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GREAT PLAINS AND MOUNTAIN STATES

THROUGHOUT most of the Great Plains and Mountain region, farmers' financial problems began early in the interwar period and were severe and prolonged. This region of wheat farms and range land (including, as may be seen on the color map in the back of the book, most of the area in the Dakotas, Nebraska, Kansas, Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, and Nevada)[1] contains one of the worst of the trouble spots delineated in the preceding chapter—section E in Figure 23. The unfavorable financial experience in the Great Plains and Mountain states is hardly surprising, for the region as a whole has suffered at times from practically all of the serious hardships that plague farmers: droughts, ruinously low prices for most of the products of the region, and the aftermath of speculative excesses.

Physical Characteristics of the Area

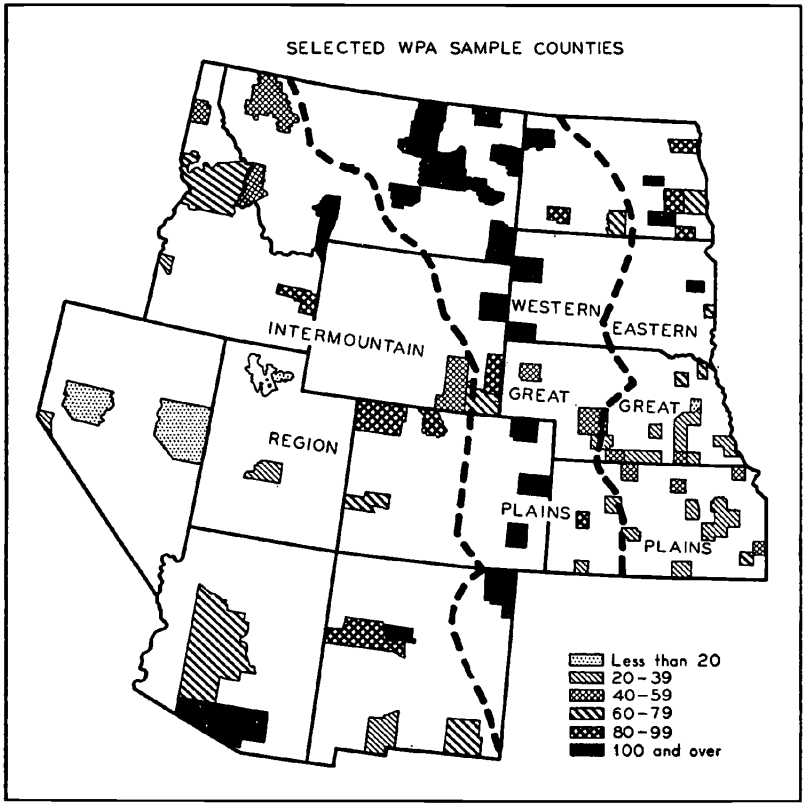
The Great Plains and Mountain states are highly heterogeneous. Throughout their vast area of over a million square miles there are tremendous variations in climate, soil, topography, susceptibility to erosion, and economic conditions. The whole region, in fact, divides naturally into three subregions based upon climatic and physiographic characteristics: eastern Great Plains, western Great Plains, and Intermountain (Figure 24). In most of the eastern Great Plains, which includes roughly the eastern halves of the Dakotas, Kansas, and Nebraska, annual rainfall averages 20 inches or more (Figure 25). The native vegetation is tall grass, and conditions are generally favorable to crop farming. In the northern and southern parts of the eastern Great Plains wheat farming prevails (see the color map). The central portion, however, including southeastern South Dakota, eastern Nebraska, and part of northeastern Kansas, is really an extension of the Corn Belt. Farming there is relatively intensive, with grains and livestock the principal products. A large

[1] Parts of Texas and Oklahoma belong in this category too, but those states can most conveniently be discussed in Chapter 4 in connection with the Cotton Belt. The Pacific Coast states, which include the western rim of the region, will be discussed in Chapter 5.

proportion of the total value of farm property for the entire area is concentrated in the eastern subregion.

In the western Great Plains annual rainfall averages less than 20 inches. For the most part agriculture is limited to cattle and sheep ranching and the production of small grains by dry farming methods. In the Intermountain subregion most of the

Figure 24. Distress Transfers, 1920-35, per Hundred Mortgaged Farms in 1930: Great Plains and Mountain States Divided Regionally



Transfer experience as in Figure 8. Regional divisions based on climatic and physiographic factors.

topography is too rough and rainfall too scanty for anything but range livestock. A few dry farming sections produce wheat, but more intensive types of farming are found only in scattered irrigated valleys.

For all their diversity, the Great Plains and Mountain states have one common characteristic—the limited amount and variability of their rainfall. In general, the amount of precipitation decreases from east to west (Figure 25), and the rate of evaporation, which influences the amount of moisture available for plant growth, increases from north to south. While almost no section of the region is free from recurrent droughts, the hazard is especially serious in the western sections. Where annual rainfall averages less than 20 inches, year to year variations in amount and distribution are important. Even slight deviations of three to four inches below normal can substantially reduce crop production. Between 1900 and the outbreak of World War II, excessively dry periods occurred in the Great Plains in 1901, 1910, 1917, 1930, 1931, 1933, 1934, and 1936.[2] Not all parts of the area were affected uniformly, but all were stricken intermittently. In the western range country there were dry periods in 1919 and 1924 as well as in most of the above years.[3] Although the eastern Great Plains has more precipitation than the other two subregions—20 inches or more annually in most of the area—even there subaverage rainfall occurring in successive years, as it did in the thirties, may prove ruinous.

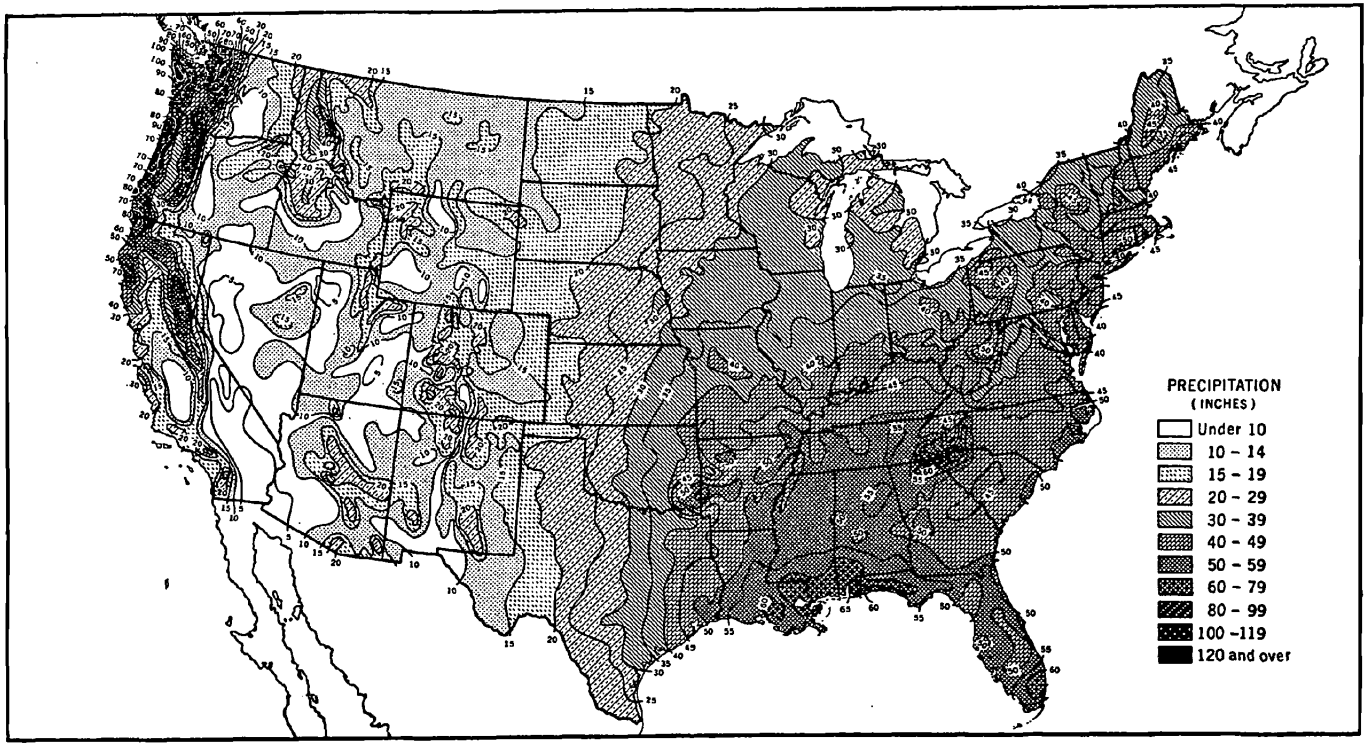
Economic History before 1920

The history of agriculture in the Great Plains has shown an enormous readjustment of farming methods to the requirements of the climate. In almost any new area there is likely to be a period of financial readjustment after the initial period of expansion, which often proceeds too rapidly because of overconfidence and unfamiliarity with productive capacity. The traditional pattern is for farmers and land speculators to bid up land values, and on that basis to contract excessive debts. Then follows a reappraisal and readjustment, during which the debt structure is reduced to more reasonable proportions. All this occurred in the Great Plains, and in addition there was the necessity of readjusting agricultural technology. Fundamentally, most of the Great Plains area is adapted to ranching or extensive farming with large units and machine methods. The need for large units is particularly great in the drier regions, which are suitable only for grazing and dry land wheat farming. But the

[2] *Areas of Intense Drought Distress, 1930-36* (Works Progress Administration, Research Bulletin, January 1937), p. 4.

[3] *The Western Range* (Sen. Doc. 199, 1936), p. 139.

Figure 25. Average Annual Precipitation



Map supplied by U.S. Department of Agriculture, Bureau of Agricultural Economics.
Based on Weather Bureau data in **Climate and Man**, 1941 Yearbook of the Department of Agriculture.

requirement was not originally recognized, mainly because of inexperience.

In pioneer days, when the western prairies were largely range, overstocking and lack of adequate hay reserves resulted from time to time in hardships for the livestock industry. Difficulties increased after the range began to be broken for wheat. Most of the wheat farmers were settlers who came from states to the east where rainfall was fairly uniform and relatively plentiful. They had had no experience with semiarid conditions. Only after investing their capital—much of it borrowed—did they discover the production limitations of the region. Studies of mortgage loans made by the Federal Land Bank of Spokane indicate that experience on livestock ranches was comparatively good in a number of semiarid areas where losses on wheat farms were heavy.

To the inexperience of the easterners should be added the limitations of the Homestead Act of 1862, which originally allowed only 160 acres to each settler. Such allotments were totally inadequate for the needs of extensive farming and greatly hindered the adaptation of agriculture to the region. Even the 320 acres permitted by an amendment to the Homestead Act in 1909 and the stock raising homestead of 640 acres authorized in 1916 were uneconomic in size. Later, as the inadequacy of the holdings became more apparent and as power farming developed, combination into larger units took place. Between 1910 and 1930 the average size of farm in North Dakota increased from 382 to 496 acres; in South Dakota from 335 to 439; in Nebraska from 298 to 345; and in Kansas from 244 to 283 acres. Farther west in the drier areas the increases were even greater. In Montana the change was from 517 to 940 acres; in New Mexico from 316 to 982; and in Wyoming from 778 to 1,469.[4]

Throughout the Great Plains and Mountain states overexpansion of crop acreage during World War I led to maladjustments that go far to explain the pattern of farm mortgage distress in the twenties. But overexpansion did not occur uniformly throughout the area. In the eastern Great Plains, settlement was practically complete before the war, and farmers had already learned something about the limitations of the climate, which in any case were not so severe there as farther west. In the western Great Plains, however, settlement was still in progress

[4] *Statistical Abstract of the United States: 1935*, pp. 558 f.

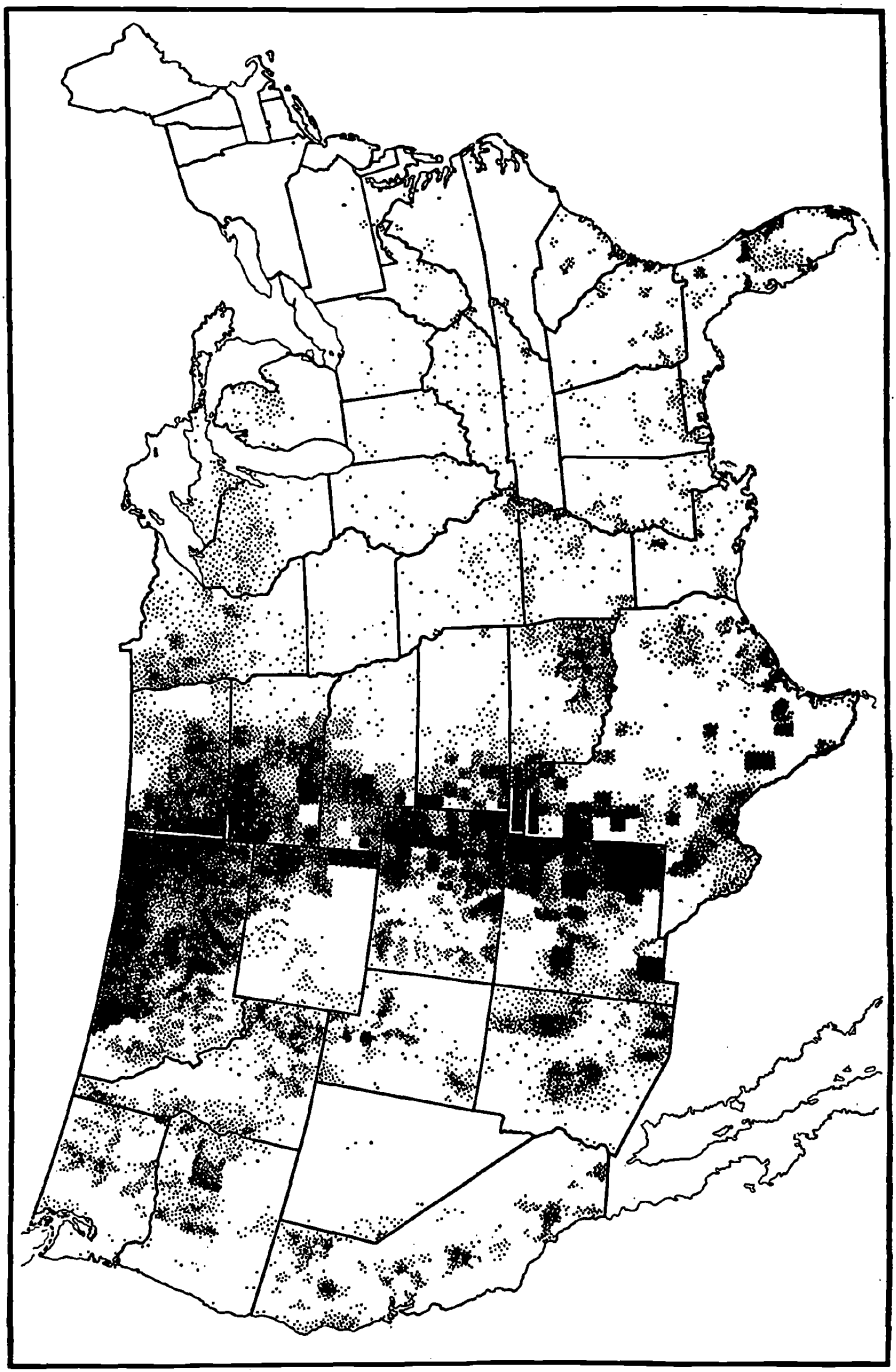


Figure 26. Increase in Farm Acreage, 1910-20

Map supplied by U.S. Department of Agriculture.
Based on census data as of April 15, 1910 and January 1, 1930. Each dot represents 5,000 acres.

when the war boom developed. The westward expansion of agriculture between 1910 and 1920 is indicated by the increase in the amount of land in farms (Figure 26 and Table 8). The earlier-settled states of Kansas and Nebraska showed relatively little new land in farms during that period. To the north in the Dakotas the increase was more marked. But the truly significant increases were farther west, in Colorado, Montana, and New Mexico. The expansion proceeded with optimism and a boom in land values. Lenders were quite as optimistic as the new farm settlers, and farm mortgage debt increased rapidly between 1910 and the early twenties (Table 9). The creation of farm mortgage debt, particularly in untried areas, proved basic to the extensive and acute distress soon to follow. It is significant that distress transfers of farms during the interwar period were heaviest in the western Great Plains, where the increase of land in farms was greatest between 1910 and 1920 (Figures 24 and 26).

The history of Montana illustrates a striking combination of events—the general speculative boom accompanying World War I and the expansion of crop farming in a semiarid area

TABLE 8

Land in Farms in the Great Plains and Mountain States, 1910 and 1920

(in thousands of acres)

State	*1910 (April 15)*	*1920 (January 1)*	*Change 1910-20*
North Dakota	28,427	36,215	27%
South Dakota	26,017	34,636	33
Nebraska	38,622	42,225	9
Kansas	43,385	45,425	5
Montana	13,546	35,071	159
Idaho	5,284	8,376	59
Wyoming	8,543	11,809	38
Colorado	13,532	24,462	81
New Mexico	11,270	24,410	117
Arizona	1,247	5,802	365
Utah	3,398	5,050	49
Nevada	2,715	2,357	—13
United States	878,798	955,884	9%

From *Statistical Abstract of the United States: 1935*, pages 558 f.

TABLE 9

Farm Mortgage Debt in the Great Plains and Mountain States, 1910 and 1923

(dollar figures in thousands)

State	*1910*	*1923*	*Increase 1910-23*
North Dakota	$97,830	$312,870	220%
South Dakota	84,943	451,281	431
Nebraska	148,366	691,732	366
Kansas	163,359	527,397	223
Montana	16,952	192,092	1,033
Idaho	21,423	158,737	641
Wyoming	7,363	59,514	708
Colorado	35,492	203,064	472
New Mexico	4,301	32,297	651
Arizona	4,338	48,748	1,024
Utah	6,609	52,095	688
Nevada	2,977	25,053	742
United States	$3,207,863	$10,785,621	236%

From *Farm-Mortgage Credit Facilities in the United States*, by Donald C. Horton, Harald C. Larsen, and Norman J. Wall (U.S. Department of Agriculture, Misc. Pub. No. 478, 1942), pages 219 f. Data as of January 1.

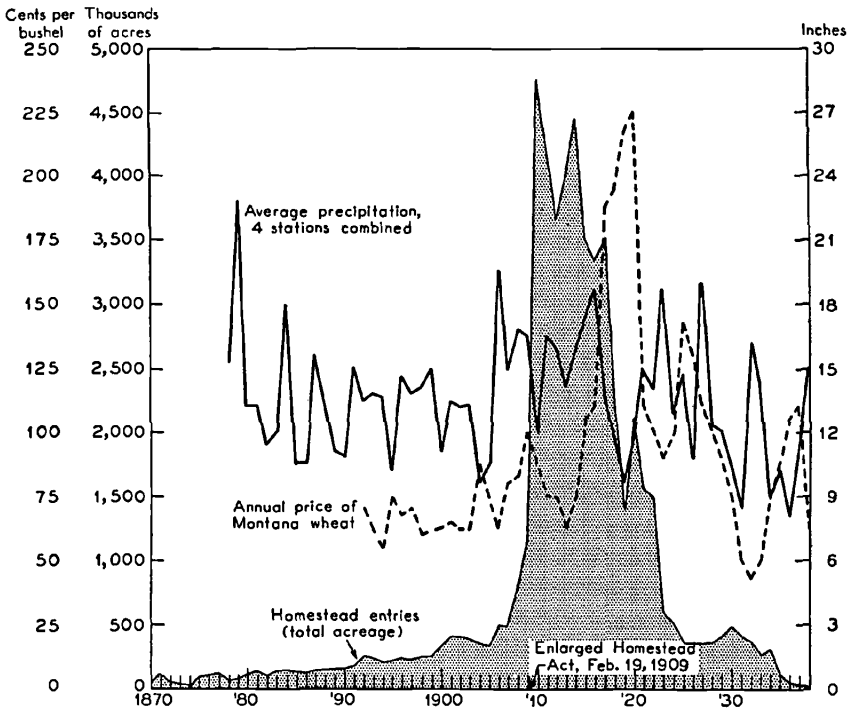
not well suited for it. As settlement progressed, the number of acres of wheat harvested had increased between 1910 and 1914 from 435,000 to 1,655,000. During the war, from 1914 to 1918, when wheat prices doubled, the acreage rose to 3,400,000. By 1920 it was 3,608,000. R. R. Renne states that the period 1910 to 1918 "was characterized by rising prices, high yields, feverish optimism, and booming business activity."[5] The heavy influx of settlers when yields were relatively favorable, prices good, and land values rising was conducive to speculation, overexpansion, and excessive borrowing.

One factor contributing to the overexpansion of crop farming in Montana was a series of unusually favorable growing seasons. Precipitation records indicate that weather conditions were especially good during the early years of settlement (Figure 27). For eleven years from 1906 through 1916, precipitation at four stations averaged about 16 inches annually; in the driest year (1910) it was 12½ inches. During the next eleven years, 1917-

[5] R. R. Renne, *Montana Farm Foreclosures* (Montana State College Agricultural Experiment Station, Bulletin 368, February 1939), p. 43.

27, it averaged only about 14 inches, and in the low year (1919) was 10 inches. The next eleven years, 1928-38, were still worse, with an average of 11½ inches, which is below the amount for the worst year of the 1906-16 period; the driest year was 1936, with only 8 inches, and 1931, 1934, and 1937 were nearly as bad, each having less than 10 inches.[6] This period of severe

Figure 27. Yearly Precipitation, Wheat Prices, and Homestead Entries in Montana, 1870's through 1938



After a chart in the work of Eckert and Maughan cited in the text. Average precipitation is for Great Falls, Miles City, Poplar, and Havre combined.

drought was the most prolonged on record. Since the relatively high and stable rainfall during 1906-16 was coupled with the fertility of the virgin soil and high prices for wheat in the early war years, it is hardly surprising that the inexperienced settlers underestimated the wide variations in the earning capacity of

[6] Phil S. Eckert and Orlo H. Maughan, *Farm Mortgage Loan Experience in Central Montana* (Montana State College Agricultural Experiment Station, Bulletin 372, June 1939), p. 4.

the new land, and it is no more surprising that mortgage lenders, too, made serious mistakes.

While wheat farming was expanding into the short grass country, livestock production was also increasing in range areas to the west. Cattle other than milk cows increased nearly three million head, or 23 percent, between 1910 and 1920 in the twelve states included in the Great Plains and Mountain region.[7] In many localities the range became overstocked and seriously damaged, which resulted in heavy feed expenses, especially in dry years. To the increase in mortgage debt was added a substantial expansion of livestock producers' cattle "paper." In the ensuing price decline, many cattlemen lost both ranch and livestock.

In the earlier-settled sections of the eastern Great Plains the war boom was somewhat less dramatic. There was little expansion of acreage, but there was a considerable boom in land values and some expansion both of mortgage and of short-term debt. The boom was very similar to that which occurred in the Corn Belt states adjoining on the east. Much of the World War I expansion was based on $2 wheat, $1.50 corn, $10 beef, and $16 hogs, and farmers did not expect the sudden drop in prices that occurred in the early twenties.

Variations in Mortgage Distress in the Twenties

Farm mortgage distress in the Great Plains and Mountain region during the twenties was general and widespread. There was, however, considerable variation among localities as to severity and timing. In general, trouble developed earliest in the two western subregions and was more severe there than elsewhere. Signs of farm mortgage difficulty appeared in western areas as early as the dry year 1917. In 1919, drought was severe, especially in Montana, where the number of distress transfers of farms in the WPA sample counties was twice that of the previous year. The main wave of foreclosures, however, started only after the price break beginning in mid-1920. By 1921 wheat prices were half those of 1919.[8] They declined further in 1922 and 1923, showing no improvement until 1924. These unfavorable prices, combined with lower yields because of drought, reduced farm incomes to very low levels. Incomes of livestock

[7] *Statistical Abstract of the United States: 1925*, pp. 610 f.

[8] *Prices Received by Farmers for Crops, Livestock, and Livestock Products, 1909-45* (U.S. Department of Agriculture, 1946), pp. 3 and 6.

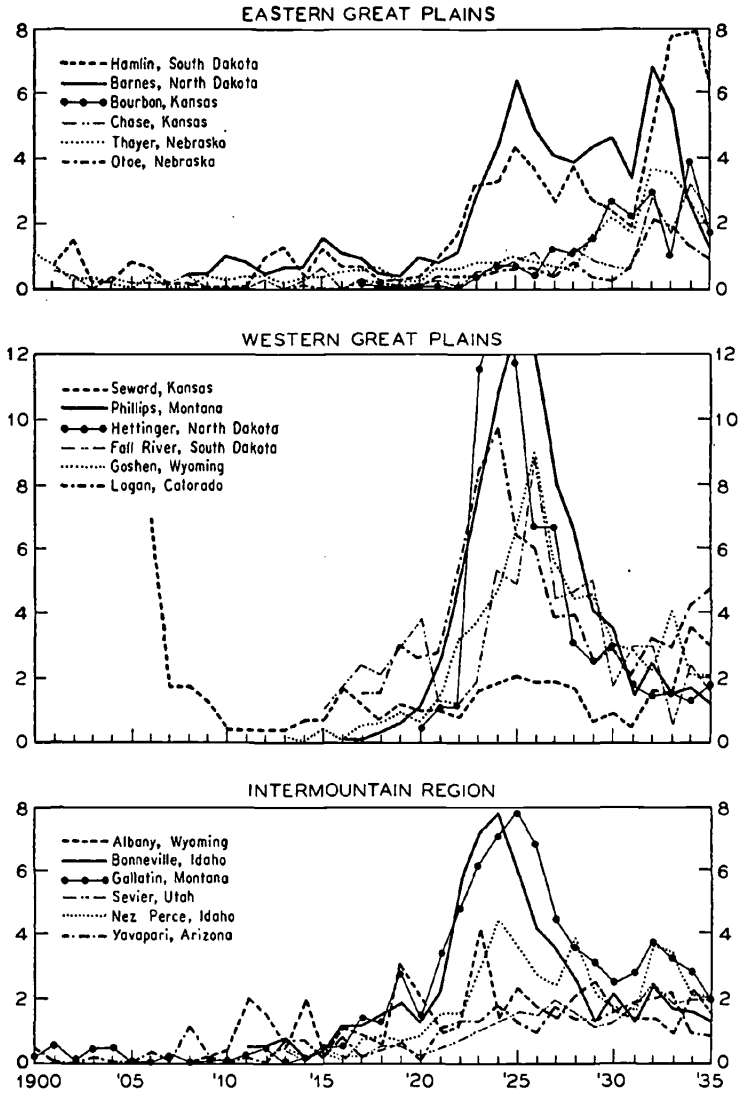
producers were similarly affected when cattle prices declined from more than $11 a hundredweight in the spring of 1919 to between $4 and $5 in the fall of 1921. Such prices, of course, did not cover current operating costs, much less debt service charges. Distress transfers of farms continued to increase during the early twenties in the western Great Plains and Intermountain subregions, reaching peak rates around 1924 or 1925, depending on locality. Thereafter they declined rapidly in most areas (Figure 28).

The price collapse of the early twenties also fell heavily, of course, on the eastern Great Plains. In Nebraska, for example, the index of farm prices (August 1909–July 1914 = 100) dropped from 197 for the year 1920 to 108 for 1921.[9] After remaining near that level through 1923, prices began to improve, and for the remainder of the decade the index for Nebraska hovered around 150. This was a substantial recovery, and it brought considerable relief. Furthermore, since the eastern Great Plains suffered less from droughts than areas to the west, crop production remained fairly good. Hence the eastern area fared much better than the western sections during the price declines of the twenties, and a large proportion of farmers were able to meet their mortgage and tax payments. Although there was considerable mortgage distress in the eastern part of the Dakotas, the highest rates of distress transfers for most localities in the eastern Great Plains did not occur until the early thirties, the peaks being reached in 1932 and 1933 (Figure 28).

Inadequacies of the banking and credit system also contributed greatly to the volume of farm foreclosures and general distress during the twenties in the Great Plains and Mountain region, as in many parts of the United States. The numerous failures of commercial banks, the major institutional lenders at that time, have already been pointed out (page 46 and Figure 16). For the most part the banks of the Great Plains and Mountain region were local institutions with limited resources, and a large part of their total investment was in farm and ranch loans. When borrowers were unable to repay their loans, many of the local banks were unable to meet their deposit liabilities, and in an effort to do so they often called loans that might otherwise have been extended. This, of course, made a bad situation worse. Eastern mortgage investment companies,

[9] *Farm Economics* (New York State College of Agriculture, Cornell University), No. 160 (April 1948), p. 4166.

Figure 28. Distress Transfers per Hundred Farms, Eastern and Western Great Plains, and Intermountain Region, 1900-1935



Distress transfers include assignments to ovoid foreclosure, as well as foreclosures. Data ore from **Transfers of Farm Real Estate** (BAE, 1939).

cattle loan companies, and other creditors were also poorly prepared for the drastic decline that occurred in incomes and in land and livestock values.

National recognition of the financial crisis in the Great

Plains was shown by the action of the federal government in making emergency crop loans in the northern part of the area in 1918 and again in 1921 and 1922.[10] In 1924 such loans were made in New Mexico. At the same time, the powers of the War Finance Corporation, a government agency, were enlarged to permit rediscounts of agricultural and livestock loans. Commercial banks and livestock loan companies in range areas were particularly heavy borrowers under these provisions.

Variations in Mortgage Distress in the Thirties

After showing some improvement in the late twenties, prices of wheat and livestock again dropped precipitously in the general depression of the thirties. Severe droughts occurred during the same period, and in some areas, such as the Red River valley, damage from wheat rust was severe. Farm incomes in the Great Plains and Mountain region declined to levels even lower than in the early twenties. Land values continued to decrease and farm mortgage foreclosures again rose. But the location of mortgage distress in the thirties was quite different from that of the twenties. Many areas, including most of the two western subregions, had already gone through a shaking-out process. Most of the weaker units had been eliminated by the mid-twenties, and after that wave of foreclosures both borrowers and lenders showed more caution. In general, the farm mortgage distress of the thirties was especially acute in areas that had escaped the ravages of the twenties. This was true, for example, of most of the eastern Great Plains, which might have gradually adjusted its top-heavy debt structure if the depression of the thirties had been less severe. It was also true of the Dust Bowl area of western Kansas and eastern Colorado, which had held up remarkably well during the twenties. Here the social as well as the mortgage structure collapsed in the thirties; many areas became virtually uninhabitable, and there was a mass exodus of population.

Areas of Relatively Little Distress during the Interwar Period

When the Great Plains and Mountain region are viewed as a whole, it is evident that farmers and ranchers had difficulty in

[10] Norman J. Wall, *Federal Seed-Loan Financing and Its Relation to Agricultural Rehabilitation and Land Use* (U.S. Department of Agriculture, Technical Bulletin 539, October 1936), pp. 3 and 6.

carrying their mortgage indebtedness throughout the entire period from 1920 to 1940. But despite the widespread distress of the interwar years there were scattered localities where mortgage loan experience was relatively good. In particular, north central Utah and western Montana fared well. And except in the drought years of the thirties, western and central Kansas experienced comparatively little debt distress.

North central Utah is one of the earlier-settled valleys of the Mountain region, and long before World War I its agriculture had become adjusted to the climatic and physical risks of the area as well as to available markets. In parts of this small area the annual rainfall of 20 to 30 inches is substantially above the average for the region, and there is also a long-established irrigation system. Because the water supply is adequate for crop production, a more diversified and intensive agriculture has been developed than would otherwise have been possible. This, together with the nearby markets of the Salt Lake City area, imparts a stability to agricultural incomes not general in the Mountain region. Another factor, the effect of which is difficult to measure, is the character of the Mormons who settled the area. They are noted for their hard work, sound financial management, and debt repayment ability.

The better farm mortgage experience in western Montana than in the rest of the state is also attributable in large part to a relatively favorable physical setting. With rainfall above the state average, and more extensive irrigation, a greater variety of crops can be grown than in the central and eastern parts of the state, and yields are higher.

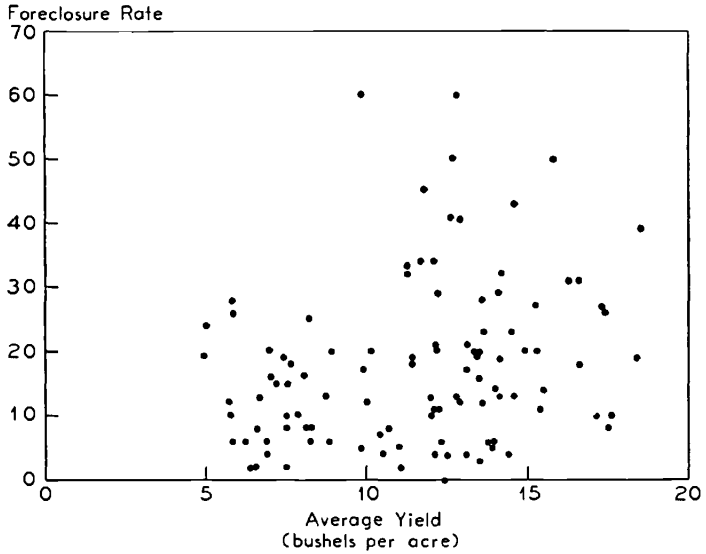
Western and central Kansas, in the central Great Plains, experienced serious financial difficulties during the Dust Bowl days of the thirties. Yet for the period 1920 to 1940 as a whole it had relatively fewer foreclosures than the northern and central plains region generally. Part of the explanation is that it is a somewhat better farming area than the Great Plains as a whole. It receives more rainfall than many other sections, and in dry years when winter wheat fails sorghums can be planted as a spring crop. Corn, livestock, and dairy herds also offer income alternatives in parts of the area. The topography is level, a fact which permits efficient use of power equipment, so important in semiarid agriculture.

But probably the most important factor influencing loan experience in western and central Kansas during the interwar peri-

od was the timing of its settlement. This occurred around the turn of the century—considerably earlier than in the Dakotas and Montana. By the advent of World War I farmers and lenders had learned something of the production limitations of the region, and early mortgage difficulties had been fairly well straightened out. Thereafter, it appears that land values were more in line with long-run income and that debts were held at moderate levels. Even though much new land was put into wheat during and just after World War I, experience gained from previous mistakes tended to discourage unduly high land values and excessive debt.

The caution that existed is well illustrated by the small number of loans made by insurance companies in the western and central portions of Kansas. Although the federal land bank made loans there, sufficient caution was exercised that foreclosure and loss rates proved generally lower than in the eastern parts of the state (Figures 9 and 10, Chapter 1). Figure 29 affords a comparison of land bank foreclosure rates and average wheat yields for all Kansas counties. It is immediately apparent that the counties with the highest foreclosure rates had approxi-

Figure 29. Relation between Crop Yields, 1924-43, and Land Bank Foreclosures, 1917-46, in Kansas, by County

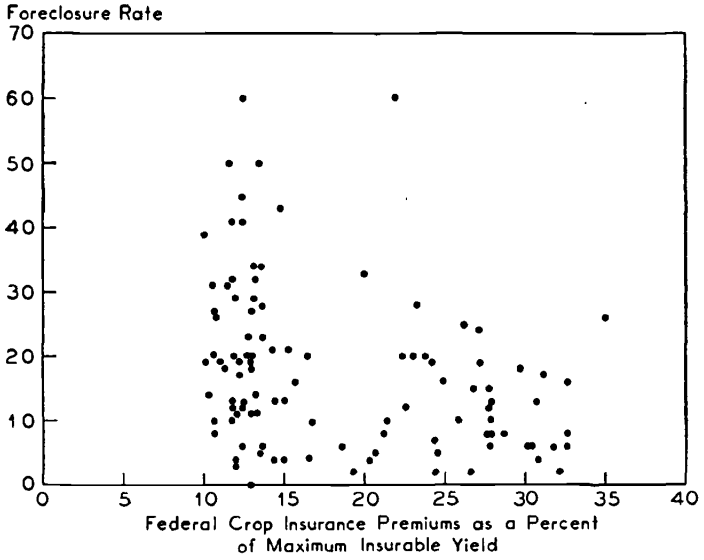


Foreclosure rate is the number of acquisitions of farm real estate through June 30, 1946 per hundred loans made in 1917-32; from unpublished data of the Federal Land Bank of Wichita. Crop yields are twenty-year averages compiled by the Federal Crop Insurance Corporation.

mately average, or even better than average, wheat yields. Such mortgage difficulty as was experienced does not appear attributable to overoptimism about productive capacity.

A measure of risk in wheat farming is obtained by expressing crop insurance premiums as a percentage of the maximum insurable yield. The relationship between this risk measure and land bank foreclosure rates is shown in Figure 30. As in the

Figure 30. Relation between Federal Crop Insurance Premiums, 1947, and Land Bank Foreclosures, 1917-46, in Kansas, by County



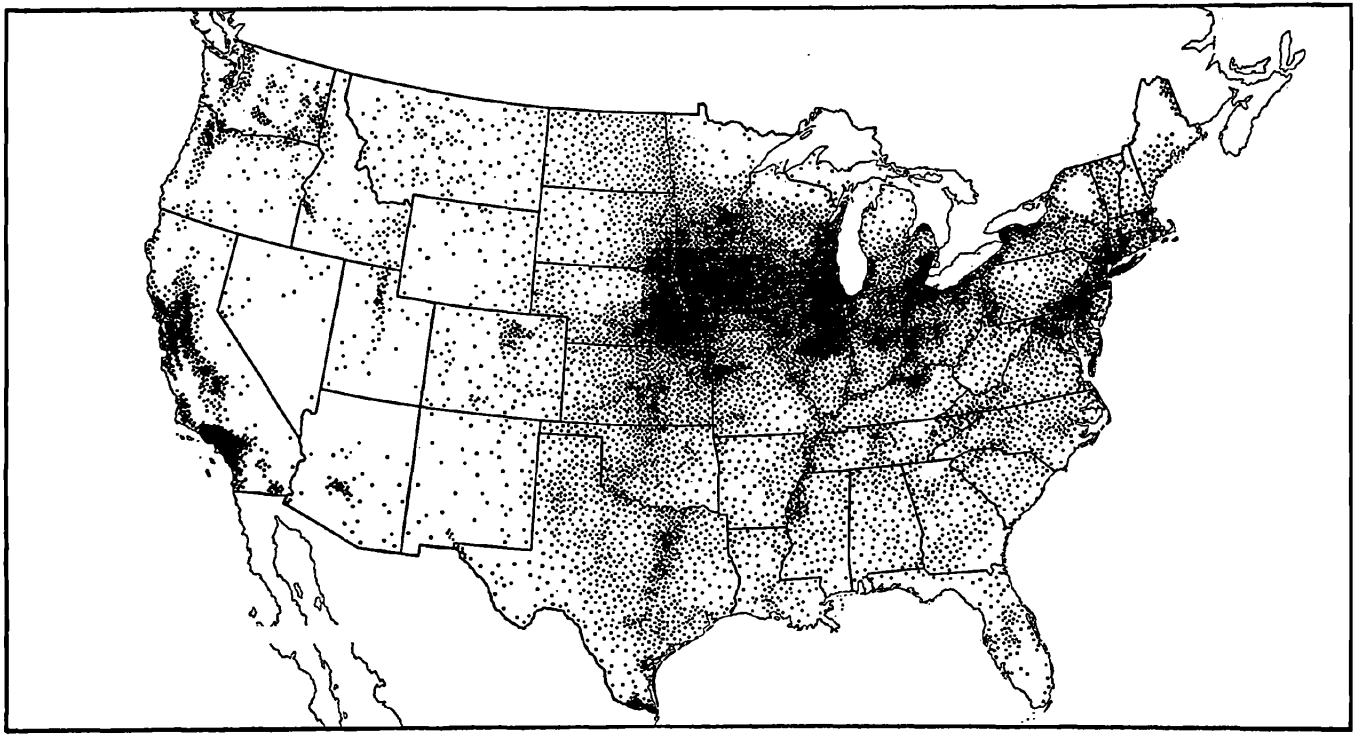
Based on data in the Federal Crop Insurance Corporation's actuarial table for the 1947 wheat crop insurance program (August 1946). Foreclosure rate as in Figure 29.

chart preceding, it is clear that the counties with conspicuously high foreclosure rates are not the counties presenting the highest farming risk. In fact the high risk counties show, on the whole, slightly better experience than the other counties.

Although the caution exercised in Kansas during and immediately after World War I was anything but typical of the Great Plains as a whole, it illustrates an important reservation in the study of mortgage experience. Physical production risks in themselves need not constitute a cause of mortgage distress. When such risks are adequately recognized, adjustments can be made—both in risk-reducing production techniques and in lending practices. The poor mortgage experience that occurred

in so many other parts of the Great Plains is an indication that adequate adjustments had not yet been achieved in those areas. Likewise, some of the mortgage trouble spots yet to be discussed seem to indicate lack of adjustment, sometimes due to inexperience with new areas, as in the northern Great Plains, sometimes due to other causes, such as rapid technological change.

Figure 31. Value of Farm Property, 1930



Map supplied by U.S. Department of Agriculture, Bureau of Agricultural Economics.
Based on census data for value of farm land, buildings, equipment, and livestock as of April 1, 1930. Each dot represents $5 million.