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PART II

FARM MORTGAGE DISTRESS AND INDIVIDUAL FARM ORGANIZATION

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A RESUME OF MORTGAGE EXPERIENCE STUDIES

IN PART I, which discussed geographical variations in farm mortgage distress, the smallest unit of measurement was the county, and often larger units like states or regions had to be used because needed data were not available on a county basis. Consequently, the analysis could throw little light on such variations in distress as occur among individual farms within a county, state, or region. Yet it is a matter of considerable interest—to both farmers and lenders, as well as to students of farm management—why some farm businesses experience financial distress and some mortgages break down in a region with comparatively favorable farm mortgage experience like the Northeast, or why some farms and mortgages avoid trouble in areas of relatively unfavorable experience like southern Iowa.

During the past several decades numerous sampling studies have been made for the purpose of analyzing individual farm differences in financial experience within areas where farms are of generally the same type. Some have measured farm incomes and mortgage paying ability without particular regard for actual mortgage experience. Others have dealt directly with mortgage experience, associating it statistically with soil quality, debt load, and a host of other factors. The present chapter reviews the important conclusions of nine such mortgage experience studies, whose coverage is summarized in Table 21.[1]

[1] A bibliographical listing of the mortgage experience studies, given in the order of Table 21, follows:

F. F. Hill, *An Analysis of the Loaning Operations of the Federal Land Bank of Springfield from Its Organization in March, 1917, to May 31, 1929*, Cornell University Agricultural Experiment Station, Bulletin 549, December 1932.

E. C. Johnson, *Farm Mortgage Foreclosures in Minnesota*, University of Minnesota Agricultural Experiment Station, Bulletin 293, 1932.

Stanley W. Warren, *Results of Farm-Mortgage Financing in Eleven Counties in New York State*, Cornell University Agricultural Experiment Station, Bulletin 726, December 1939.

Charles H. Merchant, *Farm Credit in Aroostook County, Maine*, University of Maine Agricultural Experiment Station, Bulletin 418, April 1943.

E. H. Mereness, *Farm Mortgage Loan Experience in Southeast Alabama*, Alabama Polytechnic Institute Agricultural Experiment Station, Bulletin 242, January 1935.

Joseph Ackerman and L. J. Norton, *Factors Affecting Success of Farm Loans*,

TABLE 21

Nine Mortgage Experience Studies and Their Coverage

Author	*Location*	*Lender*	*Number of loans*	*Period loans were made*
Hill	Springfield land bank district[a]	Federal land bank of Springfield	20,186	1917-29
Johnson	Minnesota	Federal land bank of Saint Paul	12,548	1917-30
Warren	Western & southern New York	Federal land bank of Springfield	2,267	1917-29
Merchant	Aroostook county, Maine	Federal land bank of Springfield	2,399	1917-37
Mereness	Southeastern Alabama	Several institutional lenders	4,750	1917-31
Ackerman & Norton	East central Illinois	Several institutional lenders	827	1917-33
Eckert & Maughan	Central Montana	Several institutional lenders	529	1911-32
Nelson	North central Iowa	Federal land bank of Omaha	627[b]	1917-32[b]
Hanson	Western Washington	Federal land bank of Spokane	7,801[b]	1917-32[b]

Bibliographical information is given in text footnote 1.

[a] Includes New England, New York, and New Jersey.

[b] Both Nelson and Hanson made supporting studies of additional loans made in later periods.

Although the geographical coverage of the group of studies is far from complete, it is well diversified, including a wide variety of farming areas, from specialized potato production in Aroostook county, Maine, to mixed farming in western Washington and peanut and general farming in southeastern Alabama. The lender coverage is far less satisfactory. Six of the

University of Illinois Agricultural Experiment Station, Bulletin 468, August 1940.

Phil S. Eckert and Orlo H. Maughan, *Farm Mortgage Loan Experience in Central Montana*, Montana State College Agricultural Experiment Station, Bulletin 372, June 1939.

A. G. Nelson, *Experience of the Federal Land Bank with Loans in Four North Central Iowa Counties, 1917-47*, unpublished Ph.D. thesis, Iowa State College, 1949.

Kermit O. Hanson, *Federal Land Bank Loan Operations in Western Washington, 1917-49*, unpublished Ph.D. thesis, Iowa State College, 1950.

studies concern federal land bank loans exclusively. The remaining three include loans made by a variety of institutional lenders in addition to the federal land banks. Thus the studies are distinctly weighted on the side of land bank experience.

In procedural details the studies show considerable variety. Different investigators have analyzed different factors, depending on the information available to them, and have experimented with minor variations in statistical techniques. But basically all have used the same general approach of classifying loans into a number of categories and of comparing variations in loan experience among categories. In the same way, the conclusions of the studies show considerable variation in details and remarkable uniformity in fundamentals. Two important conclusions have been brought out repeatedly: that farms on the better land tend to have fewer foreclosures and lower losses,[2] and that farms with relatively small mortgages in terms of appraised value also have fewer foreclosures and lower losses. A third conclusion has been brought out with somewhat less certainty: that farms of large acreage have somewhat worse experience than small farms, but that the difference is usually associated with some other factor, such as grade of land or type of farming.

Quality of Land

Every one of the mortgage experience studies under review attempted to relate mortgage experience to soil productivity in one way or another. Although the criteria of productivity were many and varied, the results were surprisingly uniform. By almost any standard of measurement, loans made on the highly productive soils had relatively fewer foreclosures and lower losses than farms on the less productive soils.

The variety of measures used to ascertain productivity was due partly to limitations of data and partly to lack of agreement on the precise meaning of soil productivity. When F. F. Hill, one of the pioneers in making experience studies, analyzed the loans of the Federal Land Bank of Springfield in 1929, he

[2] The terms good land, poor land, better land, productive land, etc., commonly used by farmers and lenders and in loan experience studies, are obviously qualitative and relative. They are ordinarily used in a context which assumes existing land use and technology. In other words, "good land" is land on which returns are greater than on "poor land" under existing systems of land use and existing technology. Differences in this sense usually trace to differences in physical characteristics—soils, for example.

was unable to obtain data concerning soils on the farms covered. As a substitute, he used appraised value per acre and appraised value per acre of tillage land.

Since the time of Hill's study, institutional lenders have made increasing use of soil maps and productivity data, and systems of classifying land according to productivity and income-earning capacity have been advanced and improved. These developments have enabled later investigators to relate mortgage experience directly to soils or soil productivity. In 1935 Mereness classified a sample of Alabama loans according to fifteen specific soil types. He had no quantitative productivity ratings for the soils, but he was able to divide them into two broad groups—sandy loam types and other types—of which the sandy loams were more productive than the others. Mortgage experience was superior for the sandy loam types. In 1940 Ackerman and Norton, analyzing mortgage experience for 827 Illinois loans, divided specific soil types into three broad groups according to productivity ratings established by the Department of Agronomy of the University of Illinois. They, too, found that the best mortgage experience occurred on the land with the best productivity ratings.

More recently investigators have been using systems of economic land classification, of which there are now several. These systems have the common purpose of classifying and mapping land according to its economic value, or capacity to earn a return under existing systems of land use and technology. Differences occur, of course, in the methods of estimation as well as in the basic concept of the type of return to be estimated. Differences of definition are well illustrated by Kermit Hanson in a study of mortgage experience in western Washington, where two systems of land classification were in use: the "net income area" system used by the Federal Land Bank of Spokane and the "economic land use" system used by the State College of Washington and the State Department of Conservation and Development. An important difference between the two was the recognition of off-farm employment opportunities in the land bank system but not in the other. As a result there were cases where the same farming section was classified in a relatively poor land use class, say four, and a relatively good net income area, say two. This implied that a full-time farmer in such a section could probably earn no more than a very poor

living, whereas a part-time farmer could earn a good living by taking advantage of off-farm employment.

Hanson could obtain no direct evidence concerning the mortgage experience of part-time versus full-time farms, since the necessary records were not available for loans originated before 1945. Indirect evidence, however, suggested that the part-time farms had the better experience. For example, the foreclosure records for loans that were originated before 1932 indicated that farms with small acreage had better experience than large farms, and the records after 1945 indicated that the smaller farms included proportionately more part-time farms than full-time farms.

Debt Load

The relation of debt to total assets, more specificially the loan-to-value ratio, has long been regarded as one important indicator of the soundness of almost any loan transaction, whether a bank loan to business, a home mortgage loan, a corporate bond issue, or a farm mortgage loan. The farm mortgage lender usually attempts to maintain a minimum quality of loan by limiting all loans to a certain maximum ratio of loan to appraised value (often specified by law), and he may attempt to attain additional quality by making a substantial proportion of loans at less than the specified ratio, or by requiring amortization of principal.

An abundance of statistical information confirms the importance of the loan-to-value ratio. Both foreclosure rates and loss rates tend to be high when the debt burden is high. This tendency was found in all seven of the studies that covered the subject.

When loans are cross-classified by loan-to-value ratio and soil type (or land class), as was done in three of the studies, it becomes apparent that the safe debt load varies considerably with productivity of land. In southern Alabama, for example, the sandy loam soils are the most productive. Sampled loans ranging from 51 to 70 percent of the appraised value of farms on sandy loam soils had 10 percent foreclosures and losses of only $17 per thousand dollars loaned. That experience compares favorably with the experience on loans of only 21 to 30 percent of appraised value on other types of soil, which had 11 percent foreclosures and losses of $21 per thousand. Even farms having

100 percent loans on the sandy loam soils did better than farms having 41 to 50 percent loans on the other soils.

Size of Farm

The mortgage experience studies yield diverse results concerning size of farm, which is usually measured in number of acres. Most of them have indicated that the larger farms tend to have worse mortgage experience than the smaller ones, but one study, covering central Montana, found just the opposite.

Theoretical considerations seem to favor better mortgage experience for the larger units. Farm income and management studies have shown that fairly large farms—say those requiring about three men to operate—tend to be more efficient than the smaller units. Other things being equal, therefore, the larger farms should be able to earn a better return and carry a larger debt load than the smaller farms. But other things rarely are equal, and the farm mortgage studies show conclusively that size of farm is related to other important factors such as soil quality or type of farming. In southeastern Alabama, for example, the large farms tended to be located on the poorer soils. In western Washington the large farms were usually full-time enterprises, whereas the small farms tended to be part-time enterprises whose operator enjoyed a source of off-farm income that enabled him to meet mortgage payments more easily than his full-time competitors.

Other Factors

Mortgage experience studies have examined a long list of additional factors, including altitude, topography, age of borrower, amount of loan per acre, type of farming, number of cows kept, and many others. These are discussed in detail in Appendix A. In general they are of two types: those that gave little evidence of having an important bearing on loan experience, such as number of cows and age of borrower; and those that seem to be closely related to quality of land. Topography, for example, would be taken into account in almost any system of economic land classification, for it is an important determinant of erosion hazards and of usability of farm machinery. Also, altitude in many areas is correlated with both topography and soil type.

Appraisal of the Findings

From the foregoing brief résumé, it is evident that mortgage experience studies have made an appreciable contribution by

highlighting the importance of land quality and debt load as determinants of loan experience. Indeed their full contribution seems to go considerably deeper. The later studies have shown that farm land can be classified and mapped according to estimated earning power, and that the resulting areas, whether "land classes" or "net income areas," can be used effectively in classifying loan risks. Moreover, the later studies indicate that debt carrying capacity varies from one land class to another in a fashion that is not proportional to appraised value as usually determined. Farms in the better land classes appear capable of carrying much higher debts in proportion to appraised value than farms in the lower land classes.

The import of this last finding is that lending standards can be adjusted to make some allowance for variations in the quality of land. If such differential adjustments can be made reasonably effective, they may produce two important results: first, a tendency toward equalizing foreclosure and loss rates in the future among the different land classes; second, a tendency toward accentuating differences in land values. Once the limited debt carrying capacity of the poorer land classes is recognized, lenders should be more cautious and farmers less eager to borrow or even to make equity investments. Here it is pertinent to recall the argument of Part I that the geographical variations in mortgage experience were not so much due to productive limitations in areas of poor experience as to the fact that the productive limitations were not clearly recognized.

For example, the productive limitations of many parts of the northern Great Plains and the cut-over region of the Lake states were not recognized during the period of settlement.[3] Similarly, in Iowa during the World War I boom both borrowers and lenders apparently failed to give sufficient recognition to local differences in corn yields.[4] On the other hand, differences in productivity and debt carrying capacity appear to have been taken fully into account in making loans in central and western Kansas at that time, with the result that mortgage experience during the interwar period was on the whole at least as good in counties with low wheat yields as in counties with high wheat yields.[5]

While making important contributions, the mortgage experience studies have left unanswered a long list of questions. In

[3] See pages 61-68 and 122 f.
[4] See pages 87 ff.
[5] See pages 72 ff.

particular they have not produced any pertinent conclusions concerning the personal characteristics of borrowers or their farm management practices.

Lenders in general pay a good deal of attention to the personal integrity and business acumen of the borrower. Farm mortgage lenders usually want to know whether a prospective borrower is hard-working, honest, competent, and stable in his family relations. But although personal appraisal is considered extremely important, it is necessarily subjective. The loan appraiser typically states his general impression of the farmer, but he cannot give figures measuring the man's honesty or his ability to run a farm. Hence the statistician who investigates mortgage experience is limited to such personal characteristics as can be measured easily, and those may not be particularly pertinent. A few of the mortgage studies investigated the age of borrowers, for example; the results did not demonstrate that age has any appreciable relation to mortgage experience. Others studied the length and location of the borrower's previous farming experience and related those factors to foreclosures. The results were sometimes suggestive, but hardly conclusive. For example, Hill's study of land bank loans in New England, New York, and New Jersey indicated that borrowers from other parts of the United States without previous farming experience in the Northeast had rather poor mortgage records; but the difficulties appeared traceable more to mistakes in selecting farms than to actual farming operations.

Although farm management practices have been largely omitted in the study of mortgage experience, they have been covered extensively in studies of farm income, which analyze in detail the factors affecting farm profitability, including soil conditions and size of business as well as management practices. Such studies are not directly concerned with mortgage experience, but they are concerned with mortgage paying ability as reflected by farm earning power. Hence they can be used very effectively to complement studies of mortgage experience. Several income studies will be discussed in Chapter 7.