulæ were derived by Professor A. E. White of the Department of Mathematics, Kansas State Agricultural College, from data found in Tables IX, X, XXI, and XXXII to XXXVIII.

local revenue, with only one or two exceptions. This correlation becomes more evident when the geographic divisions are arrayed according to the ratio which general property taxes bear to all state and local revenue, and the array divided into three groups with three sections in each. The following are the *arithmetic averages* for each group of three geographic divisions in each group:

| | *General property taxes in per cent of all state and local revenue in 1922* | *Per cent increase in general property taxes, 1912 to 1922* | *Per cent increase in taxes per acre of farm land, 1913-1914 to 1921-1922* |
|---|---|---|---|
| Group 1 (*a*) | 75 | 133 | 94 |
| Group 2 (*b*) | 80 | 165 | 133 |
| Group 3 (*c*) | 83 | 183 | 133 |

(*a*) New England, Pacific, and Middle Atlantic.
(*b*) South Atlantic, East South Central, and West North Central.
(*c*) East North Central, West South Central, and Mountain.

TABLE XLVIII.—Relation of general property taxes to all state and local revenue in 1922; per cent of increase in general property taxes from 1912 to 1922; and approximate increase in taxes on farm real estate, by geographic divisions.

| DIVISION. | General property taxes in per cent of all state and local revenue in 1922 (*a*). | Per cent of increase in general property taxes 1912 to 1922 (*a*). | Approximate per cent of increase in taxes per acre of farm land, 1913-'14 to 1921-'22 (*b*). |
|---|---|---|---|
| United States | 79 | 160 | 126 |
| New England | 74 | 113 | 85 |
| Middle Atlantic | 76 | 130 | 93 |
| East North Central | 82 | 198 | 122 |
| West North Central | 81 | 172 | 141 |
| South Atlantic | 77 | 180 | 121 |
| East South Central | 81 | 144 | 138 |
| West South Central | 82 | 186 | 163 |
| Mountain | 85 | 166 | 115 |
| Pacific | 74 | 157 | 105 |

(*a*) Adapted from *Wealth, Public Debt, and Taxation*, United States Bureau of the Census.
(*b*) Adapted from data by the United States Department of Agriculture, *Weather, Crops, and Markets*, March 17, 1923, page 251. In determining the approximate increase in taxes per acre of farm land in each division, the average tax per acre in each of the states constituting a division, as reported by the United States Department of Agriculture, was weighted by the number of acres in farms at the nearest census year. The resulting average tax per acre for the United States as a whole varied from the official averages as follows: Tax per acre in 1913-'14, weighted average, $0.32; official figure, $0.31. Tax per acre in 1922-'23, weighted average, $0.71; official figure $0.71. Increase, weighted average, 122 per cent; official figure, 126 per cent.