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**LOAN SERVICING MODEL FOR
THE FARM CREDIT BANKS OF ST. LOUIS**

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**LOAN SERVICING MODEL FOR
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WHAT IS THE LOAN SERVICING MODEL?

The Loan Servicing Model is a computerized decision model, designed to aid loan officers in the consideration of loan servicing remedies for financially stressed borrowers.

WHY WAS THE LOAN SERVICING MODEL DEVELOPED?

The Loan Servicing Model was developed in response to the increasing number and complexity of problem, vulnerable, and nonaccrual loans in the Federal Land Bank loan portfolio.

In February 1986, a special Loan Servicing Committee was formed. The assignment of that committee was to review and make recommendations for changes regarding modifications to the Federal Land Bank's traditional policy regarding compromise of indebtedness. The traditional policy was inflexible; if loan repayment in full was not possible, then foreclosure was the only available corrective procedure.

As a collateral lender, that policy has historically served the FLB well from a financial standpoint. As long as the loan collateral maintained or increased in value and as long as collateral taken in satisfaction of default loans could be reliably and promptly liquidated, little or no financial incentive existed for any compromise with distressed borrowers.

Since 1981 the average farmland value in the Sixth Farm Credit District has dropped about 50 percent. Farmland prices are now comparable to 1975 levels. In addition to the loss of farmland value, the time required to prudently liquidate acquired properties has increased. As a result of these changes, farmland collateral no longer secures the financial interests of the FLB, as it once did. Hence, foreclosure no longer guarantees full loan value recovery. In fact, large loan losses typically remain after collecting net proceeds from foreclosure. Therefore, one of the committee's objectives was to determine if a more flexible policy allowing for compromise of indebtedness would be financially advantageous to the FCS.

For example, suppose that in 1980 an individual borrowed \$400,000 from the FLB to purchase farmland. The market value of that property at that time was \$500,000. By 1986, the market value of that property has dropped to \$250,000, but during that same time, the principal pay down only reduced the outstanding loan balance to \$395,000. The borrower is not able to make his loan payment. The total annual payment due is \$50,000, but the farming operation only generated \$40,000 for debt servicing. So now the question becomes: Is it a prudent business decision to initiate foreclosure, or would it be better to compromise the debt to a level that the borrower can service with the \$40,000?

OBJECTIVE OF THE LOAN SERVICING MODEL

In some cases, compromise of indebtedness, either in the form of principal and/or interest rate reductions, would be financially advantageous to the FCS. In other cases, foreclosure is the only practical alternative. Helping loan officers determine which decision is best from a financial standpoint is the primary purpose of the Loan Servicing Model. The Model accomplishes this by estimating the expected values of the various alternatives available for servicing financially stressed borrowers. Stated differently, the Model identifies the least costly alternative for the FCS.

HOW THE LOAN SERVICING MODEL WORKS

The Loan Servicing Model centers on identifying the amount and timing of cash flows associated with the various loan servicing alternatives and discounting those cash flows by an appropriate discount rate to determine their present values.

There are five major sections to the Loan Servicing Model:

- I) Input
- II) Cash Flow Analysis
- III) FLB Problem Debt Analysis
- IV) FmHA Guarantee Analysis
- V) Summary

I) Input: Only standard financial information is required to use the Loan Servicing Model. Necessary input information consists of:

income available to meet these debt payments, shows the surplus/deficit occurring in each period, and uses discounting to determine the surplus/deficit in today's dollars for the four years in aggregate.

- 3) If reamortization does not get the borrower to a cash flow position, then the model compromises debt payments to force a cash flow position. The model solution sets the present value of surplus/deficit for the four years equal to zero, if a deficit previously existed. If a breakeven or surplus occurred in steps 1 or 2, then no compromise is needed.

The model also provides three compromising possibilities, showing interest rate and principal reductions that will attain a cash flow solution.

After reviewing the cash flow analysis section, the user can determine the amount of FLB compromise necessary, if any, to get the borrower to a cash flow position. However, this section does not indicate whether or not the compromise is financially advantageous to the FCS. That is the objective of the following section.

III) FLB Problem Debt Analysis: The objective of this section is to determine the values, to the FCS, of the loan servicing alternatives which are foreclosure, deed in lieu of foreclosure, or compromise of indebtedness.

- 1) The first table in this section shows the expected cash outflows and inflows associated with foreclosure. The time involved in the foreclosure process and some of the costs associated with foreclosure are based on individual state's averages. The loan officer has the option to manually change these default settings where appropriate.

The cash flows are summed and discounted by the FLB's average cost of capital to determine the net present value of foreclosure.

- 2) The next table shows the expected cash outflows and inflows and the timing of those flows associated with deed in lieu of foreclosure. Once again, these net cash flows are discounted by the FLB's average cost of capital to determine the value, to the FCS, of a deed in

- 1) Income available for debt repayment for each of the next four years.
- 2) Individually listing the borrower's debts and associated interest rate and term structure of each debt. The user also indicates whether the debt can be reamortized and/or if it can be compromised.
- 3) Standard information associated with FLB security; such as, the appraised value of the security, rent value of security, and expected change in security value over the next three years.
- 4) Expected dollar amount available to satisfy a FLB deficiency judgment if foreclosure occurred.

II) Cash Flow Analysis: This section focuses on the borrower's total debt obligations, but the major objective of this analysis is to determine the amount of FLB debt compromise necessary, if any, to get the borrower's operation to a cash flow level. The steps in this analysis parallel, in a sequential process, the logical decision steps a loan officer would follow to arrive at a cash flow solution. These steps are:

- 1) States the expected cash flows as they would exist with the existing debt load and structure for the next four years. In this step, the model uses input information on each debt and shows the amount of payment due today and for each of the next four years. The model calculates fully amortized payments.

Then the model recognizes the amount of income available to meet these debt payments and shows the surplus or deficit occurring in each time period. These surpluses/deficits are discounted by the borrower's weighted average cost of capital to determine the surplus/deficit in today's dollars for the four years in aggregate.

- 2) States the expected cash flows as they would exist after reamortizing debts. This is based on the user's input information as to whether the debt can be reamortized.

Once again, the model recognizes the amount of

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- 3) The last table in this section shows the estimated value of compromise of indebtedness. Once again, the expected cash flows are identified and discounted to today's dollars to determine its value.

The default setting is to achieve all of the compromise through an interest rate reduction. The amount of this reduction was determined by the amount of compromise necessary, if any, to allow the borrower's operation to cash flow. The amount of the write-down was determined in the previous Cash Flow Analysis section.

Another consideration with the compromise, is whether or not the operation survives in the long run. Assuming the operation survives, the terminal value of the loan in year four is registered at the full amount of the outstanding loan balance. To determine the value of the compromise if something less than the full outstanding balance is repayed, a sensitivity table is included to show the value of the compromise at various levels of loan repayment.

After reviewing the FLB Problem Debt Analysis section, the user has expected values, to the FCS, for the various alternatives of foreclosure, deed in lieu, and compromise. However, before making a decision, there is one more section, dealing with a special type of compromise, that needs to be considered. The value of a compromise in conjunction with a Farmers Home Administration guarantee is covered in the next section of the model.

IV) FmHA Guarantee Analysis: The objective of this section is to determine the value of compromise of indebtedness, if in conjunction with such a compromise, an FmHA guarantee is also obtained.

The analytical approach is identical to that described above. That is, identifying expected cash flows and discounting those flows to today's dollars. The FmHA Guarantee Analysis determines the value of the compromise with a guarantee under four scenarios:

- 1) An FmHA guarantee obtained through an interest rate buy-down and the farming operation survives.

- 2) An FmHA guarantee obtained through an interest rate buy-down and the farming operation fails. In the model it is assumed that if the operation fails, it fails in the first year before any debt payments are made.
 - 3) An FmHA guarantee obtained through a permanent debt write-off and the farming operation survives.
 - 4) An FmHA guarantee obtained through a permanent debt write-off and the farming operation fails. Again, in the model it is assumed that if the operation fails, it fails in the first year before any debt payments are made.
- V) Summary: The purpose of the summary section is to pull together all of the expected values for the various alternatives to facilitate comparisons.

INITIAL FEEDBACK ON USE OF THE LOAN SERVICING MODEL

Initial use of the Loan Servicing Model indicates that the environment is conducive for compromise of indebtedness workout solutions. The major factor which makes compromise attractive from the FLB's perspective is the steep drop in the value of farmers' assets, and the difficulties involved in moving those assets, mainly farmland, once they are acquired. However, income, although not at a level that will support full debt payments, must be substantial enough to allow for a practical debt rescheduling solution. This trade-off between collateral values and income is the major determinant as to which loan servicing solution is financially beneficial to the FCS.

The model is extremely sensitive to the variables just mentioned, and especially to the income variable. Therefore, accurate estimates of income are absolutely essential for reliable model output.

The Loan Servicing Model has been distributed for use throughout the Sixth Farm Credit District. Feedback on the model has been mixed. Some field offices have been using the model extensively; others are not using it at all.

To be able to use the model effectively, the loan officer must have working knowledge of a computer, multiplan, the model, and present value analysis. This

multifaceted knowledge requirement has been a barrier to actual implementation of the Loan Servicing Model.

The model does appropriately value the various loan servicing alternatives, if it is used and interpreted correctly. The values generated by the model are, however, only approximations. Therefore, the model output is not specific enough to be transferred to contractual documents. Also, in addition to the model output, the user must interject and weigh the many subjective factors involved in making a loan decision. At best, the model provides objective financial analysis useful as one input into the decision process.