Agricultural Banks and the Federal Home Loan Bank System

by Julie A. Dolan and Robert N. Collender

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The recently enacted Gramm-Leach-Bliley Act (GLB) of 1999 broadened agricultural bank access to Federal Home Loan Bank (FHLB) financing.

Chartered by Congress as government-sponsored enterprises (GSEs) in 1932, the 12 FHLBs originally provided advances (loans) to the thrift industry to improve the availability of long-term home mortgages. Membership eligibility was extended to include commercial banks under the Financial Institutions Reform, Recovery, and Enforcement Act of 1989 (FIRREA) following the thrift crisis of the 1980s. The perception of a government guarantee and other special privileges associated with their GSE status allow the FHLBs to borrow funds in capital markets at rates only slightly higher than those paid by the U.S. Treasury, allowing them to extend low-cost advances to member institutions.

Before GLB, all financial institutions had to meet a set of eligibility requirements to qualify for FHLB membership. These requirements included capital and loan quality standards, taking domestic deposits, and holding at least 10 percent of total assets in mortgage-related assets.

The GLB repealed the mortgage-related asset requirement for small agricultural banks (those with less than $500 million in assets), increasing their access to FHLB membership and funding. GLB also expanded the mission of the FHLBs to provide additional financing to any small bank for agricultural, rural development, small business or low-income community development lending, while extending the types of assets that may be used as collateral against advances.

As a nondeposit funding alternative, FHLB advances provide a stable source of funds, greater flexibility in asset-liability management, and a means of alleviating some profit pressure by potentially lowering the marginal cost of loanable funds. Member banks in rural financial markets may be able to use FHLB advances to finance local economic growth if profitable lending opportunities in local businesses, agriculture, rural development, and community development exist.

This opportunity to use nonlocal, nondeposit funds may relieve constraints on such lending related to the availability of core deposits, which have traditionally served as the primary source of loanable funds for small banks. In addition to providing a steady source of long-term funds, advances may also directly affect agricultural bank profitability because, at the margin, they may be less costly than core deposits[1] (Collender).

Membership and advances can reduce certain types of risks, such as interest rate risk, by allowing banks to better match the maturities and cash flows on their assets and liabilities. Finally, no withdrawal risk is associated with the use of advances as a liability, no reserve requirements must be held against them, and no insurance premiums must be paid though minimum stock requirements must be held by member institutions.

Even before passage of GLB, FHLB membership among agricultural banks had risen to 50 percent by third quarter 1999, compared to only 6 percent in 1992 (Feldman and Schmidt). Moreover, three-quarters of these agricultural bank members borrowed from their respective FHLB, compared to only 45 percent in 1992. A greater percentage of member agricultural banks borrow from the FHLB System relative to their nonagricultural bank member counterparts. Under GLB, only 0.03 percent of all agricultural banks will be ineligible for FHLB membership. Furthermore, agricultural banks could potentially increase total collateral eligible to be pledged for advances by more than 50 percent (Feldman and Schmidt).

To better understand the motivations of agricultural banks in joining the FHLB and using FHLB advances and whether safety and soundness concerns reflect current conditions, we assess the characteristics associated with agricultural banks seeking FHLB membership and using FHLB advances from 1994 through 1998. Risk and return factors are found to be important in explaining which agricultural banks join FHLBs or use FHLB funding after joining. In particular, the decisions of agricultural banks to join or use FHLB funds are associated with higher interest rate and liquidity risks and tighter net interest margins. Agricultural banks experiencing higher credit risk are less likely to join but are more likely to use FHLB funding after obtaining membership.

The Agricultural Bank Lending Environment

Commercial banks are currently the leading farm lenders with their mar-

[1] Although FHLB advances often carry higher interest rates than core deposits, their "all-in" cost may be lower because few operating resources are required to raise them compared to the brick-and-mortar retail deposit taking networks. In addition, increasing retail deposits by offering higher interest rates raises the rates on both existing and new deposits, so the marginal cost of new deposits can be considerably higher than the nominal rate offered.

ket share of total farm debt continuously increasing since the 1980s. Agricultural banks (commercial banks with a higher percentage of their total loan portfolio in agricultural operating and real estate loans than the average of all domestic commercial banks) tend to be small, rural banks that together hold slightly more than 50 percent of total commercial bank farm debt (Barry and Escalante).

Because rural economies are composed of relatively few local lenders and many small borrowers who rely on local banks for credit, local economic growth may, at times, depend on the ability and willingness of small banks to make new loans to local businesses, governments and households.

Since smaller banks are not as well known, they are not easily evaluated by creditors and are forced to pay higher rates.

Slow growth of deposits relative to loan demand, especially core deposits which are not highly interest-rate sensitive[2], may indicate rising funding pressures for agricultural banks. During the 1980s, deposit growth accounted for more than 30 percent of the increases in financial assets but less than 15 percent in the 1990s. This decrease in deposit growth is especially important for small banks (those with less than $500 million in assets), which tend to rely more heavily on deposits than larger banks. By year-end 1998, 72 percent of aggregate community bank assets were funded with core deposits, compared to only 43 percent by their large counterparts (Puwalski and Kenner).

Slow deposit growth is one plausible explanation for the current high levels of loan-to-deposit ratios among commercial banks in general and small banks in particular. Loan growth exceeded deposit growth in 64 percent of all small banks during the 1990s (Puwalski and Kenner) and small bank loan-to-deposit ratios increased 14 percentage points to exceed 69 percent, on average by 1997 (Keeton).

Deposit constraints and sluggish deposit growth increase funding pressure for small banks, increasing their interest in alternative sources of nondeposit financing of assets. Longer-term funding options are relatively limited for small banks. Capital market instruments have high fixed costs, which make them relatively more expensive for small institutions who spread these costs over a smaller volume of business activity. Because smaller banks are not as well known, they are not easily evaluated by creditors and are forced to pay higher rates for borrowings than their large counterparts. Both these reasons make direct access to capital markets too costly for small banks and explain why the FHLB System is an attractive option.

Which Agricultural Banks Join FHLBs and Use FHLB Advances?

Given the potential impact of the GLB provisions on agricultural banks and rural areas, the goal of our analysis is to assess the economic characteristics of agricultural banks that choose

[2] Core deposits include demand deposits, NOW accounts, MMDAs, and small time deposits (i.e., total domestic deposits less time deposits in excess of $100,000 and brokered deposits less than $100,000).

Table 1. Variable Descriptions

Variable	Description
BHC Affiliation	Indicates whether or not an agricultural bank is affiliated with a bank holding company.
Loan-to-Core Deposit Ratio	A measure of liquidity risk where core deposits are stable deposits that tend not to be highly interest rate sensitive: demand and small time deposits, NOW accounts, and money market demand accounts.
Long-Term Maturity Gap/Total Assets	A measure of interest rate risk where long-term maturity gaps are defined as the difference between an institution's assets and liabilities with remaining maturity of over five years.
Net Interest Margin	A measure of profit pressure, defined to be the ratio of net interest income to earning assets (assets generating interest income) which measures net interest returns on income producing assets.
Net Loan Charge-Offs/Total Loans	A measure of credit risk where net charge-offs are defined to be gross charge-offs (dollar value of loans written off as uncollectable) less recoveries (loans initially charged-off that are repaid).
Nonperforming Loans/Total Loans	A measure of credit risk where nonperforming loans are loans whose contracted interest and principal payments have not been made within 90 days after the due date or loans currently not accruing interest for the bank.
Size of Bank	Total assets of the agricultural bank, measured in thousands.
Membership Eligibility Requirements:	
Equity Capital Requirement	Tier 1 capital is at least 4 percent of risk-weighted assets.
Risk-Based Capital Requirement	Total risk-based capital is at least 8 percent of adjusted total assets.
Asset Quality Requirement	Nonperforming loans make up less than 10 percent of total loans.
Residential Mortgage Loan Requirement	At least 10 percent of total assets are invested in residential mortgage loans/mortgage related assets.
Domestic Deposits Requirement	The agricultural bank must collect domestic deposits.

to join an FHLB, and, once a member, under what circumstances advances have been used as a funding source. In particular, we test whether factors related to returns, risk, cash flow constraints on lending and portfolio quality influence these decisions. We use agricultural bank balance sheet and income statement data collected from year-end Reports of Condition and Income (Call Reports) from the Federal Deposit Insurance Corporation (FDIC), Summary of Deposits data from the Federal Reserve, and membership data from the Federal Home Finance Board for 1994 through 1998 (refer to Table 1 for variable descriptions).

The minimum residential mortgage loan eligibility requirement has been consistently binding for agricultural banks.

Risk and profit management considerations appear to be important factors influencing the decisions of agricultural banks to seek FHLB membership and to use FHLB funding (see Table 2). Agricultural banks experiencing higher interest rate risk and liquidity risk are more likely to seek membership and to use advances once membership is obtained. Membership gives banks the potential to finance long-term loans with longer-term liabilities via the use of advances, stabilizing returns and reducing risk and increased liquidity allows banks to remain active in difficult lending environments, such as rural areas.

Agricultural banks with higher credit risk are less likely to join an FHLB. This negative relationship may reflect the failure of some higher credit risk banks to meet the minimum asset quality requirement when nonperforming loans are exceptionally high.

Additionally, agricultural banks experiencing higher loan charge-offs were less likely to join the System. It is unclear whether these results are driven by FHLB membership standards or by the managers of individual banks.

Higher loan charge-offs are positively related to the use of advances. Agricultural banks experiencing higher nonperforming loans to total loan ratios are more likely to take out FHLB advances. From 1997 to 1998, nonperforming loans and non-performing agricultural loans have increased

Table 2. Factors associated with FHLB membership and use of FHLB advances

Factor	Relationship with: FHLB Membership	Use of FHLB Advances
Interest Rate Risk	Positive	Positive
Liquidity Risk	Positive	Positive
Credit Risk	Negative	Positive
Profit Pressure	Positive	Positive
Residential Mortgage Loan Requirement	Positive	N/A
Size of Bank	Positive	Positive
Affiliation with a Bank Holding Company	Positive	Positive

as percentages of total loans for agricultural banks, while these same measures of asset quality have improved for nonagricultural banks.

Tightening net interest margins are used to measure increased profit pressure (high marginal costs of funds and/or low returns on asset portfolios). Agricultural banks experiencing profit pressure are more likely to join an FHLB and to use advances, consistent with the marginal cost of funds for advances being lower than deposits or other alternatives. An institution suffering from earnings pressure may be cash flow constrained, making the use of FHLB advances attractive.

The minimum residential mortgage loan eligibility requirement has been consistently binding for agricultural banks, which indicates that agricultural banks chose not to rebalance their assets (for example, by selling Treasury securities and buying mortgage-backed securities) to qualify for membership. As indicated by Feldman and Schmidt, GLB's elimination of this constraint makes many more agricultural banks eligible to join the FHLBs.

Results also suggest that larger agricultural banks affiliated with bank holding companies are more likely to become members of the FHLBs and that larger banks are more likely to have outstanding advances. These results indicate that there may be economies of scale in taking out advances and that any "internal capital market" among bank holding company (BHC) affiliates – which Houston and James indicate relieves deposit constraints on bank lending – does not eliminate the attractiveness of FHLB funding. **jal**

Loans

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