FRBSF Weekly Letter

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Farmer Mac and the Secondary Market

The Agricultural Credit Act of 1987 sought to encourage the development of a secondary market in farm mortgages by creating the Federal Agricultural Mortgage Corporation, or "Farmer Mac." Prior to the passage of this Act, a secondary market of this nature had not developed, largely because investors have found the risks associated with farm mortgages difficult to assess. In an effort to overcome this problem, the Act authorized Farmer Mac to guarantee repayment of interest and principal on privately-issued securities backed by farm mortgages. Without this credit enhancement, many argue, it is unlikely that a viable secondary market for farm mortgage-backed securities would develop.

This *Letter* examines the nature of the risks associated with farm mortgage-backed securities and the problems Farmer Mac faces in attempting to foster the development of a secondary market in these assets.

Two loans in one

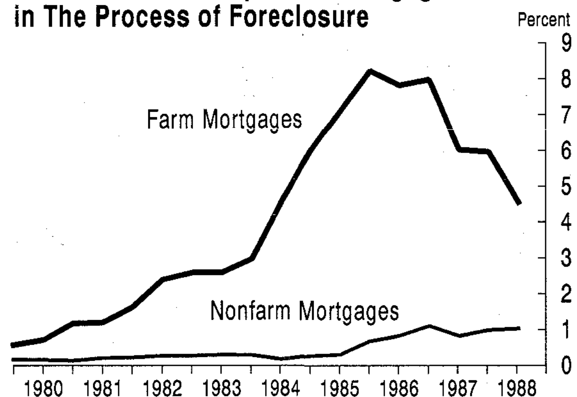
Two aspects of farm mortgage loans make them difficult to "securitize" and sell to investors. First, unlike residential mortgage loans, farm mortgage loans often contain a production loan component and therefore are a hybrid of a mortgage loan collateralized by farm land and a commercial loan. As such, these loans often contain a revolving credit facility that enables the borrower to vary the amount borrowed over the term of the loan. Consequently, prepayments are more likely with farm mortgage loans than with a typical mortgage loan.

This prepayment uncertainty inhibits the establishment of a secondary market in securities since it is difficult for the securities issuer and investors to judge what the payment stream will look like. Thus, securities that are otherwise similar in terms of their coupon and maturity structures will be unique in terms of the risks they pose to investors. This limits the potential breadth of the secondary market for these securities.

Volatile farm production

A second impediment to the development of a private secondary market in farm mortgage loans has been the relatively high delinquency and default rates on these loans in recent years. The chart provides evidence on the default rates on farm and non-farm mortgages held by life insurance companies in recent years. As can be easily seen, the rate of default on farm mortgages has exceeded that of non-farm mortgages.

Life Insurance Companies' Mortgage Loans in The Process of Foreclosure



A borrower's ability to repay a loan depends to a large extent on the stability of his or her income. Given that the value of farm production is highly volatile, agricultural borrowers' incomes are likely to be more volatile than average. As a result, farm mortgage loans require substantially more borrower-specific information and more careful monitoring than do other kinds of mortgage loans. For these reasons, investors have been reluctant to purchase them, and agricultural loans have tended to be held in the original lenders' portfolios.

Credit enhancement mechanisms

In general, loan-backed securities require some form of credit enhancement to be marketable. In the case of privately securitized loans, the issuers of the derivative securities rely on one or more mechanisms to provide credit enhancement.

These include third-party guarantees (usually in the form of letters of credit), reserve funds, and/or subordinations. The objective with each of these is to provide credit enhancement to a sufficient level that credit risk will not be of primary concern when investors evaluate a given loan-backed investment.

As the name implies, reserve funds are funds set aside at the time the securities are issued for the designated purpose of covering any losses due to delinquency and default on the underlying loans. Subordination mechanisms frequently are used instead of reserve funds to reduce the initial investment required when issuing securities.

With subordination, senior and subordinated interests in a single collateral pool are sold. The level of subordination is set such that under a worst-case scenario, the senior security holders will receive promised payments. For example, a 10 percent level of subordination implies that the pool could lose 10 percent of its value before the senior securities would experience any losses. As a result of this structure, the senior securities often receive an investment grade rating and carry a lower yield than the more risky subordinated debt, which is extremely sensitive to the delinquency and default rate on the pool.

A major concern to both issuers of and investors in loan-backed securities is how much credit enhancement is necessary. If the credit enhancement provided is inadequate, investors will find the securities unattractive. On the other hand, more-than-adequate credit enhancement is costly to the issuer.

For most types of loan-backed securities, the risk characteristics of the underlying loans are sufficiently well understood that an "adequate" level of credit enhancement can be readily determined. In the case of farm mortgage loans, however, the credit risk apparently has been so uncertain or so great that private credit enhancement mechanisms have been inadequate, and the absence of an additional guarantee has stood in the way of the development of a secondary market.

Enter Farmer Mac

For this reason, Congress created Farmer Mac. Farmer Mac is a private corporation, owned by shareholders, that will provide a guarantee of timely payment of principal and interest to investors in farm mortgage-backed securities issued by other parties. It is hoped that Farmer Mac's credit enhancement will generate profitable opportunities for securities issuers, so that we will see the development of a secondary market in farm mortgages.

To obtain Farmer Mac's guarantee, the issuers of farm mortgage-backed securities must pay Farmer Mac an initial fee and an annual fee based on the size of the issue. An additional requirement is that the security issuer commit to cover at least 10 percent of any losses that occur as a result of delinquencies and default on the underlying loans. This requirement can be met by setting up either a reserve fund or a subordination mechanism. Farmer Mac will cover losses that exceed the issuer's reserve.

In this way, Farmer Mac will provide a second level of protection for the senior investor after the reserve or subordination has been exhausted. To the senior investor, the security will look like a senior security of a senior/subordinated issue with an additional guarantee by a federal agency. To the issuer and investors in the reserve or subordination, the risk/return characteristics of the issue will approximate those of a subordinated interest in any mortgage pass-through.

In addition to the guarantee fees it receives from issuers of farm mortgage-backed securities, Farmer Mac will be able to draw on a back-up line of credit with the U.S. Treasury as a source of credit enhancement. Thus, if fee income is insufficient to cover losses at any given time, Farmer Mac will be able to turn to the government for funds to honor its guarantee of timely payment of principal and interest to securities holders. As a result, the credit risk to the investors in the securities Farmer Mac guarantees will be negligible.

To limit the size of the government's potential obligation, the Act limits the volume of securities that can be guaranteed in the first three years of operations to two, four, and eight percent, respectively, of the total outstanding supply of non-FmHA agricultural mortgage loans. Given the total supply of farm mortgages outstanding at the end of 1987, this would suggest that at a maximum the total dollar amount of farm mortgages that could be securitized with Farmer

Mac's guarantee in the first three years would be 1½, three, and six billion dollars, respectively. However, the guidelines on individual loans and loan pools suggest that the total amount securitized in this initial period will be less than the maximum limits.

Underwriting and eligibility standards
Farmer Mac must establish underwriting standards for the loans that qualify to be securitized and establish eligibility standards for loan originators and those involved in creating the loan pools. The Agricultural Credit Act of 1987 provides certain guidelines.

These guidelines will help to ensure that a certain degree of diversification is present in the pools of loans guaranteed by Farmer Mac and will thus help to reduce the pools' overall risk. For example, mortgages must vary in principal amount, and no loan can exceed 3.5 percent of the value of the pool. The land mortgaged must be geographically dispersed and must produce a variety of commodities. A pool must contain at least fifty loans with no two from the same borrower.

Other guidelines on individual loans and loan pools that qualify to receive the Farmer Mac guarantee also are designed to limit the risk of each security. For example, the individual loan characteristics must be within certain parameters to qualify. Also, loan-to-value ratios must be 80 percent or less, and the loan amount cannot exceed $2.5 million or be secured by more than 1000 acres. Loans as small as $50,000 cannot be deliberately excluded from the pool and certain single family mortgage loans may be included. Other restrictions relate to borrowers' rights, servicing standards, usury laws, and evidence of farming expertise.

The problems
In addition to the underwriting guidelines and eligibility standards, Farmer Mac also must set the level of subordination (or reserve fund) and the fee structure. Together, these parameters should be set so as to ensure that Farmer Mac does not experience losses under its guarantee program.

The greatest difficulty will be in determining what can reasonably be expected to be the delinquency and default rates for farm mortgages over the life of the Farmer Mac guarantee. Moreover, since the guarantee provides for timely payment of principal and interest, any delays in mortgage payments, even when payment ultimately is made, could result in losses to Farmer Mac.

In determining the appropriate level of fees and subordination, Farmer Mac will have to overcome credit risk assessment problems that have inhibited the establishment of a secondary market in farm mortgages in the past. Farmer Mac's operation on a national scale may enable it to take advantage of diversification opportunities that are not available to non-government entities. Only in this way will Farmer Mac be able to increase the liquidity of farm credit markets, while avoiding losses to the government.

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