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Agricultural Mortgage Activity of Major Lenders

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Abstract

This study focuses on the flow of farm real estate debt by four types of farm lenders serving agriculture--commercial banks, the Farm Credit System, life insurance companies, and the Farmers Home Administration--instead of focusing on the more widely reported stock of farm real estate debt. Analysis of farm mortgage flow data from a variety of sources, including surveys and regulatory reports, indicates that recent agricultural mortgage origination volume has declined sharply from the peak of the late 1970's and early 1980's. Commercial banks, once a minor originator of agricultural mortgages, are now a major supplier. Both the Farm Credit System, once the dominant lender, and the Farmers Home Administration have experienced a sharply diminishing role in supplying agricultural mortgages in recent years.

Keywords: Farm real estate debt, agricultural mortgages, farm lenders, agricultural credit, commercial banks, Farm Credit System, life insurance companies, Farmers Home Administration.

Contents

The limited distribution of this paper facilitates its review and critique by the author's research colleagues. The paper does not reflect an official position of the U.S. Department of Agriculture and it has not been subjected to the internal review process received by official Department publications.

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Introduction

The aggregate value (stock) of outstanding farm real estate debt is widely reported, but the flow of farm real estate debt (volume of new mortgage originations and principal repayments on outstanding debt) is generally not. Only two major lender types--the Farmers Home Administration and the life insurance industry--publicly disclose the flow or activity in farm real estate lending. The quality and availability of agricultural mortgage flow data have deteriorated over time, making recent industry totals more difficult to obtain.

This paper reviews, updates, and publishes available data on the annual flow of farm real estate mortgage debt held by major types of agricultural lenders.[1] Included is a discussion of data limitations and availability along with major trends in farm mortgage origination volume and principal repayment rates. In addition, mortgage origination volume is estimated for commercial banks, which do not report farm mortgage activity.

Improving the current understanding of farm mortgage flows is important to evaluating the impact and effectiveness of credit policies as well as lender conduct and performance in the primary farm mortgage market. Primary market origination volume is a major determinant of the volume available for secondary markets, such as Farmer Mac, while principal repayment rates influence the pricing and structure of mortgage-backed securities traded in these markets.

Trends in Mortgage Activity

Estimates of total agricultural mortgage origination volume by commercial banks, the Farm Credit System (FCS), the Farmers Home Administration (FmHA), and life insurance companies from 1960 to 1988 are presented in table 1. These totals are based on lender-supplied data and include loans for purchases of new property,

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[1]The terms farm mortgage and agricultural mortgage are used interchangeably in this paper and represent any type of debt contract secured by farm real estate, including mortgages, purchase money mortgages, and sales contracts.

Table 1--Estimated share of annual farm mortgage origination volume for major farm lenders, 1960-88

Year	Life insurance companies	Farm Credit System	Commercial banks	Farmers Home Administration	Total[1]
	Percent				Million dollars
1960	36.8	40.0	19.7	3.5	1,260
1961	36.8	42.1	17.3	3.8	1,502
1962	32.6	34.0	23.8	9.6	1,898
1963	36.4	31.2	23.0	9.3	2,377
1964	36.5	34.8	21.6	7.2	2,872
1965	36.5	39.2	18.5	5.8	3,152
1966	32.2	43.4	16.8	7.6	3,084
1967	28.3	42.8	20.2	8.8	2,963
1968	29.0	41.4	21.9	7.7	2,661
1969	21.5	46.3	21.2	11.0	2,517
1970	15.0	48.5	24.1	12.4	2,098
1971	15.8	48.9	26.8	8.4	3,177
1972	15.9	51.1	25.0	8.1	4,409
1973	16.7	54.6	21.9	6.8	6,013
1974	14.8	62.5	17.5	5.2	6,777
1975	15.7	64.2	15.0	5.1	6,867
1976	19.0	59.2	16.2	5.5	7,934
1977	22.6	54.6	18.5	4.3	10,493
1978	24.1	55.6	15.5	4.8	11,424
1979	20.3	66.0	8.3	5.4	13,826
1980	12.1	75.2	5.9	6.8	13,667
1981	7.5	83.0	4.0	5.4	14,695
1982	6.5	79.6	7.7	6.2	10,686
1983	13.4	58.0	19.7	8.8	8,250
1984	13.1	55.7	22.6	8.6	7,680
1985	19.4	26.1	42.7	11.8	5,529
1986	21.2	25.8	46.6	6.4	5,753
1987	17.1	30.9	50.8	1.2	6,405
1988	20.7	38.7	38.9	1.7	6,891

[1]Estimated total includes small amounts of mortgage volume for rural housing, timber, agribusiness, and nonfarm enterprises. Includes the Farmers Home Administration volume reported on a fiscal year basis for its direct Farm Ownership Loan Program only.

for refinancing of existing debts, and minor amounts for agribusiness, rural housing, and nonfarm enterprises. Due to the termination of some reporting, trends beyond 1988 become more difficult to identify. For 1988, the volume for these lenders totaled $6.9 billion, half of the estimated peak of $14.7 billion in 1981. The amount is equivalent to about 1 percent of the total value of farm real estate and 10 percent of the farm real estate debt held by these lenders at the beginning of 1988.

Annual mortgage origination volume by these lenders now appears to be similar to the pace of the 1960's. Origination volume was relatively stable in the 1960's, but increased sharply after 1970 as a debt-financed expansion of U.S. agriculture began. Adjusted to 1988 dollars, total annual origination volume soared from $5.6 billion in 1970 to $22.5 billion in 1979 (fig. 1). Volume then fell over the next 6 years, bottoming at $5.4 billion, and stabilizing near the 1960's average of $8.3 billion.

The share of total loan origination volume held by these lenders has fluctuated sharply over the last 30 years. From 1960 to 1965, life insurance companies and the FCS, through its Federal Land Banks (FLB's), dominated lending with roughly equivalent market shares, but FLB lending grew quickly thereafter, especially in the 1970's (fig. 2). By 1981, FLB's share of origination volume reached a dominant 83 percent. FLB's utilized greater lending powers granted in 1971, collateral lending practices, and average-cost loan pricing during a period of rising interest rates to capture market share. Annual FLB origination volume often exceeded 30 percent of its outstanding volume during this period.

FCS dominance did not last. In the 1980's, when interest rates reversed and the farm economy collapsed, many FCS borrowers repaid their loans, defaulted, or sought financing from other lenders. By the mid-1980's, FLB's market share had declined to 25 percent, with most of this lost share going to commercial banks. Anxiety among financially strong farm borrowers over the system's severe financial problems eroded confidence, contributing heavily to its declining market share.

Life insurance company farm lending was also curtailed during the decade. Some companies responded to mounting farm loan losses by halting lending altogether, leaving only six companies actively seeking new business. As a result of the declining role of the FCS and life insurance companies, commercial bank mortgage lending went from a 5-percent market share to as much as 50 percent in the late 1980's. Banks, which hold the largest share of farm nonreal estate debt, required more of their customers to pledge farm real estate to secure short-term borrowings than in the past, which contributed to the growth in their volume.

FmHA's share of mortgage lending under its direct Farm Ownership (FO) Loan Program was more stable during the 1960-88 period. In only 3 years did it garner a market share exceeding 10 percent. As a result of a new policy in the mid-1980's emphasizing the guarantee of loans made by commercial lenders instead of loans

Figure 1
Farm mortgage origination volume, by lender, 1960-88

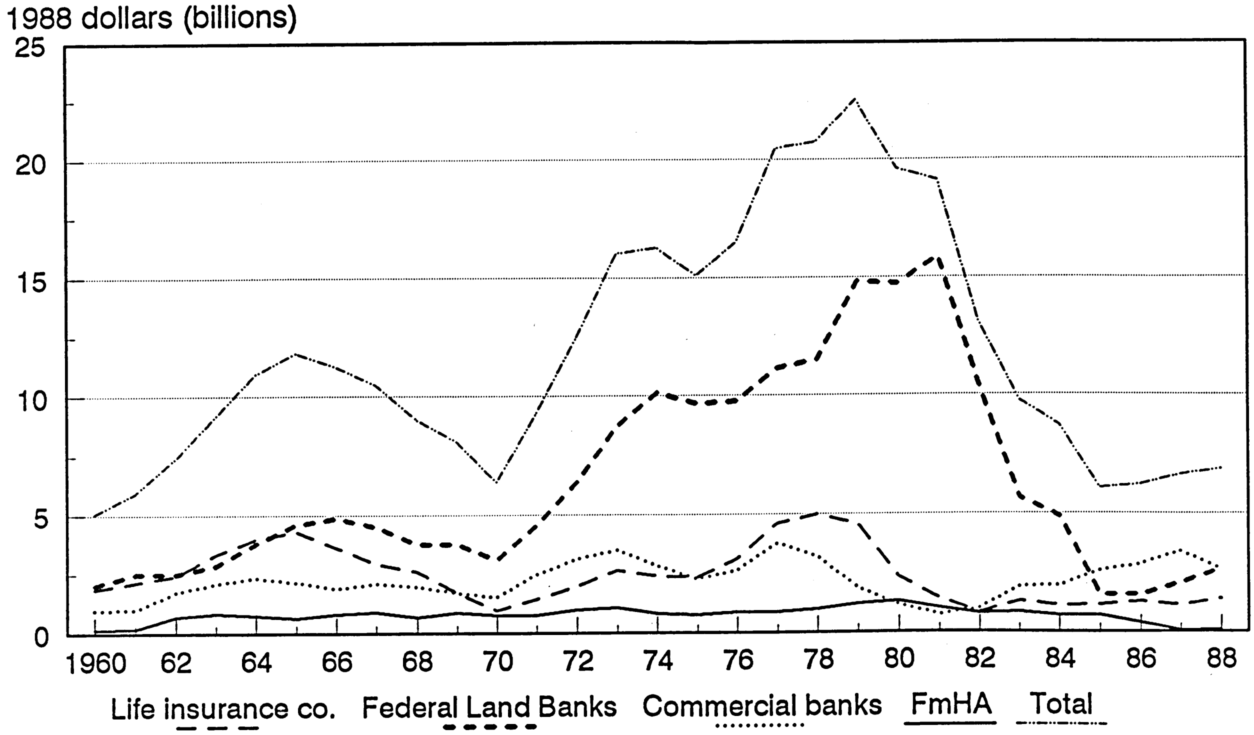
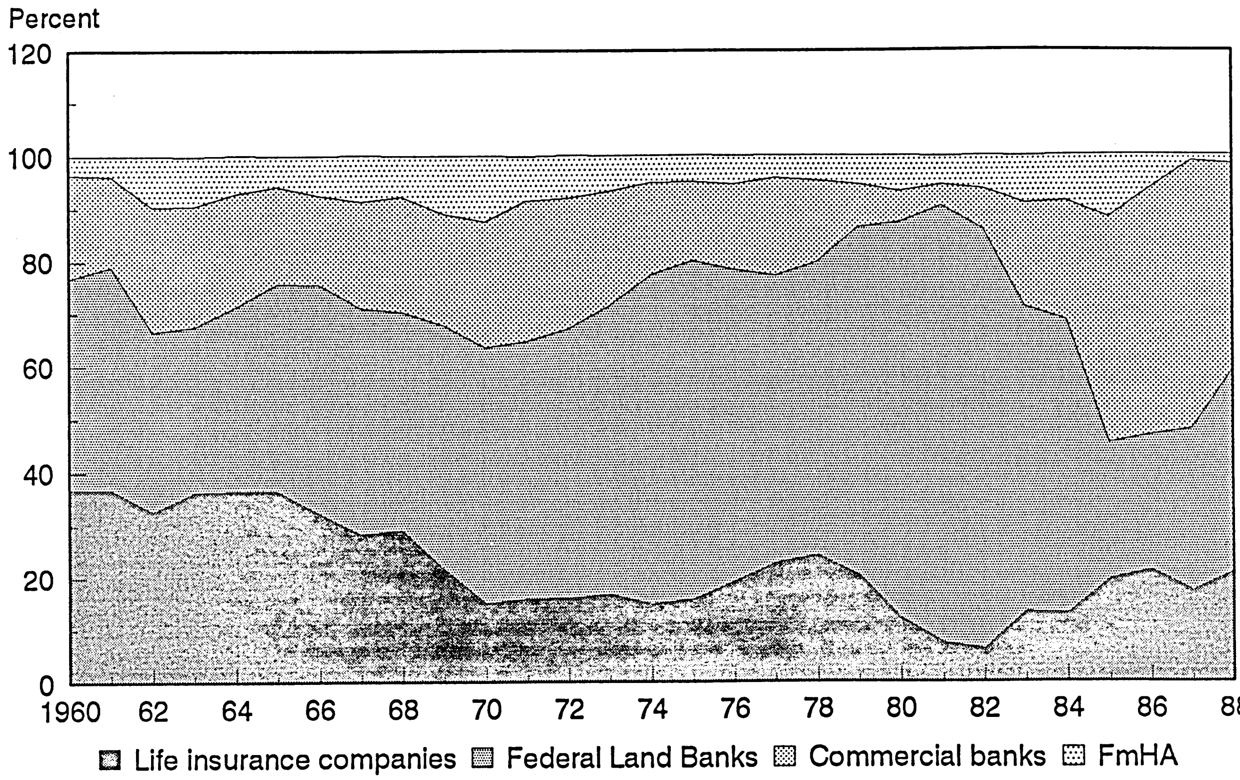


Figure 2
Market share of farm mortgage origination volume, by lender, 1960-88



made directly by FmHA, lending activity under its FO loan program was sharply cut. FmHA's direct FO program currently captures only a 1-percent market share among the four major types of lenders. FmHA uses mortgages to secure loans made under other programs, but these programs are generally not used to purchase, improve, or refinance agricultural real estate.

Annual principal repayment rates on farm mortgages have ranged from 7 to 19 percent over the last three decades (fig. 3). A host of economic conditions affect repayment rates, including changes in farm income and interest rates. Also affecting repayment rates are the changing terms of mortgage contracts. For example, some lenders are offering fixed-rate loans amortized over longer periods (15-25 years), but which have much shorter maturities using balloon payments.[2] Still other lenders are offering mortgages with short repayment periods, which offer attractive lower interest rates than loans with longer repayment plans. These different options increase repayment rates relative to mortgages with longer maturities of 20 or 25 years.

The annual net change in outstanding farm mortgage volume held by the four types of lenders is presented in figure 4. From 1960 through 1984, origination rates exceeded repayment rates, leading to positive net increases in annual outstanding farm real estate debt. Except for the late 1960's, the net change in outstanding farm debt trended upward during the period, reaching peak levels in the farm debt expansion era of the mid- to late 1970's. As the farm economy weakened in the 1980's, debt contracted for the first time since the 1930's. During the next 5 years, outstanding farm real estate debt dropped 22 percent. Only commercial banks experienced a positive net change in outstanding mortgage volume during the period.

Mortgage Flow Data

In recent years, mortgage flow data from major farm lenders have become difficult to identify. Through 1984, Melichar extensively reported flow data for the FLB's and life insurance companies (7).[3] Robison and Leatham reported origination and repayment activity for these lenders and the Farmers Home Administration through 1977 and estimated commercial bank activity using linear regression techniques (10). Outstanding farm real estate debt at yearend is estimated and reported by the U.S. Department of Agriculture (USDA) (12).

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[2]Under a balloon loan, the principal repayment is typically amortized over a standard period (15-25 years), but the entire principal balance becomes due and payable in a shorter period (3-10 years). Lenders may agree to refinance the remaining loan principal at the end of the balloon period, usually offering terms prevailing at that time. This approach allows lenders to better control interest rate and credit risks inherent with longer term loans.

[3]Underlined numbers in parentheses refer to sources listed in References.

Figure 3
Farm mortgage principal repayment rates, 1960-90

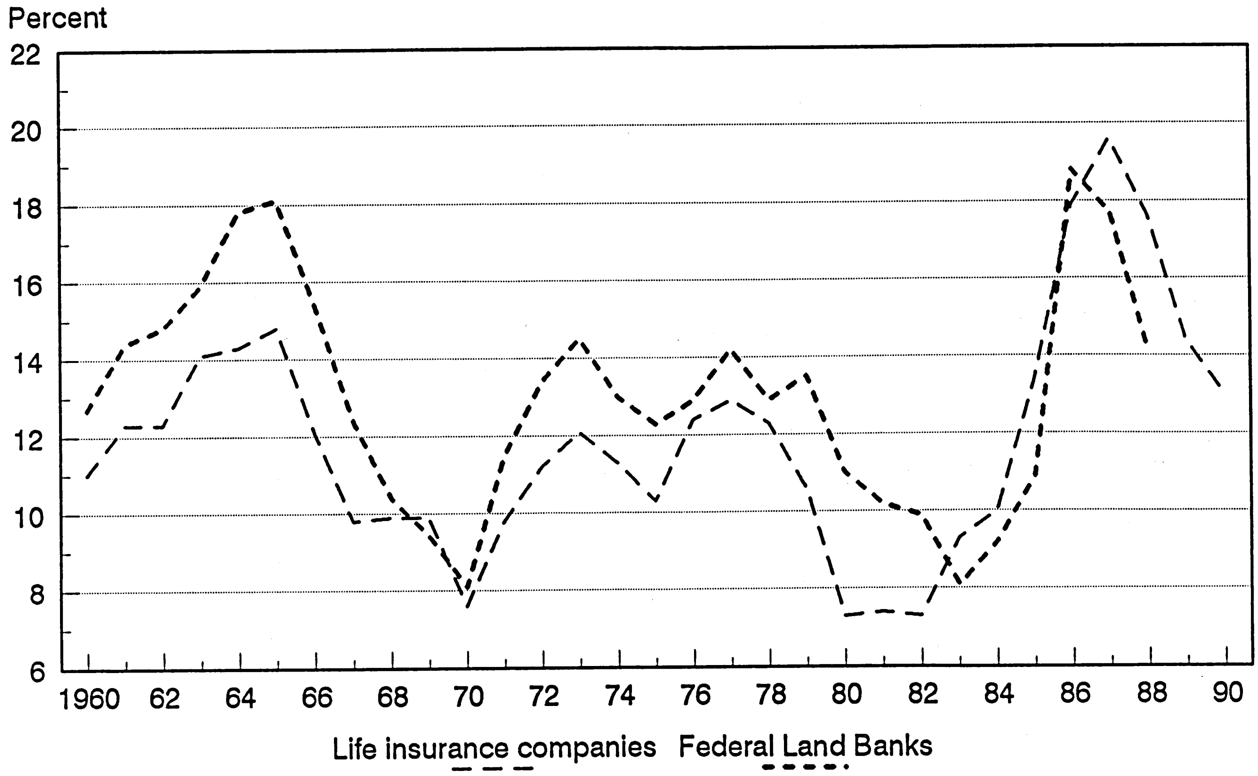
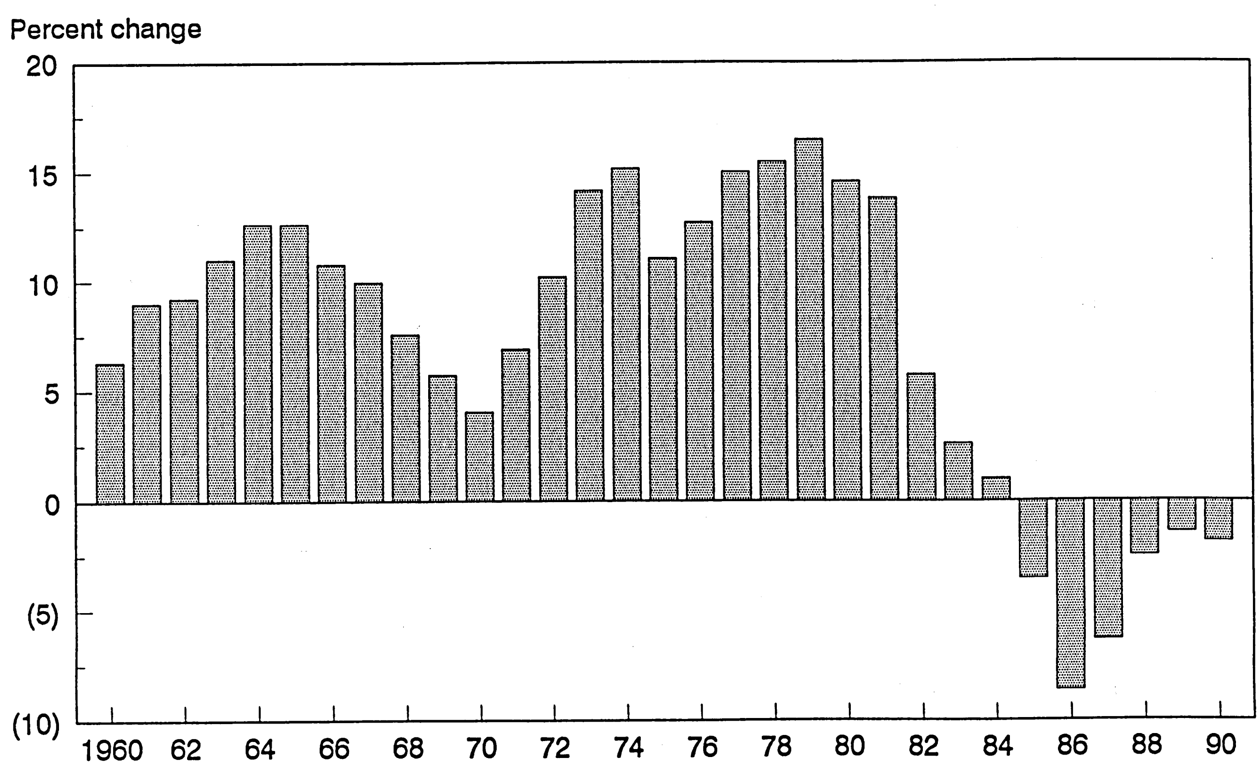


Figure 4
Net change in outstanding farm real estate debt held by major lenders, 1960-90



This study estimates annual farm mortgage origination and repayment volume using survey and primary data sources (usually regulatory reports). Surveys include those by the U.S. Census, the U.S. Department of Housing and Urban Development (HUD), and USDA. All data sources have limitations, but they do provide a somewhat consistent picture of farm mortgage activity. One common problem with all data sources is the inclusion of mortgage activity associated with nonfarm financing.

Lender Reporting

Life insurance companies and the FmHA publicly report farm mortgage flow data, but commercial banks, the Farm Credit System, or other major lenders do not. Aggregate farm mortgage flow data for the FCS are not publicly available after 1988. Estimates of activity for commercial banks can be made from outstanding volume data and assumptions drawn from FCS and life insurance company flow activity for years through 1988. These four types of lenders account for roughly 80 percent of farm real estate debt.

Financial reporting for other regulated lenders, such as savings and loan associations, financing companies, and credit unions, does not require the disclosure of outstanding farm loan volume. Therefore, surveys serve as the primary source of information regarding their involvement in farm mortgage lending. This is also true of seller-provided financing. Although surveys show seller-provided financing to be significant, that provided by these other lender groups is not. However, as farm operations become larger, more financing is being provided by nontraditional lenders not covered in this report.

Life Insurance Companies

Annual gross farm mortgage acquisitions, dispositions, and yearend volumes for life insurance companies are available from the American Council of Life Insurance (ACLI) (1). Data in the ACLI's "Fact Book" are from industrywide reports that include companies known to be active in farm real estate lending. For 1990, the ACLI reports farm mortgage acquisition volume of $1.8 billion (table 2). Acquisitions include volume from farm mortgages for new property purchases, loan purchases from other originating sources, the refinancing of existing mortgage debt, loans to agribusinesses, and loans for timber purposes. Disposition volume includes that from scheduled amortization payments, prepayments of principal, default and foreclosure actions, and loan sales.

The life insurance companies' general response to the farm financial difficulties of the 1980's was to curtail lending. Some companies stopped lending altogether with others servicing only the needs of existing customers. Farm mortgage lending volume is now concentrated in the hands of just 12 companies, which hold over 95 percent of the total outstanding volume. Of these, only six are still active in lending, with five companies accounting for over 75 percent of outstanding loan volume.

Table 2--Life insurance company farm mortgage activity, 1960-91

Year	January 1, outstanding	Origina- tions[1]	Ratio[2]	Repay- ments[3]	Ratio[4]
	--Million dollars--		Percent	Million dollars	Percent
1960	2,820	464	16.5	309	12.7
1961	2,975	552	18.6	365	12.3
1962	3,162	619	19.6	390	12.3
1963	3,391	866	25.5	477	14.1
1964	3,781	1,047	27.7	540	14.3
1965	4,288	1,149	26.8	635	14.8
1966	4,802	994	20.7	582	12.1
1967	5,214	837	16.1	511	9.8
1968	5,540	772	13.9	548	9.9
1969	5,764	540	9.4	570	9.9
1970	5,734	314	5.5	438	9.7
1971	5,610	503	9.0	549	9.8
1972	5,564	700	12.6	621	11.2
1973	5,643	1,005	17.8	685	12.1
1974	5,965	1,005	16.9	674	11.3
1975	6,297	1,075	17.1	646	10.3
1976	6,726	1,510	22.5	836	12.4
1977	7,400	2,373	32.1	954	12.9
1978	8,819	2,748	31.2	1,089	12.3
1979	10,478	2,806	26.8	1,119	10.6
1980	12,165	1,654	13.6	891	7.3
1981	12,928	1,108	8.6	962	7.4
1982	13,074	695	5.3	964	7.3
1983	12,805	1,109	8.7	1,197	9.3
1984	12,717	1,003	7.9	1,277	10.0
1985	12,443	1,070	8.6	1,677	13.4
1986	11,836	1,219	10.3	2,115	17.9
1987	10,940	1,097	10.0	2,141	19.6
1988	9,896	1,424	14.4	1,738	17.6
1989	9,582	1,399	14.6	1,383	14.4
1990	9,598	1,833	19.1	1,245	13.0
1991P	10,186	1,526	15.0	1,683	16.5

P = Preliminary
[1]Gross farm mortgage acquisitions, including purchased loans and loans for timber and agribusiness purposes.
[2]Gross acquisitions divided by beginning year volume.
[3]Gross farm mortgage dispositions, including loans for timber and agribusiness purposes.
[4]Gross dispositions divided by beginning year volume.
Source: (1).

Gross mortgage flow data from another ACLI survey suggest that annual life insurance company origination volume for new farmland purchases (that is, purchase money mortgages) has been relatively small in recent years.[4] This survey separates gross acquisitions into those for new property, existing property, and loan purchases; gross dispositions are separated into those from principal repayments (includes terminations) and loan sales.[5] For 1988, 1989, 1990, and 1991, the survey suggests that only 49, 35, 35, and 63 percent of farm mortgage originations were used to finance new property purchases. The survey also indicates that mortgage purchases by life insurance companies are rising. From 1988 to 1991, purchased volume increased from $0 to $196 million.

Origination volume associated with the purchase of traditional farm properties may even be less. This is because acquisition volume includes mortgages for timber and agribusiness purposes, which have been a growing component of life insurance company lending activity. Several companies have been devoting large portions of their loan funding for these purposes in recent years.

ACLI's Investment Bulletin provides survey data on the type of farm enterprise being served by life insurance mortgages. These survey data suggest that as much as 29 percent of outstanding farm mortgages at the end of 1991 went to agribusiness and timber enterprises as opposed to conventional farm enterprises (2).[6] This percentage has been increasing over time, suggesting that life insurance companies are investing more heavily in these types of mortgage assets. This evidence, coupled with other information from major life insurance companies, suggests that nonconventional farm mortgages may have constituted more than $500 million of the $1.8 billion in total loan origination volume for 1990.

The disposition, or principal repayment, rate for life insurance company mortgages indicates that in 1990 outstanding volume was turning over every 7-8 years. This 13-percent rate is slower than in the mid-1980's when defaults and rapidly falling interest

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[4]This monthly survey covers a smaller sample frame and has a lower response rate than that of the more extensive industrywide ACLI "Fact Book" data. The data for 1991 are preliminary.

[5]HUD definitions of new and existing properties are used by the ACLI. The ACLI is unsure how farm mortgage survey respondents interpret these definitions, which were developed for the housing mortgage market. Originations for new properties include mortgages for properties not previously occupied by the current owner, while existing property originations include mortgages on previously occupied properties, existing mortgages that were refinanced, or mortgages for property improvements.

[6]Major farm enterprise data have been published since 1988. Roughly two-thirds of the total industry volume is broken down by loan purpose in the survey. Agribusiness loans are defined as those to entities that derive over 50 percent of their gross sales from production of a product that adds value to an agricultural commodity or forest product; a loan is defined as a timber loan if more than 50 percent of the security backing the loan is attributable to a commercial timber crop.

rates accelerated repayments and loan restructuring activity, but is close to the historical average of 11.8 percent for the life insurance industry. A relatively high rate of principal repayment is consistent with the terms on life insurance company mortgages, which increasingly stress balloon payments or shorter term loans over long-term loans with amortizations of 15-25 years. Fixed interest rate mortgages often carry balloons of 5-10 years, with some ballooning or repricing as frequently as every 3 years.

Farm Credit System

Through 1987, annual farm mortgage lending activity of the cooperative FCS reflected the farm mortgage activity of the FLB's and their correspondent Federal Land Bank Associations (FLBA's). Until mid-1988, FLB's supplied nearly all of the FCS's farm real estate loans. The FLB's sister lenders, the Production Credit Associations (PCA's), which were funded by district Federal Intermediate Credit Banks (FICB's), made real estate mortgages for only limited purposes such as supplementary collateral or downpayment purposes. These distinct lending functions allowed FCS farm mortgage activity to be determined readily from publicly available FLB financial and regulatory reporting.

The restructuring of the FCS commencing in 1988 blurred the distinct lending functions of PCA's and FLB's, making it difficult to distinguish mortgage lending activity from other lending activity in financial reports. Farm Credit Banks (FCB's) were created when district FLB's and FICB's merged and now supply all types of credit. Mergers of some local FLBA's and PCA's into Agricultural Credit Associations (ACA's), which also supply all types of credit, occurred. Furthermore, some FLBA's became Federal Land Credit Associations (FLCA's), reporting the mortgages they originate on their balance sheets as opposed to that of a district FCB. Also, farm-related businesses and nonfarm purpose lending became a growing component of FCS lending. Therefore, without disclosure from each FCS institution it was not possible to track mortgage flows beyond 1988. Even the reporting of outstanding volume changed during this period.

Until 1984, the Farm Credit Administration (FCA) reported FLB mortgage activity in its annual report (5). A change in FCA's role to that of an arm's-length regulator led the agency to shed some of its data collecting and reporting functions. For the 1984 and 1985 calendar years, annual lending volume is available directly from FCA. On a fiscal year basis, lending volume is reported in the President's Budget for the U.S. Government for these years (8). For the 1986 and 1987 calendar years, FLB mortgage origination and repayment volume is available from the FCA's Consolidated Reporting System (Call Reports).[7] These quarterly regulatory reports divide additions to outstanding volume into subcomponents of direct new money, loan purchases,

[7]Because of the mid-1988 FCS mergers, Call Report data through the second quarter were annualized to estimate for all of 1988.

principal refinancing, and other accounting groups. Subtractions from mortgage volume during a reporting period include principal repayments, loan sales, the refinancing of principal, charge-offs, and other accounting groups.

Table 3 reports FLB mortgage flow data from FCA's annual reports or Call Reports. Origination volume includes that for all purposes including the refinancing of existing farm mortgages, farm-related businesses, and rural housing.[8] After peaking in 1981, FLB origination volume, which had been ranging from 28 to 38 percent of its outstanding mortgage portfolio over the previous 10 years, fell to just 3 percent in the mid-1980's.

The rate of principal repayment is calculated using the following equation:

$$R_t = \{L_{t-1} + N_t - L_t\} \;/\; L_{t-1} \tag{1}$$

where R_t is the rate of principal repayment in year t; L_{t-1} is the loans outstanding at the end of the previous year; N_t is the volume of new loans (originations) made during the year; and L_t is the volume of loans outstanding at yearend.

The calculated principal repayment volume includes repayments due to loan losses (net charge-offs). Loan net charge-offs were insignificant prior to 1984, but soared from 1984 through 1987. When principal net charge-offs from loan defaults are excluded from the calculation, annual repayment rates drop approximately 1 percentage point during that period.

FCA did report a detailed accounting of FLB repayment activity for years prior to the early 1980's that separated gross principal repayments into unmatured principal repayments and principal repayments for all other purposes including loans replaced by new loans, voluntary deed transfers, and foreclosures. The FCS Call Report also desegregates repayment data, but into somewhat different categories. Again, because of the FCS mergers beginning in 1988, which mixed the reporting of real estate lending with nonreal estate lending, complete data are available for only 1986 and 1987.

Principal repayment rates on FCS mortgages vary substantially, averaging 13 percent from 1960 through 1988 and ranging from less than 10 percent to nearly 18 percent. Changing farm economic conditions explain much of the variation. For example, repayment rates rose sharply in the early 1970's, a period of record farm income and of expanding farm operations, which paid off old loans with new loans. Changing interest rates and contract terms, such as FCS's 1971 change from fixed to variable rate contracts, also influenced the repayment rate. The conversion to variable rate mortgages boosts repayments because the incentive to keep

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[8]After shrinking in importance from the early 1980's, rural housing volume as a percentage of total long-term farm and outstanding rural housing mortgage volume is slowly rising again. From 1987 to 1991, outstanding rural housing volume rose from $1.4 billion to $1.6 billion or from 4.4 percent to 5.8 of the total.

Table 3--Federal Land Bank farm mortgage activity, 1960-91

Year	January 1, outstanding	Originations[1]	Ratio[2]	Repayments[3]	Ratio[4]
	--Million dollars--		Percent	Million dollars	Percent
1960	2,360	504	21.3	300	12.7
1961	2,564	633	24.7	369	14.4
1962	2,828	645	22.8	421	14.9
1963	3,052	743	24.3	485	15.9
1964	3,310	998	30.2	590	17.8
1965	3,718	1,235	33.2	672	18.1
1966	4,281	1,337	31.2	660	15.4
1967	4,958	1,268	25.6	617	12.4
1968	5,609	1,101	19.6	584	10.4
1969	6,126	1,166	19.0	578	9.4
1970	6,714	1,017	15.1	544	8.1
1971	7,187	1,555	21.6	824	11.5
1972	7,918	2,251	28.4	1,064	13.4
1973	9,105	3,285	36.1	1,317	14.5
1974	11,073	4,235	38.2	1,444	13.0
1975	13,864	4,411	31.8	1,711	12.3
1976	16,564	4,701	28.4	2,138	12.9
1977	19,127	5,730	30.0	2,720	14.2
1978	22,137	6,355	28.7	2,866	12.9
1979	25,626	9,119	35.6	3,461	13.5
1980	31,284	10,282	32.9	3,428	11.0
1981	38,138	12,203	32.0	3,878	10.2
1982	46,463	8,512	18.3	4,597	9.9
1983	50,375	4,785	9.5	4,082	8.1
1984	51,078	4,280	8.4	4,681	9.2
1985	50,677	1,445	2.9	5,537	10.9
1986	46,585	1,482	3.2	8,781	18.8
1987	39,286	1,976	5.0	6,916	17.6
1988	34,346	2,670	7.8	4,834	14.1
1989[5]	32,182	NA	NA	NA	NA
1990[5]	30,245	NA	NA	NA	NA
1991[6]	28,456	NA	NA	NA	NA

NA = Not available.
[1]Farm and rural housing "new money loaned" or "discounts made." 1985 is fiscal year data and 1988 is an estimate made from mid-year activity.
[2]Mortgage originations divided by beginning year volume.
[3]Farm and rural housing mortgage principal repayments.
[4]Repayments divided by beginning year volume.
[5]"Long-term real estate loans" as reported by Farm Credit Banks (FCB's).
[6]"Long-term farm mortgage" and "rural home" loans reported by FCB's.
Source: (5), (6), Farm Credit Administration Consolidated Reporting System.

individual loans on different parcels is essentially eliminated by the change. When new credit was sought or equity borrowed against, FLB's frequently paid off the old loan and combined it with the new advance. This occurrence tends to overstate real repayment activity.

Commercial Banks

Commercial banks do not report farm mortgage lending activity to regulatory authorities.[9] However, banks do report the outstanding principal on farmland-secured real estate loans. Estimates of bank mortgage origination volume are made here by assuming that banks face the same principal repayment rates on their farm mortgages as do life insurance companies and the FCS. Bank principal repayment rates then become a weighted average of repayment rates (including terminations) experienced by these two lenders. The average repayment rate (R_t) is then multiplied by outstanding bank volume at the beginning of the year (L_{t-1}) to determine the annual dollar volume of principal repayment. New origination volume N_t can then be estimated by rearranging equation (1) to equal:

$$N_t = L_t + (R_t * L_{t-1}) - L_{t-1} \qquad (2)$$

Estimates of bank farm mortgage origination volume are presented in table 4. Notice that commercial bank origination volume increased sharply during the last decade, a period when overall farm real estate debt was declining. The FCS and life insurance companies in particular experienced a reduction in lending activity during the mid-1980's. Annual bank agricultural mortgage originations reached an estimated $3.3 billion in 1987 before declining in 1988.

Surveys of bank lending activity suggest that the assumption that bank repayment rates are similar to FCS and life insurance company rates could underestimate bank repayment rates somewhat in recent years due to the growing popularity of mortgage contracts using balloon payments and shorter repayment schedules. Ellinger and Barry found over 60 percent of bank farm real estate loan volume have maturities of 5 years or less with a balloon payment (4). Yet, life insurance companies also increasingly rely on these types of contracts and their repayment rates have not differed greatly from those of FLB's, which tend to use 20- to 30-year mortgages.

Conversely, using FCS and life insurance company repayment rates might overestimate bank origination volume in the mid- to late 1980's. During this period, FCS repayment rates were high due to concerns about the system's stability and uncompetitive interest rates. Furthermore, banks probably enjoyed lower principal repayment rates than did either the FCS or the life insurance industry because banks made fewer real estate loans at the peak

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[9]Commercial banks file quarterly Reports of Condition and Reports of Income (Call Reports) with the Federal Deposit Insurance Corporation.

Table 4--Commercial bank farm mortgage activity, 1960-91

Year	January 1, outstanding	Originations[1]	Ratio[2]	Repayment ratio[3]
	--Million dollars--		----Percent----	
1960	1,523	248	16.3	11.8
1961	1,592	260	16.3	13.3
1962	1,641	451	27.5	13.5
1963	1,870	547	29.3	14.9
1964	2,137	621	29.1	15.9
1965	2,417	585	24.2	16.3
1966	2,607	519	19.9	13.7
1967	2,770	598	21.6	11.1
1968	3,061	583	19.0	10.2
1969	3,333	533	16.0	9.7
1970	3,545	506	14.3	7.9
1971	3,772	852	22.6	10.7
1972	4,218	1,101	26.1	12.5
1973	4,792	1,317	27.5	13.6
1974	5,458	1,189	21.8	12.4
1975	5,966	1,027	17.2	11.7
1976	6,296	1,288	20.5	12.8
1977	6,781	1,937	28.6	13.9
1978	7,780	1,767	22.7	12.8
1979	8,557	1,149	13.4	12.7
1980	8,623	807	9.4	9.9
1981	8,571	591	6.9	9.5
1982	8,349	822	9.8	9.3
1983	8,392	1,625	19.4	8.3
1984	9,317	1,738	18.7	9.3
1985	10,186	2,361	23.2	11.4
1986[4]	11,385	2,681	23.5	18.7
1987[4]	12,711	3,257	25.6	18.0
1988[4]	14,455	2,682	18.6	14.9
1989	15,417	NA	NA	NA
1990	16,646	NA	NA	NA
1991	17,227	NA	NA	NA

NA = Not available.
[1]Estimated gross farm mortgage acquisitions.
[2]Estimated gross farm mortgage acquisitions divided by beginning year outstanding volume.
[3]Weighted average repayment rate for Federal Land Banks and life insurance companies.
[4]Origination estimates made using an 11.9-percent repayment rate.
Source: (12).

values of the late 1970's and early 1980's. To compensate, for the 1986-88 period, an historical repayment rate of 11.9 percent was used to estimate bank origination volume in place of actual annual FCS and life insurance repayment rates. Otherwise, origination volume estimates for 1986, 1987, and 1988 increase to $3,450, $4,036, and $3,110 million for 1986, 1987, and 1988, a difference of less than 25 percent.

Farmers Home Administration

The Farmers Home Administration offers direct (insured) and guaranteed Farm Ownership (FO) loan programs. Direct loans are funded by FmHA, are limited to $200,000, are offered at subsidized rates, and can be repaid over 40 years. FO loan funds are available for the repair, improvement, refinancing, or purchase of farm real estate. A small volume is available each year to finance nonfarm enterprises. However, FmHA does not report how loan funds are allocated between these purposes. Therefore, data presented here on FO lending activity include a small amount of nonfarm mortgage volume. Other direct loan programs often require real estate collateral, but are generally not used to purchase or improve farm real estate. Guaranteed loans are made using the lender's funds and so volume is associated with the participating lender.[10]

FmHA reports its direct FO origination volume (obligations) through budgetary documents.[11] The maximum level of annual direct FO obligations is set by annual congressional appropriations. In recent years, demand for FO loans has exceeded statutory funding levels. Once a major supplier of farmland mortgages, direct FO obligations fell precipitously during the 1980's, from $926 million at the beginning of the decade to less than $100 million at the close (table 5). For fiscal 1991, direct FO obligations totaled just $57 million.

The decline in direct volume resulted from policies emphasizing guaranteed lending over direct lending. The annual volume of FO guaranteed loans increased from just $4 million in fiscal 1982 to $349 million in 1990. For fiscal 1992, $489 million is available for FO guaranteed loans, but only $67 million for direct FO lending. Direct loan funding is now being targeted toward beginning and socially disadvantaged farmers.

Principal repayment on direct FO loans is lower than that of commercial and cooperative lenders. One explanation for this result is the use of longer amortization schedules and concessionary interest rates, which discourage loan prepayment and repayment. In the late 1970's, repayment rates were around 7 percent per year or nearly half the rate of commercial loans. Repayment rates declined in the 1980's as loan repayments were

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[10]Under the loan guarantee programs, FmHA agrees to repay up to 90 percent of an approved loan made by a qualifying lender if the borrower should default.

[11]FmHA Report Code 205 reports fiscal year obligations.

Table 5--Farmers Home Administration farm mortgage activity, fiscal 1960-91

Fiscal year[1]	Beginning year volume	Originations[2]	Repayment[3]	New ratio[4]	Repay ratio[5]
	-----Million dollars-----			---Percent---	
1960	NA	44	NA	NA	NA
1961	NA	57	NA	NA	NA
1962	NA	183	NA	NA	NA
1963	NA	222	NA	NA	NA
1964	NA	206	NA	NA	NA
1965	NA	183	NA	NA	NA
1966	NA	233	NA	NA	NA
1967	NA	260	NA	NA	NA
1968	NA	205	NA	NA	NA
1969	NA	277	NA	NA	NA
1970	NA	261	NA	NA	NA
1971	NA	268	NA	NA	NA
1972	NA	356	NA	NA	NA
1973	NA	408	NA	NA	NA
1974	NA	351	NA	NA	NA
1975	NA	352	NA	NA	NA
1976	2,645	435	188	16.4	7.1
1977	3,016	451	214	15.0	7.1
1978	3,040	551	242	16.9	7.4
1979	3,561	752	241	21.1	6.8
1980	4,072	926	315	22.7	7.7
1981	4,683	795	178	17.0	3.8
1982	5,300	658	178	12.4	3.4
1983	5,779	730	255	12.6	4.4
1984	6,253	659	57	10.5	1.0
1985	6,852	652	-6	9.5	0
1986	7,501	371	150	4.9	2.3
1987	7,697	75	205	1.0	4.2
1988	7,451	115	45	1.5	3.5
1989	7,302	95	31	1.3	4.8
1990	7,046	80	227	1.1	9.4
1991	6,466	57	199	.9	7.2

NA = Not available.
[1]October 1 to September 30.
[2]Direct Farm Ownership Loan Program obligations, includes nonfarm enterprise loans.
[3]Principal repayment on direct Farm Ownership Loan Program loans.
[4]New obligations divided by beginning year volume.
[5]Principal repayments divided by beginning year volume.
Source: Farmers Home Administration.

postponed by deteriorating farm financial conditions. The rate calculated here includes repayment of principal resulting from loan principal write-offs, which soared from $3 million in fiscal 1984 to a peak of $433 million in fiscal 1990. If principal write-offs were excluded, the overall repayment rate would decline further. For fiscal 1991, the rate would drop from 7.2 percent to 3.1 percent.

FO principal repayments were also slowed during the 1980's as the restructuring of delinquent loans delayed payments. For example, the Debt Set-Aside Program, which ended in September 30, 1985, allowed 16,000 borrowers to postpone repayments on up to $200,000 in debt for up to 5 years. Also, a class action lawsuit during this period allowed some borrowers to discontinue payments without risking foreclosure by FmHA. In the last 2 fiscal years, repayment rates have increased in part because certain payment-delaying restructuring activity has slowed.

Survey Estimates

Three sources of survey data are used to examine mortgage activity. HUD conducts a lender survey that provides data on farm and farm-related mortgage activity. USDA and Census collect survey data on the transfer of farm ownership from which farm mortgage origination estimates can be made. Farm ownership transfer rates are an important determinant of farm mortgage origination volume. Census data come from a special 1988 survey and some important USDA data collection was halted after 1988. Therefore, this study focuses on 1988 mortgage flows because that year allows for the greatest comparisons across data sources.

It is worth noting that 1988 farm real estate markets differed from today's markets. In 1988, farm real estate market values began a recovery after the steep declines of the early to mid-1980's. Farmland transaction volume and prices rose as farmland transferred to more financially secure ownership and much of the 9 million acres of farmland (valued at $3.5 billion) acquired by lenders was sold. By 1991, much of the lender-acquired property had been disposed of, with prices and transaction volume stabilizing.

U.S. Department of Agriculture Surveys

Three USDA surveys on farmland transactions and values are used to estimate annual farm mortgage origination volume arising from the transfer of farm real estate ownership. This method does not measure activity arising from the refinancing of existing debts. The surveys are the Agricultural Land Values Survey (ALVS), the Farm Land Market Survey (FLMS), and the Rural Land Transfer Survey (RLTS). The analysis is for 1988, the most recent year that data permit.

The RLTS, conducted for 1986-88, estimates agricultural and nonagricultural land transfer rates (from sales, gifts, inheritances, bankruptcy, foreclosures) and the average market value recorded from local land transfer records (16).[12] The ALVS surveys farm operators to estimate the market value of farmland and buildings as of February 1 (3). And the FLMS surveys real estate professionals to provide various characteristics of actual farm real estate transactions, including the average per acre value of transferred farmland.[13]

An estimate of the volume of acres transferred in 1988 is made by multiplying the agricultural land transfer rate (2.8 percent) by the stock of land in farms on June 1, 1988 (994.5 million acres) to yield 27.8 million acres (9, 13). Multiplying this value by the farmland value estimates from the three surveys ($474, $542, and $647 per acre) yields a gross farmland transaction volume ranging between $13 and $18 billion (table 6).

Not all of the gross transaction volume is financed. The FLMS indicates that only 66 percent of 1988 farm real estate transactions received financing and, of those that did so, debt was incurred on 73 percent of the value (11). If we assume the percentage of volume financed is proportional to the percentage of parcels financed, the estimated range of mortgage origination volume then becomes $6.4 to $8.7 billion.

By excluding the portion of volume resulting from seller financing (24 percent) and other lenders (6 percent), as indicated by the FLMS, the range for the three major lenders becomes $4.5 to $6.1 billion (FmHA is not identified in the survey). This compares with the $6.8-billion estimate using lender-supplied data, and seems plausible considering that lender-supplied data include both nonfarm mortgages and debt refinancing volume. Estimates for individual lenders are also similar. For example, FCA reports that FCS volume for 1988 was $2.7 billion, while the estimates using USDA survey data suggest a range of $1.8 to $2.5 billion. ACLI data for life insurance companies report $1.4 billion in total origination volume while USDA survey data suggest a range of $382 to $520 million associated with ownership transfer.

U.S. Census of Agriculture

Another source of farm mortgage origination data is the Agricultural Economics and Land Ownership Survey for 1988 (AELOS) (14).[14] This supplementary sample survey to the 1987 Census of Agriculture suggests a much smaller volume of farmland transfers

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[12]The RLTS was discontinued after 1988. The survey suggests that transfer rates are relatively stable, around 3 percent.

[13]Survey recipients (farm real estate brokers, appraisers, and major lenders) are asked to report various characteristics of the five most recent transactions from September 1 to February 1 for years since 1986. The survey is a nonprobability survey.

[14]44,125 farm operators were sent a survey in early 1989, with 32,296 cases actually processed. Identified by farm operator cases, 44,038 landlords were then sent surveys, with a final response rate of 78 percent.

and mortgage origination volume than do other sources. AELOS estimates just 15.2 million acres of farmland were acquired by operators or landlords in 1988 (by purchase or inheritance or gift) having an estimated value (including value of buildings) of $9.7 billion. Of this value, debt was incurred on just $2.6 billion or 27 percent of the total transfer value, substantially less than the other data indicate (table 6).

Table 6--Survey estimates of farm mortgage origination volume arising from agricultural land transfers, 1988

Attribute	ALVS[1]	FLMS[2]	RLTS[3]	AELOS[4]
		Dollars		
Average per-acre value[5]	647	542	474	642
		Million dollars		
Gross transfer volume[6]	18,003	15,093	13,200	9,734
Gross transfer volume financed	11,882	9,962	8,712	--
Debt incurred on volume financed	8,674	7,272	6,360	2,580
Volume of transfer debt not financed by seller	6,592	5,527	4,833	--
Volume of debt financed by:				
Federal Land Banks	2,515	2,109	1,844	478
Commercial banks	2,949	2,472	2,162	951
Seller financed	2,082	1,745	1,526	--
Life insurance companies	607	509	445	111
Farmers Home Administration	--	--	--	43
Other lenders	520	436	382	997

-- = Not applicable.
[1]USDA, Agricultural Land Values Survey.
[2]USDA, Farm Land Market Survey.
[3]USDA, Rural Land Transfer Survey.
[4]Census of Agriculture, Agricultural Economics and Land Ownership Survey. Excludes operators and owners of horticultural specialty enterprises and new operators in 1988.
[5]ALVS is an average of February 1, 1988 and 1989 values.
[6]Includes farmland and ranchland acquired by purchase or inheritance or gift.

Of the $2.6 billion, $1.5 billion was supplied by life insurance companies, commercial banks, and the FCS, with bank origination volume dominating lending. Although the specific market share held by different lender types varies somewhat from that suggested by other data sources, the rank of market shares is the same.

One explanation for the lower AELOS volume is that it excludes volume resulting from debt refinancing or restructuring. Sampling methods and design might offer other explanations. First, the survey did not include operators of horticultural specialty farms. Second, new operators beginning in 1988 were missed by the survey. Third, 7 percent of the farm operator sample frame individuals indicated they were no longer farming in 1988. No attempt was made to find successors for this group which, when expanded by their sample weights, account for an estimated 68 million acres of farmland and $7.5 billion in gross farm sales. Finally, there was considerable difficulty getting landlords and farmers to respond to the voluntary survey, often leading to incomplete and inaccurate reporting.

U.S. Department of Housing and Urban Development (HUD)

Farm mortgage flow volume data are available from HUD's Survey of Mortgage Lending Activity (15). Released monthly and compiled quarterly and annually, the survey has been published since 1970. The survey is primarily concerned with home mortgage activity, both 1-4 family and multifamily units, but it also reports non-residential and farm property activity.

HUD reports gross flows of long-term mortgage loans for 11 lender groups as well as outstanding volume (available only quarterly). Flow data include: loan origination, loan purchases, loan sales, repayments, and net change in volume. Lender groups for which farm mortgage activity is reported include commercial banks, mutual savings banks, life insurance companies, Federal credit agencies and federally chartered lenders, savings and loans associations, and State and local government credit agencies.

Annual mortgage origination volume for major lenders is presented in table 7 for 1970-90. Total 1988 origination volume at $7.5 billion is roughly $1 billion higher than estimates from other sources. Most of the difference is due to a higher estimate of bank origination ($4.6 billion) and lower estimates for the FCS and other Federal lenders group.

HUD's data are compiled from reports submitted by the Office of Thrift Supervision, Mortgage Bankers Association of America, and American Council of Life Insurance under cooperative agreements. These reports provide estimates from either survey or regulatory reporting data. For commercial banks, HUD surveys about 300 institutions on their mortgage lending practices. Benchmarked to commercial bank Call Reports and expanded, this stratified random sample is designed to represent the commercial banking industry, including mutual savings banks. Reported outstanding volume for banks and life insurance companies closely matches volume reported collectively by these lender groups. In total, the HUD data are compiled from reports of some 1,500 lending institutions and agencies.

Table 7--Farm mortgage origination volume reported by HUD, 1970-90[1]

Year	Commercial banks	Savings and loan assoc.	Life insurance companies	Federal credit agencies[2]	State and local agencies	Total[3]
			Million dollars			
1970	1,179	75	296	1,333	58	2,970
1971	1,554	94	478	1,919	53	4,143
1972	2,007	139	676	2,767	58	5,783
1973	2,179	194	964	3,664	59	7,128
1974	2,054	49	957	4,507	66	7,663
1975	1,889	95	1,075	4,779	76	7,934
1976	2,377	168	1,509	5,224	178	9,464
1977	3,273	180	2,368	6,368	116	12,310
1978	3,216	125	2,746	6,800	160	13,053
1979	2,181	91	2,851	9,435	254	14,819
1980	2,082	83	1,761	10,748	306	14,980
1981	1,455	84	1,172	12,451	210	15,372
1982	2,305	66	697	8,053	72	11,204
1983	2,885	45	1,159	5,691	97	9,879
1984	4,019	71	987	5,278	91	10,536
1985	3,314	252	951	4,355	88	8,960
1986	4,873	188	1,182	3,280	249	9,773
1987	5,192	0	938	2,243	35	8,409
1988	4,588	0	1,231	1,768	0	7,594
1989	5,974	0	883	1,461	0	8,328
1990	8,256	0	711	2,506	0	11,473

[1]Loan origination volume reported by the U.S. Department of Housing and Urban Development's Survey of Mortgage Lending Activity. Excludes volume from loan purchases.
[2]Includes volume from the Farm Credit System, the Farmers Home Administration, and other Federal lenders.
[3]Includes volume originated by mutual savings banks, mortgage companies, pension funds, and mortgage-backed investment conduits, not identified separately.

HUD defines Federal credit agencies supplying farm mortgages as the Farmers Home Administration, the Farm Credit System, the Small Business Administration (SBA), and any other agency making land-based loans to farmers. The FCS and FmHA account for nearly all of land-based loans made to farmers by Federal agencies. The SBA no longer operates programs specifically serving farmers.

Prior to 1985, HUD obtained data collected by the Farm Credit Administration on FLB mortgage activity. HUD relied on historical patterns to provide estimates of mortgage activity after 1985. These estimates deteriorated as FCS reporting changes occurred (for a period, even outstanding FCS volume was not captured by the HUD survey). HUD has refined its methodology to improve FCS estimates. FmHA mortgage activity is obtained from FmHA reports submitted to HUD.

There are some inconsistencies with the HUD data. One example is the flow of farm mortgage volume by savings and loans and State and local credit agencies. In 1987, new farm mortgage origination volume by savings and loans dropped to zero as did State and local credit agencies in 1988, after both lender groups consistently showed activity since 1970.

Summary

Agricultural mortgage lending activity declined sharply after the early-1980's peak. Origination volume in 1988 was estimated to be $6.9 billion for the major lenders, or when adjusted for inflation, just a third of the peak. Market share of mortgage activity also changed dramatically during the last two decades with FLB's gaining almost complete dominance in lending during the 1970's and with commercial banks capturing the largest share of volume in the late 1980's. Changes in FmHA lending policy have greatly reduced its presence in the farm mortgage markets. Results also indicate that principal repayment rates rose sharply in the 1980's as producers paid down loans and lenders absorbed large principal losses on defaulted loans. This is particularly true for FLB's and life insurance companies.

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