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Agricultural Banks, Deposits and FHLB Funding: A Pre- and Post-Financial Modernization Analysis

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Although still heavily reliant on core deposits, agricultural banks have increasingly used wholesale funding alternatives, especially advances from the Federal Home Loan Bank system (FHLB), as a way of sustaining their asset growth.¹ Indeed, the growth in borrowing from the FHLB by agricultural banks exceeds that of their non-agricultural counterparts over recent years. This trend could accelerate with the passage of financial modernization legislation, the Gramm-Leach-Bliley (GLB) Act of 1999. GLB took steps to increase bank membership in the FHLB, and we estimate that an additional 500 agricultural banks, about one-quarter of the total, will be eligible for membership because of the bill. The bill also made provisions to increase the amount that banks can borrow from the FHLB, although it is less clear how heavily these new borrowing opportunities will be exploited.

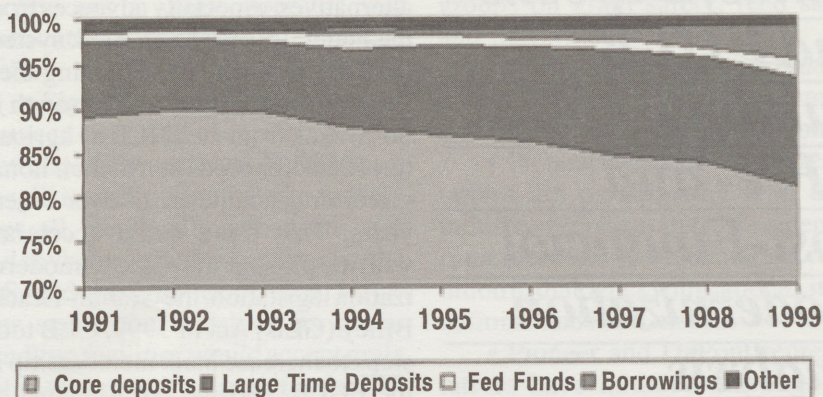
Trends in Use of Core Deposits

Core deposits are the primary source of funds for agricultural banks, although their share of total liabilities has fallen steadily from 90 percent to 81 percent over the last 10 years (see graph 1).

This decline at agricultural banks reflects shifts in asset growth relative to deposit growth. Throughout the 1980s and the beginning of the 1990s, core deposits grew at roughly the same rate as assets. Since 1993, deposit growth at agricultural banks has

¹We define agricultural banks to be those commercial banks whose agricultural operating and real estate loans equal 25 percent or more of their total loan portfolios. We define core deposits as the difference between total deposits and the sum of brokered deposits and time deposits greater than \$100,000.

Graph 1 - Liabilities at Agricultural Banks

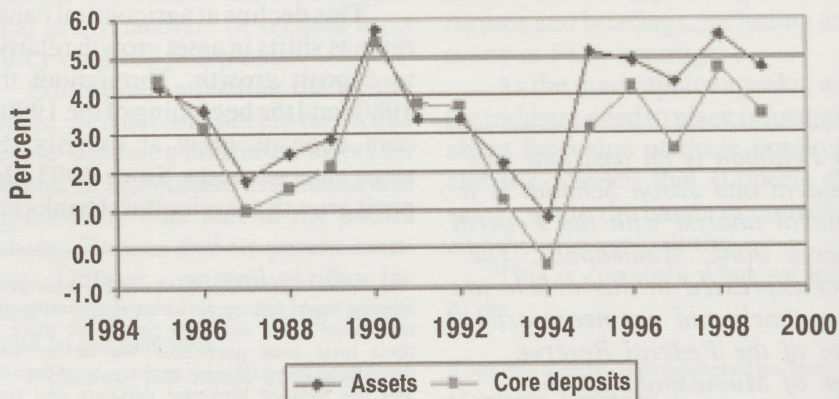


consistently lagged asset growth. The median annual increase in core deposits at agricultural banks was an average of 2.7 percent between 1993 and 1999, compared to an average median increase in assets of 3.9 percent (see graph 2).

Agricultural banks have assumedly turned to new sources of funding because core deposits have higher costs on the margin than the alternatives. Moreover, some of the

trends that could lead to higher costs for deposits show no sign of reversing. For example, household preferences seem to have shifted from core deposits toward capital market investments. Demographic trends in parts of rural America, leading to out migration and older populations, have also negatively affected the supply of deposits to agricultural banks. Banks in rural counties that have lost population, or where death rates have ex-

Graph 2 - Median Growth Rates of Assets & Deposits (Agricultural Banks)



ceeded birth rates, have had a greater reduction in deposits than banks elsewhere.

Increased Use of Alternative Funding Sources

Some of the decline in core deposits has been offset by an increase in the use of large time deposits (those in excess of \$100,000), which have risen to 12 percent from 8 percent of total liabilities as of the third quarter of 1999. Agricultural banks have also significantly increased their reliance on other wholesale funds or borrowings such as federal funds purchased or FHLB advances. Borrowings as a percent of total liabilities have risen steadily since 1989 from 2 percent to just under 6 percent during 1999. The heightened use of borrowings by agricultural banks can be linked directly to the relaxation of membership requirements for the FHLB.

FHLB Membership Requirements Before Financial Modernization

The FHLB is a government-sponsored enterprise (GSE) which makes loans, called advances, to its member financial institutions. GSEs are privately owned, federally chartered corporations that operate nationally with specialized lending powers. Their connections to the federal government allow them to borrow at rates slightly above those available to the U.S. Treasury. Thus a GSE like the FHLB can provide funds to its borrowers at relatively low cost.

FHLB membership was originally restricted to savings and loans. Commercial banks were first allowed to join the FHLB with passage of the

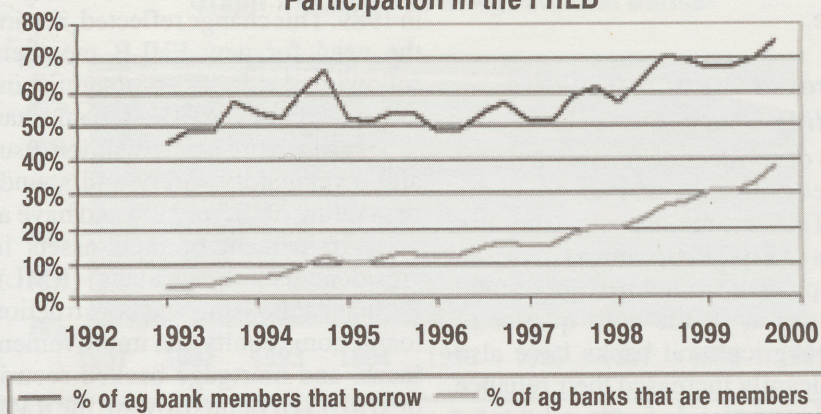
Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) in 1989. This change reflected, in part, the need for new FHLB members following the demise of the thrift industry. To join the FHLB, banks had to be in sound financial condition (usually a regulatory safety and soundness rating of "1" or "2") and have at least 10 percent of their assets in "residential mortgage loans" (RML). Permanent housing and construction loans, home equity and improvement loans, and mortgage-backed securities (MBSs) counted toward the RML requirement. To receive an advance, a member has to purchase FHLB stock and pledge high-quality assets as collateral. Acceptable collateral includes first mortgages and other real estate related assets, Treasury and GSE securities, and deposits held at the FHLB.

The FHLB increasingly sought to increase advances to commercial banks and has viewed agricultural banks as important potential customers. For example, a regulatory reinterpretation by the FHLB in the summer of 1998 made it easier for agricultural banks to join the FHLB. It permitted banks with less than \$500 million in total assets to count farm real estate loans toward the membership requirement as long as the residential portion of the parcel was an "integral" part of the property. Previously, the residential portion had to equal 50 percent of the value of the parcel.

Agricultural Bank Use of the FHLB Before Financial Modernization

Agricultural bank membership in the FHLB has grown steadily since 1989. As of the third quarter 1999, 50 per-

**Graph 3 - Agricultural Bank
Participation in the FHLB**

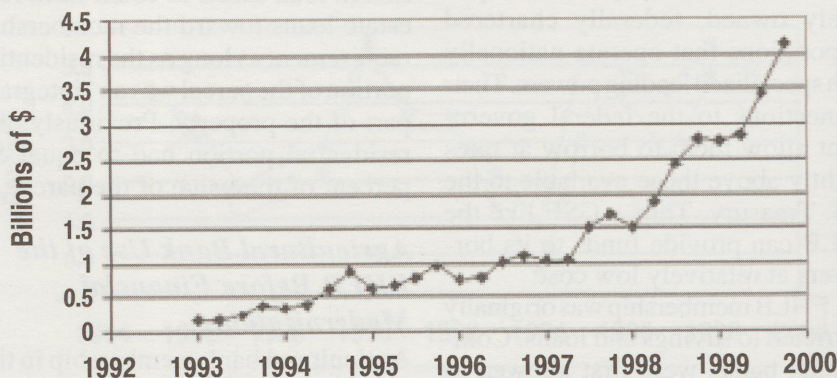


cent of the nation's 2,219 agricultural banks belonged to the FHLB compared with only 6 percent during the early 1990s (see graph 3). Furthermore, the number of agricultural banks that are actively borrowing from the FHLB is also increasing. While only 45 percent of member agricultural banks received advances in 1992, 75 percent are currently borrowing from the FHLB.

The rising membership, along with greater participation rates, has re-

sulted in sharply higher levels of advances to agricultural banks in recent years. Advances reached \$4.1 billion during the third quarter, constituting almost 7 percent of total liabilities of borrowing members (see graph 4). This represents an increase of over 140 percent since 1997. In contrast, the rate of increase for small, nonagricultural "community banks" has been about a third slower during this period. This reflects a relative slowdown in the pace at which community banks

Graph 4 - Total Advances to Agricultural Banks



join the system and the fact that, relative to community banks, a greater percent of the agricultural banks that join the FHLB actually borrow funds.

Gramm-Leach-Bliley Could Boost Membership

GLB took steps to increase the number of commercial banks that can join the FHLB and the types of assets

these banks can offer as collateral. (GLB made other changes to the FHLB and the financial system which we do not explore in this article.) Eligibility is increased under GLB by allowing a bank that has assets under \$500 million to join the FHLB "without regard to the percent of its total assets that is represented by residential mortgage loans."

Table 1: Agricultural Banks that Are Currently Eligible and Newly Eligible for the FHLB

	Total	Average Assets (mill \$)	Member	Average Assets (mill \$)	Nonmember, but Eligible	Average Assets (mill \$)	Newly Eligible	Average Assets (mill \$)
Alabama	6	55	3	59	3	52	NA	NA
Arkansas	46	81	23	94	12	83	9	58
California	10	215	5	343	2	92	3	85
Colorado	44	65	21	90	5	41	17	44
Florida	5	74	3	109	1	31	1	10
Georgia	28	58	21	67	4	28	1	10
Idaho	5	192	4	189	NA	NA	1	203
Illinois	229	54	112	74	89	36	22	25
Indiana	30	84	24	97	6	34	NA	NA
Iowa	331	58	217	68	73	43	35	30
Kansas	238	42	82	68	87	30	66	27
Kentucky	22	59	20	61	1	75	1	1
Louisiana	19	56	8	65	8	55	3	35
Michigan	8	91	7	100	1	28	NA	NA
Minnesota	232	44	110	61	61	29	53	26
Mississippi	18	74	9	102	4	73	4	27
Missouri	110	50	50	61	47	45	11	23
Montana	44	57	21	77	5	32	18	40
Nebraska	257	51	115	73	37	38	100	30
New Mexico	8	81	3	56	NA	NA	4	81
North Dakota	96	49	31	83	31	35	30	33
Ohio	6	63	6	56	2	81	NA	NA
Oklahoma	107	52	45	74	30	40	25	35
Oregon	3	102	3	102	NA	NA	NA	NA
Pennsylvania	1	62	1	62	NA	NA	NA	NA
South Dakota	76	68	26	124	10	58	37	34
Tennessee	7	42	3	34	4	48	NA	NA
Texas	168	59	36	89	69	51	52	53
Utah	1	35	1	NA	1	35	NA	NA
Vermont	1	113	1	113	NA	NA	NA	NA
Virginia	1	19	1	19	NA	NA	NA	NA
Washington	13	67	8	88	1	5	4	40
West Virginia	1	114	NA	NA	1	114	NA	NA
Wisconsin	59	56	30	73	26	40	3	21
Wyoming	16	45	10	50	2	35	4	38
All Agricultural Banks	2,248.00	55.20	1,059.00	74.90	623.00	40.20	504.00	34.30
All Banks	8,619.00	630.10	4,949.00	456.20	2,532.00	85.30	872.00	50.60

Table 1 provides our rough calculations on the number of agricultural banks, the number of FHLB members, the number of non-members currently eligible to join, and the total number of "newly eligible" banks for each state. (Details on the calculations and the limitations of these estimates can be found in the Appendix.)

We estimate that under the new system, virtually all of the nation's 2,248 agricultural banks will be eligible to join the FHLB. Only 62 banks will be ineligible based on the new criteria. (Their exclusion reflects their financial condition.) Nebraska, Kansas, Minnesota and Texas account for more than half of the newly eligible agricultural banks.

Gramm-Leach-Bliley Increases Potential to Borrow

GLB also allowed commercial banks with assets under \$500 million to offer small business and farm loans as collateral for FHLB advances. We estimate that the total amount of collateral that agricultural banks can pledge for FHLB advances could increase by roughly 50 percent under the GLB rules, (the Appendix details these rough estimates as well.) We find that under existing rules, eligible collateral for agricultural banks equaled \$36.4 billion. Using the new GLB collateral and eligibility rules, we find that agri-

cultural banks will have eligible collateral equaling \$55.2 billion. However, the total amount of advances made against the new collateral could very well be smaller. The FHLB of Des Moines has suggested that advances made against newly pledged farm loans will likely be much less than the typical 80 cents on the dollar for mortgages.

Additionally, the need to pledge the new collateral and increase FHLB borrowings is unlikely to be the same for all current and potential FHLB members that are agricultural banks. This propensity to borrow can simplistically be measured by the ratio of deposits to loans at individual banks. Higher ratios could indicate that a bank has not fully deployed its deposits to fund loan growth. As might be expected, agricultural banks that are actively borrowing from the FHLB have the lowest deposit-to-loan ratios, indicating more full deployment of deposits and the potential need to find other sources. The "newly eligible" agricultural banks have significantly higher median ratios, implying a lower need to borrow from the FHLB. This could limit the growth in advances, because roughly 38 percent of the \$18 billion projected increase in eligible collateral results from the "newly eligible" agricultural banks.

<u>Agricultural Bank Group</u>	<u>Deposit-Loan Ratio</u>
Newly eligible	1.58
Eligible nonmember	1.55
Nonborrowing member	1.41
Borrowing member	1.28

Table 2 provides additional detail on collateral levels and median deposit-to-loan ratios.

Table 2: Available Collateral Under Old & New Standards

Median Deposit-to-Loan Ratios

Alabama	128.42	162.86	1.94	1.64	NA
Arkansas	1,191.23	1,747.43	1.42	1.63	1.68
California	612.95	740.37	1.57	1.28	1.52
Colorado	594.59	1,029.18	1.23	1.65	1.59
Florida	151.42	188.77	1.26	1.59	3.50
Georgia	440.61	725.69	1.31	1.50	2.00
Idaho	216.37	329.82	1.31	NA	1.33
Illinois	4,650.78	6,237.62	1.45	1.58	1.92
Indiana	1,023.51	1,364.04	1.33	1.56	1.55
Iowa	6,270.05	8,846.12	1.29	1.53	NA
Kansas	3,027.79	4,655.41	1.32	1.49	1.77
Kentucky	489.62	713.44	1.17	1.38	1.33
Louisiana	366.67	496.44	1.33	1.90	2.10
Michigan	226.36	329.04	1.16	2.59	1.49
Minnesota	2,436.18	4,085.95	1.25	1.41	NA
Mississippi	388.20	587.53	1.31	1.69	1.53
Missouri	2,080.96	3,145.67	1.29	1.48	2.19
Montana	539.55	1,011.19	1.32	1.59	1.46
Nebraska	3,025.12	5,113.79	1.28	1.52	1.45
New Mexico	46.34	159.22	1.53	NA	1.77
North Dakota	1,103.98	1,848.94	1.31	1.63	1.44
Ohio	198.99	265.92	1.31	1.61	NA
Oklahoma	1,662.43	2,551.52	1.41	1.71	1.84
Oregon	60.92	82.96	1.15	1.35	NA
Pennsylvania	29.87	38.67	1.28	NA	NA
South Dakota	1,033.90	1,699.00	1.32	NA	1.50
Tennessee	127.61	171.41	1.53	1.55	NA
Texas	2,826.34	4,541.99	1.84	2.08	2.34
Utah	10.38	12.22	NA	1.22	NA
Vermont	31.96	55.96	1.00	0.93	NA
Virginia	7.29	11.04	1.08	NA	NA
Washington	143.60	252.30	1.11	NA	1.27
West Virginia	47.86	64.78	NA	1.47	NA
Wisconsin	1,042.46	1,603.98	1.22	1.34	1.57
Wyoming	171.17	293.06	1.46	1.68	1.55
All Agricultural Banks	36.4 (bill \$)	55.2 (bill \$)	1.32	1.55	1.58
All Banks	1,376.3 (bill \$)	1,439.6 (bill \$)	1.30	1.53	1.66

Appendix on Methodology

The FHLB has established specific quantitative and qualitative rules to determine eligibility for membership. We attempted to proxy the application of these rules, but reliance on secondary sources means that our calculations will surely not produce the same results as would a review of membership criteria performed by the FHLB.

We used the following rules in determining eligibility under the pre-financial modernization system. We also used June 1999 data from the

financial reports that commercial banks file with regulators (i.e., the "call report").

- A bank must be in sound financial condition to join the FHLB. We required that a bank have regulatory safety and soundness rating of "1" or "2" on their most recent exam to be eligible.

- A bank must have "Residential Mortgage Loans" (RML) equaling 10 percent or more of their assets to join the FHLB. Permanent housing and

construction loans, home equity and improvement loans, and mortgage-backed securities (MBS) count toward the RML requirement. We used the following call report items to determine a bank's holdings of RML:

- Revolving, open-end loans secured by 1-4 family residential properties,
- All other loans secured by 1-4 family properties, secured construction and land development loans,
- Loans secured by multifamily properties, and
- MBS (including those guaranteed by GSEs, GNMA and other issuers).

Commercial banks with assets under \$500 million can join the FHLB regardless of their RML holdings under GBL.

Under prior federal statutes, commercial banks could only pledge first mortgages and other real estate related assets, Treasury and agency securities, and deposits held at a FHLB. The "other real estate" collateral must have a readily ascertainable

value and be subject to a priority claim of the FHLB. Advances secured by such collateral cannot exceed 30 percent of the borrower's capital. We used the following items from the call report to determine eligible collateral:

- Loans secured by 1-4 family properties with first liens,
 - Treasury securities; and
 - Securities issued or guaranteed by GSEs as well as federal agencies such as the Small Business Administration.
 - Revolving, open-end loans secured by 1-4 family residential properties, junior loans secured by 1-4 family properties, secured construction and land development loans, and loans secured by multifamily properties were counted as "other real estate." These assets were then subjected to the 30 percent of capital cap.
- Under GLB, banks with assets under \$500 million are eligible to pledge loans made to small businesses and small farms. We used the June 1999 call report data on business and farm loans under \$250,000 to determine the amount of newly eligible collateral. [jal](http://www.fhlb.com/jal)

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