The Pricing of Federally Guaranteed Agricultural Loans: What Does It Indicate About Market Competition?

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Continuing advances in information technologies are reducing information asymmetries in credit markets and hence improving the ability of lenders to evaluate borrowers and price risk. Financial services deregulation over the past couple decades has spurred market competition by lifting geographic and other barriers to banking and financial services that had once prevailed. The Riegle-Neal Interstate Banking and Branching Efficiency Act of 1994 and the Gramm-Leach-Bliley Financial Services Modernization Act of 1999 are two important examples of financial services deregulation legislation.

When market deregulation and technology advances are coupled with a generally stable and strong farm economy, lower risk premiums on farm loans relative to over lending investments and a more competitive farm loan pricing environment is anticipated. However, research on agricultural loan pricing is not extensive and has been hampered by a lack of data. This occurs because loan pricing data is typically considered to be propriety information by lenders. Therefore, past studies have relied on survey data, which are limited in breath and detail, to examine farm loan pricing. The research presented in this paper is unique because it utilizes data on nearly 100,000 federally guaranteed farm loans originated over 8 years to examine the pricing of farm loans. Specifically, this research utilizes interest rate data on farm loans that are guaranteed

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against default by the Farm Service Agency (FSA) of the United States Department of Agriculture (USDA).

Purpose and Overview

The primary objective of this research is to examine the pricing of federally guaranteed farm loans and compare these rates across lenders and time and with farm loan rates reported on surveys of commercial banks. Recent research on farm loan pricing and pricing competition, whether guaranteed or not, is limited. Research on FSA loan guarantees have tended to focus more on program delivery issues and not the pricing of loan guarantees or their relationship to the broader credit markets. Settlage (2006a) examined the factors determining use of guaranteed loans by commercial banks, while Settlage (2006b) provided detailed analysis of all lenders participating in FSA's guaranteed loan program. Ahrendsen et. al. modeled the factors influencing a lender's request for interest rate assistance on certain FSA guaranteed loan.

Research by Dodson and Koenig showed that use of FSA loan guarantees falls in regions where agricultural lenders are absent, but that research did not specifically look at whether loan pricing was affected in such regions. In such regions, guaranteed lending rates might be expected to be higher or vary more than in regions where lending competition, whether guaranteed or not, is greater. Research conducted by Walraven and Barry in 2004, using a Federal Reserve System national survey of commercial bank loans, showed that there is approximately a 1.5 percentage point difference between the most risky and least risky farm loans made by commercial banks. The relatively compact

spread implies that high and low bounds are approximately 75 basis points around the average rate.

One requirement of FSA's guarantee loan program is that lenders are required to charge interest rates on the guaranteed and unguaranteed portions of the loans that are no more than the rate the lender charges its average agricultural loan customer **(**7CFR762**.**124).[2] If a lender's interest rates are based on a standardized risk rating system, then the rate charged must not exceed the rate charged a moderate risk borrower, regardless of the guaranteed borrower's equity, collateral, or repayment position (FSA). Essentially, the guarantee compensates a lender for much of the additional risk associated with the eligible guarantee borrower. As such, the program provides borrowers with loans at more affordable interest rates than they might otherwise obtain without a federal loan guarantee.

This paper examines FSA guaranteed farm loan pricing to determine if the average loan rate is consistent with market trends. Because of the "average" borrower requirement of guaranteed loan program, the FSA guaranteed loan rates should serve as a proxy for average interest rates on farm loans by lenders using the program. FSA loan guarantees should, in theory, be similar to the average interest rates on all farm loans and should be reflective of general market trends. Noteworthy differences between interest rates on FSA guaranteed loans and non-guaranteed loans would be consistent with weak program compliance. But, differences could also be a consequence of survey sampling or

[2] Application and borrower fees must also be similar to those of unguaranteed borrowers for similar transactions.

measurement issues. The focus of the analysis is on the relative pricing of loans by the Farm Credit System (FCS) loans and commercial banks as these two lender groups account for most of FSA loan guarantees and hold the majority of total farm debt.

FSA Guaranteed Loan Programs

Despite a generally strong farm economy, the use of FSA's loan guarantee program has remained strong, with guarantee volume averaging over $2.3 billion per year since 2000. Outstanding balances on these loans stood at $9.2 billion at the end of 2007. Approximately 5 percent of all farm debt held by commercial lenders has a FSA guarantee. As expected from higher risk loans, the loan performance is below that of un-guaranteed loans, but during the time of the study performance was only modestly below that reported by commercial banks and the FCS.[3]

FSA delivers subsidized credit to qualifying family farmers through two mechanisms: direct loans and loan guarantees. Direct loans are originated, funded, and serviced by FSA, whereas guaranteed loans are originated, funded, and serviced by commercial lenders, but guaranteed against loss of principal and interest up to 90 percent and 95 percent in the case of beginning farmers. Annual guaranteed lending authorities are targeted to specific groups of applicants, requiring that a certain percentage of each loan program's lending authority be reserved or set-aside for use by socially disadvantaged

[3] During the study period, the annual loss rate on FSA guaranteed loans averaged 59 basis points, which compares with 20 basis points for farm loans of commercial banks and 7 basis points for the FCS.

applicants (SDA) and beginning farmer groups.[4] Targeting ensures that these borrower groups receive priority in obtaining loans.

Both delivery mechanisms provide loans for farm ownership (FO) and for farm operating (OL) credit purposes to borrowers unable to qualify for commercial loans. FO loans are available to help farmers purchase or improve farm real estate or in the case of guaranteed loans, refinance existing debts. Qualifying OL purposes include annual production expenses, chattel, family living expenses, and certain existing indebtedness. Total guaranteed FO and OL indebtedness is capped at $949,000 (annually adjusted for inflation).

Data and Methodology

The study uses various Farm Service Agency data sources to construct databases of farm ownership (FO) and for operating loan (OL) guaranteed loans obligated from fiscal 1999 through August 2007. The data included initial loan rates at the time of obligation, original loan terms, and identity of the original lender. The guaranteed FO loan database included over 28,400 loans that were obligated between January 1999 and August 2007. The guaranteed OL loan database contains 70,800 loans that were obligated from January 1999 through June 2007. Data limitations prevented the inclusion of data for loans made prior to 1999. During the study period, farm loan performance remained strong, with low delinquency and loss rates on guaranteed and non-guaranteed loans alike. Therefore,

[4] See CONACT: Section 346(b)(2) and 7 CFR 761.209. In general, a beginning farmer is an eligible applicant that has not operated a farm for more than 10 years. An SDA applicant is a member of a group who has been subject to racial, ethnic, or gender prejudice because of their identity as members of a group without regard to their individual qualities.

with the exception of some sectors, some regions, and some short time periods the average perceived risk on agricultural loans should have been relatively constant.

The data bases built are from data sources used by FSA to administer the program. Unfortunately, these sources exclude important underwriting data, such as the financial characteristics of the borrower. Loan accounting data includes program authority codes, loan amounts, guarantee amounts, interest rates, interest rate type codes, maturity dates, payment frequencies, repayment status codes, geographic location identifiers, and other items. Borrower demographics include codes for race, gender, martial status, beginning farmer status, and geographic location. Lender data includes various identifiers, including the geographic location of the lender and branch of the lender servicing the loan.

This analysis compared rates on FSA guaranteed loans with general market interest rates on the date the loan guarantee was obligated (approved). The 10-year Treasury note rate was selected as the benchmark for comparing FO rates while the Bank Prime Rate was selected as the benchmark for OL rates. The constant maturity 10-year Treasury note rate is generally considered as the primary benchmark for long term fixed rate housing loans while the bank Prime Rate is generally considered a benchmark for operating credit and short term capital financing of nonfarm businesses. These data series were obtained from databases maintained by the Board of Governors of the Federal Reserve System.

The interest rates on FSA guaranteed farm loans were also matched with average quarterly farm loan interest rates from surveys of commercial banks conducted by the Kansas City, Chicago, Dallas, and Minnesota Federal Reserve Banks. These regional rates are taken during a specific periods of the quarter in the territory of the district bank. In contrast to the economy-wide bank interest rates data series maintained by Board of Governors, these survey data are more heavily weighted toward farm banks which tend to be smaller and located in the Midwestern farming regions. These surveys focus primarily on non-real estate rates, but some capture farm real estate lending rates. FSA guaranteed lending activity is concentrated in these regions.

To minimize timing differences, comparisons were limited to FSA guaranteed loans made during or near the time when each respective survey was completed as well as those in the same geographic location. Generally, the Federal Reserve Bank surveys cover approximately a 2 week period, but their timing in the quarter varies. Like the regional surveys, FSA average rates are not weighted by volume. The FSA time period was expanded somewhat to increase data points because of a lack of guaranteed lending activity in some Federal Reserve Districts during some time periods. This was particularly true in the farm ownership loan program because its larger loan sizes and less annual guarantee authority results in only about one-quarter of the data points.

In addition, non-real estate loan rates reported by the Board of Governors of Federal Reserve System were examined during the study. The Board of Governors conducts the quarterly Survey of Bank Lending, which provides average effective rates on non-real

estate bank loans made to farmers made during the first full business week in the mid-month of each quarter from a sample of 250 banks of all sizes. The effective (compounded) annual rate reported is calculated from the stated rate and weighted by loan size and is considered to be a National estimate. Interest rates in this survey are consistently lower than those reported in regional Federal Reserve Bank surveys and were deemed not as good a comparison as the regional surveys used.

Results

Farm Credit System institutions and commercial banks are the primary users of FSA farm loan guarantees, accounting for approximately 95 percent of total lending over the study period. Commercial bank use of the program relative to FCS lenders has been trending down since 1999, with commercial banks' share slipping to 56 percent of total guaranteed farm ownership loan numbers made and to 72 percent for guaranteed operating loans (figure 1). The share of loans originated by other lender types, such as credit unions, non-profits, finance companies, and state authorities, has remained relatively stable over the period. However, these lender groups are significant in some states and local markets, especially outside large production regions.

During the study period, hundreds of commercial banks used the OL and FO programs each year. However, some lenders were more active users of the programs and hence interest rates within the program are significantly influenced by these lenders and the farm credit markets they are active in. Just 25 banks accounted for 13 percent of all bank originated guaranteed OL loans and 23 percent of bank originated guaranteed FO

loans. A similar conclusion can be made for the FCS. There were approximately 100 FCS lenders during the study period, including those FCS associations operating under joint management agreements. Of the FCS lenders, the top10 accounted for approximately half of all FCS originated guaranteed loans. Therefore, even though there are nearly 100,000 loans in national databases, loan pricing statistics are heavily influenced by relatively few financial institutions.

Not only is program use relatively concentrated among lenders, but it is also geographically concentrated (figure 2). The top 10 states accounted for 53.5 percent of all guaranteed operating loans and 49.1 percent of all guaranteed farm ownership loans originated during the period. As anticipated, these states are located in major production regions, primarily in the central U.S. In these top 10 states, banks had a higher than average share of guarantee use, with 87.8 percent of guaranteed OL loans originated by banks and 76.8 of guaranteed FO originated by banks (table 1). In many of these high guarantee use states, commercial banks supplied nearly all of the guaranteed loan volume. For example, in Iowa, over 98 percent of OL and 95 percent of FO loans were supplied by banks. In the FO program, the presence of the FCS is stronger. In Ohio and North Carolina, only about 30 percent of guaranteed loans were originated by banks.

Loan pricing demand factors, such as loan size and borrowing experience, should influence loan pricing. But, given the average pricing requirement of the guarantee program these factors might be less important in pricing a loan than in commercial loans. Of those factors reviewed for this paper, they appear have a minor influence on the

pricing of FSA guaranteed farm loans. Other than for very small loans, those under $50,000, loan size appears to have a minor impact on the pricing of guaranteed loans (table 2). An examination of rates charged on first time guaranteed loans and loans to repeat borrowers showed negligible or no differences in rates charged these groups by either the FCS or commercial banks. And term length of the loan was also found to be a minor factor in interest rates. Factors affecting a lender's cost were recognized to be a major factor affecting loan pricing, but were beyond the scope of this paper. For example, an institution's size, their capital structure, and portfolio risk, are all factors which can directly affect their cost of funds.

Guaranteed Loan Rates Compared

The majority of loans guaranteed during the study were made with variable interest rate notes. The variable rate term is broadly defined and so includes all notes that have an interest rate adjustment. FSA data sources do not provide information on the frequency of the interest rate adjustment nor do they provide information as to which index it might be adjusted against. Guarantee program rules require that the variable base rate or index rate be agreed to between the borrower and the lender, it is specified in the loan note, and it one which a normal practice of the lender for its average farm customer.

As anticipated from their need to match loan terms with short term funding sources, rates on guaranteed commercial bank loans were more likely to be variable rates than FCS loans, especially for the long-term real estate, FO, loans (figure 3). The FCS has

traditionally enjoyed a loan pricing advantage in real estate lending due to its government sponsored enterprise status and its ability to match long term assets with long term liabilities via the national securities market. As a result, the FCS market share in this type of lending, guaranteed or not, has traditionally exceeded commercial banks.

During the study period there was a notable trend toward a greater amount of fixed rate real estate financing, especially on loans provided by the FCS (figure 4). This shift occurred especially after 2004, as short-term rates rose relative to longer-term rates in the economy. By the end of the study period, over 80 percent of guaranteed loans originated by the FCS were at fixed rates and over half of bank loans were at fixed rates. Not surprisingly, the FCS's market share of guaranteed FO loans grew at a faster pace beginning in 2004 due to this shift in the yield curve.

For FCS loans guaranteed under the OL program, there was also a trend toward a greater use of fixed rate loans. Conversely, the share of bank loans guaranteed under the OL program carrying variable rates held steady despite the two large shifts in the yield curve during the study period. Therefore, banks' held steady on funding the majority of guaranteed OL eligible loans with their traditional short term interest rate mechanisms. Loans guaranteed under the OL program may have maturities of up to 7 years, but the largest share of guaranteed loans were mostly used to pay annual operating expenses. From fiscal 2000 through fiscal 2004, 46 percent were used to pay annual operating expenses (Dodson and Koenig 2006). The majority of these loans are multi-year (typically 5 years) lines of credit loans that carried variable rates.

Farm Ownership Loan Interest Rates

Reflecting underlying changes in the yield curve in the economy, interest rates on farm ownership loans guaranteed by FSA varied considerably during the study period. Yet, the averages on the initial rate charged on variable rates and on fixed rate guaranteed FO loans were only a third of a percentage point different at 7.59 percent and 7.93 percent over the 8 year period (figure 5). This average did vary by the two primary lender groups, with the average initial rate for variable rate loans significantly lower on FCS loans, but higher on their fixed rate loans. This finding may reflect a greater demand for fixed rate financing after 2004 that was supplied by the FCS as economy wide interest rates rose. While the use of fixed rates rose over the study period, variable rate loans still accounted for two-thirds of all guaranteed FO loans made during the study period.

Interest rates on all guaranteed FO loans peaked in early 2001, a time when the Prime Rate reached 9.5 percent. Rates then fell sharply, bottoming out in 2004, before peaking again in 2007 with fixed and variable interest rates on loans by the FCS and banks in a tight band at either end of the study period. The average borrowing rates of the two major lender groups generally tracked closely, with a Pearson correlation coefficient of the two series of 0.96 for fixed rates and 0.97 for variable rates

Commercial bank loans with fixed interest rates actually averaged slightly less than FCS loans in most quarters (figure 6). This finding was not anticipated as previous data has

shown FCS long-term farm loan rates are typically less than those of commercial banks (USDA 2003). Reported interest rates are loan contract rates and hence may not incorporate any effect of fees, rebates, and in the case of the FCS, patronage distributions. While, no attempt was made in this analysis to account for patronage distributions, the impact of patronage is believed to be significant given system-wide cash patronage dividends of FCS lenders averaged over $500 million during the last 3 years (FCS Funding Corporation). Therefore, actual or effective rates FCS borrowers pay are likely to be less than the rates recorded in FSA data.

Another possible explanation for the close similarity of fixed rate notes of the two lender groups was the growing use of the Federal Agricultural Mortgage Corporation (Farmer Mac) by commercial banks. In the 3 years beginning in 2005, Farmer Mac purchased an average $215 million in guaranteed USDA loans through its Farmer II purchase program (Farmer Mac, 10-K). The majority of these purchases were fixed rate guaranteed FO loans originated by commercial banks. In 2007, 80 percent of Farmer Mac II purchases were fixed rate loans purchased from just 155 lenders. In the last 3 fiscal years of the study, banks' averaged $190 million in guaranteed fixed rate FO loan volume and a substantial, but unknown quantity, was ultimately sold to Farmer Mac. Therefore, Farmer Mac II could be having a significant impact on the fixed-rates charged on guaranteed farm ownership loans made by commercial banks.

The rates charged by both the FCS and commercial bank on fixed-rate FO loans tracked closely with a long-term interest rate index, suggesting that national average rates on

these loans were responsiveness to macroeconomic interest rate changes. Figure 6 shows both the FCS and commercial bank spreads over the 10-year Treasury rate were consistent overtime tracking most major moves with some minor lags. FCS loans had an average spread of 338 basis points over the 10-year Treasury rate compared to an average spread for banks of 308 basis points (table 3). The correlation coefficient between 10-year Treasuries and FCS fixed rates was 0.92 compared to a correlation of 0.88 between 10-year Treasuries and commercial bank fixed rates.

Unlike fixed-rate loans, the rates on bank and FCS guaranteed variable-rate loans differed notably after 2001. Following the 2001 decline in economy-wide interest rates, FCS rates on guaranteed OL loans dropped further and faster than those of commercial banks, with the differential between the lender groups often exceeding 100 basis points for nearly 2 years. Rates charged by the FCS on variable rates averaged 82 basis points lower during this period.

Under the low interest rate environment of 2002-2004, the variable rate on farm real estate loans with an FSA guarantee did not fully adjust down suggesting there was an extended period of higher margins on farm loans. The sluggish decline in variable rate guaranteed bank FO loans following 2001 is particularly evident when it is compared to the Prime Rate. At a time when the Prime Rate was at its lowest in 2004, quarterly average variable rates on guaranteed bank loans were as much as 250 basis points above the Prime Rate. As the Prime Rate rose in subsequent quarters, the gap once again narrowed to zero by August 2007.

To test whether average rates on FSA guaranteed FO loans were similar with rates charged the average farm borrower, comparisons were made with the average interest rate on bank rates reported in Federal Reserve Bank districts in the Midwest. Our quarterly comparisons were based only on fixed-interest rate loans since most Federal Reserve interest rate surveys of real estate loans only collect information on fixed-rate lending.[5] Results were very similar for all four districts that were examined and so only Minneapolis and Kansas City results are provided illustration purposes (figure 7 and figure 8). Both graphs show that rates on FSA guaranteed farm real estate loans and the rates on commercial farm real estate loans track very closely together.

All the commercial bank rate FSA rate series track closely with the 10-year Treasury Rate. The average spread over the 10-year Treasury rate at the time the loan was originated for guaranteed bank loans in the Minneapolis district was 3.04 percent and 3.12 percent in the Kansas City district, which compares to 3.02 percent and 3.21 percent for commercial real estate loans in these district surveys, respectively (table 3). The correlation coefficient for Kansas City was 0.92 and 0.90 for Minneapolis.

Operating Loan Rates

Average initial interest rates on fixed and variable rates guaranteed operating loans over the entire study period were similar with less than 10 basis points separating the two loan

[5] Only Kansas City and Minneapolis survey variable real estate rates and only back to 2002 and 2001, respectively. An examination of that data did indicate that variable rate real estate loans like guaranteed FO loans were slow to adjust to the declines the Prime lending rate.

rate types (figure 9). Banks tend to have greater liquidity than FCS, and, therefore, should be more able to pass lower funding cost through to their borrowers. There was a considerable difference between FCS and commercial bank interest rates on FSA guaranteed operating loans. Over the study period, the average interest rate on guaranteed loans of the FCS were approximately 100 basis points lower than rates on guaranteed commercial bank, regardless if the loans had fixed or variable rate loan contract. Again, the effective FCS rates are likely even lower as the FCS's patronage distributions to their borrowers were not taken into account.

Like guaranteed FO loans, guaranteed OL rates exhibited similar patterns in response to changing yield curves. Throughout the study period, average quarterly rates on guaranteed loans of the FCS were consistently below guaranteed loans of commercial banks with variable rate adjustments. And like rates on guaranteed FO loans, in the post 2001 interest rate environment, the gap between the two lenders rates widened (figure 10). The gap widened to over 125 basis points during some quarters before narrowing considerably by the end of the study period. The correlation coefficient between the two groups of lenders variable interest rate loans was 0.98.

Although smaller in numbers, fixed rates on OL loans for the two lenders exhibited a similar pattern as did variable rate notes, although the gap during the 2001 to 2005 period was not as pronounced and outside that period the average interest rates on guaranteed OL loans of the two lender groups was more similar. The correlation coefficient between the lenders fixed and variable rates was 0.92. Once again, commercial bank rates on

guaranteed OL did not adjust as fully to market interest rate declines as evidenced by the larger spreads over the Prime rate (table 4).

The comparison of the interest rates on FSA guaranteed bank operating loans with the interest rates on commercial bank non-real estate farm loans in the four Federal Reserve Bank districts shows that guaranteed and unguaranteed rates tracked closely over time and were similar in their averages. For illustrative purposes only the Kansas City and Minneapolis comparisons are shown (figure 11 and figure 12). Like the variable-rate FO loans, the spreads on FSA guaranteed bank operating loans and bank non-real estate loans over the prime lending rates were large relative to the Prime Rates and other benchmark interest rates of that time.

Conclusions

Results from the early-phases of this research project suggests that on average, interest rates on nearly 100,000 FSA guaranteed farm loans are generally consistent with similar purpose unguaranteed farm loans made at the same time by commercial banks, the primary lenders in FSA's loan guarantee programs. The interest rates, either fixed or variable, on loans guaranteed under the farm ownership (FO) and operating loan (OL) programs were found to closely match rates reported by four quarterly Federal Reserve Bank surveys over the approximate 8-year period. Examination of some loan pricing factors, such as loan size, did not appear to greatly impact guaranteed loan pricing. However, the research also shows that a relatively small number of lenders are frequent

users of loan guarantees and hence average rates are heavy influenced by the policies of these lenders and the local credit markets they operate within.

The interest rates on fixed-rate real estate loans made under the guaranteed FO program appear to be priced more competitively than other loan types over the study period. Average fixed-rates on loans made by the two primary lenders, the FCS and commercial banks, were similar and closely tracked market rates through time, as measured against the 10-year Treasury note.

Loans with variable interest rates guaranteed under the FO or the OL program and made by either the FCS or banks were similar at either end of the study period, but in the middle of the study period, interest rates on these loans diverged. During the 2001 to 2005 period, when market rates fell to their lowest level of the study period, interest rates on FCS loans adjusted more to the decline than did those on commercial bank loans. Even though FCS rates adjusted more to the lower market rates of that period, average variable rates on loans by both lender groups remained elevated relative to higher market interest rate environments.

Comparing the average rates, variable or fixed, on guaranteed operating loans of commercial banks with the rates on similar non-real estate loan rates in Federal Reserve Bank surveys shows the general failure of all these rates to completely respond to lower market rates as measured by the Prime Rate during the 2001-2005 period. The spreads on these short term farm loans, guaranteed or not, were much larger relative to the

beginning and end of the study period. Given the Prime Rate is a key benchmark used by banks to price their commercial loans, farm loan pricing during this period suggests that banks were able to extract much greater margins on their farm loans. Not surprisingly, the FCS's market share of total guaranteed farm volume grew during this period, as the rates on their guaranteed farm loans tended to be more competitive.

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Table 1. Top ten states by volume of FSA guaranteed loan usage, fiscal 1999-2007.

	Operating loans			Farm Ownership	
State	Share of total loans	Share originated by banks	State	Share of total loans	Share originated by banks
	Percent			Percent	
Minnesota	6.6	80.2	Ohio	7.0	29.2
Iowa	6.5	98.2	Arkansas	6.1	82.5
Texas	6.4	84.4	Wisconsin	6.1	86.4
N. Dakota	6.3	70.0	Oklahoma	5.1	86.5
Nebraska	5.4	96.4	Missouri	4.7	57.7
Wisconsin	5.1	83.7	Minnesota	4.4	72.8
Illinois	5.0	94.0	Nebraska	4.3	89.4
Oklahoma	4.3	95.6	Iowa	4.2	94.9
Arkansas	4.1	85.9	N. Carolina	3.6	30.5
S. Dakota	3.8	96.9	Illinois	3.6	89.3
Total	53.5	Avg. 87.8	Total	49.1	Avg. 76.8

Source: FSA farm loan data.

Table 2. Average loan rate spread over Prime lending rate, by progam, loan size and interest type.[1]

	Guaranteed Operating Loans		Guaranteed Farm Ownership Loans		
Loan Size	Fixed Rates	Variable Rates	Fixed Rates	Variable Rates	Fixed Rates[2]
Under $50,000	1.95	2.06	1.76	1.60	3.31
$50,000 to $125,000	1.84	1.98	1.37	1.50	3.10
$125,000 to $250,000	1.72	2.01	1.43	1.45	3.09
$250,000 to $500,000	1.73	2.00	1.44	1.47	3.05
Over $500,000	1.74	1.82	1.53	1.41	3.06

[1] Commercial bank loans guaranteed from January 1, 1999 to July 1, 2007.

[2] Spread over 10-year treasuries for these fixed rate loans.

Table 3. Average Real Estate Loan Rate Spreads Over 10-year Treasury Rates for Four Federal Reserve Districts, Bank loans only.

		All Guaranteed FO fixed rate loans Originated in U.S. by		FSA Guaranteed Farm Ownership Loans1/				Fed. Res. Dist. Survey Long-term R.E. Loans 2/			
				Chicago	Dallas	Minneapolis	Kansas City	Fixed Rate Bank Loans Only			
Quarter	Year	FCS 3/	Banks 4/	Fixed rate Bank loans only				Chicago	Dallas	Minneapolis	Kansas City
		Percentage Points Over Respective 10-Year Treasury Measure									
I	1999	3.37	2.79			3.18	2.64			3.41	3.50
II		3.19	2.96	2.90	3.37	2.93	2.15	2.98	3.95	3.44	3.01
III		3.03	2.91	2.32	2.34	2.73		2.74	3.84	2.83	3.16
IV		3.20	2.74	2.92	2.83	2.33	2.85	2.51	3.43	2.94	2.84
I	2000	3.06	2.68	2.28	2.49	2.73	2.92	2.30	3.35	2.75	3.29
II		3.59	3.24	3.04	3.12	3.04	3.66	3.22	3.93	3.19	3.68
III		3.98	3.81	3.23	3.87	3.33	3.95	3.16	4.26	3.88	3.89
IV		3.97	4.14	4.03	4.66	3.79		3.18	4.81	3.83	4.57
I	2001	3.99	4.15	4.50	4.11	3.86	3.97	3.02	4.58	4.11	4.09
II		3.19	3.31	3.24	3.60	3.31	3.02	2.77	3.91	3.28	3.21
III		3.39	3.36	3.03	3.52	3.17	3.52	2.25	3.44	3.55	3.30
IV		3.17	3.23	3.33	3.79	3.10	2.82	2.60	3.46	2.82	2.41
I	2002	3.01	2.75	2.28	2.87	2.55	2.60	2.18	2.79	2.11	2.13
II		2.84	2.79	2.74	2.82	2.75	2.86	1.86	2.69	2.29	2.87
III		3.42	3.42	3.06	3.97	3.30	4.21	2.27	3.57	2.74	3.73
IV		3.25	3.37	2.96	2.98	3.42	3.40	2.44	3.43	2.83	3.23
I	2003	3.45	3.37	2.84	3.75	3.46	3.54	2.31	3.71	2.86	3.03
II		3.39	3.24	2.65	3.71	3.30	3.56	2.06	3.28	2.83	3.47
III		2.90	2.54	2.37	2.93	2.65	2.59	2.10	3.31	2.28	2.66
IV		2.95	2.81	2.47	2.93	2.81	2.91	1.77	2.87	2.22	2.53
I	2004	3.24	3.01	2.66	2.93	3.27	3.12	1.68	2.82	2.49	2.87
II		2.67	2.45	2.61	2.44	2.52	3.26	1.88	2.49	1.91	2.05
III		3.25	2.94	2.24	3.00	3.18	3.14	1.79	2.49	2.33	2.91
IV		3.06	3.09	3.29	3.18	3.43	3.03	2.33	2.79	2.79	2.99
I	2005	3.18	2.88	2.90	3.10	2.86	2.66	2.43	3.05	2.77	2.73
II		3.64	3.13	2.59	3.07	3.22	3.42	2.42	3.38	3.11	3.39
III		3.52	3.00	3.04	3.45	2.88	3.35	2.83	3.74	3.17	3.32
IV		3.48	2.95	2.98	3.05	3.00	2.93	2.83	3.61	3.33	3.47
I	2006	3.66	2.99	2.62	3.13	3.11	3.01	3.09	3.66	3.30	3.33
II		3.20	2.74	2.61	3.03	2.80	2.68	2.83	3.06	3.35	3.22
III		3.65	3.19	2.59	3.08	3.13	3.30	2.72	3.61	3.46	3.85
IV		3.65	3.40	3.08	4.35	3.02	3.22	2.96	4.06	3.68	3.78
I	2007	3.62	3.08	2.78	3.51	3.19	3.27	2.92	3.89	3.63	3.83
II		3.43	2.95	2.78	3.99	2.87	2.99	2.98	3.68	3.50	3.20
All periods		3.38	3.08	2.84	3.24	3.04	3.12	2.53	3.48	3.02	3.21

na = not available because no FSA guaranteed loan was made during the survey period of the Federal Reserve Bank.
Note: Small number of fixed rate loan activity makes direct time period comparisions with Federal Reserve survey time periods spreads difficult
1/ Kansas City loans are for those made in last 15 -days of the quarter and Chicago is loans in the first month of the quarter.
Dallas time period for guaranteed loans was expanded to entire last month of quarter from last 2 weeks because of small loan numbers.
Minneapolis time period for guaranteed loans was expanded to the entire quarter.
2/ Average spreads based on weighted average of guaranteed farm ownership activity.
3/ Based on 4,164 loans
4/ Based on 5,033 loans.
Source: FSA guaranteed loan files, Federal Reserve Bank Surveys of Agricultural Banks, and the Board of Governors of the Federal Reserve System.

Table 4. Average Operating Loan Rate Spreads Over Prime Lending Rates for Four Federal Reserve Districts, Bank Loans Only 1/

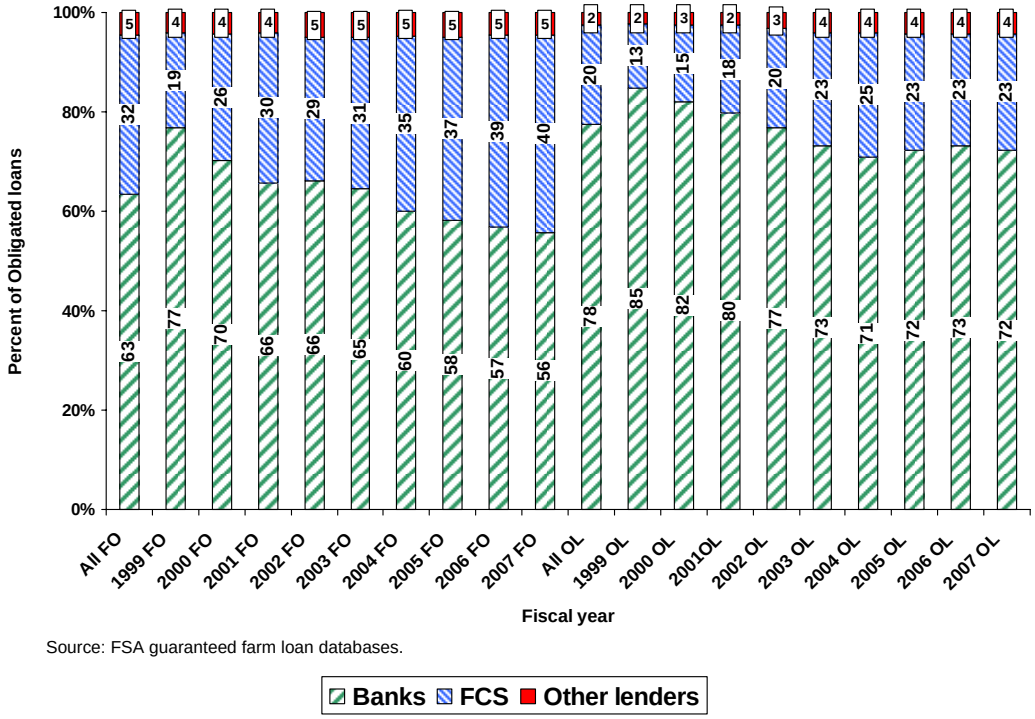
		FSA Guaranteed Operating Loans					Federal Reserve Survey Operating Loans					
		All Rate Types				National	Fixed Rate Loans				Variable Rates	National
Quarter	Year	Chicago	Dallas	Minneapolis	Kansas City	Survey	Chicago	Dallas	Minneapolis	Kansas City	Kansas City	Survey
		Percentage Points over respective Prime Measure										
I	1999											
II		1.50	2.30	1.87	1.55	1.58	1.28	2.23	1.70	1.93	1.64	1.05
III		1.05	1.71	1.45	1.33	1.36	1.11	1.94	1.42	1.50	1.35	1.00
IV		1.00	1.75	1.35	1.36	1.26	1.07	1.96	1.30	1.40	1.24	0.95
I	2000	1.20	2.04	1.37	1.03	1.28	0.94	1.86	1.16	1.24	1.03	0.45
II		0.83	1.69	1.10	0.80	1.21	0.78	1.34	0.99	1.02	0.88	0.70
III		0.72	2.50	0.88	0.93	0.99	0.93	1.54	0.99	1.02	0.89	0.70
IV		0.96	1.39	1.10	1.07	0.98	0.67	1.53	0.92	0.97	0.85	0.50
I	2001	1.27	2.59	1.80	1.70	1.81	0.74	1.87	1.29	1.54	1.20	0.60
II		1.44	3.09	2.28	2.70	2.14	1.16	2.65	1.82	2.24	1.71	0.80
III		2.16	3.50	2.61	3.11	1.83	1.85	2.66	2.24	2.57	2.13	0.95
IV		3.13	3.21	3.89	3.42	3.50	2.51	3.51	3.05	3.30	2.80	0.77
I	2002	3.37	3.18	2.96	3.18	2.97	2.66	3.55	2.75	3.16	2.45	1.55
II		2.84	3.28	3.06	3.75	2.88	2.58	3.44	2.87	3.30	2.45	1.45
III		2.59	3.38	2.82	2.74	2.77	2.53	3.33	2.65	3.14	2.05	0.95
IV		2.41	2.85	3.13	3.27	2.38	2.42	3.42	2.72	3.36	2.12	0.75
I	2003	2.60	3.69	2.92	3.19	2.75	2.45	3.39	2.65	3.18	2.25	1.35
II		2.46	2.96	2.76	2.88	2.74	2.36	3.29	2.45	3.09	2.05	1.65
III		2.60	2.81	2.81	3.15	2.84	2.43	3.47	2.70	3.22	3.10	1.20
IV		2.67		2.88	2.37	2.91	2.41	7.33	2.70	3.13	3.10	1.00
I	2004	2.37	3.99	2.73	3.14	2.95	2.26	3.36	2.60	3.04	2.30	1.30
II		2.32	3.46	2.76	2.41	2.82	2.22	3.22	2.70	3.04	2.40	1.20
III		2.47	3.43	2.57	2.60	2.47	2.14	2.91	2.52	2.57	2.22	1.25
IV			2.75	2.19	2.10	2.40	1.82	2.41	2.31	2.32	1.71	0.75
I	2005	1.61	3.18	1.96	1.99	1.93	1.56	2.47	1.97	2.10	1.67	1.10
II		1.41	2.87	1.77	1.96	1.90	1.32	2.29	1.81	1.91	1.51	0.68
III		1.08	2.60	1.54	1.50	1.59	1.08	2.03	1.57	1.50	1.37	0.45
IV			1.83	1.04	1.13	1.20	0.93	1.77	1.23	1.23	1.03	0.40
I	2006	0.88	1.87	1.19	0.88	1.11	0.77	1.65	0.95	1.19	0.85	0.50
II		0.62	0.86	1.01	0.78	1.17	0.55	1.57	1.05	1.09	0.85	0.35
III		0.15	1.25	0.85	0.90	0.89	0.51	1.43	0.65	0.97	0.85	0.35
IV		0.25	2.50	0.65	0.98	0.93	0.48	1.36	0.75	0.92	0.75	0.15
I	2007	0.29	2.10	1.01	0.92	1.28	0.46	1.43	0.75	0.89	0.65	0.25
II		0.32	1.39	1.00	0.89	1.20	0.36	1.28	0.75	0.87	0.55	0.35
All periods		1.71	2.70	1.98	1.82	1.93	1.50	2.53	1.82	2.06	1.64	0.83

na = not available because no FSA guaranteed loan was made during the survey period of the Federal Reserve Bank.

1/ GOL and survey loan rates made during the survey period compared with average prime rate of the survey period.

Source: FSA guaranteed loan files, Federal Reserve Bank Surveys of Agricultural Banks, and the Board of Governors of the Federal Reserve System.

Figure 1. Bank Use of FSA Guarantees Declines Over Study Period



Source: FSA guaranteed farm loan databases.

Figure 2. Guaranteed Loans Are Geographically Concentrated

Share of All Guaranted Loans by State Quintile

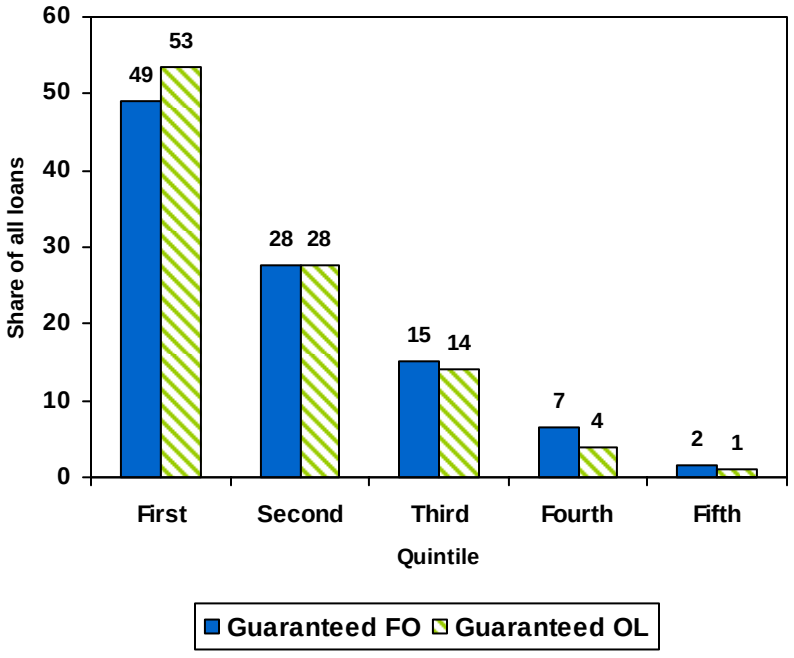
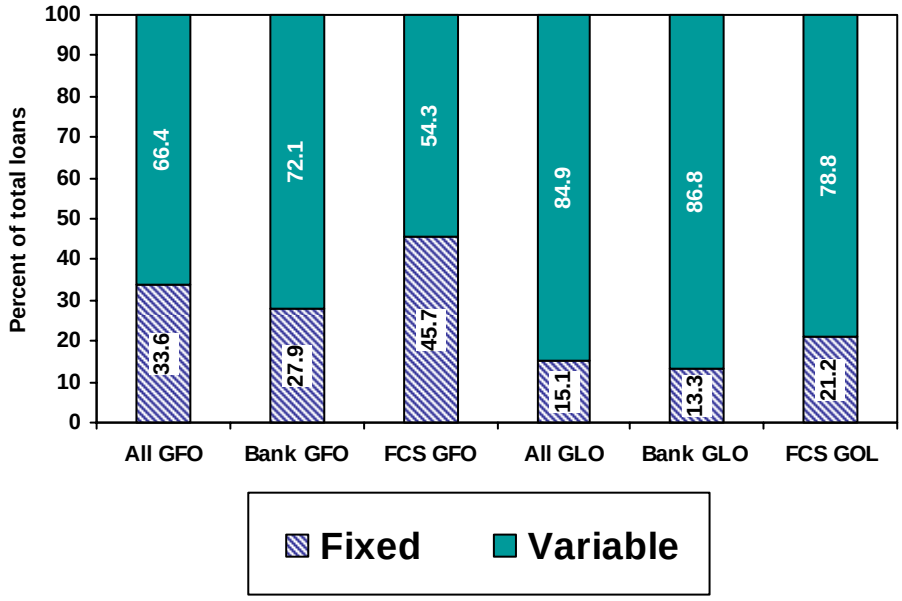
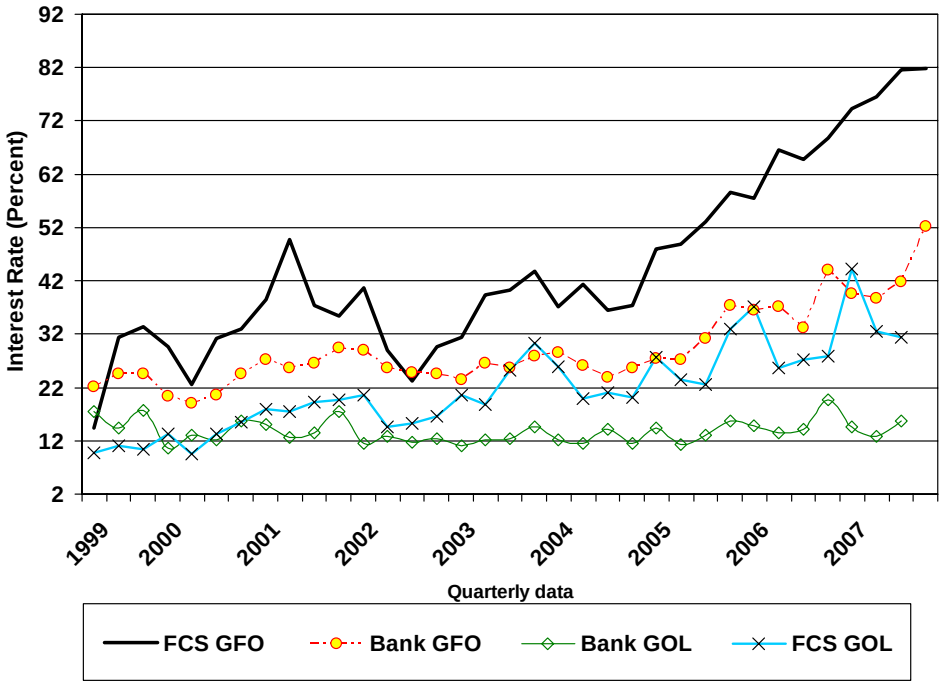


Figure 3. Share of Guaranteed Loans at Fixed or Variable Interest Rates



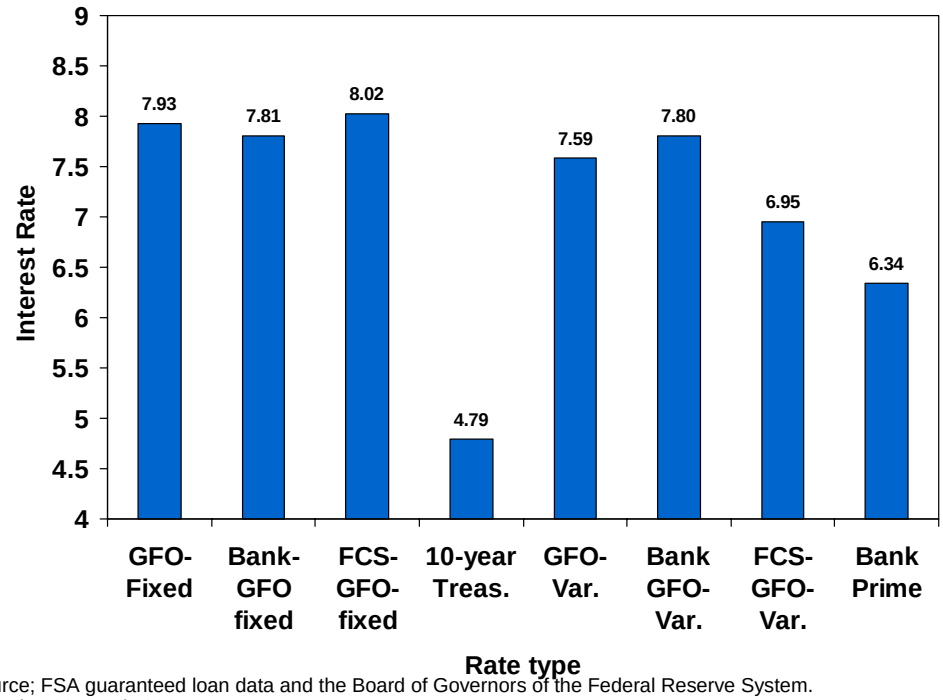
Source: FSA guaranteed loan databases.

Figure 4. Share of guranteed loans made at fixed rates.



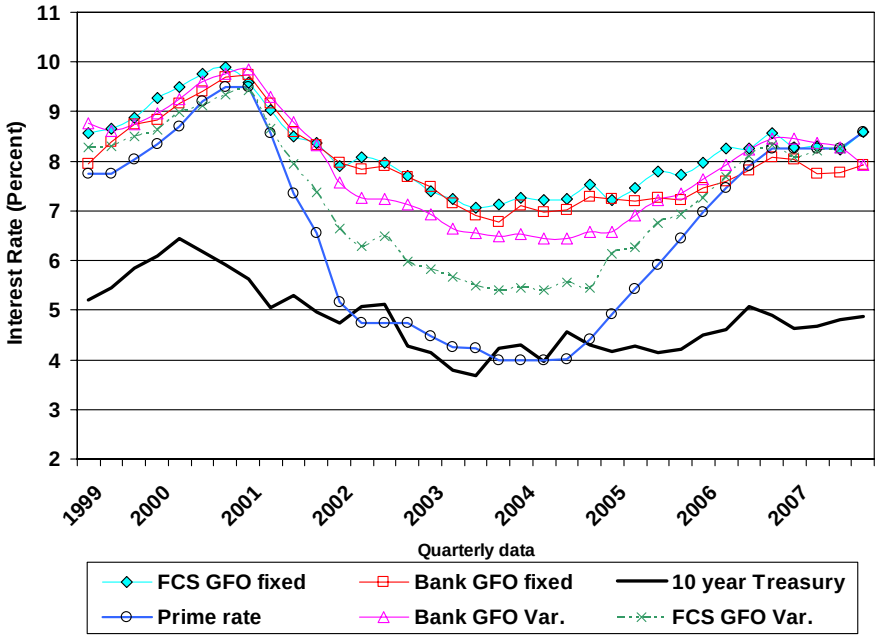
Based on 14,075 FCS GOL loans, 53,929 bank GOL loans, 9,052 FCS GFO loans, and 17,945 Bank GFO loans.

Figure 5. Average Guaranteed FO Farm Loan Rates Compared



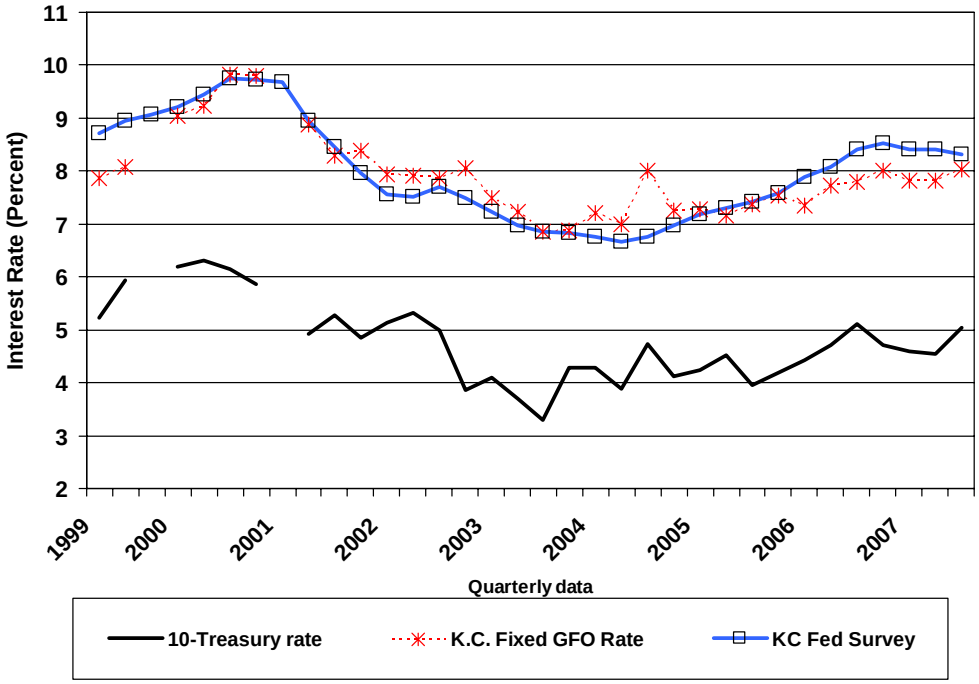
Source; FSA guaranteed loan data and the Board of Governors of the Federal Reserve System. Fiscal 1999 to July 2007.

Figure 6. Guaranteed FO Loan Rates by Lender Group



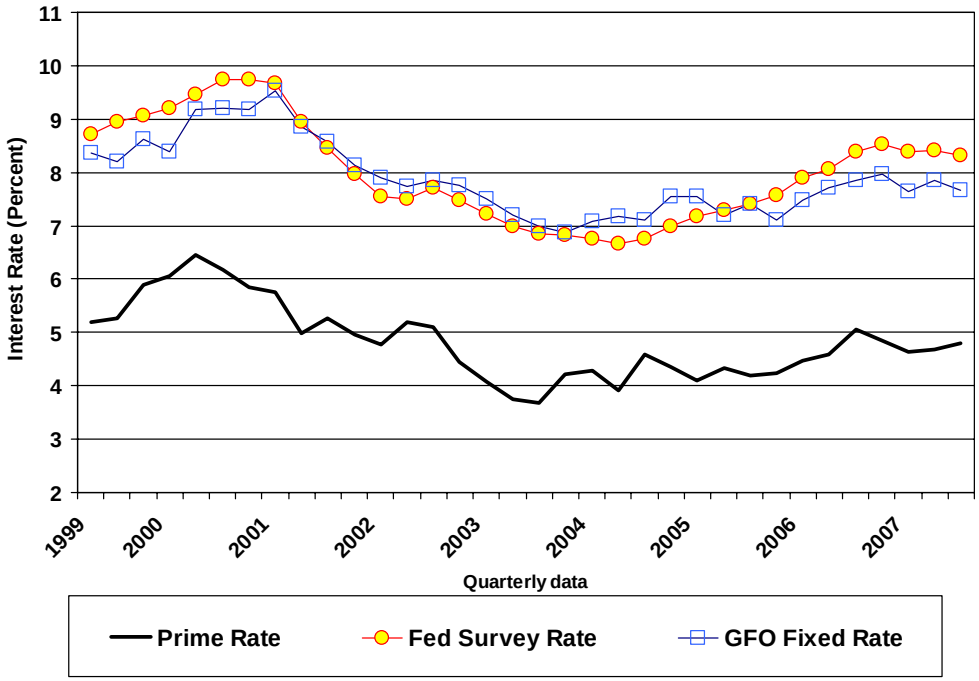
Based on 5,017 bank fixed loans, 4,152 FCS fixed loans, 12,916 bank Var. loans, and 4,889 FCS Var. loans.

Figure 7. Bank Originated GFO Loan Rates in the Kansas City Federal Reserve District are Similar to those in the Kansas City Survey of Farm Conditions



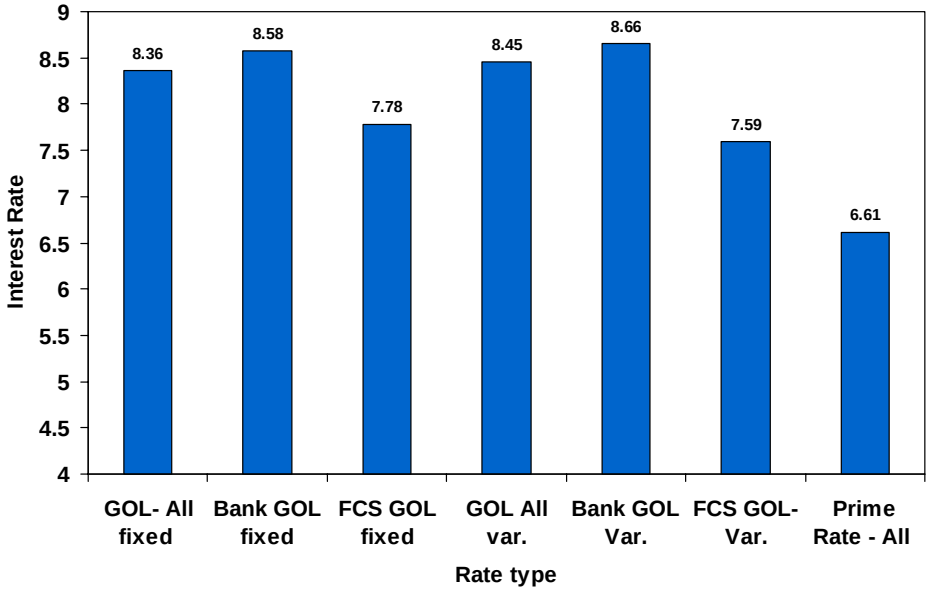
Kansas City Federal Reserve survey rates are unweighted averages of loans made at the end of the quarter by agricultural banks in that district. GOL rates are unweighted averages for the last 15 days of the quarter of loans made in Colorado, Nebraska, Kansas, Oklahoma, Wyoming, and New Mexico.

Figure 8. Bank Originated GFO Loan Rates in the Minneapolis Federal Reserve District are Similar to those in the Minneapolis Survey of Farm Conditions



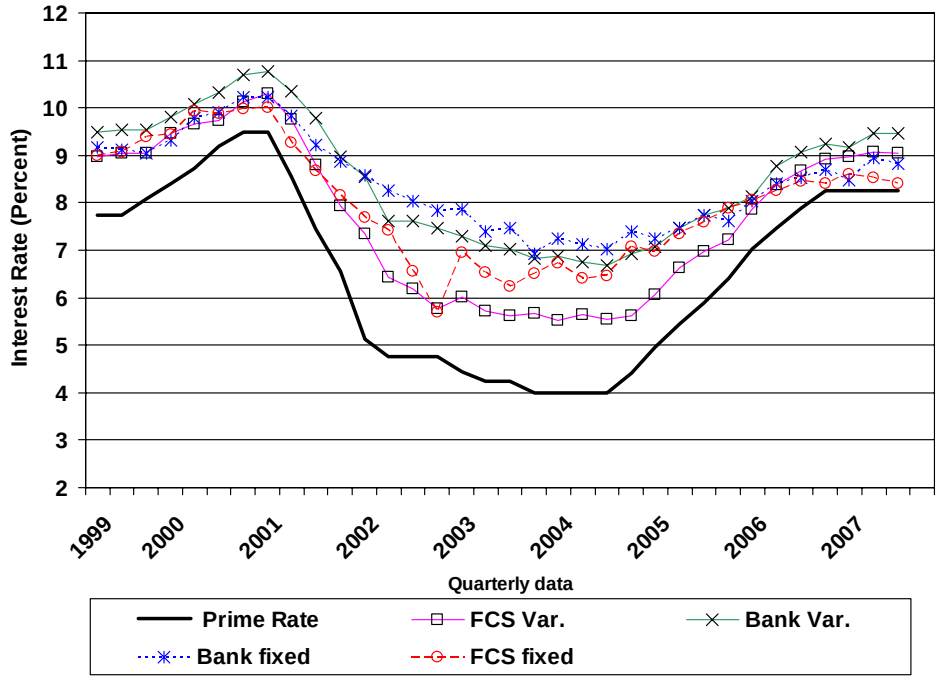
Minneapolis Federal Reserve survey data are unweighted averages of loans made during the quarter by agricultural banks. GOL rates are unweighted averages for the entire quarter of loans made in North Dakota, South Dakota, Minnesota, and Montana.

Figure 9. Average Guaranteed OL Farm Loan Rates Compared



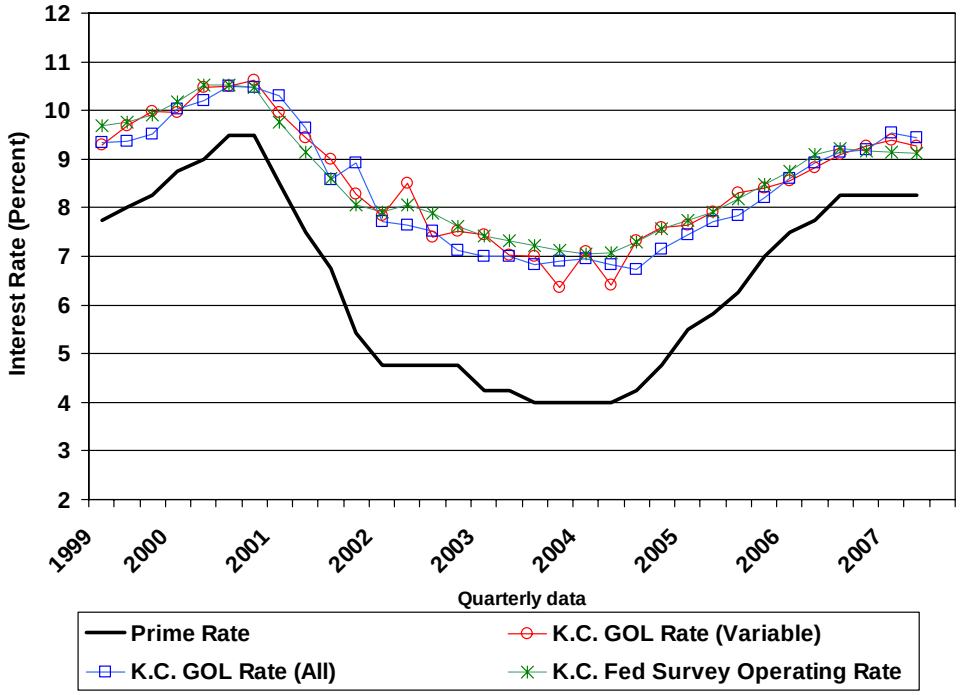
Source: FSA guaranteed farm loan data, fiscal 1999 to fiscal 2007.

Figure 10. Guaranteed OL Loan Rates by Lender



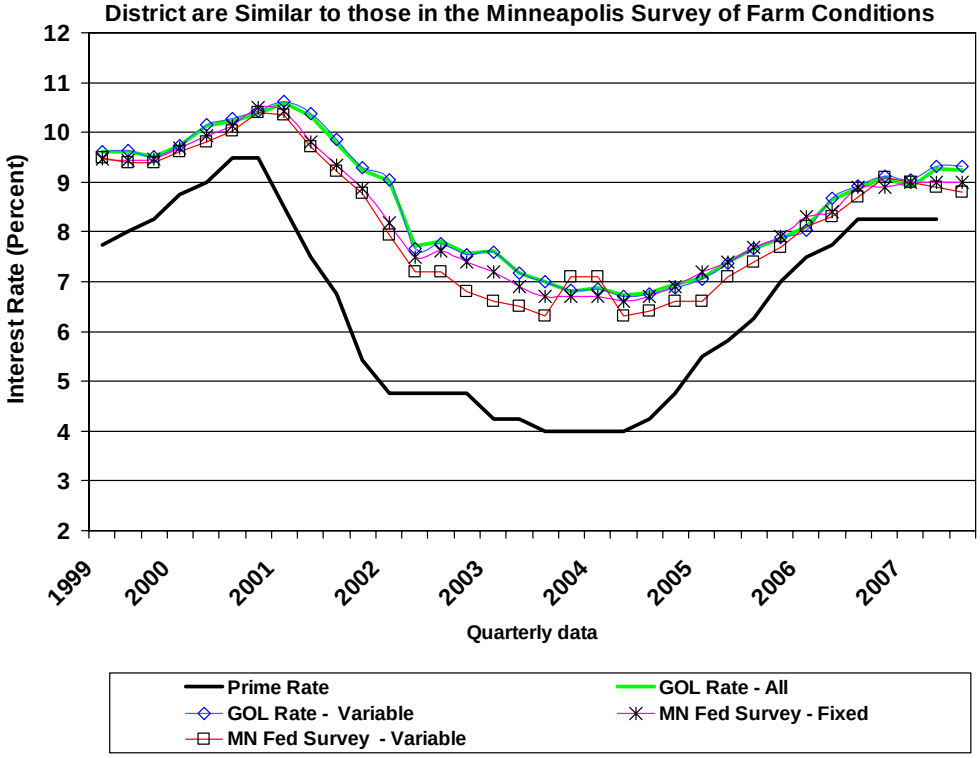
Based on 46,771 bank Var. rate loans, 11,091 FCS Var. rate loans, 7,136 Bank fixed rate loans, and 2,981 FCS fixed rate loans.

Figure 11. Bank Originated GOL Loan Rates in the Kansas City Federal Reserve District are Similar to those in the Kansas City Survey of Farm Conditions



Kansas City Federal Reserve survey rates are unweighted averages of loans made at the end of the quarter by agricultural banks in that district. GOL rates are unweighted averages for the last 15 days of the quarter of loans made in Colorado, Nebraska,

Figure 12. Bank Originated GOL Loan Rates in the Minneapolis Federal Reserve District are Similar to those in the Minneapolis Survey of Farm Conditions



Minneapolis Federal Reserve survey data are unweighted averages of loans made during the quarter by agricultural banks. GOL rates are un-weighted averages for the entire quarter of loans made in North Dakota, South Dakota, Minnesota, and Montana.