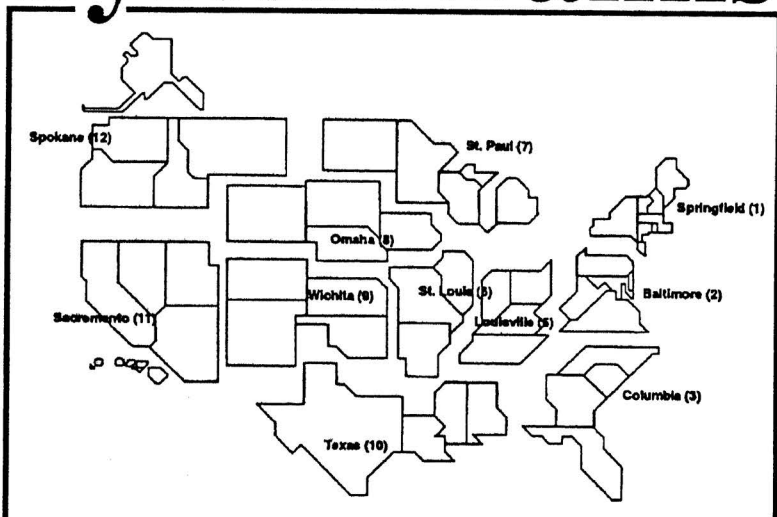


Analysis of the Viability of

Farm Credit System Banks



and Combined Associations

by Farm Credit System Districts

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Abstract

The financial performance viability of each Farm Credit System (FCS) district bank and combined associations was projected through the year 2000. Financial projections were developed using a comprehensive modeling procedure which incorporated expected district economic conditions, farm financial characteristics, and current financial condition of each FCS institution analyzed. Interest rate margins required to maintain capital standards were estimated for each district under expected and pessimistic economic scenarios. Differences in the economic viability between FCS district banks and combined associations were indicated. Four of the 11 analyzed districts are projected to require margins in excess of historical trends under the expected economic scenario. Under a pessimistic scenario, 8 districts will require margins in excess of historical trends. Two districts (Spokane and Western) are projected to require margins in excess of competitive levels in the pessimistic scenario. Projected differences in economic viability between districts have implications for loan pricing, insurance premiums, and system structure.

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Introduction

The Farm Credit System (FCS) has historically been the major supplier of agricultural credit to U.S. farm operators providing between 30 and 40 percent of total U.S. farm mortgage and operating debt. Adversity in the agricultural sector during the 1980's had severe impacts on the FCS's financial condition. Combinations of large levels of nonperforming loans, high cost debt, and lower market interest rates resulted in low or negative net interest income for FCS banks. Increased competition from other lenders and an overall reduction in farm debt outstanding contributed to declining loan volumes. These factors resulted in an erosion of FCS bank capital thereby causing many institutions to become inadequately capitalized. Concern about possible failure of FCS institutions and the resulting impact of the defaults on agency securities led Congress to enact the Agricultural Credit Act of 1987 (ACA87) which provided subsidized credit to FCS institutions, required changes in organizational structure, and provided FCS borrowers with prescribed rights.

The passage of ACA87 removed much of the concern regarding the short term viability of the system. Improved farm economic conditions such as higher farm asset values and higher levels of farm income combined with cost reduction strategies have contributed to a reduction in nonperforming assets and resulted in an increase in bank capital. Despite these facts, many banks remain lowly capitalized and susceptible to an economic downturn in the farm sector. The financial condition of farmers has improved over the last few years, though a large percentage of farms remain financially stressed. USDA's Farm Cost and Return Survey (FCRS) data indicated that approximately 45 percent of U.S. farm operator debt remains in a low equity position (Dodson, 1991). This inherent vulnerability causes the financial performance of

farmers and of lenders supplying credit to agriculture to be highly susceptible to changes in real estate values, commodity prices, real estate values, and public policy.

Knowledge of FCS's economic viability would be of great value to policy makers, taxpayers, farmer-borrowers, and investors in government agency bonds. As a result of public awareness concerning federal underwriting risks, the Omnibus Budget Reconciliation Act of 1990 (OBRA) requires acknowledgement of the implicit cost to the taxpayer of all federal credit programs including FCS. Farmer-borrowers can utilize this information to evaluate the performance of their investment in FCS. Investors in FCS bonds can utilize this information to evaluate risk premiums required to hold FCS bonds in a portfolio.

This study documents a comprehensive modeling procedure for analyzing the economic viability of the combined FCS district banks and related associations which provide credit to farmers¹. The procedure incorporates the impacts of expected farm economic conditions, farm policy initiatives and loan portfolio quality on FCS bank financial performance to achieve the following specific objectives.

- I. Provide estimates of the economic viability of each FCS district bank and combined associations given an expected economic scenario.
- II. Analyze the vulnerability of each FCS district bank and related associations to an economic downturn in the farm sector.

This paper is divided into three parts. The first section includes an introduction along with a discussion of previous research. An overview of the methods and procedures

¹FCS districts are displayed in Figure 1. Figure 1 displays the 10th FCS district as the Texas/Jackson district. The Jackson Federal Land Bank (FLB) was liquidated in 1988 by FCA. Currently, real estate loans in this area are serviced by the Texas FCS bank. The nonreal estate loans, however, continue to be serviced by the Jackson Federal Intermediate Credit Bank.

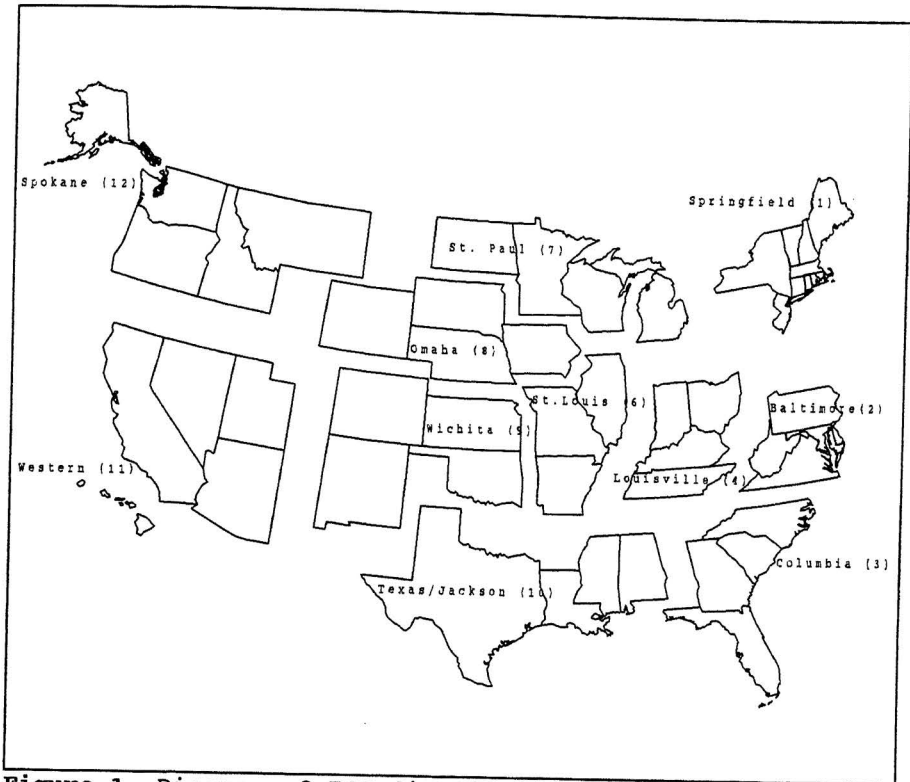


Figure 1. Diagram of FCS districts.

utilized to achieve the stated objectives are discussed in a second section. A detailed description of the procedures used is included in appendixes. The third section includes a summary of the results and discussion of implications and conclusions obtained from the study.

Previous Studies

Most recent studies of FCS were conducted prior to enactment of the Agricultural Credit Act of 1987 and focused on their need for financial assistance and related policy proposals. Freshwater (1987) examined various alternatives for providing federal assistance to FCS. Dodson and Bullock (1987) estimated the amount of assistance required to return the system to economic viability. Bullock (1987) suggested

alternatives for restructuring FCS which included the creation of a government chartered organization to inject stock into the system. He also suggested partial write offs of debt on problem loans. Harl (1987) suggested assistance to FCS be accompanied by organizational and structural changes which included a decentralization of FCS to the district level and a shift toward a wholesaling credit and away from the retail function. Todd (1985) suggested that some insurance-like arrangement might be more efficient than the current system of FCS stockholding.

Relatively few studies of FCS's economic viability have been conducted in the public domain. Dodson (1989) examined the impacts of the Agricultural Act of 1987 on FCS. Dodson also examined current and expected farm financial conditions by FCS district (1990). Most empirical studies of FCS's projected financial performance have been internally generated and have not been publically available. FCCA (1987) made projections of system financial performance through 1989 under pessimistic, optimistic, and expected scenarios with the need for financial assistance estimated under each scenario. Annual studies are undertaken by the Farm Credit Administration which project loan volume, nonaccrual loans, chargeoffs, interest income, and bank capitalization. Each FCS institution prepares annual business plans for management in which financial performance is projected. Chase Econometrics (1985) estimated the impacts to the economy of a default by FCS on their bond obligations.

Methods and Procedures

The stated objectives are achieved by developing and applying a FCS district level model of farm financial sector which incorporated farm and bank level financial conditions. A schematic diagram of the research procedure is displayed in Figure 2.

A multi-step procedure was utilized to implement the economic model. External economic forecasts for the U.S. were

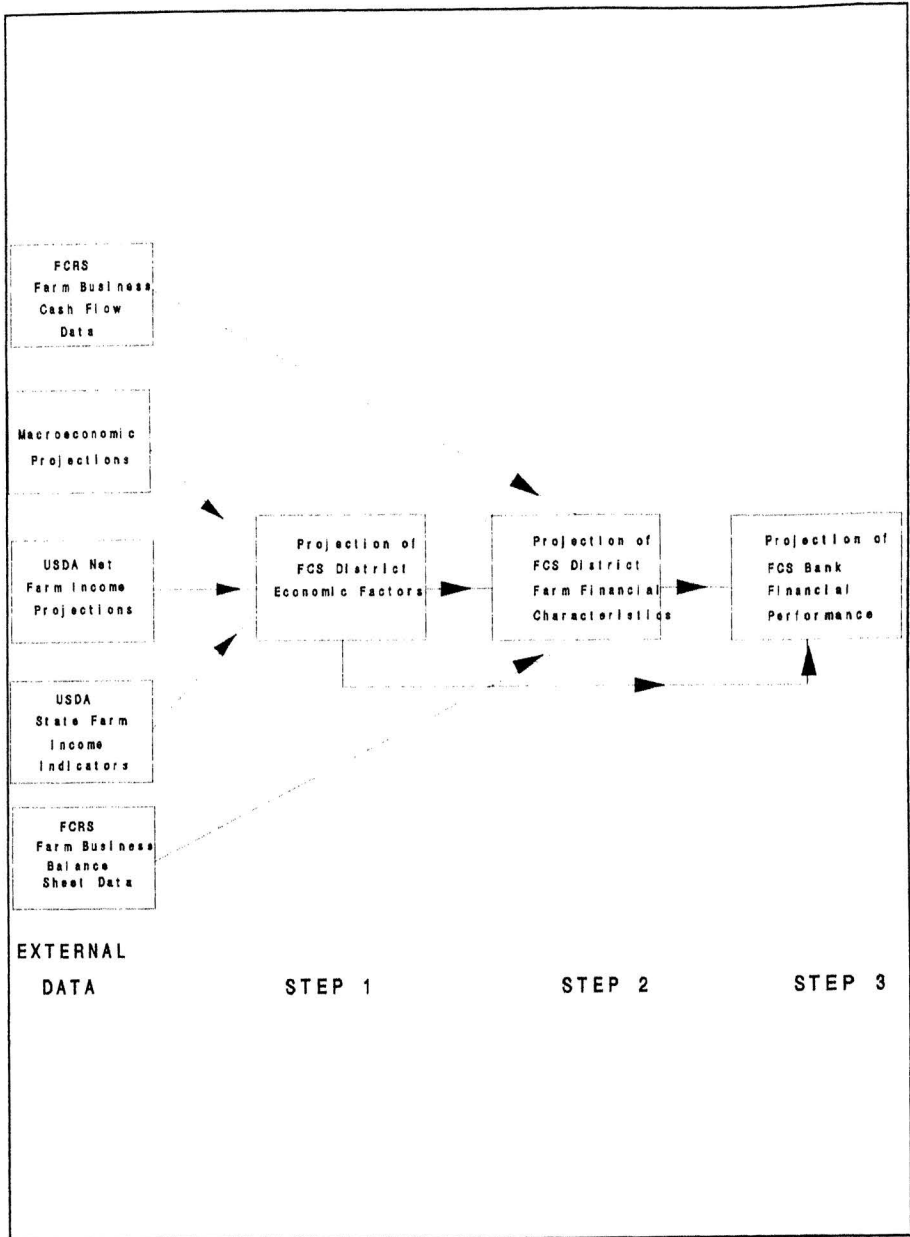


Figure 2. Schematic Diagram of Overall Research Procedure.

utilized to develop FCS district economic projections (step 1). Expected FCS district farm financial conditions were estimated using USDA's Farm Cost and Returns Survey (FCRS) data and FCS district economic projections (step 2). Relationships between farm financial conditions, district economic conditions, and loan portfolio quality were incorporated into an FCS bank financial simulation model to develop projections of FCS bank financial performance (step 3).

External Data Sources

USDA Farm Cost and Returns Survey

The initial financial condition of U.S. farmers and ranchers is estimated using FCRS data. The FCRS is a sample of U.S. farm operators which includes a profile of a farm businesses' net income, cash flow, assets, liabilities, and returns on investment. The data are results of the 1987-1989 FCRS surveys conducted in February and March of the following year by the National Agricultural Statistical Service (NASS). Survey weights were used to expand the sample to the total number of farms officially reported by USDA. Additional information on the survey and sampling technique can be found in Morehart et. al. (1988, 1989, 1990).

FCS district net farm income projections are developed from USDA's national projections developed in mid-year 1990. Ten year projections for the U.S. agricultural sector and international agricultural commodity markets are produced by USDA semiannually. These projections incorporate macroeconomic and financial forecasts and domestic and trade policy assumptions for major participants in the world markets for fed grains, soybeans, wheat, cotton, and rice. Some of the macroeconomic and financial forecasts are displayed in Appendix One.

Data on historical aggregate farm balance sheet data and net farm income was obtained from Economic Indicators of the

Farm Sector-State Financial Summary. FCS district level data was developed by aggregating data for the respective states.

FCS Bank Financial Statements

Annual reports for 1989 of each FCS bank are used to provide starting points for the FCS bank financial simulation models utilized in step 3 of the analysis. These reports are audited by the accounting firm of Price Waterhouse and should provide consistent reporting methods. Annual reports from 1986 through 1989 are used to provide historical information on levels of other income, operating expenses and financial ratios.

Projection of Economic Factors

The first step in the research procedure involved FCS district projections of net farm income, aggregate balance sheet values, and certain macroeconomic variables.

FCS District Net Farm Income.

Net farm income projections for each FCS district are estimated based upon a direct linear relationship between each of the items listed in USDA's U.S. net farm income projections and FCS district baseline values for that item. For example, if national feed expense was projected by USDA to increase by 10 percent, feed expense for each FCS district is projected to increase by 10 percent. It should be realized that the use of a linear relationship between national net farm income projections and baseline FCS district net farm income components ignores the possibility of regional adjustments in agricultural investments. The level of agricultural investment may decline in districts experiencing low returns while investment increases in districts experiencing high returns.

Table 1 displays the projected and historical net farm income levels by FCS district while district net cash farm

Table 1. Historical and Historical Net Farm Income By FCS District For 1987 - 2000^a.

FCS District:	Year													
	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	\$ millions													
Springfield	1,641	1,715	1,783	2,262	1,883	1,825	1,788	1,792	1,773	1,810	1,741	1,707	1,599	1,500
Baltimore	2,078	2,020	2,570	2,684	2,374	2,259	2,217	2,267	2,267	2,319	2,258	2,288	2,177	2,238
Columbia	5,363	6,649	6,046	7,059	6,587	6,551	6,580	6,741	6,831	6,940	6,892	6,705	6,684	6,801
Louisville	3,269	3,282	3,537	3,822	3,516	3,347	3,273	3,249	3,087	3,022	2,909	2,738	2,658	2,693
St. Louis	3,616	3,843	4,300	4,102	3,876	3,749	3,703	3,714	3,558	3,483	3,359	3,162	3,062	3,143
St. Paul	5,105	4,064	5,313	4,935	3,955	3,771	3,721	3,618	3,327	3,231	3,019	2,837	2,587	2,622
Omaha	5,602	5,294	5,621	5,932	5,985	5,709	5,991	6,117	6,355	6,243	6,434	6,456	6,594	7,053
Wichita	3,760	4,078	3,371	4,409	4,358	4,269	4,568	4,749	5,160	5,140	5,383	5,455	5,524	5,936
Texas/J'son	5,544	6,554	5,084	6,896	6,490	6,493	6,750	6,891	6,962	6,951	6,987	6,913	6,775	6,991
Western	6,820	7,458	7,251	8,292	6,934	6,750	6,849	6,964	7,147	7,218	7,157	6,766	6,811	6,879
Spokane	3,464	3,632	3,725	4,306	3,742	3,677	3,760	3,798	3,833	3,844	3,859	3,696	3,687	3,778
Total	46,263	48,590	48,600	54,700	49,700	48,400	49,200	49,900	50,300	50,200	50,000	48,723	48,158	49,634

^aThe values for 1987, 1988, and 1989 represent aggregations of data from USDA's Economic Indicators of the Farm Sector--State Financial Summary. The table values for 1990 through 2000 are projections.

income levels are displayed in Appendix Table 6. The USDA national projections on which these FCS district projections were based were developed prior to enactment of the 1990 Farm Bill and recession which began in late 1990. Projections indicated net farm income will remain stable or slightly decline in the Springfield, Baltimore, Columbia, Sacramento, and Spokane districts. Net farm income is expected to increase between 2 and 7 percent per year in Omaha, Wichita, and Texas/Jackson districts. Declines of between 2 and 5 percent per year are expected in Louisville, St. Louis, and St. Paul.

FCS District Aggregate Farm Balance Sheet.

In addition to farm income levels, farm asset values and debt levels are a major factor influencing farm financial characteristics. Higher asset values imply larger amounts of equity available to finance any cash flow shortfalls. Aggregate farm real estate assets, nonreal estate assets, real estate debt, and nonreal estate debt. were projected using an econometric analysis described in Appendix Two. Farm real

estate values were estimated as a function of farm real estate returns relative to the return on assets of comparable risk. Parameters obtained from the econometric analysis were used to obtain the estimates of farm real estate assets are shown in Table 2. The values displayed for 1988 and 1989 represent aggregations of actual USDA state level data while the values for 1990 - 2000 represent projections. The data shows that real estate values increased in most districts in 1988 and 1989. The Columbia, Baltimore, and Omaha districts witnessed substantial increases in farm real estate values in 1988. Real estate values continued to increase in 1989 with the exception of the Springfield and Texas/Jackson districts. Farm real estate values are projected to continue to increase in all districts through the forecast period with the exception of Louisville, St. Louis, St. Paul, and Omaha.

The projected changes in farm debt levels were utilized in the baseline analysis are displayed in Table 3. Nonreal estate and real estate debt levels are expected to remain stable or moderately increase over the forecast period. Moderate increases are expected in the Springfield, Columbia, Wichita, Texas, Sacramento, and Spokane FCS districts while debt levels are expected to remain stable or slightly decline in the remaining districts.

Pessimistic Economic Scenario.

A pessimistic economic scenario was developed to evaluate the ability of FCS banks and associations to withstand an economic downturn. A moderately severe stress was imposed, through simulation beginning in 1994. Farm income from all sources (including Federal payments) and real estate values fall 10 percent in 1994, 20 percent in 1995, and an additional 10 percent in 1996 (a cumulative 35.2 percent total decline). Real estate values and cash farm income are subsequently projected to remain constant at 1996 levels for the remainder of the forecast period. The impact of lower real estate values and net cash farm income is reflected in real estate debt and

Table 2. Historical and projected annual average change in farm real estate values by FCS district for 1988 - 2000.

	Projected													
	Average	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	-----percent-----													
Springfield	6.09	8.78	-7.22	7.29	7.53	7.53	7.74	7.00	7.20	7.20	7.20	7.20	7.20	7.20
Baltimore	2.49	12.05	3.69	2.46	2.76	2.66	2.50	2.41	2.31	2.21	2.28	2.28	2.19	2.10
Columbia	2.87	5.81	7.48	2.69	2.83	2.97	2.73	2.63	2.48	2.29	2.31	2.23	1.99	1.79
Louisville	0.63	6.37	3.17	-0.03	0.62	0.73	0.60	0.57	0.43	0.20	0.40	0.48	0.29	0.14
St.Louis	0.49	8.25	3.06	0.28	1.24	1.04	0.89	0.87	0.66	0.29	0.59	0.68	0.33	0.03
St. Paul	0.46	4.41	6.54	0.07	0.85	0.35	-0.09	-0.04	-0.13	-0.42	-0.28	-0.23	-0.43	-0.64
Omaha	1.88	14.00	5.50	0.46	1.51	1.93	1.80	1.77	1.70	1.45	1.78	1.80	1.56	1.33
Wichita	2.22	6.21	2.79	0.89	1.64	2.50	2.32	2.37	2.35	2.27	2.59	2.56	2.33	2.02
Texas/Jackson	4.63	0.16	-0.57	7.82	7.68	7.47	6.15	5.45	4.68	3.89	3.81	3.57	3.07	2.59
Western	1.70	3.07	2.00	1.88	2.51	2.39	1.70	1.65	1.55	1.38	1.59	1.57	1.21	0.93
Spokane	2.89	3.40	11.70	2.28	2.61	2.60	2.24	2.20	2.07	1.88	1.96	1.94	1.73	1.54
Total	2.23	6.12	3.09	2.08	2.67	2.76	2.41	2.29	2.13	1.87	2.05	2.04	1.80	1.58

farm financial characteristics. Market shares are assumed to be unaffected by the pessimistic scenario.

Projections of Farm Financial Conditions

Previous studies of residential housing markets have established the relationship between homeowner's equity and the probability of mortgage default (Swan, 1982; Foster, Van Order, 1984). Cooperstein et al (1990) showed that for the period 1970 - 1988, small or negative equity levels explained over 95 percent of the variation in default values among residential housing mortgages. The studies concluded that if equity is marginal or negative, the return from a sale may be insufficient to retire the mortgage debt and cover expenses associated with a sale giving a financial incentive to default.

The same principle has also been demonstrated to apply farm debt (Dodson, 1991). Analysis of relationships between farm equity levels and loan defaults provide additional information for FCS bank modeling procedures. Data on the

Table 3. Annual Average Historical and Projected Changes in Farm Real Estate and Nonreal Estate Debt by FCS District, 1988 - 2000

	Projected Average	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
FCS District/ Debt Type	-----percent-----													
Springfield														
Real Estate	6.02	0.00	-4.23	-14.68	-11.54	3.53	8.63	10.58	11.13	10.74	10.51	11.72	12.47	13.15
Nonreal Estate	2.55	0.00	-6.35	-4.89	-0.68	2.00	3.32	4.01	4.25	4.14	4.17	4.16	3.93	3.61
Baltimore														
Real Estate	0.06	0.00	1.72	-1.28	0.68	0.58	0.44	0.08	0.01	-0.07	-0.06	0.00	0.16	0.10
Nonreal Estate	0.94	0.00	14.20	0.13	-0.51	3.14	2.91	2.03	0.49	0.16	-0.02	0.82	0.12	1.12
Columbia														
Real Estate	2.01	22.69	-9.29	-0.45	0.78	2.82	2.80	2.77	2.65	2.19	1.98	2.45	2.26	1.82
Nonreal Estate	3.41	23.21	10.55	3.28	6.26	4.16	3.80	3.57	2.96	2.51	3.54	3.18	2.27	2.01
Louisville														
Real Estate	0.87	0.00	1.08	0.46	0.99	1.15	1.09	1.00	0.84	0.76	1.02	0.93	0.80	0.52
Nonreal Estate	1.65	5.38	4.97	3.65	3.93	2.22	1.53	1.37	0.84	0.75	1.74	1.04	0.69	0.42
St. Louis														
Real Estate	0.08	0.00	-0.47	0.01	0.02	0.04	0.16	0.35	0.32	0.10	0.08	0.00	-0.15	-0.10
Nonreal Estate	0.70	0.00	-2.72	-2.42	-0.37	1.44	1.10	1.10	1.19	0.82	0.94	1.81	1.23	0.83
St. Paul														
Real Estate	-0.57	-6.78	1.40	1.00	-0.33	-0.61	-0.54	-0.51	-0.54	-0.76	-1.13	-0.94	-0.97	-0.94
Nonreal Estate	-0.14	2.11	-1.25	0.23	0.61	-0.16	-0.22	-0.10	-0.17	-0.38	-0.06	-0.24	-0.39	-0.63
Omaha														
Real Estate	1.78	-6.70	6.12	3.55	2.04	1.81	1.64	1.69	1.83	1.54	1.03	1.39	1.44	1.65
Nonreal Estate	2.64	7.92	7.08	5.04	4.30	2.42	2.50	2.36	2.23	1.66	2.48	1.98	1.85	2.15
Wichita														
Real Estate	2.67	-4.58	6.30	3.48	3.06	2.55	2.45	2.59	2.70	2.58	2.58	2.61	2.41	2.35
Nonreal Estate	2.67	6.78	6.30	3.48	3.06	2.55	2.45	2.59	2.70	2.58	2.58	2.61	2.41	2.35
Texas/Jackson														
Real Estate	5.63	-7.69	-6.00	7.29	9.63	8.02	6.62	5.98	4.84	4.40	5.30	3.81	3.33	2.73
Nonreal Estate	4.36	40.91	-24.31	0.73	5.55	7.07	6.59	5.78	4.96	4.06	3.76	3.53	3.04	2.84
Western														
Real Estate	3.97	-3.83	-0.80	0.62	15.38	8.60	5.26	3.55	2.59	2.00	1.73	1.54	1.30	1.10
Nonreal Estate	2.39	1.00	2.44	4.32	6.45	2.29	1.52	1.75	1.50	1.63	2.80	1.58	1.34	1.08
Spokane														
Real Estate	2.35	-7.16	3.39	2.63	2.86	3.05	2.66	2.41	2.19	2.04	2.15	2.10	2.00	1.74
Nonreal Estate	2.50	0.00	7.92	6.10	3.57	2.81	2.49	2.26	2.07	1.87	1.86	1.54	1.48	1.50
Total														
Real Estate	2.12	-2.22	0.18	1.53	3.35	2.96	2.51	2.29	2.06	1.80	1.82	1.76	1.67	1.56
Nonreal Estate	2.33	9.80	-1.01	2.32	3.51	2.85	2.62	2.50	2.21	1.88	2.31	2.05	1.71	1.63

estimated equity levels of farm businesses are available for the period 1987 - 1989 from FCRS data. The FCRS data included information on the distribution of farms and debt among four income/solvency classifications.

Favorable. This category represents farms with low debt and positive income. Farm businesses with debt-to-asset ratios between 0 and 0.40 and a positive end of year income position are included.

Marginal Income. This category represents farm businesses which may face an earnings problem if they are unable to generate sufficient income to meet all obligations. Farms in a marginal income position have a debt/asset ratio of 0.40 or less and negative end of year income.

Marginal Solvency. Represented in this category are farm businesses with high debt and positive income. Included are farm businesses with debt/asset ratios of 0.40 or more and positive end of year income.

Vulnerable. This category represents farms with high debt and negative income. Included in this category are farms with debt/asset ratios greater than 0.40 and with negative end of year income.

Relationships between income/solvency classifications and certain FCS bank operating characteristics are utilized in the FCS bank simulation model and are documented in Appendix Four. The analysis demonstrated that farm equity levels are significantly related to FCS bank loan portfolio factors such as nonaccrual loans, restructured loans, and allowances for loan losses.

Projection of FCS bank portfolio quality, therefore, requires projections of the farm financial characteristics as indicated by income/solvency classifications. Expected financial characteristics of farm operators were developed in step 2 of the analysis with the procedure described in Appendix Three. In the procedure, the balance sheets and income statements of "average" farms were simulated. Average

farms were represented by sales/debt-to-asset classifications².

1. Farms with $DA > 0$ and annual sales $< \$40,000$. This classification represented noncommercial farms.
2. Farms with $0 < DA < .1$ and annual sales $\geq \$40,000$.
3. Farms with $.1 \leq DA < .4$ and annual sales $\geq \$40,000$.
4. Farms with $.4 \leq DA < .7$ and annual sales $\geq \$40,000$.
5. Farms with $DA \geq .7$ and annual sales $\geq \$40,000$.

Balance sheets and income statements were calculated for each classification. Average farm business balance sheet and farm income statement data for each of the five farm classifications in each FCS district were used to determine initial farm financial characteristics.

FCS district economic projections were subsequently used to develop projections of per farm balance sheets and per farm net cash income for each cell. Projections of aggregate FCS district balance sheet values and debt levels (step 1) were used to project farm balance sheet and net cash farm income levels per cell. Future levels of cash farm income per cell were determined using FCS district net cash farm income projections. Projected changes in district cash farm income was applied to cash farm income levels for each cell. Annual interest obligations were adjusted based on projected annual changes in farm interest rates. Future average farm balance sheet characteristics were determined by adjusting initial farm asset and farm debt levels per cell based on projected changes in the aggregate FCS district farm balance sheets.

²In this paper, each of the classifications described are termed cells. For example, cell 2 refers to farms with annual sales greater than \$40,000 and debt-to-asset ratio greater than 0 and less than .10.

Allowances were made for liquidation of distressed farm debt and debt growth. It was assumed that 1/3rd of the farms with less than 25 percent equity and negative incomes would be liquidated each year. It was also assumed that new debt would be held by favorable, marginal income, or marginal solvency farms according to distribution of existing debt among these categories.

Results

Projected Income/Solvency Conditions

The methods employed enabled estimation of how the characteristics of farm operator debt would change considering expected net cash farm income levels and asset values. The structure of the FCRS data and knowledge of the number of farms in each cell enabled an estimation of the number of farms in each of the four income/solvency categories. Historical and projected distributions of farm operator debt and leveraged farms by FCS district are displayed in Appendix Tables 9 and 10. These tables display the distribution of farms and leveraged farms and debt among income/solvency classifications for the years 1988 - 2000 under a baseline economic scenario. The results reported for 1988 and 1989 represent actual values determined from FCRS data while the values for 1990 - 2000 are projections developed using the procedures described in Appendix Three.

Farm financial characteristics can be compared through examination of favorable and vulnerable percentages per district. Declines in farm financial characteristics can be indicated by a decrease in the percent of farm operator debt or leveraged farm businesses classified as favorable and an increase in the percent classified as vulnerable. An improvement in farm debt quality is indicated by an increase in the percent classified as favorable and a decrease in the percent classified as vulnerable.

The baseline economic conditions are expected to result

in stable farm financial conditions over the forecast period. Slight deterioration is expected, however, in the St. Louis, Springfield, Omaha, and Spokane districts. When measured using farm operator debt, farm financial conditions are expected to improve or remain stable in all districts except Springfield. Recent asset value declines in the Springfield district combined with poor income conditions on commercial farms contributed to an initial deterioration in 1990 and 1991.

Projected income/solvency conditions for the pessimistic scenario are displayed in Appendix Tables 11 and 12. Predictably, farm financial conditions deteriorate as indicated by a decline in favorable and increases in vulnerable classifications between 1994 and 1997. Some districts are more vulnerable as indicated by results in the Springfield, St. Louis, and Wichita districts where 30 percent of the farm debt is expected to become vulnerable under pessimistic conditions. Columbia, Omaha, and Texas/Jackson appear to be less susceptible to the pessimistic scenario with less than 20 percent of the farm operator debt projected to become vulnerable under pessimistic conditions.

Projected FCS Bank Financial Performance

The financial performance of each FCS bank and combined association was projected using a balance sheet and income statement simulation model which incorporated expected economic conditions, farm financial characteristics, and current FCS bank financial condition. A detailed description of the model is provided in Appendix Four with output summaries reported in Appendix Five.

Beginning financial positions for the FCS bank financial model were obtained from the 1989 annual report of district banks and combined associations. Financial statement information for 1990 - 2000 was projected based on the relationships documented in Appendix Four. FCS's cooperative mission was considered in determining the pricing of loans in

the simulation model. As a farmer owned cooperative, FCS banks and associations are assumed to price loans at rates sufficient to meet all obligations. These obligations include operating expenses, cost of funds, insurance fund contribution, repayment of FAC debt and capital requirements. The initial interest rate charged by FCS was based on historical relationships documented in Appendix Two. Market share, debt growth, and farm financial conditions were developed using these initial farm interest rates. FCS banks and associations were allowed to increase interest rates on outstanding loans in order to meet obligations. Conversely, FCS banks were allowed to decrease interest rates on outstanding loans if initial interest rates enabled them to meet all obligations. It was assumed that interest rates could be increased or decreased without gain or loss of market share.

In execution of the simulation model, margins over the projected cost of funds were chosen such that a ratio of 7 percent permanent capital to risk adjusted assets could be maintained through the year 2000. A summary of margins required to maintain capital standards in baseline and pessimistic economic scenario are displayed in Table 4. Capital ratios were allowed to fall below the regulatory minimum of 7 percent for brief periods in the pessimistic scenario. This implicitly assumed that as long as progress was made toward achieving the minimum capital standards, forbearance would be followed by regulators.

The minimum margins estimated in the analysis reflected the differing financial strength of the underlying banks and combined associations and impacts of district economic conditions. The historical and competitive margins shown in Table 4 differ due to differences in the composition of real and nonreal estate debt between districts. Adequate comparison of margins should, therefore, be in relationship to competitive margins and historical margins as displayed in,

Table 4. Estimations of Minimum Margins over the Cost of Funds Required By FCS Banks to Maintain Capital at 7% of Risk Adjusted Assets.

	<u>Baseline¹</u>	<u>Pessimistic²</u>	<u>Historical³</u>	<u>Competitive⁴</u>
Springfield	114	127	127	260
Baltimore	86	101	125	220
Columbia	37	33	123	262
Louisville	101	127	118	273
St. Louis	130	141	118	277
St. Paul	114	159	116	239
Omaha	146	185	122	242
Wichita	83	126	115	231
Texas/Jackson	119	157	125	260
Western	153	223	126	216
Spokane	220	272	122	228

¹ Minimum interest rate margin required to maintain capital standards through the year 2000 for the baseline economic scenario.

² Minimum interest rate margin required to maintain capital standards through the year 2000 for the pessimistic economic scenario.

³ Projected interest rate margins based on projected cost of funds and projected rates on outstanding FCS loans.

⁴ Projected interest rate margins based on projected cost of funds and projected rates on new life insurance company loans and new commercial bank nonreal estate loans.

Figures 3 and 4.

Competitive margins provide an estimate of the maximum amounts combined banks and associations can increase interest margins without risk of borrower flight. Historical margins provide estimates of margins calculated using historical relationships between cost of funds and interest rates on outstanding loans. Columbia, Baltimore, and Wichita are indicated to be the strongest banks and associations with each required to maintain margins less than 75 percent of historical margins in the baseline economic scenario (Figure 3). Springfield, St. Paul, Louisville, and Texas/Jackson can also maintain interest rate margins below historical norms for the baseline scenario. Figure 3 also indicates that St.

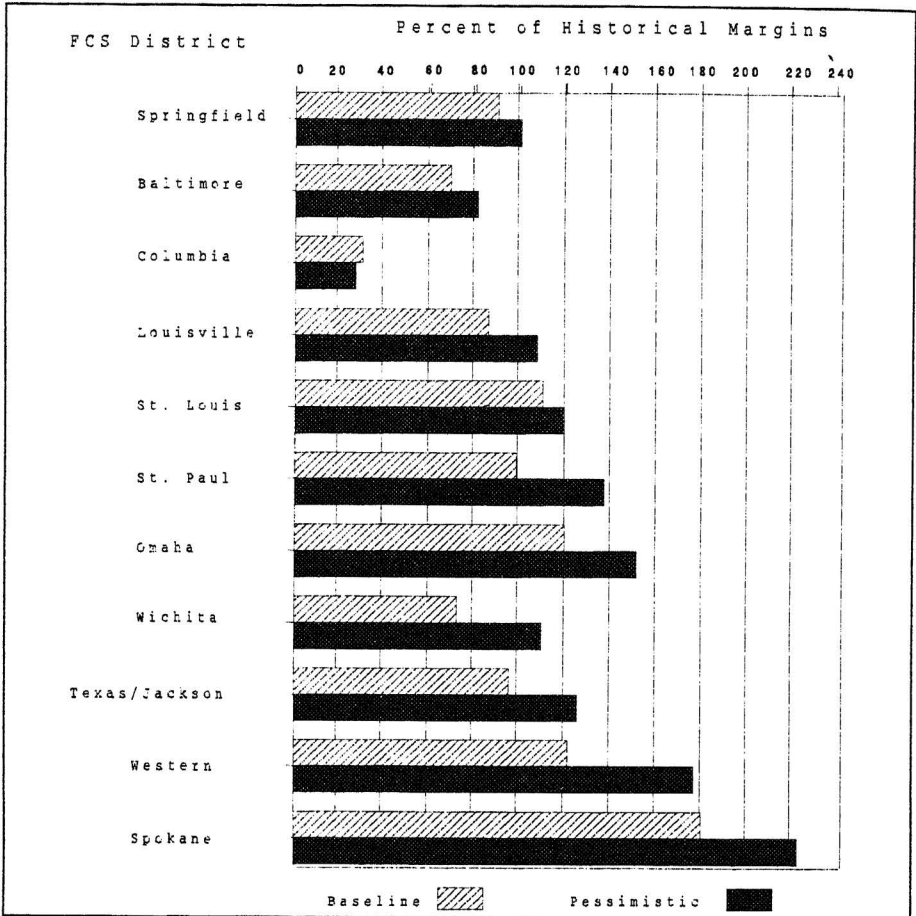


Figure 3. Minimum Required Margins as Percent of Historical Margins for FCS Banks and Combined Associations, by FCS District.

Louis, Omaha, and Western districts require margins between 100 and 120 percent of historical margins to maintain required capital levels under a baseline scenario. Spokane is indicated represent the weakest district with required margins equal to 180 percent of historical margins.

Springfield, Baltimore, and Columbia FCS banks and associations are indicated to be able to withstand a

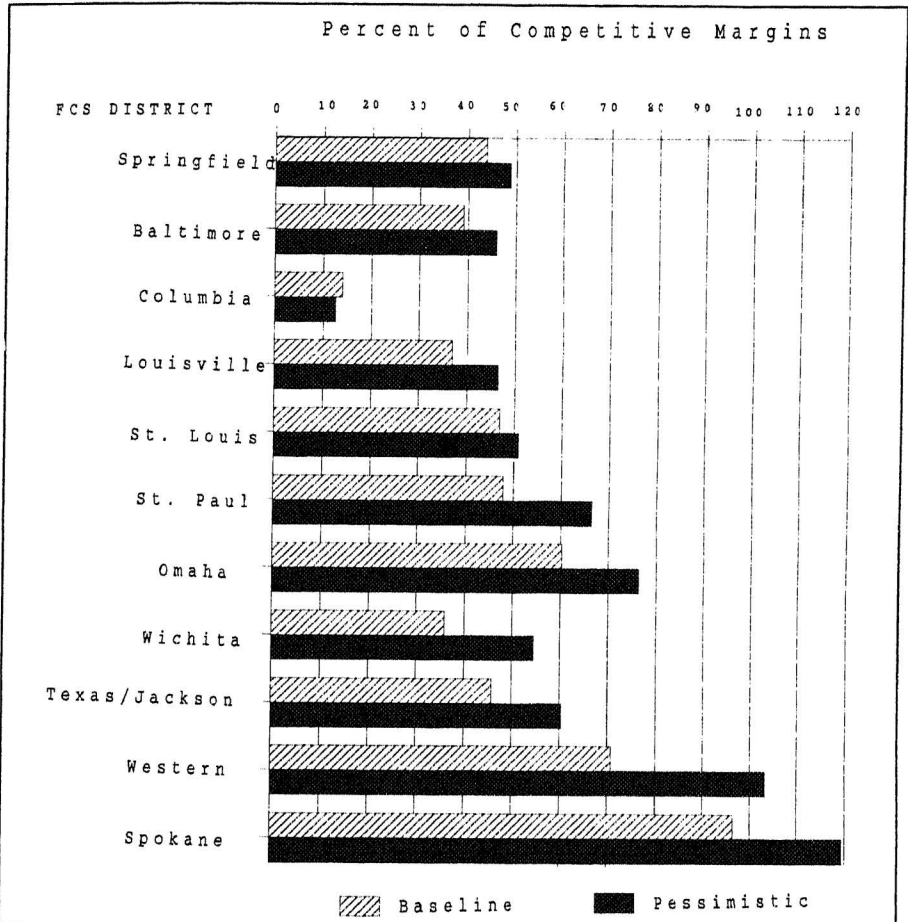


Figure 4. Minimum Margins as Percent of Competitive Margins for FCS Banks and Combined Associations, by FCS District

pessimistic scenario without requiring margins in excess of the historical margins (Figure 3). Omaha, Spokane, and the Western districts are shown to require margins in excess of 140 percent of historical margins under the pessimistic scenario. The remainder of the banks and associations are projected to require interest margins between 100 and 120 percent of historical margins under a pessimistic scenario. However, only Spokane and Western banks and associations are

projected to require margins in excess of competitive margins in either scenario (Figure 4).

Minimum margins for the pessimistic scenario for the Columbia FCS district are shown to be lower than minimum margins calculated for the baseline scenario. This can be explained by the influence of permanent capital and the Columbia bank's initial high capital position. In the pessimistic scenario for the Columbia district, outstanding loan volume declines faster than permanent capital having a positive influence on the capital to asset ratio.

Uncertainty surrounds the issue of whether or not banks can increase interest rate margins without loss of market share. The historical margins shown in Table 4 were estimated using an average pricing mechanism. FCS banks and associations have historically priced loans to borrowers by adding a margin to the average cost of funds sufficient to cover all obligations. In recent years, banks have moved toward a tiered pricing scheme with rates based on the borrower riskiness. It is possible that this may allow banks to extract higher interest rates without substantial risk of borrower flight. Some evidence of the banks ability to extract higher interest rates is provided in Appendix Table 13 which displays current and expected interest rates charged by FCS banks and FCS's competitors. All districts except Springfield and St. Paul were receiving an average interest rate in 1989 in excess of the calculated rates charged by competitors on new loans.

A detailed summary of the FCS bank financial simulation model is provided in Appendix Tables 14 - 35. Under the baseline economic scenario, nonaccrual loans, loan losses, and acquired property are expected to decline through 1992. Loan volume is projected to remain stable with permanent capital approaching 7 percent of risk adjusted assets by the year 2000. In the pessimistic scenario, all financial factors are the same as the baseline scenario through 1994. Nonaccrual loans, loan losses, and acquired property subsequently

increase in 1994 and 1995 due to reductions in real estate values and cash farm income. Loan volume declines between 1994 and 1996 as a result of the pessimistic assumptions.

Additional costs associated with the Agricultural Credit Act of 1987 were estimated in the analysis. These include Farm Credit System Insurance Corporation (FCSIC) premiums, interest on Financial Assistance and discounted present value of repayment of Financial Assistance. These were estimated and to add 25 to 30 basis points in additional costs for each combined bank and associations. In the baseline scenario, it is assumed that insurance contributions will continue through 1999, at which point FCSIC should be completely funded³. Under the pessimistic scenario, FCSIC will become funded in approximately 1996. Shorter time is required for the pessimistic scenario because of declines in loan volume.

Conclusions & Implications

The results from this study should be interpreted with respect to certain limitations. The analysis focused on the district banks and combined associations and has assumed complete capital mobility between districts and associations.

The analysis was conducted using economic projections which were developed prior to the recession which began in late 1990. Also, farm income projections did not include the impacts of the 1990 Farm Bill.

This analysis was designed to analyze and compare the viability of FCS banks and combined associations by FCS district. The analysis incorporated the expected economic conditions of each FCS district as well as the expected farm financial conditions. The sensitivity each the banks in each district to a pessimistic scenario was also analyzed through the incorporation of a 35.2 percent cumulative decline in net

³ACA87 required that insurance contributions would continue by FCS banks and associations until the value of the insurance fund equaled 2 percent of total loan volume.

cash farm income and farm real estate values beginning in 1994.

The results indicate that the east coast FCS banks and associations are the most viable while the west coast FCS banks remain vulnerable. Springfield, Baltimore, and Columbia could withstand a pessimistic scenario without increasing interest rate margins above historical norms. It is projected that Spokane will require interest rate margins in excess of competitive maximums for both the baseline and pessimistic scenario while the Western banks are shown to require margins in excess of competitive maximum for the pessimistic scenario.

The vulnerability of some banks indicates a need for legislation or system structure to insure capital mobility is maintained. District banks and related associations could be structured as one cooperative entity thus enabling a free flow of capital within a district. The differences in viability of eastern districts versus midwestern and western districts suggests that a different geographic structure of FCS districts may be more resilient than the existing structure. Mergers between eastern districts midwestern districts should, therefore, be examined as methods of reducing the possibility of FCS bank failure.

Differences in relative strength of FCS banks as indicated by the required margins provide support for the argument that FCSIC premiums should be adjusted. Currently, FCSIC premiums are based on the levels of accruing and nonaccrual loans. The differences in relative strength of FCS districts could be more adequately captured by basing insurance premiums not only on loan quality but also incorporating capital position, portfolio diversification, and district economic conditions. The differences in the financial strength of FCS districts may also provide incentives for borrower flight. For example, associations allied with weaker districts may attempt to realign with stronger districts to take advantage of lower interest rates thus further weakening

the more vulnerable districts.

The ability of banks to maintain margins in excess of historical norms will require continued reliance on tiered loan pricing. While average pricing may have been a very successful pricing policy in the past, it will probably not allow banks the flexibility to extract the margins necessary to meet all financial obligations. Borrowers which have the ability to refinance with competitive lenders will require lower rates while more risky borrowers may face higher rates. FCS banks and associations, therefore, will need to continue to rely on credit scoring or other comparative techniques to price loans.

Appendix One

Projections of Cash Farm Income and Selected Macroeconomic Variables

Appendix Table 5. Selected Macroeconomic Projections Utilized in Analysis

	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Personal Inc	3766.4	4070.8	3,693.4	3,917.4	4,072.7	4,357.5	4,357.5	4,647.4	4,947.6	5,265.9	5,600.9	5,989.5	3,877.7	6,845.5
Moody's	9.38	9.71	9.26	10.1	9.6	9	8.6	8.3	8.1	8.1	8.1	8.1	8.1	8.1
Inflation	3.14	3.32	4.12	4.24	4.52	4.14	3.98	3.89	3.62	3.49	4	4.31	4.31	4.31
Treasury Bill	5.77	6.67	8.11	7.5	6.6	6.4	6.2	5.9	5.7	5.4	5	5.4	5.4	5.4
Prime Rate	8.20	9.44	10.87	10.01	10.38	10.51	10.49	10.35	10.17	9.97	9.80	9.66	9.57	9.41

Appendix Table 6. Projected and Historical Net Cash Farm Income, by FCS district, 1987 - 2000

FCS District	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
	----- (1,000) -----													
Springfield	1,935	1,818	2,190	2,276	1,821	1,773	1,778	1,801	1,757	1,779	1,750	1,735	1,726	1,773
Baltimore	2,478	2,468	2,468	2,759	2,374	2,287	2,297	2,375	2,347	2,384	2,375	2,438	2,440	2,568
Columbia	5,997	6,515	6,581	7,059	6,589	6,687	6,785	6,984	7,011	7,088	7,096	7,092	7,179	7,390
Louisville	4,171	4,475	3,813	4,480	4,104	4,002	4,039	4,092	3,913	3,863	3,861	3,845	3,860	4,041
St. Louis	5,348	5,710	4,136	4,971	4,783	4,773	4,838	4,941	4,779	4,738	4,725	4,694	4,676	4,898
St. Paul	6,964	7,002	5,661	6,119	5,209	5,149	5,238	5,251	4,969	4,925	4,854	4,777	4,701	4,898
Omaha	7,710	7,379	5,620	7,192	7,376	7,312	7,733	7,985	8,205	8,146	8,463	8,716	8,990	9,626
Wichita	4,557	4,487	3,634	4,809	4,794	4,837	5,210	5,453	5,822	5,805	6,115	6,342	6,513	7,033
Texas/Jackson	5,318	6,389	6,031	6,937	6,482	6,615	6,957	7,151	7,151	7,110	7,226	7,317	7,340	7,681
Sacramento	7,306	7,382	6,872	8,171	6,899	6,894	7,055	7,215	7,327	7,371	7,372	7,172	7,306	7,476
Spokane	3,541	3,831	3,818	4,397	3,832	3,847	3,983	4,055	4,054	4,054	4,116	4,050	4,129	4,293
Total	55,324	57,455	50,822	59,169	54,262	54,177	55,913	57,301	57,336	57,265	57,955	58,178	58,862	61,677

APPENDIX TWO

ESTIMATION OF FCS DISTRICT ECONOMIC FACTORS

This section documents the procedures used to develop projections of baseline of economic factors utilized in the analysis. An econometric time series analysis was used to project the average per farm value of farm real estate and nonreal estate assets. Real estate assets were estimated for each FCS district. Nonreal estate assets were estimated for the U.S. and trends subsequently applied to each FCS district.

Real Estate Asset Projections

Traditionally, the value of an asset has been viewed as the capitalized value of all future earnings.

$$(2.1) A = \frac{X^*}{i - g}$$

where:

A = Average asset value per acre.

X* = Return per acre expected over the year.

i = Nominal interest rate at which future returns to land are discounted.

g = Proportion by which returns to land are expected to change annually.

It has been demonstrated by Burt, Gertel and Tweeten that inflation causes prices to move upward and has no impact on real land prices. This hypothesis can be demonstrated through equation (2.2) where r is the real interest rate, I is the inflation rate, and g is the proportion by which land returns increase annually.

$$(2.2) A = \frac{X^*}{r + I - g}$$

If inflationary expectations are built into expectations of returns, I will equal g in equation (2.2) causing inflation to have no impact on land prices. If the returns to land are expected to increase faster than the rate of inflation (I < g), farmland prices should increase faster than the inflation

rate. This conceptual model was extended by Tweeten to include returns on alternative investments.

$$(2.3-1) \quad A = \frac{X^*}{r + (I - g) + (i' - i'')}$$

where:

- i' = expected annual real increase in earnings from other assets of similar risk.
- g = expected annual increase in land prices.
- I = expected annual inflation rate
- i'' = expected annual increase in earnings from land.

Equation (2.3) indicates if land returns are expected to increase by the same amount as assets of similar risk, i' will equal i'' . If land prices are expected to increase at the inflation rate, I will equal g . If the annual increase in land prices is expected to be equal to the inflation rate plus the real increase in earnings of other assets of similar risk, prices are invariant to inflation or changes in returns of other assets.

$$(2.2.2) \quad A = \frac{X^*}{r}$$

Tweeten's analysis suggests that investors in the real estate market base bid prices on three distinct factors-- expected rental returns for the current year, expected inflation rate of farm real estate prices relative to the general inflation rate, and expected change in rate of return for farm assets relative to returns on assets to similar risk. The value of real estate assets can be viewed as a linear function of these three variables and the real interest rate.

$$(2.4) \quad A_t^j = f(r_t, RF_t^j, RI_t^j, RR_t^j)$$

where:

- A_t^j = value of real estate assets in district j for period t .
- r_t = expected long run real interest rate in period t .
- RF_t^j = expected rental return on farm assets in district j for period t .

RI_t^j = the rate of inflation of farm real estate assets relative to the general inflation rate.
 RR_t^j = the expected change in rental rate of farm real estate assets relative to other assets of similar risk.

The relative return variables in equation 2.4 are incorporated into to total relative return variable. This variable includes the effects of relative rental rates, inflation and real interest rates.

$$(2.5) \text{RRF}_t^j = \frac{r_t + g_t^j + u_t^j}{r_t + I + u_k}$$

where:

u_t^j = the risk premium for investing in farm real estate assets for district j in period t.
 u_k = the risk premium for investing in asset k in period t.
 g_t^j = the growth rate of land earnings in district j for period t.

The total relative return variable described in equation (2.5) requires definition of an alternative investment k. The Moody AAA interest rate was chosen to reflect returns on alternative investments, primarily because a forecast of Moody's rate by was available through USDA. The Moody rate reflects the real interest rate, the expected inflation rate, and an expected risk premium. The numerator in equation (2.5) is empirically defined by the expected return on farm real estate assets plus the expected inflation rate on farm real estate assets. The denominator is empirically defined as the Moody rate.

$$(2.5-1) \text{RRF}_t^j = \frac{MF_t^j + I'^j_t}{MDY_t}$$

where:

MF_t^j = Two year moving average of return on farm real estate assets for district j in year t. The rental return is defined as net farm income divided by the value of farm assets.
 MDY_t = Return on Moody's AAA bonds in year t.
 I'^j_t = annual expected increase in land prices for district j in year t.

If farm real estate market participants assume that future increases in returns will equal the inflation rate, total relative returns can be calculated using equation (2.5-2).

$$(2.5-2) \text{ RRF}^j_t = \frac{\text{MF}^j_t + \text{INF}_t}{\text{MDY}_t}$$

where:

INF_t = Annual inflation rate for period t .

The value of farm real estate assets can, therefore, be expressed as a linear function of expected relative returns.

$$(2.6) \text{ A}^j_t = a_0 + a_1 \text{ RRF}^{*j}_t + u_t$$

where:

RRF^{*j}_t = Expected level of returns on farm real estate assets relative to the returns on Moody AAA bonds.

u_t = residual or error term.

Equation (2.6) is inestimable since RRF^{*j}_t represents an unobserved expected value. The expected relative return variable can be derived from a model of adaptive expectations.

$$(2.7) \text{ RRF}^{*j}_t = \text{RRF}^{*j}_{t-1} + \varphi(\text{RRF}^j_{t-1} - \text{RRF}^{*j}_{t-1})$$

where:

φ = coefficient of expectation.

Substitution of (2.7) into (2.6) and solving using a Koyck transformation results in the following estimable equation.¹

¹The estimable form of the adaptive expectations model is derived as follows:

$$(2.7) \text{ RRF}^{*j}_t = \text{RRF}^{*j}_{t-1} + \varphi(\text{RRF}^j_{t-1} - \text{RRF}^{*j}_{t-1})$$

$$(2.7-1) \text{ RRF}^{*j}_t = \varphi \text{RRF}^j_{t-1} + (1-\varphi) \text{RRF}^{*j}_{t-1}$$

$$(2.7-2) \text{ RRF}^{*j}_t = \varphi \text{RRF}^j_{t-1} + (1-\varphi)[\varphi \text{RRF}^j_{t-2} + (1-\varphi)(\text{RRF}^{*j}_{t-2})]$$

Substitute (2.7-2) into (2.6)

$$(2.6-1) \text{ A}^j_t = a_0 + a_1 [\varphi \text{RRF}^j_{t-1} + (1-\varphi)[\varphi \text{RRF}^j_{t-2} + (1-\varphi)(\text{RRF}^{*j}_{t-2})] + u_t$$

Application of the Koyck transformation by lagging all terms one period.

$$(2.8) A_{t,j} = a_0 + \beta_1 RRF^j_{t-1} + (1 - \varphi) A_{t-1} + e_t$$

where:

φ = adjustment coefficient

$e_t = u_t - (1-\beta) u_{t-1}$

The relative return parameter is expected to have a positive sign which implies that an increase in farm real estate values relative to returns on other assets of similar risk causes increased farm real estate values.

Equation (2.8) was applied to each of the eleven FCS districts using ordinary least square (OLS) techniques for the period 1965 - 1989. A Durbin-h test indicated positive autocorrelation in all districts². The equations were reestimated using generalized least squares (GLS) to adjust the estimates for the autocorrelation. The GLS parameter estimates for each district are shown in Exhibit 1. Adaptive expectations requires that the parameter for the

$$(2.6-2) (1-\varphi)A^j_{t-1} = a_0 + a_1 [(1-\varphi) \varphi RRF_{t-2} + \dots] + (1-\varphi)u_{t-1}$$

Subtraction of (2.6-2) from (2.6-1) results in the following estimable equation.

$$(2.8) A_{t,j} = a_0 + \beta_1 RRF^j_{t-1} + (1 - \varphi) A_{t-1} + u_t - (1-\varphi)u_{t-1}$$

²The Durbin-Watson statistic is not useful when one or more lagged endogenous variables are present. The Durbin-h test is an alternative test for serial autocorrelation. The test statistic is given below.

$$h = P \left\{ \frac{T}{1 - T [\text{Var}(\beta)]} \right\}^{.5}$$

Var(β) = Standard error of the coefficient of the lagged endogenous variable.

T = number of observations.

P = First order autocorrelation coefficient.

β = OLS parameter estimate

If $T[\text{Var}(\beta)]$ is greater than 1, the test requires the taking of a negative square root. More complicated tests can be performed to test for serial correlation. Information on these tests is available in Pindyck and Rubinfeld (p. 196).

Exhibit 1. Real Estate Asset Parameter Estimates By FCS District^{a,b,c,d}.

=====		
$A^1_t = 0 + .040 PI^1_t + 110.999 MAVERET^1_t - 248.53427 REAL^1_{t-1}$		
	(18.678)***	(1.761)* (1.631)
$R^2 = .991$		$P = .361$

$A^2_t = 0 + 989.089 RRF^2_t + 1.001 A^2_{t-1}$		
	(1.870)*	(35.772)***
$R^2 = .993$		$P = .377$

$A^3_t = 0 + 1655.561 RRF^3_{t-1} + .98394 A^3_{t-1}$		
	(1.928)*	(23.22)***
$R^2 = .995$		$P = .573$

$A^4_t = 0 + 3417.326 RRF^4_{t-1} + .94530 A^4_{t-1}$		
	(1.610)	(16.816)***
$R^2 = .969$		$P = .603$

$A^6_t = 0 + 5840.4988 RRF^6_{t-1} + .90566 A^6_{t-1}$		
	(2.119)**	(14.432)***
$R^2 = .959$		$P = .584$

$A^7_t = 0 + 2786.510 RRF^7_{t-1} + .935417 A^7_{t-1}$		
	(1.663)	(14.845)***
$R^2 = .951$		$P = .624$

$A^8_t = 0 + 7050.988 RRF^8_{t-1} + .88864 A^8_{t-1}$		
	(1.993)*	(11.742)***
$R^2 = .936$		$P = .574$

$A^9_t = 0 + 4315.487 RRF^9_{t-1} + .91950 A^9_{t-1}$		
	(2.116)**	(15.941)***
$R^2 = .965$		$P = .631$

$A^{10}_t = 0 + 9710.8896 RRF^{10}_{t-1} + .9444 A^{10}_{t-1}$		
	(2.048)*	(21.077)**
$R^2 = .993$		$P = .4406$

$A^{11}_t = 0 + 3530.66326 RRF^{11}_{t-1} + .9389810 A^{11}_{t-1}$		
	(2.056)*	(16.621)***
$R^2 = .957$		$P = .803$

$A^{12}_t = 0 + 1727.3955 RRF^{12}_{t-1} + .9704 A^{12}_{t-1}$		
	(1.630)	(21.160)***
$R^2 = .9849$		$P = .137$

$$A_t^{US} = 0 + 31010.9281 RRF_{t-1}^{US} + .950 A_{t-1}^{US}$$

(1.672)* (16.940)***

R² = .979 P = .700

^a t values are given in parenthesis.

^b * .05 < p ≤ .10

** .001 < p ≤ .05

*** p ≤ .001

^c j = 1, Springfield; j = 2, Baltimore; j = 3, Columbia; j = 4, Louisville; j = 6, St. Louis; j = 7, St. Paul; j = 8, Omaha; j = 9, Wichita; j = 10, Texas/Jackson; j = 11, Sacramento; j = 12, Spokane.

^d P = First order autocorrelation coefficient.

lagged dependent variable be less or equal to 1 and greater than 0. This condition was satisfied in all districts except Springfield where the lagged dependent parameter was significantly greater than 1. Springfield is a unique district in that is located in a highly urbanized region of the country representing approximately 29 percent of U.S. personal income. Only 0.25 percent of the regions income, however, is attributable to agriculture. It was judged that the growth in the value of farm assets in the Springfield FCS districts is influenced by the value of agricultural real estate assets in alternative uses. Regional personal income was chosen, therefore, to represent the value of alternative uses of farm assets. The value of farm assets in these districts is theorized to be a function of regional personal income, a 2 year moving average of farm returns and lagged real interest rates. The equation estimated for the Springfield districts is described below.

$$(2.9) A_t^j = \alpha_1 + \alpha_2 PI_t^j + \alpha_3 MAVERET_t^j + \alpha_4 REAL_{t-1}^j$$

where:

PI_t^j = Personal disposable income in district j for period t.

$MAVERET_t^j$ = 2 year moving average of returns to farm real estate in district j for period t.

$REAL_t^j$ = real interest rates for district j in period t.

The intercept term was not significantly different from zero in all cases and was, therefore, suppressed to improve the estimates. The r-squared statistic indicates that the model explained 93.6 percent or more of the variation in real estate values in each district. The lagged real estate asset variable was significantly different from zero at the 0.0001 level in all cases. The lagged relative return variable has the expected positive sign and is significantly different from zero at the 0.20 level of significance in all districts. The relative return parameters were significantly different from 0 at the 0.10 level in all districts except Louisville, St. Paul, and Spokane.

Nonreal Estate Assets.

Nonreal estate assets refers to machinery, equipment, and crop and livestock inventories. The value of machinery and equipment owned by agricultural producers is influenced by the level of production. The level of machinery and equipment in the U.S. is expressed as a linear function of real estate assets and lagged levels of machinery and equipment.

$$(2.10) ME^{us}_t = f(A_t, ME^{us}_{t-1})$$

where:

ME^{us}_t = aggregate values of machinery and equipment in period t.

A_t = real estate asset values for period t.

The following estimable equation was used to estimate the aggregate level of machinery and equipment in the U.S. in period t.

$$(2.11) ME^{us}_t = a_0 + a_1 A_t + a_2 ME^{us}_{t-1} + u_t$$

where:

u_t = random error term

Equation (2.11) was applied to aggregate US data for the period 1965 - 1988 using OLS techniques. The results of the estimation are displayed in Exhibit 2. The parameters derived from equation (2.11) are used to project the aggregate value of machinery and equipment held by agricultural producers in the U.S. National estimates are subsequently used to develop

FCS district projections of machinery and equipment. This is accomplished by an application of the national trend to each FCS district.

Exhibit 2. Parameter Estimates for Nonreal Estate Assets.

$$ME_t^{US} = 16674.953 + .082126 A_t^{US} + .1907 ME_{t-1}^{US}$$

(5.041)*** (11.794)*** (3.317)**

$$R^2 = .977$$

$$P \approx .325$$

Projections of livestock and crop inventories by district were estimated assuming a linear trend between USDA's national projections and FCS district level data. For example, if USDA projected the value of U.S. crop inventories to increase by 10 percent, the value of crop inventories in each FCS district was increased by 10 percent.

Real Estate Debt

Agricultural producers choose an amount of debt which maximizes their net present value subject to constraints imposed by individual risk preferences and technology. Levels of output and input are constrained by a production function relating flows of outputs to flows of inputs. The relative prices of inputs and outputs determine net farm income. Lenders impose constraints upon a farmers demand for credit through security requirements. In order for a lender to provide the requested loan funds to a farmer, the value of the loan must be covered by the collateral. An equation to estimate the demand for credit should include variables to reflect farm income, collateral values and the cost of borrowing. The hypothesized demand equation for real estate debt shown in equation (2.12) is a linear function of expected real estate assets, expected net farm income, and expected real interest rates.

$$(2.12) \quad RED_t^{j*} = a_0 + A_t^j + r_t + MNFI_t^j + e_t$$

where:

RED^j_t = Desired level of real estate debt for district j in period t.
 A^j_t = Value of real estate assets for district j in period t.
 r_t = Real interest rate for period t.
 $MNFI^j_t$ = 2 year moving average of net farm income for district j in period t.

Equation (2.12) can not be directly estimated because the desired level of debt RED^j_t is unobservable. Agricultural producers are unable to instantaneously adjust to new levels of desired debt because many debt contracts are written for specific periods of time. The partial adjustment hypothesis recognizes a delay in the adjustment from current levels to long run equilibrium levels. The Nerlovian partial adjustment model utilizes the following stock adjustment hypothesis.

$$(2.13) \quad RED^j_t - RED^j_{t-1} = d(RED^j_t - RED^j_{t-1})$$

The parameter d is the coefficient of adjustment. The left hand side of (2.13) represents the actual change and the right hand side represents the desired change. Substitution of (2.13) into (2.12) and applying the Koyck transformation results in equation (2.14) as an equation which can be empirically estimated. The estimable equation for real estate debt is derived in same manner as the estimable equation for real estate assets was obtained (equation 2.8).

$$(2.14) \quad RED^j_t = da_0 + d \beta_1 A^j_{t-1} + d \beta_2 r_{t-1} + d \beta_3 MNFI^j_{t-1} + (1 - d)RED^j_{t-1} + d u_t$$

Equation (2.14) was applied to each FCS district for the period 1965 - 1988 using GLS techniques. Data on farm real estate debt and net farm income was collected from Economic Indicators of the Farm Sector, 1989. Data included FmHa debt but excluded CCC loans. The real interest rate variable in equation (2.14) represented the rate on Moody's AAA bonds less the inflation rate.

Greater amounts of available collateral caused by

increases in lagged real estate asset values is expected to result in greater amounts of debt outstanding. Increases in lagged real interest rates indicating an increase in the real cost of credit should cause decreases in debt levels. Agricultural producers can increase debt during years with low incomes to finance cash flow shortfalls with funds subsequently paid back during periods of higher incomes. It is expected that an increase in net farm income will result in a decrease in outstanding debt. Producers, however, are likely to utilize nonreal estate debt before using real estate debt to finance shortfalls resulting in longer periods of low farm incomes before real estate debt levels are impacted. A two year moving average of net farm income is used as an explanatory variable in the estimation of real estate debt while lagged net farm income is used as an explanatory variable for nonreal estate debt.

Results obtained from applying equation 2.14 to 1965 - 1988 data using GLS techniques are displayed in Exhibit 3. The r-squared statistic for each district indicates the model explains over 98 percent of the historical variation in real estate debt. The parameters estimated for Baltimore and Spokane were significant and had the expected signs. Parameter estimates for lagged moving average of net farm income and lagged real interest rates are not significantly different from zero in the remaining districts while all parameters were significant and had the expected sign for the aggregate U.S. data.

Real estate assets appear to be the major factor influencing real estate debt. Parameter estimates for lagged real estate assets have the expected sign for all districts. The parameter estimate on lagged real estate debt ranged from 0.51 for the Texas FCS district to 0.89 for the Baltimore district indicating agricultural producers make up to 49 percent of the adjustment to the desired level of real estate debt each year. The parameter for lagged real estate debt

Exhibit 3. Parameter Estimates for Real Estate Debt By FCS District*

$$\text{RED}_t^1 = 352.562 + 0.020 A_{t-1}^1 - .330 \text{MNFI}_{t-1}^1$$

(1.655) (.686) (-.953)

$$- .497 r_{t-1} + .815 \text{RED}_{t-1}^1$$

(-.023) (3.540)**

$$R^2 = .941 \qquad \qquad \qquad P = .248$$

$$\text{RED}_t^2 = 185.287 + .027 A_{t-1}^2 - .310 \text{MNFI}_{t-1}^2$$

(3.460)** (3.215)** (-4.673)***

$$- 35.093 r_{t-1} + .887 \text{RED}_{t-1}^2$$

(-1.974)* (9.044)**

$$R^2 = .993 \qquad \qquad \qquad P = -.089$$

$$\text{RED}_t^3 = 230.583 + .048 A_{t-1}^3 - .270 \text{MNFI}_{t-1}^3$$

(1.117) (3.419)** (-2.596)**

$$- 64.792 r_{t-1} + .850 \text{RED}_{t-1}^3$$

(-1.385) (6.654)***

$$R^2 = .992 \qquad \qquad \qquad P = -.007$$

$$\text{RED}_t^4 = 116.530 + .044 A_{t-1}^4 - .058 \text{MNFI}_{t-1}^4$$

(.566) (3.765)** (-.487)

$$- 50.353 r_{t-1} + .735 \text{RED}_{t-1}^4$$

(-.842) (7.455)***

$$R^2 = .990 \qquad \qquad \qquad P = -.029$$

$$\text{RED}_t^6 = - 92.033 + .037 A_{t-1}^6 - .0607 \text{MNFI}_{t-1}^6$$

(-.548) (1.267)*** (1.103)

$$- 35.852 r_{t-1} + .777 \text{RED}_{t-1}^6$$

(-.779) (15.985)***

$$R^2 = .990 \qquad \qquad \qquad P = -.622$$

$$\text{RED}_t^7 = 135.865 + .056 A_{t-1}^7 - .012 \text{MNFI}_{t-1}^7$$

(.329) (5.709)*** (-.863)

$$+2.741 r_{t-1} + .728 \text{RED}_{t-1}^7$$

(.027) (7.533)***

$$R^2 = .982 \qquad \qquad \qquad P = -.177$$

$$\text{RED}^8_t = -316.749 + .047 A^8_{t-1} - .018 \text{MNFI}^8_{t-1}$$

(-.732)
(5.947)***
(.011)

$$+ 72.998 r_{t-1} + .690 \text{RED}^8_{t-1}$$

(.756)
(8.261)***

$$R^2 = .986 \qquad P = .054$$

$$\text{RED}^9_t = -120.539 + .050 A^9_{t-1} - .036 \text{MNFI}^9_{t-1}$$

(-.581)
(5.917)***
(.319)

$$+ 12.906 r_{t-1} + .640 \text{RED}^9_{t-1}$$

(.272)
(7.514)***

$$R^2 = .983 \qquad P = -.087$$

$$\text{RED}^{10}_t = 270.681 + .052 A^{10}_{t-1} + .015 \text{MNFI}^{10}_{t-1}$$

(1.404)
(8.181)***
(.106)

$$- 49.848 r_{t-1} + .507 \text{RED}^{10}_{t-1}$$

(-1.188)
(5.225)***

$$R^2 = .994 \qquad P = -.054$$

$$\text{RED}^{11}_t = 645.127 + .055 A^{11}_{t-1} + .040 \text{MNFI}^{11}_{t-1}$$

(5.166)***
(9.130)***
(.514)

$$+ 22.460 r_{t-1} + .517 \text{RED}^{11}_{t-1}$$

(.566)
(6.064)***

$$R^2 = .994 \qquad P = .209$$

$$\text{RED}^{12}_t = 308.066 + .049 A^{12}_{t-1} - .237 \text{MNFI}^{12}_{t-1}$$

(1.976)*
(4.586)**
(-2.095)*

$$- 105.234 r_{t-1} + .821 \text{RED}^{12}_{t-1}$$

(-2.732)**
(9.207)***

$$R^2 = .992 \qquad P = .200$$

*See Exhibit 2 for a descriptions of subscripts.

was different from both 0 at the .0001 level of significance and not significantly greater than 1 in any district.

Nonreal Estate Debt.

It was previously stated that agricultural producers

choose an amount of debt which maximizes their net present value subject to various constraints and risk preferences. Constraints are placed on the demand for nonreal estate debt through nonreal estate assets or second mortgages on farm real estate assets. Nonreal estate debt is generally for the purpose of financing agricultural production. However, it can also be used to finance cash flow shortfalls. A low level of farm income could lead to increases in nonreal estate debt while high levels of farm income could lead to decreases in nonreal estate farm debt. Equity in the farm sector is included as a dependent variable reflecting constraints imposed by available collateral. The desired level of nonreal estate debt in an FCS district is expressed as a linear function of the specified variables.

$$(2.15) \text{NRED}^{j,t-1} = a_0 + \beta_1 E^j_{t-1} + \beta_2 r_t + \beta_3 \text{NFI}_t$$

where:

$\text{NRED}^{j,t}$ = Desired level of nonreal estate in period t for district j.

E^j_{t-1} = Equity of the farming sector of district j in period t.

NFI_t = Net Farm Income

r_t = real interest rate .

Applying the Nerlovian partial adjustment hypothesis to (2.15) the following estimable equation is derived.

$$(2.16) \text{NRED}^j_{t-1} = d a_0 + d \beta_1 E^j_{t-1} + d \beta_2 \text{NFI}^j_{t-1} + d \beta_3 r_{t-1} + (1 - d) \text{NRED}_{t-1} + u_t$$

The above equation was applied to data by FCS district over the period of 1965 - 1988. The data for nonreal estate debt was collected from Economic Indicators of the Farm Sector. The data collected included information on households but excluded CCC loans. Data on equity of the farming sector by FCS district did not exist prior to 1977. Real estate equity which is defined as real estate assets less real estate debt is used as a proxy for equity of the farming sector.

Results of the empirical analysis of nonreal estate assets are shown in Exhibit 4. The equations explained a large

Exhibit 4. Parameter Estimates for Nonreal Estate Debt By FCS District^f

$$\text{NRED}^1_t = 67.343 - .047 E^1_{t-1} + .177 \text{NFI}^1_{t-1}$$

(.383) (-.122) (.504)

$$-35.748 r_{t-1} + 1.030 \text{NRED}^1_{t-1}$$

(-1.060) (4.137)***

$$R_2 = .944 \qquad P = .330$$

$$\text{NRED}^2_t = 130.637 + .035 E^2_{t-1} - .313 \text{NFI}^2_{t-1}$$

(1.950)* (3.980)** (-4.987)***

$$-28.727 r_{t-1} + .772 \text{NRED}^2_{t-1}$$

(-2.214)** (7.674)***

$$R^2 = .991 \qquad P = -.072$$

$$\text{NRED}^3_t = -168.373 + .094 E^3_{t-1} - .303 \text{NFI}^3_{t-1}$$

(-.952) (6.264)*** (-5.515)***

$$-580 r_{t-1} + .561 \text{NRED}^3_{t-1}$$

(2.314)** (5.860)***

$$R^2 = .993 \qquad P = -.441$$

$$\text{NRED}^4_t = 178.265 + .036 E^4_{t-1} - 0.118 \text{NFI}^4_{t-1}$$

(1.431) (3.790)** (-1.789)*

$$-75.307 r_{t-1} + 0.755 \text{NRED}^4_{t-1}$$

(-1.894)* (7.885)***

$$R^2 = .991 \qquad P = -.298$$

$$\text{NRED}^6_t = 353.431 + 0.025 E^6_{t-1} - 0.120 \text{NFI}^6_{t-1}$$

(1.604) (4.217)*** (-1.551)

$$-105.176 r_{t-1} + .840 \text{NRED}^6_{t-1}$$

(-1.873)* (9.613)***

$$R^2 = .986 \qquad P = .113$$

$$\text{NED}^7_t = 672.112 + 0.038 E^7_{t-1} - 0.269 \text{NFI}^7_{t-1}$$

(2.017)* (4.884)*** (-2.409)**

$$-155.899 r_{t-1} + .917 \text{NRED}^7_{t-1}$$

(-1.876)* (10.611)***

$$R^2 = .986 \qquad P = -.258$$

$$\text{NRED}^8_t = 687.241 + 0.048 E^8_{t-1} - 0.181 \text{NFI}^8_{t-1}$$

(2.668)** (5.774)*** (.0585)*

$$-53.439 r_{t-1} + 0.761 \text{NRED}^8_{t-1}$$

(-.762) (10.775) ***

$$R^2 = .986 \qquad P = -.136$$

$$\begin{aligned} \text{NRED}^9_t &= 219.837 + 0.125 E^9_{t-1} - 1.604 \text{NFI}^9_{t-1} \\ &\quad (.142) \quad (3.340)** \quad (-2.324)** \\ &\quad - 40.199 r_{t-1} + .715 \text{NRED}^9_{t-1} \\ &\quad (-.154) \quad (4.054)*** \\ R^2 &= .934 \quad P = .189 \end{aligned}$$

$$\begin{aligned} \text{NRED}^{10}_t &= -660.861 + .059 E^{10}_{t-1} - 0.152 \text{NFI}^{10}_{t-1} \\ &\quad (-2.264)** \quad (8.165)*** \quad (1.004) \\ &\quad + 20.749 r_{t-1} + .479 \text{NRE}^{10}_{t-1} \\ &\quad (.354) \quad (4.591)*** \\ R^2 &= .994 \quad P = .002 \end{aligned}$$

$$\begin{aligned} \text{NRED}^{11}_t &= -32.075 + .066 E^{11}_t - 0.133 \text{NFI}^{11}_{t-1} \\ &\quad (-.138) \quad (5.581)*** \quad (-1.065) \\ &\quad -79.319 r_{t-1} + .662 \text{NRED}^{11}_{t-1} \\ &\quad (-1.428) \quad (6.139)*** \\ R^2 &= .989 \quad P = .305 \end{aligned}$$

$$\begin{aligned} \text{NRED}^{12}_t &= 207.558 + .033 E^{12}_{t-1} - 0.140 \text{NFI}^{12}_{t-1} \\ &\quad (2.159)** \quad (4.154)*** \quad (-2.408)** \\ &\quad -69.330 r_{t-1} + 0.839 \text{NRED}^{12}_{t-1} \\ &\quad (-3.084)** \quad (9.652)*** \\ R^2 &= .993 \quad P = .035 \end{aligned}$$

^f See Exhibit 1 for a description of subscripts.

portion of historical variation within each district with r-squared statistics of 0.93 or greater. Lagged net farm income has the expected sign and is significantly different from 0 at the 0.10 level of significance for all districts except for Springfield, Sacramento, and Texas. Lagged net farm income has the expected impact on nonreal estate debt in all districts except Springfield, St. Louis, and Sacramento. The parameter estimates for real estate equity have the expected sign and are significantly different from zero at the 0.0001 level of significance for all districts except Springfield. The lagged nonreal estate debt parameter was significantly different from zero in all districts at the 0.0001 level of

significance.

Market Share

The distribution of debt among lenders is a function of a number of factors. A key factor the agricultural producer would consider when choosing a lender would be the expected interest rate he would pay over the life of the loan. There are also other factors an agricultural producer would consider such as convenience, terms, and the availability of alternative lenders. For example, the producer may choose a lender because of geographic location or the fact the producer already has accounts with a particular lender. Another factor is the availability of alternative lenders to agriculture. In some regions of the country, the FCS may be the only lender financing agriculture. The existence of government programs such as FmHA is also expected to have an impact upon the availability of alternative financing. Successful modeling of farm debt market shares requires more than knowledge of competitive interest rates and debt levels. Data are also be required by lender on the average interest rate received by lenders, the interest rate on new loans, and the amounts of new loans, renewals, and payoffs. Data, however, were not available to produce a study of this scale.

Alternatively, FCS market shares for real estate and nonreal estate data were estimated using national rates and district market shares data. Market shares for mortgage debt, nonreal estate debt, and combined real estate and nonreal estate debt were estimated using the following equations.

$$(2.17) \text{FLBSHR}_t^j = a + \beta_1 \text{RELFLB}_t + \text{FLBSHR}_{t-1}^j$$

$$(2.18) \text{PCASHR}_t^j = a + \beta_1 \text{RELPCA}_t + \text{PCASHR}_{t-1}^j$$

$$(2.19) \text{FCSSHR}_t^j = a + \beta_1 \text{RELFCS}_t + \text{FCSSHR}_{t-1}^j$$

where: FLBSHR_t^j = FCS real estate debt as proportion of total real estate debt outstanding in district j for period t.

PCASHR_t^j = FCS nonreal estate debt as proportion of total nonreal estate debt outstanding in district j for period t.

$FCSSHR^j_t$ = Total FCS debt as proportion
of total debt outstanding in district j for
period t.

$RELFLB_t$ = Average national FCS interest rate on
real estate debt relative to rates charged by
competitors.

$RELPCA_t$ = Average national FCS interest rate on
nonreal estate debt relative to rates charged
by competitors.

$RELFCS_t$ = Average national FCS interest rate on
total debt relative to rates charged by
competitors.

Empirical results from equations 2.17 through 2.19 are displayed in Exhibit 5. The theorized equations explained 80 percent of the variation in real estate shares in all districts except Louisville, Omaha, Wichita, and Texas/Jackson. The nonreal estate share equations performed less desirably with only Columbia, Omaha, and Spokane explaining 80 percent of the variation. When real estate and nonreal estate debt were combined, over 70 percent of the variation in market share was explained in all districts except Springfield, Wichita, and Sacramento.

Projected market shares of FCS real estate and nonreal debt are shown in Table 7. Market shares for 1989 represent historical data while 1990 - 2000 represent projections developed using the parameters displayed in Exhibit 5. Historical market shares are calculated using USDA estimates¹ of total aggregate levels of debt. The aggregate levels of debt include information on households but excludes CCC loans. The real estate debt levels for each FCS district bank are collected from USDA statistics.

Projections of market share were based on real estate (FLB) or nonreal estate (PCA) equation parameters if the respective equations explained 70 percent or more of the variation. If the respective equations explained less than 70 percent of the variation, the combined real estate and nonreal

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Exhibit 5. Parameter Estimates for FCS Bank Debt Market Shares.
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Combined Real Estate and Nonreal Estate

-----Springfield-----			
0.210012812	- 0.117826054	RELFCFS + 0.688345307	FCSSHR _{t-1}
(1.446)	(0.944)	(3.331)***	
R ² = .6798			P = -.36794815
-----Baltimore-----			
0.062729	-0.033744	RELFCFS + 0.919537	FCSSHR _{t-1}
(0.909)	(.492)	(9.590)***	
R ² = .8800			P = .058557
-----Columbia-----			
0.086319	-0.069211	RELFCFS + 0.938210	FCSSHR _{t-1}
(1.483)	(-1.113)	(15.574)***	
R ² = .9460			P = .15130
-----Louisville-----			
0.321436	- 0.211640	RELFCFS + 0.617464	FCSSHR _{t-1}
(2.276)**	(-2.260)**	(2.907)*	
R ² = .8809			P = .55927
-----St. Louis-----			
0.216210	- 0.147837	RELFCFS + 0.696215	FCSSHR _{t-1}
(4.637)***	(-4.504)***	(6.132)***	
R ² = .8412			P = .0172399
-----St. Paul-----			
0.142811	- 0.095278	RELFCFS + 0.832998	FCSSHR _{t-1}
(2.522)*	(-1.673)	(7.585)***	
R ² = .7327			P = .21108562
-----Omaha-----			
0.270826	- 0.129947	RELFCFS + 0.286568	FCSSHR _{t-1}
(4.796)***	(-3.395)***	(1.945)*	
R ² = .7205			P = .27103
-----Wichita-----			
0.220448	- 0.0000126	RELFCFS + 0.85110	FCSSHR _{t-1}
(2.117)*	(0.000)	(.398)	
R ² = .1679			P = .24906
-----Texas-----			
0.123071	- 0.083836	RELFCFS + 0.843740	FCSSHR _{t-1}
(3.066)***	(-2.393)**	(8.383)***	
R ² = .8377			P = .191530
-----Western-----			
0.86714169	- 0.021103221	RELFCFS + 0.742154726	FCSSHR _{t-1}
(1.620)	(0.359)	(3.702)***	
R ² = .4755			P = .11217967
-----Spokane-----			
0.3644752	- 0.158424	RELFCFS + 0.243520	FCSSHR _{t-1}
(5.173)***	(-2.348)**	(1.945)*	
R ² = .7178			P = .41552
-----U.S.-----			
0.086714169	- 0.021103221	RELFCFS + 0.742154	FCSSHR _{t-1}
(1.620)	(-0.359)	(3.702)***	
R ² = .5408			P = .11218

Exhibit 5. (Continued)

Nonreal Estate Debt Market Shares

-----Springfield-----			
0.307775281	- 0.216724443	RELPCA + 0.647608379	PCASHR _{t-1}
(3.028)***	(1.879)*		(3.111)***
R ² = .6481			P = -.349918
-----Baltimore-----			
0.183227	- 0.0759934	RELPCA + 0.552622	PCASHR _{t-1}
(2.464)**	(-1.0434)		(2.417)**
R ² = .4626			P = .28497
-----Columbia-----			
0.139905	-0.100011	RELPCA + 0.79227	PCASHR _{t-1}
(2.182)	(-1.798)		(7.174)
R ² = .8283			P = .3142
-----Louisville-----			
0.49097	-0.315320	RELPCA + 0.417239	PCASHR _{t-1}
(2.804)**	(-1.690)		(2.775)**
R ² = .5953			P = .10407
-----St. Louis-----			
0.243710	- 0.174800	RELPCA + 0.49941	PCASHR _{t-1}
(3.006)***	(-1.995)*		(2.927)**
R ² = .5753			P = .35412
-----St. Paul-----			
0.349620	- 0.197380	RELPCA + 0.317730	PCASHR _{t-1}
(2.938)**	(-1.768)*		(1.996)*
R ² = .4398			P = .09081
-----Omaha-----			
0.100322	- 0.090077	RELPCA + 0.829391	PCASHR _{t-1}
(1.688)	(-1.607)		(5.768)***
R ² = .8168			P = .35358
-----Wichita-----			
0.076422	- 0.013688	RELPCA + 0.32107	PCASHR _{t-1}
(.699)	(.115)		(1.581)
R ² = .3660			P = .20716
-----Texas-----			
0.0941834	- 0.016379	RELPCA + 0.606306	PCASHR _{t-1}
(1.338)	(-.254)		(2.781)**
R ² = .3413			P = .00013
-----Sacramento-----			
0.118057711	- 0.012255489	RELPCA + 0.354550065	PCASHR _{t-1}
(1.442)	(0.150)		(1.377)
R ² = .1323			P = .02279312
-----Spokane-----			
0.164895	- 0.140840	RELPCA + 0.846428	PCASHR _{t-1}
(1.572)	(-1.423)		(5.525)***
R ² = .8430			P = .35361
-----U.S.-----			
0.118057711	- 0.012255489	RELPCA + 0.354550065	PCASHR _{t-1}
(1.442)	(.150)		(1.377)
R ² = .1323			P = .0274552

Exhibit 5 (continued)

Real Estate Debt Market Shares

-----Springfield-----			
0.074369045	- 0.024476293	RELFLB +	0.878426998 FLBSHR _{t-1}
(0.611)	(0.201)		(6.366)***
R ² = .8838			P = .44146
-----Baltimore-----			
0.1400183	- 0.1141853	RELFLB +	0.922854 FLBSHR _{t-1}
(2.178)*	(-1.628)		(16.452)***
R ² = .9370			P = .15521
-----Columbia-----			
0.176493	-0.1466386	RELFLB +	0.85352 FLBSHR _{t-1}
(1.310)	(-.947)*		(7.282)***
R ² = .8406			P = .14265
-----Louisville-----			
0.28490	-0.208387	RELFLB +	0.68683 FLBSHR _{t-1}
(2.619)**	(-1.885)*		(4.952)***
R ² = .6059			P = .1041
-----St. Louis-----			
0.240567	- 0.209333	RELFLB +	0.84296 FLBSHR _{t-1}
(4.171)***	(-3.468)***		(13.576)***
R ² = .9341			P = .5192
-----St. Paul-----			
0.11475	- 0.11210	RELFLB +	0.98372 FLBSHR _{t-1}
(1.653)	(-1.419)		(15.210)***
R ² = .9156			P = .24990
-----Omaha-----			
0.21628	- 0.046098	RELFLB +	0.417059 FLBSHR _{t-1}
(1.653)	(-0.319)		(2.181)*
R ² = .4188			P = .24232
-----Wichita-----			
0.23060	- 0.197678	RELFLB +	0.88667 FLBSHR _{t-1}
(2.771)**	(-2.202)**		(11.584)***
R ² = .4188			P = .24232
-----Texas-----			
0.123071	- 0.123071	RELFLB +	0.083836 FLBSHR _{t-1}
(3.066)***	(-2.393)**		(8.384)***
R ² = .7890			P = .191530
-----Sacramento-----			
0.068110276	- 0.066785249	RELFLB +	0.996376668 FLBSHR _{t-1}
(1.796)*	(1.526)		(15.808)***
R ² = .9248			P = .34991756
-----Spokane-----			
0.108363	- 0.0507447	RELFLB +	0.8137918 FLBSHR _{t-1}
(1.653)	(-0.0507)		(8.212)***
R ² = .8144			P = .04988
-----U.S.-----			
0.068110276	- 0.066785249	RELFLB +	0.996376668 FLBSHR _{t-1}
(1.796)*	(1.526)		(15.508)***
R ² = .9478			P = .23831707

estate parameters were utilized. For real estate market

Appendix Table 7. Historical and Projected FCS Market Shares For Real Estate And Nonreal Estate Debt, by FCS District, 1988-2000.

Real Estate Market Shares:

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
FCS District:	-----Percent of Total Debt-----												
Springfield	36.46	37.20	37.77	38.25	38.54	38.70	38.79	38.84	38.92	39.05	39.10	39.15	39.19
Baltimore	43.47	43.47	44.89	45.95	46.89	47.30	47.37	47.27	47.05	47.00	47.15	47.10	47.04
Columbia	44.15	42.64	41.05	39.67	37.93	36.09	34.33	32.71	31.54	30.83	29.97	29.26	28.67
Louisville	26.50	29.80	27.58	26.51	26.17	26.13	26.18	26.27	26.24	26.14	26.15	26.15	26.14
St. Louis	32.87	34.80	35.96	36.87	36.79	36.17	35.34	34.41	33.91	33.85	33.43	33.08	32.79
St. Paul	41.91	43.62	45.05	46.42	47.32	47.90	48.31	48.59	49.02	49.63	50.04	50.44	50.84
Omaha	21.28	26.77	28.95	29.85	30.04	29.99	29.91	29.82	29.85	29.94	29.90	29.88	29.87
Wichita	42.08	44.35	44.35	44.35	44.35	44.35	44.35	44.35	44.35	44.35	44.35	44.35	44.35
Texas	40.98	40.21	41.50	42.67	43.14	43.17	42.97	42.62	42.49	42.64	42.51	42.38	42.27
Western	40.98	40.74	40.22	39.71	38.70	37.44	36.15	34.89	34.01	33.51	32.83	32.25	31.76
Spokane	35.48	35.60	35.58	35.55	35.32	35.00	34.66	34.33	34.13	34.06	33.91	33.79	33.69

Nonreal Estate Market Shares:

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
FCS District:	-----Percent of Total Debt-----												
Springfield	25.15	29.44	30.81	29.46	29.82	30.03	30.24	30.29	30.44	30.75	30.13	30.04	29.88
Baltimore	30.93	30.93	30.87	30.92	30.96	30.96	30.95	30.94	30.92	30.91	30.93	30.93	30.92
Columbia	18.53	20.54	21.48	22.89	24.17	25.27	26.25	27.05	27.75	28.44	28.71	28.88	28.94
Louisville	16.08	15.24	14.10	13.56	13.38	13.36	13.39	13.43	13.42	13.37	13.37	13.37	13.37
St. Louis	8.34	9.44	10.16	10.54	10.91	11.32	11.72	12.07	12.36	12.52	12.58	12.65	12.69
St. Paul	20.36	25.38	25.69	27.09	27.87	28.30	28.63	28.78	28.97	29.30	28.85	28.62	28.40
Omaha	4.78	6.67	7.65	9.07	10.38	11.56	12.63	13.53	14.35	15.15	15.56	15.86	16.04
Wichita	7.69	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38	9.38
Texas/Jackson	23.17	24.77	23.00	22.03	21.47	21.15	20.97	20.86	20.81	20.80	20.75	20.71	20.68
Western	23.17	24.21	24.21	24.21	24.21	24.21	24.21	24.21	24.21	24.21	24.21	24.21	24.21
Spokane	9.30	12.91	15.05	17.79	20.34	22.64	24.71	26.51	28.12	29.69	30.62	31.34	31.85

shares, real estate market share parameter estimates were utilized for all districts except Louisville, Omaha, Sacramento, and Wichita. For these districts, real estate market shares were projected based on a linear relationship with projected FCS combined market shares. Neither the combined or FLB market share equations performed desirably for Wichita. Therefore, real estate market shares for Wichita were

held constant at 1989 levels. Projected market shares in Table 7 indicate stable real estate market shares in the baseline scenario.

The same general procedure was utilized to project nonreal estate market shares. Projected shares were based on PCA market parameters in Columbia, Spokane, and Omaha. Linear relationships with projected combined shares were utilized to project nonreal estate shares in the remaining districts except Sacramento and Wichita, where market share was held constant. St. Louis, Omaha, and Spokane are expected to regain much of their lost nonreal estate debt market share over the forecast period.

Interest Rate Estimates

The methods employed in this analysis require projections of interest rates on farm debt by FCS banks and their competitors. Projections of interest rates are required to estimate debt service commitments in cash flow calculations which are utilized to develop projections of farm financial characteristics. Interest rate projections are also used to project the interest rates of FCS and competitors.

Historically, commercial banks have been the primary competition for FCS banks in the farm debt markets. In some regions Life Insurance Companies (LIC's) provide significant competition for FCS banks in farm real estate debt markets. Loan pricing by LIC's and commercial banks is determined primarily by rates on alternative investments of comparable risk. If the rate received on agricultural loans is less than that received on an alternative investment of similar risk, wealth maximizing banks and LIC's would restrict loans to agriculture while funds are channeled to the investment of higher return. Therefore, it is expected that the interest rates charged by banks and LIC's on agricultural loan funds is a function of rates earned by commercial banks and LIC's on alternative investments.

Corporate bonds are an example of investment alternatives to farm mortgages. If the returns on corporate bonds are higher than the returns on farm mortgages, an investor may decide to channel funds to corporate bonds. It is expected that the interest rate on agricultural real estate is a function of the Moody's AAA corporate bond rate. An historical time series is available through 1970 on LIC rates on farm mortgages. Equation (2.20) was estimated using data on interest rates charged by LIC's on agricultural real estate loans. An increase in Moody's AAA rate should result in increases in the life insurance company rate on farm real estate loans.

$$(2.20) \text{ LICRATE}^{\text{us}}_t = a_0 + \beta_t \text{ MDY}_t$$

where:

$\text{LICRATE}^{\text{us}}_t$ = average life insurance rates on new farm real estate loans in period t.

MDY_t = Moody's AAA corporate bond rate.

Results from empirical analysis of equation (2.20) over the period 1970 - 1989 indicated 95 percent of historical variation in life insurance mortgage rates could be explained (Exhibit 8). Moody's AAA bond rate parameter is significantly different from 0 at the 0.001 level of significance and has the expected positive sign.

Rates received by commercial banks on agricultural loans must compete with alternative short term investments. The prime rate reflects the alternative lending alternatives to banks outside of agriculture. It is hypothesized that the interest rate on farm operating loans charged by commercial banks is a function of the prime rate which is shown in equation (2.21).

$$(2.21) \text{ BKRATE}^{\text{us}}_t = a_0 + \beta_1 \text{ PRIME}_t$$

$\text{BKRATE}^{\text{us}}_t$ = interest rate on new farm operating loans charged by commercial banks in the U.S.

PRIME_t = prime interest rate charged by commercial banks.

Results obtained from application of (2.21) to time series

Exhibit 6. Parameter Estimates For Interest Rates and FCS Cost of Funds.

$$\text{BKRATE}^{\text{us}}_t = 4.617437 + .66080 \text{ PRIME}_t \\ (4.078)** \quad (6.414)***$$

$$R^2 = .908 \\ P = .546$$

$$\text{LICRATE}^{\text{us}}_t = 1.410688 + .983340 \text{ MDY}_t \\ (2.569)** \quad (17.980)***$$

$$R^2 = .950 \\ P = 0.064$$

$$\text{FCSC}^{\text{us}}_t = 4.150078 + .5727851 \text{ TBILL}_t \\ (6.200)*** \quad (7.918)***$$

$$R^2 = .954 \\ P = .783$$

$$\text{FLBINT}^{\text{us}}_t = 2.905795 + .750336 \text{ FLBC}^{\text{us}}_t \\ (3.307)** \quad (7.341)***$$

$$R^2 = .877 \\ P = .461$$

$$\text{PCAIN}^{\text{us}}_t = .925812 + 1.063737 \text{ FLBC}^{\text{us}}_t \\ (1.433) \quad (15.031)***$$

$$R^2 = .940 \\ P = -.015$$

data from 1970 - 1989 are shown in Exhibit 6. The equation explains 91 percent of the historical variation of commercial bank's operating loan interest rates. The coefficients on the prime rate variable has the expected positive sign and is significantly different from 0 at the 0.0001 level of significance.

FCS banks have historically followed a procedure different from commercial banks and LIC's in pricing of loans. Since the FCS banks operate as a farmer owned cooperative, their mission has been to price loans at the lowest possible cost considering operating cost and loan loss reserves. Therefore, the FCS banks have historically priced loans to farmers at the cost of funds plus a margin sufficient to cover expenses. The pricing mechanism utilized by FCS is modeled in

(2.22).

$$(2.22) \quad i_t^f = \frac{i_t^c + e_t + p_t - I_t^o}{\text{LOANVOL}_t}$$

where: i_t^f = interest rate to farmers in period t.

p_t = provision for loan losses in period t.

I_t^o = other income in period t.

i_t^c = cost of funds in period t.

e_t = operating expense for period t.

I_t^o = other income in period t.

LOANVOL_t = Loan volume in period t.

Projections of baseline estimates for FCS bank interest rates to farmers requires an estimation of the cost of funds. The interest rate to farmers is subsequently estimated as a function of the FCS banks cost of funds.

$$(2.23) \quad \text{FCSC}^{\text{us}}_t = a_0 + B_1 \text{TBILL}_t$$

$$(2.24) \quad \text{FLBINT}^{\text{us}}_t = a_0 + B_1 \text{FCSC}^{\text{J}}_t$$

$$(2.25) \quad \text{PCAIN}^{\text{us}}_t = a_0 + B_1 \text{FCSC}^{\text{J}}_t$$

where:

$\text{FCSC}^{\text{us}}_t$ = FCS bank's average cost of funds in period t.
period t.

$\text{FLBINT}^{\text{us}}_t$ = FCS bank's interest rate on farm mortgage loans in period t.

$\text{PCAIN}^{\text{us}}_t$ = FCS bank's interest rate on nonreal estate loans in period t.

Equations (2.23) - (2.25) are estimated over the time period of 1970-1989 with results displayed in Appendix Table 8.

Appendix Table 8. Historical and Projected Interest Rates For FCS and Competitors.

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Mortgage Rates:													
FCS	10.10	9.65	9.44	9.07	8.99	8.91	8.79	8.70	8.58	8.42	8.58	8.58	8.58
Life Insurance Company	10.33	11.90	11.34	10.85	10.26	9.87	9.57	9.38	9.38	9.38	9.38	9.38	9.38
Nonreal Estate Rates:													
FCS	10.56	10.16	9.87	9.32	9.20	9.08	8.90	8.78	8.60	8.35	8.60	8.60	8.60
Commercial Bank	11.20	12.50	11.23	11.48	11.56	11.55	11.46	11.34	11.21	11.09	11.00	10.94	10.84
FCS Cost of Funds	8.17	8.73	8.45	7.93	7.82	7.70	7.53	7.42	7.24	7.01	7.24	7.24	7.24

APPENDIX THREE

Projection of Farm Financial Characteristics

This appendix provides documentation on the procedure utilized to project the distribution of farms and debt by income/solvency category. Projections of the distribution of farms and debt are subsequently used to develop estimations of future FCS bank loan defaults. It has been demonstrated that bank loan defaults and bank operating characteristics are influenced by borrower equity (Dodson, 1989, Cooperstein and Redburn, 1990). Knowledge of future levels of farm equity are necessary to determine the estimated FCS bank defaults. In modeling housing mortgage defaults, representative mortgage portfolios are simulated to provide estimates of future default levels. In this study, representative farm businesses are modeled to provide estimates of farm loan default levels. The initial financial data for representative farms was obtained from FCRS. Data included balance sheet, income statement, and number of farms for each cell¹. Also, a distribution of net farm income for each cell was generated.

Net Cash Farm Income

Initial levels of net cash farm income for each cell were determined from FCRS data. Future levels of cash farm income were projected based on the projections of economic factors developed in step 1 of the analysis. Net cash farm income is expressed in equation (3.1).

$$(3.1) \text{NCFI}_{i^j_y} = \text{CINC}_{i^j_y} - \text{CEXP}_{i^j_y} - (\text{INT}_{i^j_y} * \text{DEBT}_{i^j_y})$$

where:

$\text{NCFI}_{i^j_y}$ = average per farm net cash income for farms
in cell i and district j for year y.

$\text{INT}_{i^j_y}$ = average annual interest rate for farms in cell
i and district j for year y.

¹Cell refers to the annual sales/leverage categories in which the FCRS data were disaggregated. The cells are described on page 14.

$DEBT_{i^j_y}$ = average level of total debt per farm for farms in cell i and district j for year y.
 $CINC_{i^j_y}$ = average annual level of gross cash farm income for farms cell i and district j for year y.
 $CEXP_{i^j_y}$ = average annual level of cash farm expenses for farms cell i and district j for year y.

Initial levels of variables in (3.1) were obtained from FCRS data. Projection of net cash farm income requires annual projections of aggregate district levels of cash farm income and interest rates. The future levels of cash income for each cell in a given district is projected based upon USDA's net cash farm income forecasts.

$$(3.2) \quad NCINC_{i^j_y} = NCINC_{i^j_{y-1}} * RET^j_y$$

where:

$$NCINC_{i^j_y} = CINC_{i^j_y} - CEXP_{i^j_y}$$

RET^j_y = index of net cash farm income before interest for the jth FCS district for year y. The variable represents change in returns from the previous year.

For example, a value of 1.03 for RET^j_y will indicate a 3 percent increase in net cash farm income for the ith district for year y. This variable is determined from the projections of farm income for each FCS district.

FCRS survey values for average interest rate for agricultural loans are adjusted annually based upon changes in the econometric forecast of interest rates in the US. Projections of commercial bank interest rates are displayed in Appendix Table 8.

$$(3.3) \quad INT_{i^j_y} = INT_{i^j_{y-1}} * \left(1 - \frac{BKRATE_{y-1} - BKRATE_y}{BKRATE_y} \right)$$

where:

$INT_{i^j_y}$ = Average annual interest rate for farms in cell i and district j for year y.

$BKRATE_y$ = Projected interest rate on new operating farm loans for the U.S. charged by commercial banks in year y.

Farm Asset Values

Initial farm values of real estate assets nonreal estate assets for each cell were obtained from the FCRS data. Changes in asset values of each cell are predicted based on projected changes in district asset values.

$$(3.4) \quad \text{REASSET}_i^j{}_y = \text{REASSET}_i^j{}_{y-1} * \text{CREASET}_j{}_y$$

$$(3.5) \quad \text{NREASSET}_i^j{}_y = \text{NREASSET}_i^j{}_{y-1} * \text{CNREASET}_j{}_y$$

where:

$\text{REASSET}_i^j{}_t$ = average per farm level of real estate assets for farms in the i^{th} cell and j^{th} district for year y .

$\text{NREASSET}_i^j{}_t$ = average per farm level of nonreal estate assets for farms in the i^{th} cell and j^{th} district for year y .

$\text{CREASET}_j{}_y$ = index of change in farm real asset values for the j^{th} district in year y . These values are derived from the regional econometric projections of asset values.

$\text{CNREASET}_j{}_y$ = index of change in farm nonreal asset values for the j^{th} district in year y . These values are derived from the regional econometric projections of asset values.

Variance of Net Cash Farm Income

Simulation of the performance of agricultural debt and required the estimation of expected cash farm income and the distribution of net cash farm income within each cell. However, income variance measures were not directly available requiring the generation of variance measures of cash farm income from other variables included in the FCRS data. The assumption of a normal distribution along with knowledge of expected net cash farm income and the cumulative distribution of farm businesses with net cash farm income less than 0 enabled generation of an income variance measure. The following theorem was used to in the estimation of income variance.

"If X is $N(\mu, \sigma^2)$, then $Z = (X - \mu)/\sigma$ is $N(0,1)$."

where:

- X = The critical value of the random variable which was equal to 0 in this analysis.
- μ = The mean level of the random variable which was equal to the level of net cash farm income for a particular cell.
- σ = The variance of net cash flow.

The values of X and μ are obtained from 1987 and 1988 FCRS data. The value of Z can be determined through an inverse normal distribution.

$$(3.6) \quad Z = [\varphi(Z)]^{-1}$$

where:

$\varphi(Z)$ = cumulative distribution of standardized normal random variable.

Once Z has been determined, a measure of income variance (σ) can be generated which can subsequently be used to estimate the proportion of debt or farms in each income/solvency class for each cell. Estimation of cell variance from net cash farm income is detailed in Figure 3.1 and equation (3.6).

$$(3.7) \quad \text{VARIAN}_{i^j_y} = (X_{i^j_y} - \mu_{i^j_y}) / [\varphi(Z)]^{-1}$$

where:

Z_1 = a standardized normal variable with mean 0 and variance equal to 1.

$\varphi(Z_1)$ = cumulative distribution of farms with net cash farm income less than 0.

$X_{i^j_y}$ = The critical level of net cash farm income.

$\mu_{i^j_y}$ = Average cash farm income (CINC) for cell i and district j in year y.

$\text{VARIAN}_{i^j_y}$ = Estimated variance of net cash farm income for cell i and district j in year y.

Estimated variance was held constant over the forecast period as net cash farm income and farm asset values reflected anticipated econometric changes. The structure of the FCRS data allowed a separation of all farms or debt in each cell into one of two income/solvency categories based

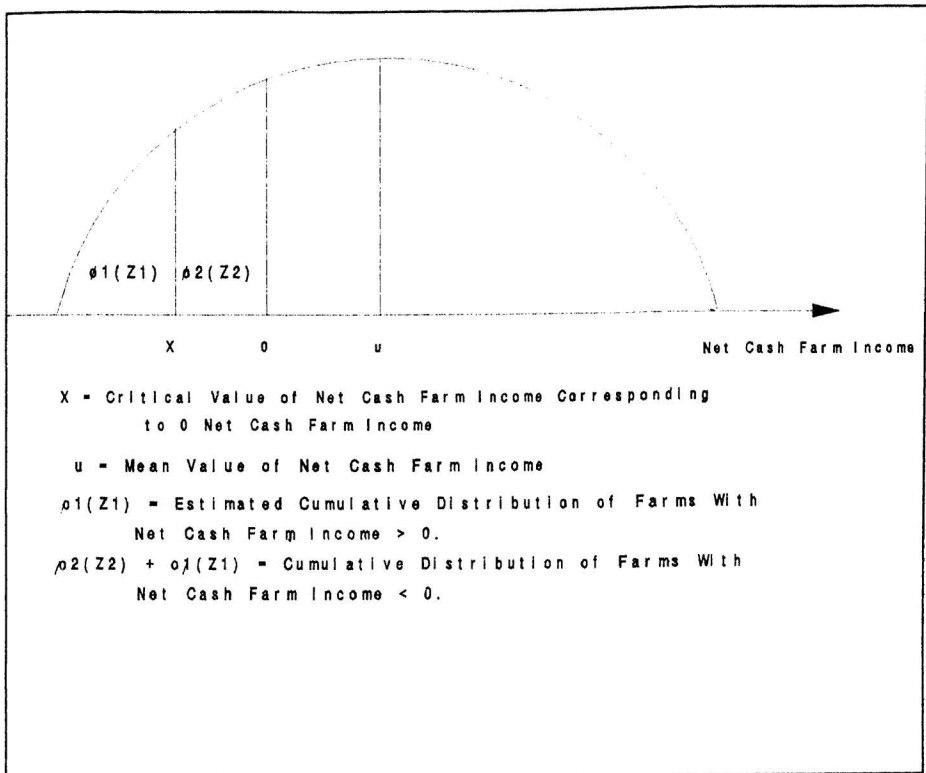


Figure 3-1. Schematic of Distributional Parameters Utilized to Estimate Income Variance.

on ending income and ending debt to asset ratios.

	Proportion with NCFI ≥ 0	Proportion with NCFI < 0
DA $< .40$	Favorable	Marginal Income
DA $\geq .40$	Vulnerable	Marginal Solvency

For example, if the projected debt to asset ratio was less than 0.40 for a particular cell, farms and debt were classified as either marginal income or favorable. Figure 3-1 represents the distribution of net cash farm income for an example cell 3. The proportion of marginal income operator

debt is the value of the cumulative distribution of loans between $-\infty$ and X in Figure 3-1.

$$(3.8) \quad MI_{i^j_y} = \int_X^{-\infty} g(x) = \varphi_2(Z)$$

$$(3.9) \quad Z_2 = (X_{i^j_y} - \mu_{i^j_y}) / \text{Varian}_{i^j_y}$$

where:

$\int_X^{-\infty} g(x)$ = cumulative distribution of farms with net farm income between $-\infty$ and X.

$\varphi_2(Z)$ = cumulative distribution of loans with net cash farm income > 0 .

$MI_{i^j_y}$ = Proportion of marginal income farm operator debt in cell i for district j in year y. If the average debt-to-asset ratio for the cell is less than .4 the farm debt is designated as marginal income. If the average debt-to-asset ratio is greater than 0.4, the resulting cumulative distribution is designated as vulnerable.

$X_{i^j_y}$ = The estimated value of net cash income corresponding to 0 net cash household income.

$\text{Varian}_{i^j_y}$ = Variance of gross cash income (CINC) for cell i in year y for district j.

μ = Average cash farm income for cell i and district j in year y.

The proportion of farms with positive NCFI can be determined by $1 - \varphi_2(Z)$. The proportion of favorable operator debt is shown in Figure 3-1 by the cumulative distribution of farms with net cash farm income greater than X.

Projections of Income/Solvency Conditions by FCS District

Information developed on the distribution of operator debt and farms within each cell was aggregated to FCS district level to develop estimations of income/solvency classifications. These estimations are calculated using proportions of debt or farms within each income solvency classification, debt levels per cell, and knowledge of the number of farms represented by the analyzed cell. For example, the aggregation procedure for marginal income farm

operator debt and leveraged farms is displayed below.

$$(3.10) \quad MIT_{i^j_y} = MI_{i^j_y} * DEBT_{i^j_y} * NFARMS_{i^j_y}$$

where:

$MIT_{i^j_y}$ = Estimated total volume of marginal income farm operator debt in cell i, district j for year y.

$MI_{i^j_y}$ = Estimated proportion of marginal income farm operator debt in cell i for district j in year y.

$NFARMS_{i^j_y}$ = number of farms in district j represented by cell i. This variable is estimated by ERS based upon U.S. agricultural census data. The value of the variable does not change over the period analyzed.

$$(3.11) \quad MIFMT_{i^j_y} = MI_{i^j_y} * NFARMS_{i^j_y}$$

where:

$MIFMT_{i^j_y}$ = Estimated total number of marginal income leveraged farms in cell i, district j for year y.

The total volume of marginal income debt in district j in year y is estimated by a summation of the volume of marginal income debt represented by each cell. The same procedure is also used to determine the number of marginal income farms.

$$(3.12) \quad TOTMI_{jy} = \sum_{i=1}^N MIT_{i^j_y}$$

Where:

$TOTMI_{jy}$ = Total volume of marginal income farm operator debt for district j in year y.

$$(3.13) \quad TOTMIFM_{jy} = \sum_{i=1}^N MIFMT_{i^j_y}$$

where:

$TOTMIFM_{jy}$ = Total number of marginal income leveraged farms for district j in year y.

The procedure described in equations (3.10) through (3.13) was repeated to estimate the district levels of favorable, marginal solvency, and vulnerable farm operator debt and leveraged farms.

Liquidation

End of year aggregate balances of leveraged farms are adjusted reflect the liquidation of low equity, negative income farms and the addition of new debt to the sectors loan portfolio.

It was assumed that farms and debt with the lowest equity levels would be liquidated over time. For all districts except Springfield and Baltimore, the vulnerable classification was broken down by debt asset ratios greater than 0.70 and those less than 0.70.

VFM40^j_y = Vulnerable farms with debt to asset ratio less than 0.70.

VFM70^j_y = Vulnerable farms with debt to asset ratio greater than 0.70.

One-third of the severely stressed farms and debt were liquidated each year as is demonstrated for debt in equations (3.14) through (3.18).

$$(3.14) \quad LIQ_1^j{}_y = VFM70^j{}_y * .33$$

$$(3.15) \quad LIQDBT_1^j{}_y = LIQ_1^j{}_y * NFARMS_1^j{}_y * DEBT_1^j{}_y$$

$$(3.16) \quad LIQFM_1^j{}_y = LIQ_1^j{}_y * NFARMS_1^j{}_y$$

$$(3.17) \quad CUMFM^j{}_y = \sum_{i=1}^5 LIQFM_i^j{}_y$$

$$(3.18) \quad CUMDBT^j{}_y = \sum_{i=1}^5 LIQDBT_i^j{}_y$$

where:

LIQ_i^j_y = Proportion of total debt held by cell i in district j liquidated in year t.

LIQDBT_i^j_y = Predicted amount of debt held by cell i in district j liquidated in year t.

LIQFM_i^j_y = Predicted number of leveraged farms in cell i in district j liquidated in year t.

CUMFM^j_y = Projected number of leveraged farms liquidated in district j in year t.

CUMDBT^j_y = Projected amount of total debt liquidated in district j in year t.

The influence of new loans can be accounted for grossing up favorable, marginal income, and marginal solvency classifications by an amount sufficient to account for debt or farms liquidated. This assumed that new debt entered the sectors portfolio in an amount equal to that which had been liquidated.

$$(3.19) \hat{FAV}_y^j = FAV_y^j + \left[\frac{FAV_y^j}{(FAV_y^j + MI_y^j + MS_y^j)} \right] * CUMDBT_y^j$$

where: \hat{FAV}_i^j = Projected levels of favorable farm operator debt for district j.

The procedure displayed in (3.19) was repeated for marginal solvency and marginal income debt and leveraged farms.

Normalization

The data was normalized to correspond to 1989 FCRS data. The data was not available using the cell structure described thus preventing continuing the procedure using 1989 FCRS data. The model only allows farm financial characteristics to improve if farm asset values or farm income levels increase. Loan growth would not substantially improve the overall farm financial characteristics unless this is accompanied by loan growth and increases in asset values. This assumed the farm financial sector in currently in long run equilibrium between aggregate debt levels and farm financial characteristics.

$$(3.20) \hat{FAV2}_y^j = \hat{FAV2}_{y-1}^j + \left\{ \left[\frac{\hat{FAV}_y^j - \hat{FAV}_{y-1}^j}{FAV_y^j} \right] + 1 \right\}$$

where: $\hat{FAV2}_y^j$ = Projected levels of favorable farm operator debt for district j normalized for 1989 FCRS data.

APPENDIX FOUR

Development of FCS Bank Simulation Model

This appendix describes the development of an FCS bank financial simulation model which utilizes exogenous economic information along with current FCS bank financial statements to project income statements and balance sheets for the the 11 district banks and combined associations. Exogenous data used in the analysis included projections of district economic factors and farm financial characteristics.

Statement of Condition

Assets

Gross Loans:

Gross levels of loans are projected using initial FCS bank loan volume as reported in the annual reports and projected changes in the levels of outstanding debt (Table 2).

$$(4.1) \text{GLOANS}^j_t = \text{GLOANS}^j_{t-1} * (1 + \text{DBTCHGE}^j_t)$$

where:

GLOANS^j_t = Predicted gross loan volume for FCS banks and combined associations in district j in period t.

DBTCHGE^j_t = Predicted proportional change in outstanding debt levels in district j for period t.

Nonperforming Loans:

Nonperforming loans are represented by nonaccrual, restructured, and other high risk loans. Relationships between nonperforming loan levels and farm financial characteristics are detailed in previous work (Dodson, 1991). Expected nonaccrual loans as a percentage of total loans were estimated using hypothesized relationships with lagged nonaccrual loans, levels of farm equity, and changes in real estate values (equation 4.2).

$$(4.2) \text{NALPC}^j_t = a_0 + \beta_1 \text{VULFM}^j_t + \beta_2 \text{RECHANGE}^j_t + \beta_3 \text{NALPC}^j_{t-1}$$

where:

$NALPC^j_t$ = Nonaccrual loans as proportion of total loans in district j in period t.

$VULFM^j_t$ = Percentage of total leveraged farm businesses classified as vulnerable in district j for period t.

$RECHANGE^j_t$ = Proportional change in farm real estate values for district j in period t.

It is expected that as farm equity decreases, there is a greater incentive for individuals to default. Since vulnerable farms represent the proportion of total farms with low equity, a positive relationship with nonaccrual loans was expected. Increases in real estate values result in greater equity levels while decreases should result in lower levels of equity. It is expected, therefore, that increases in real estate values should negatively influence levels of nonaccrual loans. Equation (4.2) was applied to cross sectional data by FCS district for 1987 - 1989. Results indicate that over 90 percent of the variation in nonaccrual loan levels among districts can be explained (Exhibit 7). Parameter estimates had the expected sign and were significantly different from 0. A significant parameter on the lagged dependent variable indicated an adjustment process. The intercept was suppressed to improve model performance. The parameters obtained along with projected farm financial characteristics (Appendix Table 9 - 12) and real estate values (Table 2) were used to develop projections of nonaccrual loan levels to be utilized in the bank simulation model. A lower bound was implemented for nonaccrual loan levels equal to .5 percent of loan volume which was judged to represent the long run equilibrium level of nonaccrual loans.

$$(4.3) \quad NAL^j_t = GLOANS^j_t * \begin{cases} NALPC^j_t & \text{if } NALPC^j_t \geq .005 \\ .005 & \text{if } NALPC^j_t < .005 \end{cases}$$

where:

NAL^j_t = Predicted nonaccrual loan volume held by FCS banks' in district j in time t.

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Exhibit 7. Relationships to Estimate FCS Bank Operating Statistics^{a,b,c}.

Dependent Variable: Allowance for Loan Losses as Percent of Loans.

$$\text{ALLPC}_t = 0 - 0.000377 \text{ GOODBT}_t + 0.001188 \text{ RISKDBT}_t + \\ (-2.030)* \quad (4.646)***$$

$$0.182760 \text{ ALLPC}_{t-1} \\ (1.211)$$

$$R^2 = .8688$$

Dependent Variable: Acquired Property as Percent of Loans.

$$\text{AQPPC}_t = 0 + 0.065578 \text{ NALPC} - 0.024367 \text{ RECHANGE} + \\ (3.255)*** \quad (-1.680)$$

$$0.629238 \text{ AQPPC}_{t-1} \\ (5.817)***$$

$$R^2 = .8880$$

Dependent Variable: Nonaccrual Loans as Percent of Loans.

$$\text{NALPC}_t = 0 + 0.003646 \text{ VULFM}_t - 0.371943 \text{ RECHANGE}_t \\ (3.923)*** \quad (-5.317)***$$

$$+ 0.462549 \text{ NALPC}_{t-1} \\ (3.346)***$$

$$R^2 = .9043$$

Dependent Variable: Operating Expense as Percent of Loans.

$$\text{OPEXPC}_t = 0 - .00000000412 \text{ LV}_t + 0.022041 \text{ MNALPC}_t + \\ (-1.215) \quad (2.202)*$$

$$0.969341 \text{ OPEXPC}_{t-1} \\ (15.937)***$$

$$R^2 = .9818$$

Dependent Variable: Restructured Loans as Percent of Loans.

$$\text{RESTPC}_t = 0 - 0.075808 \text{ NFICHANG}_t + 0.00295 \text{ MSFARM}_{t-1} + \\ (-2.556)** \quad (3.839)***$$

$$0.0400588 \text{ RESTPC}_{t-1} \\ (2.936)***$$

$$R^2 = .7567$$

Dependent Variable: Net Charge Offs as Percent of Loans.

$$\text{NCOPC}_t = 0 - 0.027931 \text{ RECHANGE} + 0.070684 \text{ NALPC} \\ (-2.526)** \quad (6.931)***$$

$$R^2 = .7004$$

Dependent Variable: High Risk Loans as Percent of Loans.

$$\text{OHRISKPC}_{j,t} = -.069781 \text{ RECHANGE}_{j,t} + .0189073 \text{ NFICHANG}_{j,t}$$

(.415) (0.358)

$$+ .2501 \text{ RISKDBT}_{j,t}$$

(5.056)***
R² 0.5720

* t values are given in parenthesis.

° * .05 < p ≤ .10
** .001 < p ≤ .05
*** p ≤ .001

° j = 1, Springfield; j =2, Baltimore; j =3, Columbia; j =4, Louisville; j =6, St. Louis; j =7, St. Paul; j =8, Omaha; j =9, Wichita; j =10, Texas/Jackson; j =11, Sacramento; j = 12, Spokane.
=====

The Agricultural Credit Act of 1987 (ACA87) required FCS loans to be restructured when the present value of restructuring was less than the present value cost of foreclosure. It was hypothesized that debt or farms with limited equity and positive cash flows would represent the strongest candidates for restructuring. It was also expected that districts with lower net farm income expectations would be more likely to restructure because of greater possibilities of default. Proportional annual change in net farm income was included to reflect the district income expectations. Restructured loans must demonstrate a continued ability to repay before elevation to performing status. A lagged adjustment variable process is recognized, therefore, through the inclusion of a lagged variable.

$$(4.4) \text{RESTPC}_{t}^{j} = a_0 + \beta_1 \text{NFICHANG}_{t}^{j} + \beta_2 \text{MSFM}_{t}^{j} + \beta_3 \text{RESTPC}_{t-1}^{j}$$

where:

RESTPC_{t}^{j} =Restructured Loans as a percent of total loans in district j for period t.

NFICHANG_{t}^{j} = Proportional change in net farm income in district j for period t.

MSFM^j_t = Proportion of total farms classified as marginal solvency in district j in year t.

Empirical application of equation (4.4) indicated that 76 percent of the variation in levels of restructured loans between districts could be explained by the included variables. Parameter estimates were as expected for marginal solvency farms which indicated that districts with higher levels of marginal solvency farms would experience higher restructured loans levels. The parameter estimate for net farm income change was also significant and had an expected sign. Volumes of restructured loans used in the modeling procedure are obtained using equation (4.7).

$$(4.7) \text{ REST}^j_t = \text{GLOANS}^j_t * \begin{cases} \text{RESTPC}^j_t & \text{if } \text{RESTPC}^j_t \geq 0 \\ 0 & \text{if } \text{RESTPC}^j_t < 0 \end{cases}$$

where:

REST^j_t = Predicted volume of restructured loans in district j for period t.

The relationship between other high risk loans and farm financial characteristics can be established using equation (4.8).

$$(4.8) \text{ OHRISKPC}^j_t = a_0 + \beta_1 \text{ RECHANGE}^j_t + \beta_2 \text{ NFICHANG}^j_t + \beta_3 \text{ RISKDBT}^j_t$$

where:

OHRISKPC^j_t = Proportion of total loans reported as high risk for FCS banks in district j for year t.

RISKDBT^j_t = Projected proportion of farm debt classified as vulnerable or marginal solvency in district j in period t.

The only parameter which contributed significantly to the explanation of district variation in high risk loans was RISKDBT (Exhibit 7). Other high risk loans were consequently modeled as a linear relationship with low equity debt. A decline in nonaccrual loans and restructured loans would be reflected by increases in other high risk loans as indicated in equation (4.9).

$$(4.9) \text{OHRISK}^j_t = \text{NETRISK}^j_{t-1} * [\left(\frac{\text{RISKDBT}^j_t - \text{RISKDBT}^j_{t-1}}{\text{RISKDBT}^j_{t-1}} \right) + 1] \\ + (\text{NAL}^j_t - \text{NAL}^j_{t-1}) + (\text{REST}^j_t - \text{REST}^j_{t-1})$$

where: $\text{NETRISK}^j_t = \text{OHRISK}^j_{t-1} + (\text{NAL}^j_{t-1} - \text{NAL}^j_{t-2}) +$
 $(\text{REST}^j_{t-1} - \text{REST}^j_{t-2})$

OHRISK^j_t = Volume of high risk debt for FCS banks in district j in period t.

Performing loans were calculated as a remainder.

$$(4.10) \text{PERFPC}^j_t = 1 - \text{OHRKPC}^j_t - \text{RESTPC}^j_t - \text{NALPC}^j_t$$

Allowance for Loan Losses:

The relationship between loan loss allowances and farm financial characteristics is expressed in equation (4.9).

$$(4.10) \text{ALLPC}^j_t = a_0 + \beta_1 \text{GOODBT}^j_t + \beta_2 \text{RISKDBT}^j_t + \beta_3 \text{ALLPC}^j_{t-1}$$

where:

ALLPC^j_t = Allowance for losses as proportion of total loans.

GOODBT^j_t = Proportion of all debt with debt-to-asset ratio less than 0.40.

Equation (4.10) explains 87 percent of the district variation among FCS districts with parameter estimates significantly different from 0 and of expected sign (Exhibit 7). A significant parameter on the lagged parameter indicated a lagged adjustment process. It was assumed banks were adequately reserved. Therefore, projections obtained from (4.11) were used to adjust current levels of loans loss reserves for changes in farm financial characteristics as shown in equation (4.13).

$$(4.11) \overline{\text{ALLPC}}^j_t = 0 - 0.0377 \text{GOODBT}^j_t + .1188 \text{RISKDBT}^j_t \\ + .1827 \overline{\text{ALLPC}}^j_{t-1}$$

$$(4.12) \text{ALL}^j_t = \overline{\text{GLOANS}}^j_t * \overline{\text{ALLPC}}^j_t$$

where:

\overline{ALLPC}^j_t = projected levels of loan loss allowances as proportion of total loans for FCS banks in district j for period t.

ALL^j_t = Projected volumes of loan loss allowances for FCS banks in district j for period t.

$$(4.13) ALL2^j_t = [1 + \left[\frac{(ALL^j_t - ALL^j_{t-1})}{ALL^j_{t-1}} \right]] * ALL2^j_{t-1}$$

where:

$ALL2^j_t$ = Volume of loan loss allowances utilized in the analysis where t = 1989 represents actual loan loss allowances reported.

Acquired Property:

Acquired property was modeled as a function of current levels of nonaccrual loans, changes in real estate values, and lagged acquired property.

$$(4.14) AQPPC^j_t = a_0 + \beta_1 NALPC^j_t + \beta_2 RECHANGE^j_t + \beta_3 AQPPC^j_{t-1}$$

Results obtained from the empirical application of (4.14) to cross sectional data over the period 1987 - 1989 indicate that 89 percent of the variation is explained (Exhibit 7). Parameters were significant and expected. Levels of acquired property were projected using these parameters and levels of nonaccrual loans and real estate values which were previously projected. A lower bound was established to prevent negative levels of acquired property.

$$(4.15) AQP^j_t = GLOANS^j_t \quad \begin{cases} ACQPC^j_t & \text{if } ACQPC^j_t \geq 0 \\ 0 & \text{if } ACQPC^j_t < 0 \end{cases}$$

AQP^j_t = Projected volume of acquired property in district j for period t

Net Loan Receivables:

Net loan receivables represent the total level of loans in the portfolio adjusted for loan loss reserves.

$$(4.16) NLR^j_t = GLOANS^j_t - ALL2^j_t$$

Accrued Interest Receivable:

The level of accrued interest for a FCS bank is estimated by adjusting the past years level of accrued interest or changes in accruing loan volume.

$$(4.17) \text{ACI}_t^j = \text{ACI}_{t-1}^j * \left(1 - \frac{\text{GLOANS}_{t-1}^j - \text{GLOAN}_t^j}{\text{GLOAN}_t^j} \right)$$

where: ACI_t^j = Accrued interest receivable for
an FCS bank in district j for time t.

Cash and Investment Securities:

Cash and investment securities are maintained for purposes of liquidity. Therefore, investments should vary as loans or liabilities increase. In this analysis, the past years level of cash and investments are adjusted for changes in the total level of liabilities.

$$(4.18) \text{INV}_t^j = \text{INV}_{t-1}^j * \left(1 - \frac{\text{TLIAB}_{t-1}^j - \text{TLIAB}_t^j}{\text{TLIAB}_t^j} \right)$$

where: TLIAB_t^j = Total liabilities for an FCS bank in
district j for time t.

Premises and Equipment:

The value of premises and equipment for an FCS bank is held constant over the period of analysis. This item primarily represents the office buildings and building site. It is assumed that new capital expenditures for buildings equals depreciation.

Other Assets:

The level of other assets are estimated by adjusting the past level of this variable for change in loan volume.

$$(4.19) \text{OAS}_t^j = \text{OAS}_{t-1}^j * \left(1 - \frac{\text{GLOAN}_{t-1}^j - \text{GLOAN}_t^j}{\text{GLOAN}_{t-1}^j} \right)$$

where: OAS^j_t = Level of other assets, other notes, and other investments held by an FCS bank in district j for year t.

FAC Bond Retirement:

A sinking fund was incorporated into the bank simulation model for retirement of Financial Assistance Corporation (FAC) debt. FCS banks are required to redeem all FAC debt at maturity (2002). District banks redeem based on their respective loan volume. In the model, banks set aside annual contributions which was recognized as an investment account, The amount of the contribution is described by equation (4.20).

$$(4.20) \text{ FACS FUND}^j_t = \frac{\text{GLOANS}^j_t}{\text{USFCS}_t} * \text{FACPMT}_t$$

FACS FUND^j_t = Financial Assistance Corporation Sinking Fund Level.

USFCS_t = Total Outstanding FCS Debt in U.S.

FACPMT_t = Required annual annuity to provide 1 billion dollars in 2002 at the treasury bill rate.

Total assets were the sum of all modeled components.

$$(4.21) \text{ TOTA}^j_t = \text{NLR}^j_t + \text{ACI}^j_t + \text{INV}^j_t + \text{EQP}^j_t + \text{AQP}^j_t + \text{OAS}^j_t + \text{FAC FUND}^j_t$$

where:

EQP^j_t = Premises and equipment for FCS banks in district j district j for period t.

Liabilities

Liabilities consist of outstanding bonds, notes, accrued interest payable and other liabilities.

Bonds:

The level of outstanding bonds is initially estimated as the level of bonds that existed last period plus the change in

total assets. Bonds are subsequently adjusted to balance assets with liabilities. This procedure is described in "Balancing the Statement of Operation".

$$(4.22) \text{ BOND}^j_t = \text{BOND}^j_{t-1} + (\text{TOTA}^j_t - \text{TOTA}^j_{t-1})$$

where:

BOND^j_t = The level of outstanding bonds held by FCS banks in district j in year t.

Accrued Interest Payable:

The level of accrued interest payable is estimated by adjusting the previous years accrued interest for changes in the level of outstanding bonds.

$$(4.23) \text{ AIP}^j_t = \text{AIP}^j_{t-1} * (1 - \frac{\text{BOND}^j_{t-1} - \text{BOND}^j_t}{\text{BOND}^j_{t-1}})$$

AIP^j_t = The level of accrued interest payable by FCS bank in district j for year t.

Other Liabilities:

The level of other liabilities is estimated by adjusting the past years level of other liabilities for changes in the level of outstanding bonds.

$$(4.24) \text{ OLIAB}^j_t = \text{OLIAB}^j_{t-1} * (1 - \frac{\text{BOND}^j_{t-1} - \text{BOND}^j_t}{\text{BOND}^j_{t-1}})$$

where:

OLIAB^j_t = The level of other liabilities held by FCS banks in district j for period t.

Capital

Capital on an FCS bank statement of operations includes capital stock and retained earnings. Capital stock refers to the stock which the borrower must purchase to obtain a loan.

ACA87 reduced the amount of stock that must be purchased to obtain a loan from 5 percent to 2 percent of the loan value or

\$2,000 whichever is less. This is reflected in the simulation model by declining the level of capital stock from the 1989 level to 2 percent over an 8 year period.

$$(4.25) \quad CS^j_t = CSPC^j_t * TLV^j_t$$

where:

CS^j_t = Volume of capital stock held by FCS banks in district j for year t.

$CSPC^j_t$ = The predetermined level of capital at risk which is measured as percent of total assets for district j in period t.

The level of capital stock is measured by the following equation. This equation reflects the adjustment to the 2 percent capital stock requirement over the forecast period.

$$(4.26) \quad CSPC^j_t = CSPC^j_{t-1} \left(\frac{PCS^j_1 - 2.0}{8} \right)$$

where:

PCS^j_1 = Capital stock as percent of total loans in year 1.

FAC Preferred Stock:

The FCS banks had received 1.32 billion dollars of assistance from the FAC by December 31, 1990. The largest portion of this assistance was provided as a capital injection for the St. Paul, Omaha, Spokane, and Louisville FCS banks. The capital injection was treated as nondividend paying preferred stock in the affected banks.

Permanent Capital.

An FCS bank's permanent capital earnings is equivalent to surplus or retained earnings. Permanent capital is estimated as permanent capital last period plus net income this period.

$$(4.27) \quad RE^j_t = RE^j_{t-1} + NI^j_t$$

where:

RE^j_t = retained earnings or permanent capital for an FCS bank in district j for period t.

NI^j_t = Net income for an FCS bank in district j for period t.

Risk Adjusted Assets.

ACA87 directs FCS banks to maintain permanent capital at 7 percent of risk adjusted assets. Annual reports do not provide sufficient data to directly estimate risk adjusted assets. Risk adjusted assets were estimated, therefore, using equation (4.28). Net loans receivable, acquired property, premises, and other assets were weighted at 100 percent while less risky assets such as investments in market securities were weighed at 18 percent.

$$(4.28) \text{ RISKASSET}_t^j = 1.00 * (\text{NLR}_t^j + \text{ACI}_t^j + \text{EQP}_t^j + \text{AQP}_t^j + \text{OAS}_t^j) + .18 * (\text{FACFUND}_t^j + \text{INV}_t^j)$$

Balancing the Statement of Condition

The summation of total assets may not initially equal the summation of total liabilities and total capital. This is due to the impact of net income. In the modeling procedure, asset levels are not influenced by net income but are determined by anticipated loan growth and liquidity requirements. Liabilities, however, are reduced by positive bank income and increased by negative bank income.

Other notes are designed to represent the balancing mechanism. The level of other notes is described as the difference between total assets and total liabilities and capital.

$$(4.29) \text{ ONOTE}_t^j = \text{TOTA}_t^j - \text{TLC}_t^j$$

where:

ONOTE_t^j = The level of other notes held by an FCS bank in district j in year t.

TLC_t^j = Total of liabilities and capital for FCS banks in district j in year t.

Other notes are allowed to be either positive or negative. A positive level indicates assets exceed liabilities plus capital and greater levels of debt are required to balance. A negative level of other notes indicates that liabilities plus capital exceed assets and

lower levels of debt are required to balance. The problem becomes iterative because the level of other notes impacts interest expense. Other notes increase interest expense thereby causing lower bank income. The lower bank income, in turn, requires a higher level of other notes to balance. The balance sheet simulation model is iterated until a level of other notes is obtained which results in a balancing of assets with liabilities plus capital.

Statement of Operations

Income

Interest Income.

Income to a FCS bank is primarily from interest on accruing loans. The baseline average interest rate charged by FCS banks on outstanding loans is based on historical relationships. The econometric analysis which is documented in Appendix Two provides information utilized to develop baseline projections of FCS interest rates. The baseline rate is calculated using a weighted average of the expected FCS real estate rates and expected FCS nonreal estate rates.

$$(4.30) \quad FCSE^j_t = (FLBINT^c * \frac{FLBSHR^j_t * RED^j_t}{TLV^j_t}) + (PCAIN^c_t * \frac{PCASHR^j_t * NRED^j_t}{TLV^j_t})$$

where:

- FCSE^j_t = Baseline average rate charged on outstanding loans by FCS banks in district j in year t.
- FLBINT_t = Expected average rate charged by FCS banks on outstanding real estate loans in year t.
- PCAIN_t = Expected average rate charged by FCS banks on nonreal estate loans in year t.
- FLBSHR^j_t = Share of real estate debt held by an FCS bank in district j in year t.
- RED^j_t = Level of real estate debt in district j in year t.

As a cooperative, FCS is presumed to price loans to farmers at rates sufficient to cover all factor costs which include operating expense, loan losses, capital requirements, and interest cost. In this analysis, banks are allowed to increase interest rates on outstanding loans until all factor costs are covered. The upper range of interest is determined by competitive forces. A majority of loans in the FCS portfolio have no prepayment penalty. If the interest rate differential between FCS and competitors is sufficient to cover loan closing costs, borrowers may move their loans to competitors. It is, therefore, presumed that an FCS bank can not charge average interest rates up to that charged by competitors on new loans. The maximum rate a FCS bank can charge on outstanding loans is a weighted average of the rates charged on new real estate debt by life insurance companies and nonreal estate debt by commercial banks. Equation (4.31) provides the calculation used to determine the maximum rate charged by an FCS bank on outstanding loans.

$$(4.31) \text{FCSCP}^j_t = (\text{LICRATE}^t * \frac{\text{FLBSHR}^j_t * \text{RED}^j_t}{\text{TLV}^j_t}) + (\text{BKRATE}_t * \frac{\text{PCASHR}^j_t * \text{NRED}^j_t}{\text{TLV}^j_t})$$

where:

FCSCP^j_t = Maximum average rate that can be charged on outstanding loans by an FCS banks in district j in year t.

LICRATE_t = Rate charged by life insurance companies on new farm real estate loans in year t.

BKRATE_t = Rate charged by commercial banks on new farm nonreal estate loans in year t.

PCASHR^j_t = Share of nonreal estate debt by an FCS banks in district j in period t.

NRED^j_t = Level of nonreal estate debt in district j in year t.

The amount of interest income from loans is calculated based upon the average balance of gross accruing loans and interest rate.

$$(4.32) \text{ LINC}^j_t = \frac{\text{GAL}^j_{t-1} + \text{GAL}^j_t}{2} * (\text{AVEFCS}^j_t)$$

where:

$$\text{AVEFCS}^j_t \leq \text{FCSCP}^j_t$$

LINC^j_t = Interest income received from outstanding loans by an FCS bank in district j in year t.

AVEFCS^j_t = Average rate received by FCS's loan portfolio in district j in year t. Designated by analyst in modeling procedure.

Interest income is also received from investments. This is based upon the average outstanding balance of cash and marketable securities multiplied by expected return on investments. The expected return was determined by adjusting current return for changes in interest rates.

$$(4.33) \text{ INVINT}^j_t = \frac{\text{INV}^j_{t-1} + \text{INV}^j_t}{2} * \text{EXPRET}_t$$

where:

$$\text{EXPRET}_t = \left\{ 1 + \frac{\text{TBILL}_t - \text{TBILL}_{t-1}}{\text{TBILL}_{t-1}} \right\}$$

INVINT^j_t = Interest income from cash and marketable securities received by FCS banks in district j in year t.

TBILL_t = Projected 6 month treasury bill rate for year t.

Other Income.

FCS banks also receive income from loan origination fees and fees for financial services. The level of income from these sources is estimated using projected changes in loan volume.

$$(4.34) \text{ LFEE}^j_t = \text{LFEE}^j_{t-1} * \left(1 - \frac{\text{TLV}^j_{t-1} - \text{TLV}^j_t}{\text{TLV}^j_t} \right)$$

where:

LFEE^j_t = Income received by an FCS bank from loan origination fees and fees for financially related services in district j in year t.

The remainder of other income is classified as miscellaneous which was modeled as a linear relationship with total assets.

$$(4.35) \text{MFEE}^j_t = \text{MFEE}^j_{t-1} * \left(1 - \frac{\text{TOTA}^j_{t-1} - \text{TOTA}^j_{t-1}}{\text{TOTA}^j_{t-1}} \right)$$

where:

MFEE^j_t = Amount of miscellaneous income for district j year t.

Expenses

Interest Expenses.

Interest expense on outstanding bonds and notes is the largest financial obligation of an FCS bank. This is estimated using the average projected balance of outstanding bonds and projected average cost of funds. The level of outstanding bonds is determined in the statement of condition.

$$(4.36) \text{BDINT}^j_t = \frac{\text{BOND}^j_{t-1} + \text{BOND}^j_t}{2} * \text{FCSC}_t$$

where:

BDINT^j_t = Interest expense on outstanding bonds for FCS banks in district j in period t.

FCSC_t = Projected average cost of funds for FCS banks in year t

Interest expense on other notes and liabilities is calculated as the average outstanding balance of these items multiplied by the average cost of funds.

$$(4.37) \text{NINT}^j_t = \frac{(\text{ONOTE}^j_t + \text{OLIAB}^j_t + \text{ONOTE}^j_{t-1} + \text{OLIAB}^j_{t-1})}{2} * \text{FCSC}_t$$

where:

$NINT^j_t$ = Interest expense on other notes and liabilities for an FCS bank in district j in year t.

Loan Loss Provisions.

The allowance for loan losses is an inventory account. Ending balance is equal to the beginning balance plus provisions minus charge offs and write offs. The level of charge offs and write offs net of recoveries is determined as a function of changes in real estate values and nonaccrual loan levels.

$$(4.38) \text{NCOPC}^j_t = a_0 + \beta_1 \text{RECHANG}^j_t + \beta_2 \text{NALPC}^j_t$$

where:

NCOPC^j_t = Charge offs net of recoveries as a proportion of total loan volume for FCS banks in district j in year t.

Equation (4.38) was applied to cross sectional data by FCS district for the years 1987 - 1989. It is indicated that 70 percent of the variation among districts in net charge offs can be explained by change in real estate values and nonaccrual loan levels (Exhibit 7). The intercept was suppressed to improve the parameter estimates. Resulting parameters along with previously projected levels of nonaccrual loans and real estate values were used to develop future projections of net charge offs. A lower bound was set for charge offs equal to .1 percent of loan volume which was assumed to be the long run equilibrium level of charge offs.

$$(4.39) \text{COFF}^j_t = \text{GLOANS}^j_t * \begin{cases} \text{NCOPC}^j_t & \text{if } \text{NCOPC} \geq .001 \\ .001 & \text{if } \text{NCOPC} < .001 \end{cases}$$

where:

NCOPC = Predicted net charge offs as proportion of total loans for FCS banks in district j for year t.

COFF^j_t = Predicted volume of charge offs for FCS banks in district j for year t.

The ending balance for loan loss allowances is calculated in the statement of condition leaving provisions as the only unknown.

$$(4.40) \text{PROV}^j_t = \text{ALL2}^j_t - \text{ALL2}^j_{t-1} + \text{COFF}^j_t$$

where:

PROV^j_t = Predicted provisions for loan losses for an FCS
FCS banks in district j in year t.

Operating Expense.

Operating expense for an FCS bank includes costs associated with the management of service centers and district banks. Operating expense was estimated as a function of loan volume, nonaccrual loans, and lagged operating expenses. Loan volume reflected size economies while nonaccrual loans were included to reflect costs incurred as a result of additional loan servicing. Operating costs can probably not be adjusted quickly because of salary contracts, thus requiring the inclusion of a lagged variable.

$$(4.41) \text{OPEXPC}^j_t = a_0 + \beta_1 \text{GLOAN}^j_t + \beta_2 \text{MNALPC}^j_t \\ + \beta_3 \text{OPEXPC}^j_{t-1}$$

where:

OPEXPC^j_t = Operating expense as a proportion of total loan
volume for FCS banks in district j in year t.

MNALPC^j_t = Two year moving average of nonaccrual loans as
proportion of total loans in district j for
year t.

The empirical application of the above equation to cross sectional FCS data for the years 1987 - 1989 indicated that 98 percent of the district variation in operating expenses could be explained (Exhibit 7). Parameters had the expected sign and were significantly different from 0. Operating expense as a percent of loan volume increased between 1985 and 1988 due to decreases in loan volume and the increased costs associated with the management of nonaccrual loans. Significant cost reduction strategies have been implemented in most banks since 1988. It is assumed, therefore, that banks have already achieved a majority of the possible cost reductions. Operating costs are subsequently projected using a linear relationship

between current operating expenses and operating expenses projected using equation (4.41).

$$(4.42) \text{ OPEXP2}_t^j = \text{GLOANS}_t^j * \left\{ 1 + \left[\frac{\text{OPEXP}_t^j - \text{OPEXP}_{t-1}^j}{\text{OPEXP}_{t-1}^j} \right] * \text{OPEXP2}_{t-1}^j \right\}$$

where:

OPEXP_t^j = Operating expense for banks in district j for year t predicted using parameters obtained from equation (4.42).

OPEXP2_t^j = Operating expense for banks in district j for year t utilized in the analysis. Current data was used for t = 1989.

Insurance Expense.

ACA87 requires that FCS banks make contributions to an insurance fund beginning in 1990. The amount of the contribution is determined by the amount of accrual and nonaccrual loans in the portfolio. Banks are required to contribute until the outstanding balance in the insurance fund is greater than 2 percent of loan volume.

$$(4.43) \text{ INS}_t^j = \begin{cases} 0 & \text{if } \text{CUMINS}_t^j > .02 * \text{LV}_t^j \\ E & \text{if } \text{CUMINS}_t^j \leq .02 * \text{LV}_t^j \end{cases}$$

where:

$$E = .0025 * \text{NAL}_t^j + .0015 * \text{GAL}_t^j$$

INS_t^j = Amount of contribution to the insurance fund required by an FCS bank in district j in time t.

LV_t^j = Loan volume for FCS banks in district j for year t.

$$\text{CUMINS}_t^j = \sum_{\tau=1}^n \text{INS}_\tau^j * (1 + \text{TBILL})^\tau$$

GAL_t^j = Gross accrual loans held by FCS banks in district j in time t.

Gain or Loss on Acquired Property.

FCS banks recognize gains or losses on their acquired

property inventory as they occur. This is accounted for through an expense item entitled provision for losses on acquired property. Provision for losses on acquired property is estimated based upon projected changes in real estate values and inventory of acquired property.

$$(4.44) \text{AQPROV}^j_t = \left(\frac{\text{AQP}^j_{t-1} + \text{AQP}^j_t}{2} \right) * \left(\frac{\text{A}^j_{t-1} + \text{A}^j_t}{\text{A}^j_{t-1}} \right)$$

where:

AQPROV^j_t = Acquired property inventory for FCS banks in district j for year t.

A^j_t = Projected value of real estate assets in district j in year t.

FAC Interest Expense.

ACA87 requires that FCS banks begin paying interest on any financial assistance in 1997. The FCS banks are required to pay 50 percent of the interest cost on FAC assistance over the period 1993 through 1997. After 1997 FCS banks must begin paying full interest payments on the FAC assistance. Each bank's obligation is based upon their loan volume. It is assumed that the interest rate on the FAC obligations is equal to the 6 month treasury bill rate. Each FCS bank's obligation for the 1993- 1997 period is calculated as follows.

$$(4.45) \text{REPAY}^j_t = \left(\frac{\text{TLV}^j_t}{\text{USFCS}_t} \right) * \left(\frac{(\text{TOTFAC}_t * \text{TBILL}_t)}{2} \right)$$

where:

REPAY^j_t = Amount of debt service required by FCS banks in district j in period t on FAC financial assistance.

USFCS_t = Total volume of FCS outstanding loans in the United States in year t.

TOTFAC_t = Cumulative volume of financial assistance required of FCS banks through year t.

Taxes.

The PCA's have been taxable under Subchapter T while the

FLBA's have been tax exempt. The mergers of the FLB's and FICB's along with combination of PCA's with FLBA's has not affected this tax status. Therefore, net income from the operations of PCA's remains taxable. PCA's share of income is taxed at 40 percent in the simulation model.

$$(4.46) \quad TAX_t^j = (.40 * \frac{PCASHR_t^j * NRED_t^j}{TLV_t^j}) * EBT_t^j$$

where:

TAX_t^j = Income tax obligation of an FCS bank in district j for year t.

EBT_t^j = Earnings before taxes for an FCS bank in district j in year t.

Appendix Five
Summary of Model Output

Appendix Table 9. Projected and Historical Income/Solvency Conditions for Leveraged Farms by FCS District, Baseline Economic Scenario, 1988 - 2000.

FCS District/ Classification	1988*	1989*	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Springfield:	-----percent-----												
Favorable	42.81	39.98	31.26	30.09	30.02	30.47	29.91	30.47	30.07	29.67	29.48	30.07	35.45
Marginal Income	39.24	46.00	51.54	52.18	52.21	51.94	52.27	51.99	52.21	52.54	52.60	51.81	44.63
Marginal Solven	9.59	7.90	5.74	5.43	5.41	5.52	5.38	5.54	5.43	5.35	5.29	5.34	5.87
Vulnerable	8.36	6.13	11.46	12.30	12.35	12.06	12.44	12.00	12.29	12.45	12.64	12.78	14.04
Baltimore:													
Favorable	42.81	39.98	32.04	29.96	29.97	31.50	31.25	32.23	32.20	33.18	33.17	35.71	33.63
Marginal Income	39.24	46.00	55.66	58.21	58.19	56.32	56.63	55.43	55.46	54.27	54.29	51.19	53.75
Marginal Solven	9.59	7.90	6.22	5.80	5.80	6.11	6.06	6.27	6.26	6.47	6.46	6.99	6.59
Vulnerable	8.36	6.13	6.08	6.03	6.03	6.07	6.06	6.08	6.08	6.08	6.08	6.11	6.03
Columbia:													
Favorable	36.72	36.79	36.46	36.55	36.65	36.84	36.90	36.99	37.01	36.99	37.04	37.20	37.20
Marginal Income	22.82	22.14	22.41	22.40	22.37	22.27	22.23	22.16	22.15	22.17	22.13	22.02	22.02
Marginal Solven	26.20	29.64	29.46	29.51	29.57	29.68	29.72	29.76	29.77	29.76	29.79	29.87	29.87
Vulnerable	14.08	11.61	11.64	11.59	11.56	11.51	11.50	11.49	11.48	11.49	11.48	11.46	11.46
Louisville:													
Favorable	31.51	41.66	39.54	34.41	32.61	32.74	32.48	32.48	32.50	32.48	32.48	32.80	51.15
Marginal Income	43.64	39.48	41.41	46.84	48.75	48.64	48.90	48.90	48.88	48.90	48.90	48.56	29.70
Marginal Solven	10.01	8.70	8.07	7.02	6.65	6.68	6.63	6.64	6.65	6.66	6.65	6.72	11.11
Vulnerable	14.84	10.15	10.99	11.72	11.99	11.95	12.00	11.98	11.98	11.96	11.97	11.91	8.04
St. Louis:													
Favorable	44.39	52.65	50.67	50.46	50.72	51.46	50.61	50.54	50.56	50.16	50.02	51.46	46.32
Marginal Income	31.88	26.55	27.67	28.13	27.81	27.11	27.93	28.01	27.99	28.39	28.51	27.13	32.12
Marginal Solven	11.77	10.59	10.10	10.05	10.11	10.27	10.09	10.08	10.09	10.01	9.98	10.28	9.23
Vulnerable	11.95	10.21	11.56	11.36	11.37	11.15	11.37	11.37	11.36	11.44	11.48	11.13	12.34
St. Paul:													
Favorable	44.23	44.39	38.46	38.05	38.41	38.55	37.11	37.06	36.72	36.20	35.70	36.84	41.37
Marginal Income	23.96	28.00	33.20	34.01	33.55	33.43	34.85	34.97	35.28	35.85	36.34	35.23	30.83
Marginal Solven	17.54	15.23	12.87	12.70	12.85	12.90	12.35	12.33	12.20	12.03	11.82	12.26	14.12
Vulnerable	14.27	12.38	15.47	15.24	15.19	15.12	15.69	15.64	15.80	15.92	16.13	15.67	13.68
Omaha:													
Favorable	50.16	61.84	62.16	61.64	63.27	64.31	65.34	65.28	66.57	67.22	68.13	70.07	53.65
Marginal Income	20.77	17.66	16.87	17.52	15.87	14.78	13.74	13.78	12.50	11.82	10.92	8.99	25.43
Marginal Solven	18.85	11.64	11.70	11.58	11.94	12.16	12.40	12.39	12.68	12.85	13.06	13.54	10.07
Vulnerable	10.22	8.86	9.27	9.26	8.93	8.75	8.53	8.56	8.24	8.11	7.90	7.40	10.84

Appendix Table 9. (continued)

Wichita:

Favorable	36.98	41.98	40.75	41.01	44.43	46.81	50.60	50.67	53.67	55.20	56.55	60.34	60.34
Marginal Income	31.00	27.68	27.20	27.47	24.58	22.49	19.31	19.17	16.68	15.36	14.20	10.95	10.95
Marginal Solven	19.28	14.76	14.31	14.40	15.75	16.68	18.16	18.19	19.35	19.95	20.47	21.92	21.92
Vulnerable	12.74	15.57	17.75	17.12	15.24	14.01	11.93	11.96	10.30	9.49	8.78	6.78	6.78

Texas/Jackson:

Favorable	32.45	26.95	26.46	26.73	27.73	28.36	28.50	28.50	28.94	29.10	29.15	30.20	25.10
Marginal Income	46.44	56.83	57.35	57.15	55.84	55.03	54.84	54.84	54.27	54.06	54.00	52.66	59.05
Marginal Solven	8.55	6.82	6.78	6.84	7.05	7.19	7.21	7.21	7.31	7.34	7.35	7.58	6.50
Vulnerable	12.55	9.40	9.40	9.27	9.38	9.43	9.45	9.45	9.48	9.50	9.50	9.56	9.35

Western:

Favorable	34.60	28.27	20.61	23.01	23.64	24.26	24.98	25.36	25.31	24.70	25.14	25.85	23.39
Marginal Income	40.60	47.52	57.52	54.99	53.75	52.92	51.84	51.28	51.32	52.26	51.64	50.60	54.16
Marginal Solven	8.72	11.84	8.30	9.56	9.85	10.11	10.44	10.61	10.57	10.35	10.53	10.85	9.81
Vulnerable	16.08	12.37	13.57	12.44	12.76	12.71	12.74	12.75	12.80	12.68	12.69	12.70	12.63

Spokane:

Favorable	28.53	34.31	27.84	27.94	28.98	29.74	29.98	30.24	30.98	30.13	30.88	32.46	27.96
Marginal Income	41.05	43.37	48.75	49.61	48.24	47.42	47.12	46.87	46.06	46.95	46.23	44.48	49.34
Marginal Solven	7.67	9.82	7.65	7.66	8.01	8.26	8.35	8.45	8.69	8.43	8.67	9.20	7.79
Vulnerable	22.75	12.50	15.76	14.79	14.76	14.58	14.55	14.44	14.27	14.49	14.22	13.86	14.90

* Calculated from FCRS data.

Appendix Table 10. Projected and Historical Income/Solvency Conditions for Farm Operator Debt by FCS District, Baseline Scenario, 1988-2000

FCS District/ Classification	1988 [†]	1989 [†]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Springfield:	-----percent-----												
Favorable	34.28	43.98	35.72	34.55	34.48	34.92	34.37	34.94	34.53	34.16	22.40	22.95	22.63
Marginal Income	22.64	28.91	33.24	33.75	33.78	33.56	33.82	33.60	33.78	34.04	56.50	55.64	56.25
Marginal Solven	25.23	18.26	13.81	13.13	13.09	13.33	13.02	13.36	13.13	12.96	8.46	8.59	8.47
Vulnerable	17.85	8.85	17.22	18.57	18.66	18.19	18.79	18.10	18.56	18.85	12.63	12.83	12.65
Baltimore:													
Favorable	34.28	43.98	41.78	41.06	41.07	41.60	41.52	41.84	41.83	42.15	42.14	42.89	42.89
Marginal Income	22.64	28.91	31.11	31.83	31.82	31.29	31.37	31.05	31.06	30.74	30.75	30.00	30.00
Marginal Solven	25.23	18.26	15.99	15.33	15.34	15.82	15.75	16.07	16.06	16.39	16.37	17.11	17.11
Vulnerable	17.85	8.85	11.12	11.78	11.77	11.29	11.36	11.04	11.05	10.72	10.74	10.00	10.00
Columbia:													
Favorable	36.79	36.72	36.47	36.53	36.59	36.73	36.78	36.84	36.86	36.84	36.88	37.00	37.00
Marginal Income	22.86	22.10	22.42	22.39	22.34	22.20	22.15	22.08	22.06	22.08	22.03	21.90	21.90
Marginal Solvency	26.25	29.59	29.47	29.50	29.53	29.59	29.61	29.64	29.65	29.64	29.66	29.71	29.71
Vulnerable	14.11	11.59	11.65	11.59	11.54	11.47	11.46	11.44	11.43	11.44	11.43	11.39	11.39
Louisville:													
Favorable	23.22	35.80	36.76	34.24	33.68	34.12	33.93	33.93	33.94	33.93	33.92	34.15	34.15
Marginal Income	23.83	22.81	25.66	30.37	32.41	32.65	32.83	32.81	32.79	32.78	32.78	32.53	32.53
Marginal Sol	26.02	20.64	20.88	19.69	19.39	19.64	19.56	19.58	19.59	19.62	19.60	19.73	19.73
Vulnerable	23.94	20.75	16.69	15.69	14.51	13.59	13.68	13.68	13.68	13.68	13.69	13.60	13.60
St. Louis:													
Favorable	32.09	35.91	37.64	39.13	39.45	40.02	39.36	39.32	39.33	39.04	38.92	40.04	40.04
Marginal Income	17.63	11.51	13.04	13.83	13.73	13.40	13.78	13.81	13.80	13.99	14.05	13.40	13.40
Marginal Sol	25.42	25.23	26.24	27.27	27.51	27.91	27.45	27.43	27.44	27.25	27.16	27.96	27.96
Vulnerable	24.86	27.35	23.08	19.77	19.32	18.67	19.41	19.44	19.42	19.73	19.87	18.60	18.60
St. Paul:													
Favorable	28.03	35.56	33.15	33.29	33.86	34.13	33.38	33.45	33.32	33.06	32.79	33.54	33.55
Marginal Income	11.94	12.78	16.16	16.78	16.69	16.71	17.65	17.76	18.01	18.38	18.73	18.04	18.04
Marginal Sol	40.64	36.29	33.12	33.20	33.84	34.12	33.20	33.27	33.10	32.83	32.47	33.36	33.37
Vulnerable	19.39	15.38	17.57	16.74	15.61	15.04	15.77	15.52	15.57	15.73	16.01	15.06	15.04
Omaha:													
Favorable	34.60	46.90	47.74	47.45	48.85	49.63	50.31	50.28	51.11	51.55	52.14	53.41	53.41
Marginal Income	12.75	13.81	13.39	13.93	12.69	11.85	11.01	11.05	10.02	9.48	8.76	7.23	7.23
Marginal Sol	36.03	24.30	24.74	24.55	25.35	25.81	26.24	26.23	26.75	27.05	27.43	28.29	28.29
Vulnerable	16.62	14.99	14.13	14.06	13.11	12.71	12.45	12.45	12.12	11.92	11.66	11.06	11.06

Appendix Table 10. (continued).

Wichita:

Favorable	30.38	33.18	33.02	32.98	35.01	36.39	38.51	38.59	40.21	41.07	41.79	43.77	43.77
Marginal Income	14.87	16.71	16.85	16.89	14.65	13.13	10.89	10.81	9.14	8.29	7.56	5.59	5.59
Marginal Sol	31.54	31.79	31.60	31.56	33.82	35.34	37.67	37.77	39.52	40.48	41.25	43.40	43.40
Vulnerable	23.20	18.33	18.53	18.57	16.52	15.13	12.93	12.82	11.13	10.16	9.40	7.23	7.23

Texas/Jackson:

Favorable	26.43	23.34	22.22	22.56	23.46	23.99	24.11	24.11	24.46	24.60	24.64	25.47	25.47
Marginal Income	24.28	35.80	38.61	38.50	36.89	35.78	35.53	35.53	34.78	34.50	34.42	32.66	32.66
Marginal Sol.	21.39	23.80	22.88	23.20	23.97	24.41	24.51	24.51	24.81	24.92	24.95	25.66	25.66
Vulnerable	27.90	17.06	16.29	15.75	15.68	15.82	15.85	15.85	15.95	15.98	15.99	16.21	16.21

Western:

Favorable	30.17	26.67	22.40	24.87	25.66	26.20	26.78	27.02	26.98	26.62	26.90	27.32	27.32
Marginal Income	21.46	23.68	31.96	30.34	29.89	29.42	28.73	28.30	28.36	29.00	28.54	27.75	27.75
Marginal Sol	23.36	30.35	24.91	28.25	29.20	29.80	30.50	30.79	30.71	30.39	30.69	31.19	31.19
Vulnerable	25.00	19.30	20.73	16.55	15.25	14.59	14.00	13.89	13.95	13.99	13.88	13.74	13.74

Spokane:

Favorable	31.83	37.80	33.58	34.13	35.71	36.69	37.09	37.41	38.01	37.38	37.92	39.01	39.01
Marginal Income	19.24	22.79	28.22	29.09	28.51	28.04	27.92	27.76	27.04	27.88	27.16	25.54	25.54
Marginal Sol.	24.30	24.05	20.50	20.79	21.94	22.66	22.97	23.23	23.71	23.26	23.68	24.58	24.58
Vulnerable	24.63	15.35	17.70	15.99	13.84	12.61	12.02	11.60	11.24	11.47	11.25	10.87	10.87

* Calculated from FCRS data.

Appendix Table 11. Projected and Historical Income/Solvency Conditions for Leveraged Farms by FCS District, Pessimistic Scenario, 1988- 2000

FCS District/ Classification	1988 [†]	1989 [†]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Springfield:	-----percent-----												
Favorable	42.81	39.98	31.26	30.09	30.02	29.99	21.83	16.02	16.80	17.76	17.76	17.76	30.51
Marginal Income	39.24	46.00	51.54	52.18	52.21	52.20	56.34	59.29	58.85	58.42	58.42	58.41	38.41
Marginal Solven	9.59	7.90	5.74	5.43	5.41	5.40	3.16	1.56	1.76	2.04	2.04	2.04	2.66
Vulnerable	8.36	6.13	11.46	12.30	12.35	12.42	18.67	23.14	22.58	21.77	21.79	21.79	28.42
Baltimore:													
Favorable	42.81	39.98	32.95	29.98	29.99	29.97	18.96	11.79	12.69	13.82	13.80	13.79	33.65
Marginal Income	39.24	46.00	55.65	58.19	58.17	58.20	71.81	80.77	79.64	78.23	78.26	78.27	53.74
Marginal Solven	9.59	7.90	6.23	5.80	5.81	5.80	3.65	2.33	2.49	2.70	2.69	2.69	6.59
Vulnerable	8.36	6.13	6.08	6.03	6.03	6.03	5.59	5.11	5.18	5.25	5.25	5.25	6.03
Columbia:													
Favorable	36.72	36.79	36.46	36.56	36.65	36.66	34.73	32.85	33.28	33.71	33.74	33.76	33.77
Marginal Income	22.82	22.14	22.41	22.40	22.37	22.38	23.57	24.96	24.81	24.58	24.61	24.62	24.63
Marginal Solven	26.20	29.64	29.46	29.52	29.57	29.58	28.31	26.81	27.13	27.46	27.47	27.49	27.50
Vulnerable	14.08	11.61	11.64	11.59	11.56	11.55	12.04	12.62	12.38	12.18	12.15	12.13	12.12
Louisville:													
Favorable	31.51	41.66	38.48	37.67	37.80	37.81	30.13	23.54	24.53	25.66	25.63	25.62	36.90
Marginal Income	43.64	39.48	41.96	43.11	42.90	42.91	50.85	57.96	57.01	55.77	55.78	55.79	44.20
Marginal Solven	10.01	8.70	7.92	7.72	7.76	7.76	5.99	4.55	4.75	5.00	4.99	4.99	7.61
Vulnerable	14.84	10.15	11.65	11.50	11.54	11.52	13.04	13.94	13.71	13.58	13.60	13.60	11.29
St. Louis:													
Favorable	44.39	52.65	50.67	50.46	50.72	50.73	44.36	34.21	35.72	37.43	37.41	37.40	46.34
Marginal Income	31.88	26.55	27.67	28.13	27.81	27.82	33.92	43.71	42.29	40.64	40.65	40.66	32.14
Marginal Solven	11.77	10.59	10.10	10.05	10.11	10.11	8.76	6.60	6.92	7.29	7.28	7.28	9.23
Vulnerable	11.95	10.21	11.56	11.36	11.37	11.34	12.96	15.47	15.07	14.64	14.65	14.66	12.29
St. Paul:													
Favorable	44.23	44.39	38.46	38.05	38.41	38.41	32.47	23.79	25.10	26.62	26.55	26.55	41.56
Marginal Incom	23.96	28.00	33.20	34.01	33.55	33.57	39.48	48.33	47.29	45.78	45.79	45.81	30.97
Marginal Solven	17.54	15.23	12.87	12.70	12.85	12.85	10.56	7.22	7.68	8.39	8.36	8.35	14.19
Vulnerable	14.27	12.38	15.47	15.24	15.19	15.17	17.49	20.66	19.93	19.21	19.30	19.29	13.28
Omaha:													
Favorable	50.16	61.84	62.16	61.64	63.27	63.23	56.28	43.33	45.58	47.80	47.77	47.76	54.00
Marginal Income	20.77	17.66	16.87	17.52	15.87	15.86	22.88	36.33	34.35	31.91	31.92	31.94	25.60
Marginal Solven	18.85	11.64	11.70	11.58	11.94	11.93	10.51	8.18	8.57	8.96	8.95	8.95	10.14
Vulnerable	10.22	8.86	9.27	9.26	8.93	8.98	10.33	12.16	11.50	11.33	11.36	11.36	10.26

Appendix Table 11 (continued).

Wichita:

Favorable	36.98	41.98	40.75	41.01	44.43	44.31	34.01	20.04	22.43	24.42	24.35	24.34	30.19
Marginal Income	31.00	27.68	27.20	27.47	24.58	24.53	32.73	43.63	43.38	41.23	41.17	41.19	37.41
Marginal Solven	19.28	14.76	14.31	14.40	15.75	15.71	11.61	5.87	6.79	7.66	7.63	7.62	10.13
Vulnerable	12.74	15.57	17.75	17.12	15.24	15.45	21.66	30.46	27.40	26.69	26.86	26.85	22.26

Texas/Jackson:

Favorable	32.45	26.95	26.46	26.75	27.73	27.71	23.22	15.98	17.08	18.18	18.16	18.15	24.60
Marginal Income	46.44	56.83	57.35	57.15	55.84	55.84	61.53	71.11	69.93	68.46	68.48	68.50	60.35
Marginal Solven	8.55	6.82	6.78	6.84	7.05	7.05	6.10	4.45	4.70	4.98	4.97	4.97	6.33
Vulnerable	12.55	9.40	9.40	9.27	9.38	9.40	9.14	8.46	8.29	8.37	8.38	8.38	8.71

Western:

Favorable	34.60	28.27	26.61	23.01	23.64	23.54	18.20	11.32	12.22	13.39	13.23	13.27	23.54
Marginal Income	40.60	47.52	57.52	54.99	53.75	53.95	61.76	72.26	71.16	69.35	69.54	69.50	54.51
Marginal Solven	8.72	11.84	8.30	9.56	9.85	9.80	7.56	4.83	5.17	5.68	5.60	5.62	9.87
Vulnerable	16.08	12.37	13.57	12.44	12.76	12.70	12.48	11.59	11.45	11.58	11.63	11.61	12.07

Spokane:

Favorable	28.53	34.31	27.84	27.94	28.98	28.97	22.14	13.95	15.15	16.43	16.43	16.39	16.39
Marginal Income	41.05	43.37	48.75	49.61	48.24	48.23	55.55	65.34	64.74	62.95	62.95	62.92	62.95
Marginal Solven	7.67	9.82	7.65	7.66	8.01	8.01	5.80	3.30	3.64	4.03	4.03	4.01	4.01
Vulnerable	22.75	12.50	15.76	14.79	14.76	14.80	16.50	17.40	16.47	16.59	16.59	16.67	16.65

* Calculated from FCRS data.

Appendix Table 12. Projected and Historical Income/Solvency Conditions for Farm Operator Debt by FCS District, Pessimistic Scenario, 1988- 2000

FCS District/ Classification	1988 [†]	1989 [†]	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Springfield:	-----percent-----												
Favorable	34.28	43.98	35.72	34.55	34.48	34.43	25.87	19.45	20.33	21.42	16.92	16.92	16.92
Marginal Income	22.64	28.91	33.24	33.75	33.78	33.77	37.13	39.59	39.22	38.85	51.68	51.68	51.68
Marginal Solven	25.23	18.26	13.81	13.13	13.09	13.04	7.88	3.98	4.50	5.18	4.09	4.09	4.09
Vulnerable	17.85	8.85	17.22	18.57	18.66	18.75	29.12	36.98	35.96	34.54	27.31	27.32	27.32
Baltimore:													
Favorable	34.28	43.98	41.78	41.07	41.07	41.06	35.65	29.31	30.32	31.48	31.46	31.45	31.45
Marginal Income	22.64	28.91	31.11	31.82	31.82	31.83	37.24	43.58	42.57	41.41	41.43	41.44	41.44
Marginal Solven	25.23	18.26	15.99	15.34	15.35	15.33	10.95	6.60	7.26	8.08	8.05	8.03	8.03
Vulnerable	17.85	8.85	11.12	11.77	11.76	11.78	16.16	20.51	19.85	19.03	19.06	19.08	19.08
Columbia:													
Favorable	36.79	36.72	36.47	36.53	36.59	36.60	35.21	33.79	34.10	34.42	34.44	34.45	34.46
Marginal Income	22.86	22.10	22.42	22.39	22.34	22.34	23.90	25.67	25.42	25.10	25.12	25.13	25.13
Marginal Sol	26.25	29.59	29.47	29.50	29.53	29.53	28.69	27.57	27.80	28.04	28.04	28.05	28.05
Vulnerable	14.11	11.59	11.65	11.59	11.54	11.53	12.20	12.97	12.68	12.44	12.40	12.38	12.36
Louisville:													
Favorable	23.22	35.80	36.18	36.80	37.62	37.89	31.50	26.08	27.34	28.63	28.71	28.78	28.83
Marginal Income	26.83	22.81	26.30	27.96	28.35	28.56	33.96	39.23	39.09	38.56	38.73	38.85	38.92
Marginal Sol	26.02	20.64	20.68	21.00	21.48	21.64	17.66	14.46	15.16	15.92	15.95	15.99	16.02
Vulnerable	23.94	20.75	16.83	14.24	12.55	11.90	16.88	20.23	18.41	16.90	16.60	16.38	16.23
St. Louis:													
Favorable	32.09	35.91	37.64	39.13	39.45	39.45	34.51	26.68	27.82	29.16	29.14	29.12	29.12
Marginal Income	17.63	11.51	13.04	13.83	13.73	13.73	16.53	20.97	20.31	19.57	19.58	19.58	19.58
Marginal Solv	25.42	25.23	26.24	27.27	27.51	27.50	23.92	18.20	19.03	20.03	20.00	19.99	19.99
Vulnerable	24.86	27.35	23.08	19.77	19.32	19.33	25.04	34.15	32.83	31.24	31.28	31.31	31.31
St. Paul:													
Favorable	28.03	35.56	33.15	33.29	33.86	34.05	30.41	24.34	25.60	26.99	27.02	27.07	27.02
Marginal Income	11.94	12.78	16.16	16.78	16.69	16.80	20.66	27.22	26.61	25.64	25.75	25.82	25.82
Marginal Sol.	40.64	36.29	33.12	33.20	33.84	34.02	29.65	22.24	23.59	25.58	25.57	25.61	25.61
Vulnerable	19.39	15.38	17.57	16.74	15.61	15.14	19.28	26.20	24.20	21.80	21.65	21.51	21.51
Omaha:													
Favorable	34.60	46.90	47.74	47.45	48.85	48.87	43.66	34.09	36.19	38.27	38.38	38.46	38.46
Marginal Income	12.75	13.81	13.39	13.93	12.69	12.70	18.14	28.63	27.39	25.73	25.84	25.91	25.91
Marginal Sol.	36.03	24.30	24.74	24.55	25.35	25.36	22.47	17.72	18.74	19.78	19.83	19.86	19.86
Vulnerable	16.62	14.99	14.13	14.06	13.11	13.06	15.74	19.56	17.68	16.22	15.95	15.77	15.77

Appendix Table 12 (continued).

Wichita:

Favorable	30.38	33.18	33.02	32.98	35.01	34.99	28.20	17.49	19.81	22.21	22.34	22.43	22.50
Marginal Income	14.87	16.71	16.85	16.89	14.65	14.66	21.12	30.69	30.73	29.90	30.11	30.26	30.36
Marginal Solv.	31.54	31.79	31.60	31.56	33.82	33.80	26.26	14.11	16.47	19.10	19.18	19.24	19.31
Vulnerable	23.20	18.33	18.53	18.57	16.52	16.55	24.42	37.71	33.00	28.80	28.37	28.07	27.83

Texas/Jackson:

Favorable	26.43	23.34	22.22	22.56	23.46	23.45	19.48	13.37	14.43	15.65	15.67	15.70	15.72
Marginal Income	24.28	35.80	38.61	38.50	36.89	36.91	44.17	55.22	54.50	53.11	53.31	53.44	53.52
Marginal Solv	21.39	23.80	22.88	23.20	23.97	23.96	20.56	15.18	16.16	17.35	17.39	17.42	17.45
Vulnerable	27.90	17.06	16.29	15.75	15.68	15.68	15.79	16.23	14.91	13.89	13.62	13.44	13.32

Western

Favorable	30.17	26.67	22.40	24.87	25.66	25.68	21.69	15.70	16.86	18.24	18.15	18.26	18.30
Marginal Incom	21.46	23.68	31.96	30.34	29.89	30.16	36.19	45.75	45.34	44.17	44.61	44.72	44.82
Marginal Solv.	23.36	30.35	24.91	28.25	29.20	29.20	24.72	18.32	19.53	21.16	21.03	21.16	21.21
Vulnerable	25.00	19.30	20.73	16.55	15.25	14.96	17.40	20.23	18.27	16.44	16.21	15.86	15.67

Spokane:

Favorable	31.83	37.80	33.58	34.13	35.71	36.00	29.58	20.52	22.53	24.67	24.83	24.96	24.96
Marginal Income	19.24	22.79	28.22	29.09	28.51	28.74	35.78	46.76	46.76	45.80	46.22	46.49	46.49
Marginal Solv.	24.30	24.05	20.50	20.79	21.94	22.12	17.22	10.76	11.99	13.43	13.49	13.56	13.56
Vulnerable	14.63	15.35	17.70	15.99	13.84	13.13	17.41	21.96	18.73	16.10	15.46	14.99	14.99

* Calculated from FCRS data.

Appendix Table 13. Comparison of Historical, Competitive, and Current Interest Rates by FCS District for Baseline and Pessimistic Economic Scenario^a.

	Year Ended												
Year Ended	90 -2000	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Springfield													
Baseline Scenario	-----percent-----												
Modeled Rate	9.11	9.87	9.87	9.25	9.11	8.98	8.77	8.63	8.42	8.15	8.42	8.42	8.42
Current Trend	9.49	9.97	9.85	9.72	9.54	9.41	9.23	8.99	9.23	9.23	9.22	9.22	9.22
Historical Rate	9.21	10.12	9.80	9.29	9.17	9.05	8.88	8.77	8.60	8.37	8.59	8.59	8.59
Competitive Rate	10.55	10.94	11.32	11.06	10.68	10.39	10.15	9.97	9.92	9.88	9.85	9.83	9.79
Pessimistic Scenario													
Modeled Rate	9.23	9.99	9.99	9.37	9.23	9.09	8.89	8.75	8.54	8.27	8.54	8.54	8.54
Current Trend	9.49	9.97	9.85	9.72	9.53	9.41	9.22	9.00	9.22	9.22	9.21	9.21	9.21
Historical Rate	9.21	10.12	9.80	9.29	9.17	9.05	8.88	8.76	8.59	8.38	8.58	8.58	8.58
Competitive Rate	10.55	10.94	11.32	11.06	10.68	10.39	10.15	9.97	9.92	9.88	9.85	9.83	9.79
Baltimore													
Baseline Scenario													
Modeled Rate	8.49	9.59	9.59	8.97	8.83	8.69	8.49	8.35	8.14	7.87	8.14	8.14	8.14
Current Trend	9.20	10.58	10.22	9.69	9.57	9.45	9.28	9.16	8.98	8.75	8.98	8.98	8.20
Historical Rate	8.88	10.12	9.78	9.27	9.16	9.05	8.88	8.76	8.60	8.37	8.60	8.60	8.60
Competitive Rate	9.82	10.51	11.33	10.84	10.25	9.86	9.56	9.36	9.36	9.36	9.36	9.36	9.36
Pessimistic Scenario:													
Modeled Rate	8.63	9.74	9.74	9.11	8.98	8.84	8.63	8.49	8.29	8.01	8.29	8.29	8.29
Current Trend	9.23	10.58	10.22	9.69	9.57	9.45	9.28	9.16	8.98	8.75	8.98	8.98	8.45
Historical Rate	8.88	10.12	9.78	9.27	9.16	9.05	8.88	8.76	8.60	8.37	8.60	8.60	8.60
Competitive Rate	9.82	10.51	11.33	10.84	10.25	9.86	9.56	9.36	9.36	9.36	9.36	9.36	9.36
Columbia													
Baseline Scenario:													
Modeled Rate	9.15	10.04	9.73	9.25	9.14	9.05	8.88	8.77	8.63	8.41	8.61	8.61	8.61
Current Trend	11.09	12.13	11.75	11.17	11.05	10.92	10.73	10.60	10.41	10.16	10.41	10.41	10.41
Historical Rate	9.15	10.01	9.69	9.22	9.11	9.01	8.85	8.74	8.59	8.38	8.59	8.59	8.59
Competitive Rate	10.58	10.96	11.32	11.07	10.70	10.42	10.18	10.00	9.95	9.91	9.87	9.85	9.81
Pessimistic Scenario:													
Modeled Rate	9.15	10.01	9.69	9.22	9.11	9.01	8.85	8.74	8.59	8.38	8.59	8.59	8.59
Current Trend	11.09	12.13	11.75	11.17	11.05	10.92	10.73	10.60	10.41	10.16	10.41	10.41	10.41
Historical Rate	9.15	10.01	9.69	9.22	9.11	9.01	8.85	8.74	8.59	8.38	8.59	8.59	8.59
Competitive Rat	10.58	10.96	11.32	11.07	10.70	10.42	10.18	10.00	9.95	9.91	9.87	9.85	9.81

Appendix Table 13 (continued)

Year Ended	90 -2000	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Louisville :													
Baseline Scenario													
Modeled Rate	8.98	9.74	9.74	9.12	8.98	8.84	8.63	8.50	8.29	8.01	8.01	8.01	8.01
Current Trend	10.94	11.97	11.58	11.02	10.90	10.77	10.58	10.46	10.27	10.02	10.02	10.02	10.02
Historical Rate	9.15	10.01	9.69	9.22	9.11	9.01	8.85	8.74	8.59	8.38	8.38	8.38	8.38
Competitive Rate	10.66	11.05	11.32	11.12	10.79	10.53	10.30	10.13	10.07	10.02	10.02	10.02	10.02
Pessimistic Scenario													
Modeled Rate	9.24	10.00	10.00	9.38	9.24	9.10	8.89	8.76	8.55	8.27	8.27	8.27	8.27
Current Trend	10.94	11.97	11.58	11.02	10.90	10.77	10.58	10.46	10.27	10.02	10.02	10.02	10.02
Historical Rate	9.15	10.01	9.69	9.22	9.11	9.01	8.85	8.74	8.59	8.38	8.38	8.38	8.38
Competitive Rate	10.66	11.05	11.32	11.12	10.79	10.53	10.30	10.13	10.07	10.02	10.02	10.02	10.02
St. Louis													
Baseline Scenario:													
Modeled Rate	9.27	10.03	10.03	9.41	9.27	9.13	8.92	8.79	8.58	8.30	8.58	8.58	8.58
Trend Rate	11.26	12.29	11.91	11.34	11.22	11.09	10.90	10.78	10.59	10.34	10.59	10.59	10.59
Historical Rate	8.90	9.36	9.19	9.09	8.99	8.84	8.74	8.58	8.38	8.58	8.58	8.58	8.58
Competitive Rate	10.49	10.87	11.33	11.03	10.61	10.31	10.06	9.88	9.84	9.80	9.77	9.76	9.73
Pessimistic Scenario:													
Modeled Rate	9.68	10.44	10.44	9.82	9.68	9.54	9.34	9.20	8.99	8.71	8.99	8.99	8.99
Trend Rate	11.26	12.29	11.91	11.34	11.22	11.09	10.90	10.78	10.59	10.34	10.59	10.59	10.59
Historical Rate	8.90	9.36	9.19	9.09	8.99	8.84	8.74	8.58	8.38	8.58	8.58	8.58	8.58
Competitive Rate	10.49	10.87	11.33	11.03	10.61	10.31	10.06	9.88	9.84	9.80	9.77	9.76	9.73
St. Paul													
Baseline Scenario:													
Modeled Rate	8.95	10.99	9.87	9.25	9.11	8.97	8.76	8.63	8.42	8.14	8.42	8.42	8.42
Trend Rate	10.55	11.55	11.29	10.82	10.72	10.61	10.46	10.35	10.19	9.99	10.19	10.19	10.19
Historical Rate	8.88	9.73	9.50	9.11	9.02	8.94	8.81	8.71	8.58	8.41	8.58	8.58	8.58
Competitive Rate	10.20	11.99	11.32	10.95	10.47	10.14	9.72	9.70	9.68	9.67	9.65	9.59	9.58
Pessimistic Scenario													
Modeled Rate	9.40	11.44	10.32	9.70	9.56	9.42	9.21	9.08	8.87	8.59	8.87	8.87	8.87
Trend Rate	10.55	11.29	10.82	10.72	10.61	10.46	10.35	10.19	9.99	10.19	10.19	10.19	10.19
Historical Rate	8.88	9.73	9.50	9.11	9.02	8.94	8.81	8.71	8.58	8.41	8.58	8.58	8.58
Competitive Rate	10.20	11.99	11.32	10.95	10.47	10.14	9.71	9.69	9.67	9.65	9.64	9.62	9.60

Appendix Table 13 (continued)

Year Ended	90 -2000	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Omaha													
Baseline Scenario:													
Modeled Rate	9.17	10.19	10.18	9.56	9.43	9.29	9.08	8.94	8.74	8.46	8.74	8.74	8.74
Trend Rate	9.23	10.86	10.18	9.56	9.43	9.29	9.08	8.94	8.74	8.46	8.74	8.74	8.74
Historical Rate	8.94	10.00	9.68	9.21	9.10	9.00	8.84	8.74	8.59	8.38	8.59	8.59	8.59
Competitive Rat	10.13	10.78	11.33	10.97	10.50	10.17	9.90	9.71	9.69	9.66	9.64	9.63	9.61
Pessimistic Scenario:													
Modeled Rate	9.55	10.56	10.56	9.94	9.80	9.66	9.46	9.32	9.11	8.84	9.11	9.11	9.11
Trend Rate	9.57	10.86	10.56	9.94	9.80	9.66	9.46	9.32	9.11	8.84	9.11	9.11	9.11
Historical Rate	8.94	10.00	9.68	9.21	9.10	9.00	8.84	8.74	8.59	8.38	8.59	8.59	8.59
Competitive Rat	10.13	10.78	11.33	10.97	10.50	10.17	9.90	9.71	9.69	9.66	9.64	9.63	9.61
Wichita													
Baseline Scenario:													
Modeled Rate	8.54	9.56	9.56	8.93	8.80	8.66	8.45	8.31	8.11	7.83	8.11	8.11	8.11
Trend Rate	8.70	11.39	9.56	8.93	8.80	8.66	8.45	8.31	8.11	7.83	8.11	8.11	8.11
Historical Rate	8.92	9.95	9.64	9.18	9.08	8.98	8.83	8.73	8.58	8.38	8.58	8.58	8.58
Competitive Rat	10.03	10.67	11.33	10.91	10.39	10.04	9.76	9.57	9.55	9.54	9.53	9.54	9.54
Pessimistic Scenario:													
Modeled Rate	8.97	9.99	9.98	9.36	9.22	9.09	8.88	8.74	8.53	8.26	8.53	8.53	8.53
Trend Rate	9.09	11.39	9.98	9.36	9.22	9.09	8.88	8.74	8.53	8.26	8.53	8.53	8.53
Historical Rate	8.93	9.95	9.64	9.18	9.08	8.98	8.83	8.73	8.58	8.38	8.58	8.58	8.58
Competitive Rate	10.05	10.67	11.33	10.91	10.39	10.04	9.76	9.57	9.55	9.58	9.59	9.58	9.59
Texas/Jackson													
Baseline Scenario:													
Modeled Rate	9.29	10.31	10.30	9.68	9.54	9.41	9.20	9.06	8.85	8.58	8.85	8.85	8.85
Trend Rate	11.0	12.36	11.95	11.34	11.21	11.07	10.87	10.74	10.53	10.27	10.53	10.53	10.53
Historical Rate	8.97	10.08	9.75	9.25	9.14	9.03	8.87	8.76	8.59	8.37	8.59	8.59	8.59
Competitive Rate	10.33	10.94	11.32	11.06	10.68	10.39	10.15	9.97	9.92	9.88	9.88	9.88	9.88
Pessimistic Scenario:													
Modeled Rate	8.91	9.92	9.92	9.30	9.16	9.02	8.81	8.68	8.47	8.19	8.47	8.47	8.47
Trend Rate	10.08	11.95	11.34	11.21	11.07	10.87	10.74	10.53	10.27	10.53	10.53	10.53	10.53
Historical Rate	8.97	10.08	9.75	9.25	9.14	9.03	8.87	8.76	8.59	8.37	8.59	8.59	8.59
Competitive Rate	10.33	10.94	11.32	11.06	10.68	10.39	10.15	9.97	9.92	9.88	9.88	9.88	9.88

Appendix Table 13 (continued)

Year Ended	90 -2000	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Western													
Baseline Economic Scenario:													
Modeled Rate	9.24	10.26	10.25	9.63	9.50	9.36	9.15	9.01	8.81	8.53	8.81	8.81	8.81
Trend Rate	10.80	12.16	11.75	11.15	11.01	10.88	10.68	10.55	10.34	10.08	10.34	10.34	10.34
Historical Rate	8.97	10.10	9.76	9.26	9.15	9.04	8.87	8.76	8.59	8.37	8.59	8.59	8.59
Competitive Rate	9.88	10.51	11.33	10.84	10.25	9.86	9.56	9.36	9.36	9.36	9.36	9.36	9.36
Pessimistic Economic Scenario:													
Modeled Rate	9.94	10.96	10.96	10.33	10.20	10.06	9.85	9.71	9.51	9.23	9.51	9.51	9.51
Trend Rate	10.80	12.16	11.75	11.15	11.01	10.88	10.68	10.55	10.34	10.08	10.34	10.34	10.34
Historical Rate	8.97	10.10	9.76	9.26	9.15	9.04	8.87	8.76	8.59	8.37	8.59	8.59	8.59
Competitive Rate	9.88	10.51	11.33	10.84	10.25	9.86	9.56	9.36	9.36	9.36	9.36	9.36	9.36
Spokane													
Baseline Economic Scenario:													
Modeled Rate	9.92	10.93	10.93	10.31	10.17	10.03	9.82	9.69	9.48	9.20	9.48	9.48	9.48
Trend Rate	11.79	12.30	13.07	12.66	12.05	11.92	11.78	11.58	11.44	11.24	10.97	11.24	11.24
Historical Rate	8.94	9.98	9.67	9.20	9.10	9.00	8.84	8.74	8.58	8.38	8.58	8.58	8.58
Competitive Rate	10.11	10.74	11.33	10.96	10.48	10.14	9.88	9.69	9.66	9.64	9.62	9.61	9.59
Pessimistic Economic Scenario:													
Modeled Rate	10.42	11.44	11.44	10.82	10.68	10.54	10.33	10.19	9.99	9.71	9.99	9.99	9.99
Trend Rate	11.79	12.30	13.07	12.66	12.05	11.92	11.78	11.58	11.44	11.24	10.97	11.24	11.24
Historical Rate	8.94	9.98	9.67	9.20	9.10	9.00	8.84	8.74	8.58	8.38	8.58	8.58	8.58
Competitive Rate	10.11	10.74	11.33	10.96	10.48	10.14	9.88	9.69	9.66	9.64	9.62	9.61	9.59

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^a Modeled Rate= The interest rate utilized in the analysis as FCS's rate received on the average annual balance of accrual loans.

Trend Rate = The current average rate received by FCS banks on the average annual balance of accrual loans as calculated from annual financial reports in 1989.

Projections for 1990 through 2000 were developed through a linear application of projected trends.

Historical Rate= The projected interest rate received by FCS on the average annual balance of accrual loans as calculated using historical relationships.

Competitive Rate= The projected interest rate on new commercial bank nonreal estate loans and Life Insurance Company real estate loans. Rates are weighted by the proportion of FCS bank real estate and nonreal estate debt.

Appendix Table 14. Summary of Springfield FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 114 Basis Points Over the Cost of Funds, Baseline Economic Scenario

	Year Ended													
Financial Output:	90-2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	1,625,309	1,478,346	1,588,428	1,633,302	1,512,534	1,397,014	1,451,699	1,508,524	1,567,574	1,628,935	1,692,698	1,758,957	1,827,810	1,899,357
Nonaccruals	8,127	9,367	5,754	8,167	7,563	6,985	7,258	7,543	7,838	8,145	8,463	8,795	9,139	9,497
% of Loans	0.50%	0.63%	0.36%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Restructured	182	1,039	2,835	2,004	0	0	0	0	0	0	0	0	0	0
% of Loans	0.01%	0.07%	0.18%	0.12%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Performing Loans	1,599,001	1,455,440	1,561,839	1,605,131	1,486,971	1,372,029	1,426,440	1,482,982	1,541,736	1,602,790	1,666,235	1,732,162	1,800,671	1,871,861
% of Loans	98.37%	98.45%	98.33%	98.28%	98.31%	98.21%	98.26%	98.31%	98.35%	98.39%	98.44%	98.48%	98.52%	98.55%
High Risk Loans	18,000	12,500	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000	18,000
% of Loans	1.12%	0.85%	1.13%	1.10%	1.19%	1.29%	1.24%	1.19%	1.15%	1.11%	1.06%	1.02%	0.98%	0.95%
Allowances	42,559	35,303	37,348	42,647	41,321	40,052	40,653	41,277	41,925	42,599	43,299	44,027	44,783	45,569
% of Loans	2.63%	2.39%	2.35%	2.61%	2.73%	2.87%	2.80%	2.74%	2.67%	2.62%	2.56%	2.50%	2.45%	2.40%
Charge Offs	1,625	(311)	(169)	1,633	1,513	1,397	1,452	1,509	1,568	1,629	1,693	1,759	1,828	1,899
% of Loans	0.10%	-0.0210%	-0.0106%	0.1000%	0.1000%	0.1000%	0.1000%	0.1000%	0.1000%	0.1000%	0.1000%	0.1000%	0.1000%	0.1000%
Acquired Property	0	979	799	0	0	0	0	0	0	0	0	0	0	0
% of Assets	0.00%	0.0555%	0.0406%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Provisions (Recovery)	2,373	154	994	6,932	186	128	2,052	2,133	2,216	2,303	2,393	2,487	2,584	2,685
% of Loans	0.14%	0.01%	0.06%	0.42%	0.01%	0.01%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%	0.14%
Net Interest Income	170,433	158,724	192,393	189,717	172,781	155,589	150,664	152,157	154,954	156,647	156,428	187,909	195,186	202,728
% of Assets	8.27%	9.47%	10.32%	9.30%	8.61%	8.47%	8.28%	8.05%	7.89%	7.65%	7.35%	8.48%	8.47%	8.45%
Net Income	(1,650)	31,043	9,081	(2,721)	3,752	4,063	(1,485)	(3,814)	(5,785)	(8,303)	(12,229)	3,210	2,729	2,433
Return on Assets	-0.08%	1.85%	0.49%	-0.13%	0.19%	0.22%	-0.08%	-0.20%	-0.29%	-0.41%	-0.57%	0.14%	0.12%	0.10%
Return on Equity	-0.45%	23.58%	5.99%	-1.76%	2.41%	2.55%	-0.92%	-2.41%	-3.78%	-5.68%	-9.00%	2.44%	2.03%	1.78%
Operating Expense	33,657	34,211	34,597	35,574	31,158	28,778	29,905	31,075	32,292	33,556	34,869	36,234	37,653	39,127
% of Loans	2.07%	2.31%	2.18%	2.18%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%	2.06%
ACA Exp. (% of Loans)	0.42%		0.39%	0.38%	0.36%	0.38%	0.46%	0.45%	0.43%	0.42%	0.40%	0.47%	0.46%	0.45%
Total Capital	193,479	254,916	227,915	223,047	223,909	218,550	208,544	202,322	193,867	182,613	167,135	165,504	169,509	173,267
% of Assets	9.53%	15.21%	12.22%	10.93%	11.16%	11.89%	11.46%	10.70%	9.87%	8.92%	7.85%	7.47%	7.35%	7.22%
Owner Capital	210,096	254,916	227,915	223,047	223,909	218,550	208,544	202,322	193,867	182,613	167,135	165,504	169,509	173,267
% of Assets	10.89%	15.21%	12.22%	10.93%	11.16%	11.89%	11.46%	10.70%	9.87%	8.92%	7.85%	7.47%	7.35%	7.22%
Capital at Risk	154,553	147,159	156,237	153,516	157,268	161,331	159,846	156,033	150,248	141,945	129,716	132,925	135,655	138,088
% of Assets	9.57%	10.00%	9.74%	8.99%	9.39%	10.44%	10.55%	9.91%	9.20%	8.36%	7.36%	7.26%	7.13%	6.99%
% of Loans	10.10%	9.95%	9.84%	9.40%	10.40%	11.55%	11.01%	10.34%	9.58%	8.71%	7.66%	7.56%	7.42%	7.27%

Appendix Table 15. Summary of Springfield FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 127 Basis Points Over the Cost of Funds, Pessimistic Scenario

Financial Output:	Year Ended													
	90-2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	1,511,647	1,478,346	1,588,428	1,633,302	1,512,534	1,397,014	1,451,699	1,508,524	1,567,574	1,628,935	1,577,001	1,509,386	1,442,879	1,399,266
Nonaccruals	35,233	9,367	5,754	8,167	7,563	6,985	7,258	7,543	33,464	162,225	88,024	39,665	18,175	8,497
% of Loans	2.24%	0.63%	0.36%	0.50%	0.50%	0.50%	0.50%	0.50%	2.13%	9.96%	5.58%	2.63%	1.26%	0.61%
Restructured	3,992	1,039	2,835	2,004	0	0	0	246	6,201	30,161	4,411	407	241	236
% of Loans	0.25%	0.07%	0.18%	0.12%	0.00%	0.00%	0.00%	0.02%	0.40%	1.85%	0.28%	0.03%	0.02%	0.02%
Performing Loans	1,416,837	1,455,440	1,561,839	1,605,131	1,486,971	1,372,029	1,426,440	1,482,736	1,381,148	1,289,084	1,390,928	1,402,138	1,384,963	1,363,638
% of Loans	93.92%	98.45%	98.33%	98.28%	98.31%	98.21%	98.26%	98.29%	88.11%	79.14%	88.20%	92.89%	95.99%	97.45%
High Risk Loans	55,585	12,500	18,000	18,000	18,000	18,000	18,000	18,000	146,761	147,465	93,637	67,176	39,501	26,894
% of Loans	3.59%	0.85%	1.13%	1.10%	1.19%	1.29%	1.24%	1.19%	9.36%	9.05%	5.94%	4.45%	2.74%	1.92%
Allowances	42,226	35,303	37,348	37,818	35,458	30,728	27,721	28,146	50,076	101,756	58,619	32,660	31,221	30,277
% of Loans	2.75%	2.39%	2.35%	2.32%	2.34%	2.20%	1.91%	1.87%	3.19%	6.25%	3.72%	2.16%	2.16%	2.16%
Charge Offs	3,848	(311)	(169)	1,633	1,513	1,397	1,452	1,509	3,771	18,477	6,929	2,804	1,443	1,399
% of Loans	0.25%	-0.0210%	-0.0106%	0.1000%	0.1000%	0.1000%	0.1000%	0.1000%	0.2405%	1.1343%	0.4394%	0.1858%	0.1000%	0.1000%
Acquired Property	330	979	799	0	0	0	0	0	451	2,391	629	120	32	12
% of Assets	0.02%	0.0555%	0.0406%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0212%	0.1093%	0.0301%	0.0060%	0.0017%	0.0006%
Provisions (Recovery)	3,205	154	994	2,104	(847)	(3,333)	(1,556)	1,934	25,700	70,157	(36,208)	(23,155)	4	456
% of Loans	0.18%	0.01%	0.06%	0.13%	-0.06%	-0.24%	-0.11%	0.13%	1.64%	4.31%	-2.30%	-1.53%	0.00%	0.03%
Net Interest Income	163,293	158,724	192,393	191,643	174,671	157,337	152,376	153,947	161,595	163,472	153,182	169,277	162,447	156,280
% of Assets	8.24%	9.47%	10.32%	9.38%	8.68%	8.53%	8.32%	8.08%	7.94%	7.56%	7.16%	8.27%	8.31%	8.35%
Net Income	(4,423)	31,043	9,081	5,758	6,136	7,934	2,326	(1,253)	(26,843)	(82,418)	15,633	19,124	1,599	3,354
Return on Assets	-0.19%	1.85%	0.49%	0.28%	0.31%	0.43%	0.13%	-0.07%	-1.32%	-3.81%	0.73%	0.93%	0.08%	0.18%
Return on Equity	-9.18%	23.58%	5.99%	3.62%	3.72%	4.61%	1.31%	-0.70%	-16.40%	-75.55%	20.65%	20.55%	1.55%	3.17%
Operating Expense	33,078	34,211	34,597	33,540	31,712	29,986	31,883	31,078	32,539	35,469	36,603	36,060	33,763	31,220
% of Loans	2.19%	2.31%	2.18%	2.05%	2.10%	2.15%	2.20%	2.06%	2.08%	2.18%	2.32%	2.39%	2.34%	2.23%
ACA Exp. (% of Loans)	0.41%	0.39%	0.38%	0.36%	0.38%	0.46%	0.45%	0.43%	0.43%	0.40%	0.48%	0.34%	0.35%	
Total Capital	180,205	254,916	227,915	231,526	234,773	233,284	227,088	223,428	193,914	108,546	120,930	135,214	135,774	137,776
% of Assets	9.17%	15.21%	12.22%	11.33%	11.67%	12.64%	12.41%	11.73%	9.53%	5.02%	5.65%	6.60%	6.95%	7.36%
Owner Capital	210,059	254,916	227,915	231,526	234,773	233,284	227,088	223,428	193,914	108,546	120,930	135,214	135,774	137,776
% of Assets	10.82%	15.21%	12.22%	11.33%	11.67%	12.64%	12.41%	11.73%	9.53%	5.02%	5.65%	6.60%	6.95%	7.36%
Capital at Risk	154,516	147,159	156,237	161,995	168,131	176,065	178,391	177,138	150,295	67,878	83,510	102,635	104,234	107,589
% of Assets	9.50%	10.00%	9.74%	9.47%	10.01%	11.34%	11.68%	11.16%	8.82%	3.75%	4.68%	6.04%	6.46%	7.00%
% of Loans	10.16%	9.95%	9.84%	9.92%	11.12%	12.60%	12.29%	11.74%	9.59%	4.17%	5.30%	6.80%	7.22%	7.69%

Appendix Table 16. Summary of Baltimore FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 86.2 Basis Points Over the Cost of Funds, Baseline Economic Scenario

Financial Output:	-Year Ended-													
	90-2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,678,517	2,682,458	2,860,281	3,022,023	3,121,924	3,262,072	3,450,011	3,611,742	3,743,235	3,846,450	3,936,881	4,037,392	4,161,916	4,270,042
Nonaccruals	18,393	28,075	21,643	15,110	15,610	16,310	17,250	18,059	18,716	19,232	19,684	20,187	20,810	21,350
% of Loans	0.50%	1.05%	0.78%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Restructured	3,150	4,042	17,900	17,900	16,750	0	0	0	0	0	0	0	0	0
% of Loans	0.11%	0.15%	0.67%	0.65%	0.54%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Performing Loans	3,580,269	2,589,683	2,748,938	2,911,830	3,027,982	3,167,429	3,354,428	3,515,350	3,646,186	3,748,885	3,838,863	3,938,872	4,062,773	4,170,359
% of Loans	97.29%	96.54%	96.11%	96.35%	96.99%	97.10%	97.23%	97.33%	97.41%	97.46%	97.51%	97.56%	97.62%	97.67%
High Risk Loans	58,883	46,800	71,800	78,333	78,333	78,333	78,333	78,333	78,333	78,333	24,849	24,848	24,846	24,844
% of Loans	1.68%	1.74%	2.51%	2.59%	2.51%	2.40%	2.27%	2.17%	2.09%	2.04%	0.63%	0.62%	0.60%	0.58%
Allowances	24,427	51,625	35,223	20,158	24,912	24,838	24,862	24,837	24,852	24,851	24,849	24,848	24,846	24,844
% of Loans	0.67%	1.92%	1.23%	0.67%	0.80%	0.76%	0.72%	0.69%	0.66%	0.65%	0.63%	0.62%	0.60%	0.58%
Charge Offs	3,679	12,182	185	3,022	3,122	3,262	3,450	3,612	3,743	3,846	3,937	4,037	4,162	4,270
% of Loans	0.10%	0.451%	0.0067%	0.1027%	0.1016%	0.1022%	0.1028%	0.1023%	0.1018%	0.1014%	0.1012%	0.1013%	0.1015%	0.1013%
Acquired Property	744	1,640	1,077	1,628	390	712	679	809	779	763	831	843	374	374
% of Assets	0.02%	0.0508%	0.0312%	0.0458%	0.0105%	0.0181%	0.0165%	0.0188%	0.0176%	0.0168%	0.0177%	0.0173%	0.0073%	0.0143%
Provisions (Recovery)	2,735	(7,648)	(16,217)	(12,043)	7,876	3,188	3,473	3,587	3,758	3,845	3,936	4,036	4,160	4,268
% of Loans	0.07%	-0.29%	-0.59%	-0.41%	0.26%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Net Interest Income	66,091	48,618	67,958	65,860	62,740	63,273	64,899	66,264	67,572	68,354	69,038	70,960	66,968	61,075
% of Assets	1.58%	1.70%	2.10%	1.91%	1.76%	1.70%	1.65%	1.61%	1.57%	1.54%	1.52%	1.51%	1.37%	1.19%
Net Income	(877)	65,037	25,286	23,720	1,861	4,405	617	(1,446)	(2,375)	(3,277)	(4,262)	(5,428)	(12,005)	(11,452)
Return on Assets	0.00%	2.27%	0.78%	0.69%	0.05%	0.12%	0.02%	-0.04%	-0.06%	-0.07%	-0.09%	-0.12%	-0.25%	-0.22%
Return on Equity	-0.28%	15.29%	5.58%	5.22%	0.40%	0.95%	0.13%	-0.32%	-0.52%	-0.74%	-0.98%	-1.31%	-2.98%	-2.90%
Operating Expense	60,023	45,039	47,558	49,311	50,941	53,228	56,294	58,933	61,079	62,763	64,239	65,879	67,911	69,675
% of Loans	1.66%	1.68%	1.72%	1.68%	1.66%	1.67%	1.68%	1.67%	1.66%	1.65%	1.65%	1.65%	1.66%	1.65%
ACA Exp. (% of Loans)	0.27%		0.21%	0.23%	0.22%	0.22%	0.29%	0.30%	0.29%	0.27%	0.27%	0.32%	0.35%	0.18%
Total Capital	438,076	462,145	447,009	463,991	464,302	463,996	460,711	456,071	448,721	438,801	426,524	404,662	400,247	390,806
% of Assets	10.54%	16.12%	13.84%	13.42%	13.05%	12.43%	11.75%	11.08%	10.44%	9.89%	9.37%	8.62%	8.19%	7.64%
Owner Capital	438,076	462,145	444,198	463,991	464,302	463,996	460,711	456,071	448,721	438,801	426,524	404,662	400,247	390,806
% of Assets	10.54%	16.12%	13.76%	13.42%	13.05%	12.43%	11.75%	11.08%	10.44%	9.89%	9.37%	8.62%	8.19%	7.64%
Capital at Risk	339,205	299,074	319,700	343,420	345,281	349,686	350,302	348,856	346,481	343,205	338,943	333,515	321,510	310,058
% of Assets	9.12%	11.23%	11.10%	11.16%	10.76%	10.48%	9.99%	9.46%	9.02%	8.66%	8.34%	8.00%	7.48%	6.99%
% of Loans	9.54%	11.15%	11.54%	11.68%	11.24%	10.96%	10.44%	9.88%	9.42%	9.04%	8.71%	8.36%	7.84%	7.35%

Appendix Table 17. Summary of Baltimore FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 101 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

	-----Year Ended-----													
Financial Output:	90-2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,215,995	2,682,458	2,860,281	3,022,023	3,121,924	3,262,072	3,450,011	3,613,304	3,679,229	3,586,885	3,012,562	2,960,916	2,851,113	2,815,909
Nonaccruals	73,644	28,075	21,643	15,110	15,610	16,310	17,250	18,067	77,618	355,869	166,840	76,415	34,581	16,417
% of Loans	2.36%	1.05%	0.78%	0.50%	0.50%	0.50%	0.50%	0.50%	2.16%	11.01%	5.68%	2.55%	1.23%	0.59%
Restructured	11,333	10,984	17,900	17,900	16,750	0	0	0	618	14,367	66,067	8,154	557	248
% of Loans	0.37%	0.41%	0.67%	0.65%	0.54%	0.00%	0.00%	0.00%	0.02%	0.40%	2.19%	0.28%	0.02%	0.01%
Performing Loans	2,975,884	2,589,683	2,748,938	2,918,363	3,034,514	3,173,962	3,360,961	3,516,286	3,449,360	2,748,814	2,514,116	2,680,619	2,663,485	2,674,245
% of Loans	92.60%	96.54%	96.11%	96.57%	97.20%	97.30%	97.42%	97.31%	93.75%	76.64%	83.45%	90.53%	93.42%	94.97%
High Risk Loans	104,279	46,800	71,800	78,333	78,333	78,333	78,333	78,333	137,884	416,135	80,898	50,868	38,262	31,357
% of Loans	3.10%	1.74%	2.51%	2.59%	2.51%	2.40%	2.27%	2.17%	3.75%	11.60%	2.69%	1.72%	1.34%	1.11%
Allowances	51,333	51,625	35,223	47,083	35,223	35,337	35,301	38,536	67,725	104,075	80,898	50,868	38,262	31,357
% of Loans	1.59%	1.92%	1.23%	1.56%	1.13%	1.08%	1.02%	1.07%	1.84%	2.90%	2.69%	1.72%	1.34%	1.11%
Charge Offs	8,187	12,182	185	3,022	3,122	3,262	3,450	3,613	8,785	40,590	13,143	5,401	2,851	2,816
% of Loans	0.24%	0.4541%	0.0067%	0.1027%	0.1016%	0.1022%	0.1028%	0.1023%	0.2409%	1.1172%	0.3983%	0.1808%	0.0981%	0.0994%
Acquired Property	4,136	1,640	1,077	1,628	390	712	679	0	0	20,856	13,946	7,036	126	126
% of Assets	0.11%	0.0508%	0.0312%	0.0459%	0.0105%	0.0182%	0.0165%	0.0000%	0.0000%	0.5479%	0.3991%	0.2031%	0.0037%	0.0073%
Provisions (Recovery)	7,835	(7,648)	(16,217)	14,882	(8,738)	3,376	3,414	6,849	37,974	76,940	(10,034)	(24,628)	(9,755)	(4,089)
% of Loans	0.20%	-0.29%	-0.59%	0.51%	-0.28%	0.11%	0.10%	0.19%	1.04%	2.12%	-0.30%	-0.82%	-0.34%	-0.14%
Net Interest Income	59,543	48,618	67,958	70,403	67,813	68,749	70,929	72,894	71,662	54,277	42,880	47,536	45,913	41,920
% of Assets	1.58%	1.70%	2.10%	2.04%	1.91%	1.84%	1.81%	1.77%	1.69%	1.29%	1.13%	1.36%	1.33%	1.21%
Net Income	(10,167)	65,037	25,286	3,126	20,148	8,178	5,147	748	(33,281)	(98,176)	(13,650)	5,394	(12,551)	3,075
Return on Assets	-0.23%	2.27%	0.78%	0.09%	0.57%	0.22%	0.13%	0.02%	-0.79%	-2.34%	-0.36%	0.15%	-0.36%	0.09%
Return on Equity	-2.88%	15.29%	5.58%	0.70%	4.45%	1.76%	1.10%	0.16%	-7.48%	-26.33%	-4.45%	1.87%	-4.57%	1.16%
Operating Expense	57,793	45,039	47,558	50,247	51,908	54,239	57,363	60,079	61,798	65,267	61,516	65,030	66,041	42,239
% of Loans	1.80%	1.68%	1.72%	1.71%	1.69%	1.70%	1.71%	1.70%	1.69%	1.80%	1.86%	2.18%	2.27%	1.49%
ACA Exp. (% of Loans)	0.26%	0.21%	0.21%	0.23%	0.22%	0.22%	0.29%	0.30%	0.29%	0.29%	0.28%	0.23%	0.28%	0.27%
Total Capital	377,894	462,145	447,009	443,398	461,995	465,462	466,708	464,263	426,051	319,553	293,612	283,681	265,035	267,077
% of Assets	10.04%	16.12%	13.84%	12.86%	13.03%	12.49%	11.91%	11.30%	10.07%	7.62%	7.71%	8.12%	7.65%	7.73%
Owner Capital	377,894	462,145	444,198	443,398	461,995	465,462	466,708	464,263	426,051	319,553	293,612	283,681	265,035	267,077
% of Assets	10.04%	16.12%	13.76%	12.86%	13.03%	12.49%	11.91%	11.30%	10.07%	7.62%	7.71%	8.12%	7.65%	7.73%
Capital at Risk	283,780	299,074	319,700	322,826	342,974	351,152	356,299	357,048	323,767	225,591	211,941	217,335	204,784	207,859
% of Assets	8.48%	11.23%	11.10%	10.53%	10.73%	10.54%	10.17%	9.70%	8.56%	6.03%	6.25%	7.03%	6.76%	6.99%
% of Loans	8.82%	11.15%	11.54%	10.98%	11.16%	11.00%	10.62%	10.11%	8.88%	6.21%	6.42%	7.28%	7.05%	7.34%

Appendix Table 18. Summary of Columbia FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 33.0 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

Financial Output:	Year Ended													
	90-2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,554,686	4,038,477	3,928,830	3,716,062	3,678,956	3,747,771	3,822,077	3,877,370	3,857,318	3,668,727	3,489,357	2,795,324	2,795,324	2,795,324
Nonaccruals	129,698	304,736	229,180	166,066	114,211	65,211	19,110	19,387	82,341	365,310	194,663	73,337	35,127	17,396
% of Total Loans	3.44	7.23	5.75	4.34	3.09	1.76	0.50	0.50	2.13	9.71	5.44	2.33	1.26	0.62
Restructured	12,844	35,142	32,648	0	0	0	1,309	15,938	68,511	10,330	1,225	943	931	0
% of Total Loans	0.33	0.83	0.82	0.00	0.00	0.00	0.03	0.41	1.77	0.27	0.03	0.03	0.03	0.00
Performing Loans	3,230,965	3,645,156	3,586,206	3,376,053	3,423,557	3,541,418	3,661,853	3,716,128	3,336,722	2,983,924	2,980,748	2,473,046	2,619,768	2,657,971
% of Total Loans	89.42	86.54	90.02	88.32	92.59	95.37	96.75	96.53	86.28	79.30	83.28	78.70	93.72	95.09
Other High Risk Loans	179,852	71,347	78,302	141,296	141,188	141,141	141,113	140,546	422,317	250,983	303,616	247,716	139,486	119,026
% of Total Loans	5.04	1.69	1.97	3.70	3.82	3.80	3.73	3.65	10.92	6.67	8.48	7.88	4.99	4.26
Allowances	111,725	164,526	153,784	140,655	111,945	84,835	59,334	59,291	138,516	208,870	153,769	91,264	48,923	36,715
% of Total Loans	3.02	3.91	3.86	3.68	3.03	2.28	1.57	1.54	3.58	5.55	4.30	2.90	1.75	1.31
Acquired Property	7,110	14,504	17,103	10,762	6,772	4,261	0	2,086	1,606	23,748	6,403	2,424	1,653	1,104
% of Total Assets	0.16	0.2861	0.3353	0.2238	0.1562	0.1004	0.0000	0.0468	0.0361	0.5582	0.1603	0.0689	0.0523	0.0347
Charge Offs	8,161	2,539	(1,025)	9,944	6,206	3,748	3,822	3,877	9,278	41,610	15,324	5,184	2,795	2,795
% of Total Loans	0.22	0.06	-0.0257	0.2601	0.1679	0.1009	0.1010	0.1007	0.2399	1.1058	0.4282	0.1650	0.1000	0.1000
Provisions (Recovery)	(8,756)	(88,725)	(12,624)	(3,185)	(22,504)	(23,362)	(21,679)	3,834	88,503	111,964	(39,777)	(57,322)	(39,546)	(9,412)
% of Loans	-0.28	-2.11	-0.32	-0.08	-0.61	-0.63	-0.57	0.10	2.29	2.98	-1.11	-1.82	-1.41	-0.34
Operating Expense	72,814	71,513	73,154	65,601	66,363	72,376	73,811	74,879	75,306	77,070	80,702	69,454	73,180	73,180
% of Loan Volume	2.05	1.70	1.84	1.72	1.79	1.95	1.95	1.95	1.95	2.05	2.25	2.21	2.62	2.62
Net Interest Income	42,911	65,706	109,889	48,556	45,832	48,361	49,205	47,406	40,520	21,001	12,059	21,357	24,399	23,552
% of Assets	0.98	1.30	2.15	1.01	1.06	1.14	1.13	1.06	0.91	0.49	0.30	0.61	0.77	0.74
Net Income	(3,665)	188,922	56,810	(1,765)	12,379	10,316	8,490	(19,194)	(112,484)	(157,804)	(18,340)	17,262	(659)	(31,575)
Return on Assets	-0.16	3.73	1.11	-0.04	0.29	0.24	0.19	-0.43	-2.53	-3.71	-0.46	0.49	-0.02	-0.99
Return on Equity	-2.53	28.32	7.65	-0.25	1.93	1.61	1.32	-3.05	-20.23	-38.26	-5.86	5.76	-0.22	-11.61
ACA87 Expense (% of Loan)	0.32	0.25	0.25	0.25	0.25	0.25	0.33	0.35	0.33	0.33	0.33	0.45	0.40	0.36
Total Capital	510,411	743,658	742,091	644,090	639,512	639,852	641,899	616,102	496,151	328,762	297,165	302,238	287,699	256,125
% of Assets	11.77	14.67	14.55	13.39	14.75	15.07	14.73	13.84	11.15	7.73	7.44	8.59	9.11	8.05
Owner Capital	385,242	472,656	493,591	491,826	504,205	514,521	523,011	503,817	391,333	233,529	215,189	232,451	231,792	200,218
% of Assets	8.94	9.32	9.68	10.23	11.63	12.12	12.00	11.31	8.80	5.49	5.39	6.61	7.34	6.29
Capital at Risk	392,015	489,906	564,391	491,826	504,205	514,521	523,011	503,817	391,333	233,529	215,189	232,451	231,792	200,218
% of Assets	10.22	11.26	13.40	12.20	13.08	13.29	13.15	12.41	9.66	6.05	5.95	7.32	8.15	6.99
% of Loans	10.63	11.63	14.17	12.87	13.64	13.86	13.82	13.09	10.12	6.21	6.01	7.40	8.29	7.16

Appendix Table 19. Summary of Columbia FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 36.0 Basis Points Over the Cost of Funds, Baseline Economic Scenario

	-----Year Ended-----													
Financial Output:	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,921,201	4,038,477	3,928,830	3,716,062	3,678,956	3,747,771	3,822,077	3,877,370	3,928,361	3,967,025	4,006,068	4,045,496	4,085,312	4,133,803
Nonaccruals	79,902	304,736	229,180	166,066	114,211	65,211	19,110	19,387	19,642	19,835	20,030	20,227	20,427	20,669
% of Total Loans	2.02	7.23	5.75	4.34	3.09	1.76	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50
Restructured	5,215	35,142	32,648	0	0	0	0	0	0	0	0	0	0	0
% of Total Loans	0.13	0.83	0.82	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Performing Loans	3,703,766	3,645,156	3,586,206	3,376,053	3,423,557	3,541,418	3,661,823	3,716,823	3,767,527	3,805,988	3,844,853	3,884,060	3,923,623	3,971,872
% of Total Loans	94.24	86.54	90.02	88.32	92.59	95.37	96.75	96.55	96.53	96.41	96.45	96.48	96.51	96.65
Other High Risk	130,992	71,347	78,302	141,296	141,189	141,141	141,144	141,160	141,193	141,202	141,185	141,209	141,263	141,263
% of Total Loans	3.35	1.69	1.97	3.70	3.82	3.80	3.73	3.67	3.62	3.58	3.54	3.51	3.47	3.44
Allowances	104,915	164,526	153,784	140,656	111,945	84,835	59,345	59,503	59,656	105,523	105,703	105,910	106,137	106,374
% of Total Loans	2.66	3.91	3.86	3.68	3.03	2.28	1.57	1.55	1.53	2.67	2.65	2.63	2.61	2.59
Acquired Property	5,348	14,504	17,103	10,762	6,772	4,261	0	2,086	1,401	4,930	3,206	2,111	1,416	977
% of Total Assets	0.11	0.2861	0.3353	0.2238	0.1562	0.1004	0.0000	0.0468	0.0310	0.1082	0.0700	0.0456	0.0302	0.0206
Charge Offs	4,098	2,539	(1,025)	9,944	6,206	3,748	3,822	3,877	3,928	3,967	4,006	4,045	4,085	4,134
% of Total Loans	0.11	0.06	-0.0257	0.2601	0.1679	0.1009	0.1010	0.1007	0.1007	0.1005	0.1005	0.1005	0.1005	0.1006
Provisions (Recovery)	(7,461)	(88,725)	(12,624)	(3,185)	(22,504)	(23,362)	(21,668)	4,036	4,081	49,834	4,186	4,253	4,312	4,371
% of Loans	-0.19	-2.11	-0.32	-0.08	-0.61	-0.63	-0.57	0.10	0.10	1.26	0.11	0.11	0.11	0.11
Net Operating Expense	73,016	71,513	73,154	65,601	66,363	70,236	71,628	73,602	74,570	75,304	75,972	76,566	77,075	77,627
% of Loans	1.86	1.70	1.84	1.72	1.79	1.89	1.89	1.91	1.91	1.91	1.91	1.90	1.90	1.89
Net Interest Income	50,750	65,706	109,889	50,213	47,586	50,358	51,560	50,099	47,020	43,149	38,695	37,704	35,128	32,595
of Assets	1.09	1.30	2.15	1.04	1.10	1.19	1.18	1.13	1.04	0.95	0.84	0.81	0.75	0.69
Net Income	4,047	188,922	56,810	(109)	13,998	14,132	12,665	(15,401)	(19,331)	(69,653)	(28,991)	(30,494)	(33,510)	(36,473)
Return On Assets	0.05	3.73	1.11	0.00	0.32	0.33	0.29	-0.35	-0.43	-1.53	-0.63	-0.66	-0.72	-0.77
Return On Equity	-0.35	28.32	7.65	-0.02	2.17	2.19	1.95	-2.40	-3.13	-12.31	-5.70	-6.49	-7.72	-9.12
ACR87 Expense (% of Loan)	0.31		0.25	0.25	0.25	0.25	0.33	0.35	0.33	0.31	0.31	0.39	0.43	0.25
Total Capital	582,850	743,658	742,091	645,747	642,786	646,941	653,164	631,160	604,363	526,878	489,543	450,538	417,833	382,182
% of Assets	12.63	14.67	14.55	13.43	14.82	15.24	14.99	14.17	13.37	11.56	10.68	9.72	8.92	8.06
Owner Capital	452,330	472,656	493,591	493,482	507,480	521,611	534,276	518,875	499,544	429,891	400,902	370,417	336,923	300,476
% of Assets	9.84	9.32	9.68	10.26	11.70	12.29	12.26	11.65	11.05	9.43	8.75	8.00	7.19	6.34
Capital at Risk	459,103	489,906	564,391	493,482	507,480	521,611	534,276	518,875	499,544	429,891	400,902	370,417	336,923	300,476
% of Assets	11.20	11.26	13.40	12.24	13.17	13.47	13.44	12.78	12.13	10.37	9.63	8.81	7.93	7.00
% of Loans	11.74	11.63	14.17	12.91	13.72	14.05	14.12	13.48	12.80	10.89	10.06	9.20	8.29	7.31

Appendix Table 20. Summary of Louisville FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 101 Basis Points Over the Cost of Funds, Baseline Economic Scenario

Financial Output:	Year Ended													
	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	4,675,091	3,342,633	3,365,909	4,002,518	4,246,331	4,617,263	4,658,507	4,696,436	4,757,802	4,813,610	4,845,715	4,883,833	4,932,854	4,971,133
Nonaccruals	30,996	254,503	166,193	90,972	34,100	23,086	23,293	23,482	23,789	24,068	24,229	24,419	24,664	24,856
% of Loans	0.71%	7.53%	4.95%	2.47%	0.83%	0.52%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Restructured	19,777	128,428	175,575	209,192	7,371	0	0	0	0	334	0	0	7	640
% of Loans	0.53%	3.80%	5.23%	5.68%	0.18%	0.00%	0.00%	0.00%	0.00%	0.01%	0.00%	0.00%	0.00%	0.01%
Performing Loans	4,339,397	2,883,516	2,918,463	3,388,564	3,910,146	4,309,544	4,355,133	4,393,132	4,455,280	4,511,188	4,543,859	4,579,810	4,625,978	4,660,731
% of Loans	94.27%	85.35%	87.01%	91.98%	94.80%	97.24%	93.90%	93.92%	94.25%	94.26%	94.08%	94.14%	94.25%	94.12%
High Risk Loans	284,922	76,186	105,678	313,791	294,714	284,634	280,081	279,822	278,733	278,020	277,627	279,604	282,205	284,907
% of Loans	6.26%	2.26%	3.15%	8.52%	7.15%	6.42%	6.04%	5.98%	5.90%	5.81%	5.75%	5.75%	5.75%	5.75%
Allowances	67,727	110,293	123,938	93,001	70,716	65,107	64,252	64,261	64,140	64,086	64,058	64,520	65,126	65,735
% of Loans	1.50%	3.26%	3.69%	2.52%	1.71%	1.47%	1.39%	1.37%	1.36%	1.34%	1.33%	1.33%	1.33%	1.33%
Charge Offs	4,886	(12,435)	(14,148)	6,327	4,246	4,617	4,659	4,696	4,758	4,814	4,846	4,884	4,933	4,971
% of Loans	0.11%	-0.37%	-0.42%	0.17%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Acquired Property	1,112	17,728	6,793	5,415	2,932	1,650	925	548	353	391	13	0	0	0
% of Assets	0.02%	0.4761%	0.1680%	0.1190%	0.0596%	0.0319%	0.0177%	0.0104%	0.0066%	0.0072%	0.0002%	0.0000%	0.0000%	0.0000%
Provisions (Recovery)	(405)	(91,864)	(37,180)	(24,610)	(18,039)	(992)	3,804	4,706	4,637	4,760	4,818	5,346	5,539	5,580
% of Loans	-0.03%	-2.72%	-1.11%	-0.67%	-0.44%	-0.02%	0.08%	0.10%	0.10%	0.10%	0.10%	0.11%	0.11%	0.11%
Net Interest Income	74,998	66,993	99,148	62,737	70,990	77,038	79,061	78,218	77,429	76,166	74,200	75,363	76,152	77,623
% of Assets	1.46%	1.76%	2.66%	1.55%	1.56%	1.56%	1.53%	1.49%	1.46%	1.42%	1.37%	1.38%	1.38%	1.39%
Net Income	13,530	85,898	80,149	32,269	31,091	16,271	10,859	8,339	6,848	5,471	3,547	2,748	12,693	4,754
Return on Assets	0.28%	2.26%	2.15%	0.80%	0.68%	0.33%	0.21%	0.16%	0.13%	0.10%	0.07%	0.05%	0.23%	0.09%
Return on Equity	6.20%	29.82%	28.50%	14.23%	13.48%	6.84%	4.57%	3.57%	3.06%	2.56%	1.75%	1.43%	6.78%	2.53%
Operating Expense	70,080	76,456	65,254	61,804	65,569	71,296	71,933	72,433	73,139	73,590	73,540	73,409	62,391	71,774
% of Loans	1.53%	2.26%	1.95%	1.68%	1.59%	1.61%	1.55%	1.55%	1.54%	1.52%	1.52%	1.51%	1.27%	1.45%
ACB7 Exp. (% of Loans)	0.26%		0.32%	0.25%	0.23%	0.22%	0.27%	0.29%	0.29%	0.28%	0.28%	0.32%	0.34%	0.35%
Total Capital	528,025	465,268	446,706	471,257	517,738	532,694	545,140	543,449	539,976	535,524	528,723	520,377	540,777	553,509
% of Assets	10.33%	12.26%	12.00%	11.65%	11.38%	10.82%	10.54%	10.38%	10.20%	9.98%	9.76%	9.52%	9.80%	9.93%
Owner Capital	438,025	375,268	356,706	381,257	427,738	442,694	455,140	453,449	449,976	445,524	438,723	430,377	450,777	463,509
% of Assets	8.56%	9.98%	9.58%	9.43%	9.40%	8.99%	8.80%	8.67%	8.50%	8.31%	8.10%	7.88%	8.17%	8.32%
Capital at Risk	314,072	133,520	216,020	248,289	279,380	295,651	306,510	314,849	321,697	327,168	330,715	333,463	353,100	364,852
% of Assets	6.51%	3.82%	6.22%	6.51%	6.49%	6.37%	6.30%	6.41%	6.48%	6.51%	6.52%	6.53%	6.85%	7.01%
% of Loans	6.82%	3.95%	6.44%	6.74%	6.77%	6.67%	6.61%	6.73%	6.81%	6.84%	6.85%	6.85%	7.19%	7.37%

Appendix Table 21. Summary of Louisville FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 127 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

	-----Year Ended-----													
Financial Output:	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	4,260,417	3,342,633	3,365,909	4,002,518	4,246,331	4,617,263	4,658,507	4,696,436	4,743,871	4,674,989	4,134,220	3,833,904	3,673,582	3,582,964
Nonaccruals	105,794	254,503	166,193	90,972	34,100	23,086	23,293	23,482	101,606	465,975	231,094	101,029	46,599	22,498
% of Loans	2.41%	7.53%	4.95%	2.47%	0.83%	0.52%	0.50%	0.50%	2.15%	9.89%	5.25%	2.54%	1.24%	0.62%
Restructured	30,593	128,428	175,575	209,192	7,371	0	0	1,075	18,863	86,429	11,477	992	579	550
% of Loans	0.77%	3.80%	5.23%	5.68%	0.18%	0.00%	0.00%	0.02%	0.40%	1.84%	0.26%	0.02%	0.02%	0.02%
Performing Loans	3,829,674	2,883,516	2,918,463	3,388,564	3,910,146	4,309,544	4,354,629	4,382,976	4,333,298	3,841,814	3,382,273	3,485,609	3,397,440	3,340,118
% of Loans	90.17%	85.35%	87.01%	91.98%	94.80%	97.24%	93.89%	93.70%	91.80%	81.58%	76.79%	87.49%	90.51%	92.06%
High Risk Loans	294,356	76,186	105,678	313,791	294,714	284,634	280,585	288,903	290,104	280,771	509,376	246,274	228,964	219,798
% of Loans	6.94%	2.26%	3.15%	8.52%	7.15%	6.42%	6.05%	6.18%	6.15%	5.96%	11.56%	6.18%	6.10%	6.06%
Allowances	93,868	110,293	123,938	93,001	70,716	65,107	64,354	66,100	91,650	207,796	177,992	82,589	61,452	51,789
% of Loans	2.19%	3.26%	3.69%	2.52%	1.71%	1.47%	1.39%	1.41%	1.94%	4.41%	4.04%	2.07%	1.64%	1.43%
Charge Offs	11,057	(12,435)	(14,148)	6,327	4,246	4,617	4,659	4,696	11,435	53,056	18,188	7,141	3,674	3,583
% of Loans	0.25%	-0.37%	-0.42%	0.17%	0.10%	0.10%	0.10%	0.10%	0.24%	1.13%	0.41%	0.18%	0.10%	0.10%
Acquired Property	5,189	17,728	6,793	5,415	2,932	1,650	925	1,204	6,915	29,743	4,698	1,640	1,159	793
% of Assets	0.11%	0.4761%	0.1680%	0.1190%	0.0596%	0.0319%	0.0177%	0.0228%	0.1330%	0.6147%	0.1058%	0.0387%	0.0282%	0.0391%
Provisions (Recovery)	4,498	(91,864)	(37,180)	(24,610)	(18,039)	(992)	3,906	6,442	36,986	169,201	(11,616)	(88,261)	(17,463)	(6,080)
% of Loans	0.03%	-2.72%	-1.11%	-0.67%	-0.44%	-0.02%	0.08%	0.14%	0.78%	3.59%	-0.26%	-2.22%	-0.47%	-0.17%
Net Interest Income	76,165	66,993	99,148	72,375	82,731	90,598	94,199	94,491	90,935	67,222	52,656	61,519	64,880	66,205
% of Assets	1.61%	1.76%	2.66%	1.79%	1.82%	1.84%	1.82%	1.81%	1.73%	1.29%	1.09%	1.39%	1.53%	1.61%
Net Income	4,666	85,898	80,149	41,284	42,070	28,949	24,913	21,915	(12,901)	(181,965)	(10,225)	72,898	17,319	7,067
Return on Assets	0.15%	2.26%	2.15%	1.02%	0.92%	0.59%	0.44%	0.42%	-0.24%	-3.50%	-0.21%	1.64%	0.41%	0.17%
Return on Equity	2.40%	29.82%	28.50%	18.20%	18.24%	12.18%	10.47%	9.38%	-5.77%	-85.37%	-5.08%	39.66%	10.21%	4.28%
Operating Expense	72,906	76,456	65,254	61,804	65,569	71,296	71,933	72,433	73,964	79,666	80,190	81,561	71,774	71,774
% of Loans	1.73%	2.26%	1.95%	1.68%	1.59%	1.61%	1.55%	1.55%	1.57%	1.69%	1.82%	2.05%	1.91%	1.98%
ACA Exp. (of Loans)	0.26%		0.32%	0.25%	0.23%	0.22%	0.27%	0.29%	0.29%	0.29%	0.29%	0.20%	0.25%	0.28%
Total Capital	489,653	465,268	446,706	480,272	537,732	565,365	591,866	603,752	580,529	388,293	364,957	415,642	426,955	430,816
% of Assets	10.38%	12.26%	12.00%	11.88%	11.82%	11.49%	11.45%	11.55%	11.02%	7.47%	7.54%	9.36%	10.09%	10.49%
Owner Capital	399,653	375,268	356,706	390,272	447,732	475,365	501,866	513,752	490,529	298,293	274,957	325,642	336,955	340,816
% of Assets	8.46%	9.89%	9.58%	9.65%	9.84%	9.66%	9.71%	9.82%	9.31%	5.74%	5.68%	7.33%	7.96%	8.30%
Capital at Risk	281,505	133,520	216,020	257,304	299,373	328,322	353,236	375,151	362,250	180,285	170,060	242,958	260,277	267,344
% of Assets	6.37%	3.82%	6.22%	6.75%	6.96%	7.07%	7.26%	7.64%	7.33%	3.71%	3.78%	5.91%	6.62%	7.01%
% of Loans	6.64%	3.95%	6.44%	6.98%	7.26%	7.41%	7.62%	8.02%	7.67%	3.83%	3.86%	6.10%	6.93%	7.37%

Appendix Table 22. Summary of St. Louis FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 130 Basis Points Over the Cost of Funds, Baseline Economic Scenario

	Year Ended													
Financial Output:	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,557,740	3,393,010	3,295,861	3,491,306	3,659,237	3,731,324	3,738,041	3,723,836	3,691,439	3,684,794	3,725,695	3,767,051	3,808,865	3,851,143
Nonaccruals	31,475	384,622	275,684	133,381	52,924	18,657	18,690	18,619	18,457	18,424	18,628	18,835	19,044	19,256
% of Total Loans	0.90%	10.79%	8.24%	3.93%	1.48%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%
Restructured	10,364	86,666	107,389	12,780	19,094	10,082	5,510	3,189	16,649	11,200	14,913	10,968	12,495	0
% of Total	0.29%	2.43%	3.21%	0.38%	0.53%	0.27%	0.15%	0.09%	0.45%	0.30%	0.40%	0.29%	0.29%	0.00%
Performing Loans	3,320,181	2,818,575	2,838,000	3,135,250	3,391,524	3,508,085	3,521,401	3,507,213	3,461,402	3,460,258	3,496,469	3,541,484	3,585,189	3,639,751
% Of Total Loans	92.88%	79.09%	84.86%	92.39%	94.86%	94.93%	94.29%	94.00%	93.36%	93.82%	94.37%	94.53%	94.65%	95.03%
High Risk Loans	195,719	103,147	74,788	209,895	195,695	194,501	192,440	194,815	194,931	194,912	195,685	195,764	192,136	192,136
% Of Total Loans	5.50%	2.89%	2.24%	6.19%	5.47%	5.26%	5.15%	5.22%	5.26%	5.28%	5.28%	5.23%	5.07%	5.02%
Allowances	56,061	161,160	117,526	96,435	63,873	51,111	50,654	51,169	51,136	51,120	51,370	51,334	49,232	49,235
% of Total Loans	1.58%	4.52%	3.51%	2.84%	1.79%	1.38%	1.36%	1.37%	1.38%	1.39%	1.39%	1.38%	1.47%	1.64%
Charge Offs	4,084	7,644	(15,212)	9,276	3,659	3,731	3,738	3,724	3,691	3,685	3,726	3,696	2,996	2,998
%of Total	0.12%	0.21%	-0.45%	0.27%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.09%	0.10%
Acquired Property	11,019	61,860	44,339	35,259	26,684	19,412	13,742	9,459	6,433	4,553	2,912	1,551	702	499
% OF TOTAL Assets	0.25%	1.5312%	1.0456%	0.8074%	0.5844%	0.4184%	0.2976%	0.2057%	0.1405%	0.0991%	0.0632%	0.0368%	0.0185%	0.0265%
Provisions (Recovery)	(2,125)	(85,206)	(58,845)	(11,814)	(28,903)	(9,031)	3,281	4,239	3,659	3,668	3,976	3,660	894	3,001
% of Total Loans	-0.06%	-2.39%	-1.76%	-0.35%	-0.81%	-0.24%	0.09%	0.11%	0.10%	0.10%	0.11%	0.10%	0.03%	0.10%
Net Interest Income	297,909	71,062	326,665	323,676	308,124	316,836	316,895	307,615	301,675	293,191	285,259	300,524	275,404	247,798
% of Total Assets	6.72%	1.73%	8.09%	7.63%	7.06%	6.94%	6.83%	6.66%	6.56%	6.40%	6.21%	6.52%	6.53%	6.52%
Net Income	(6,183)	99,752	75,067	5,500	31,285	16,048	2,203	(176)	(1,013)	(3,055)	(29,394)	(34,329)	(24,430)	(30,647)
Return on Assets	-0.15%	2.43%	1.86%	0.13%	0.72%	0.35%	0.05%	-0.00%	-0.02%	-0.07%	-0.64%	-0.75%	-0.58%	-0.81%
Return on Equity	-3.62%	22.10%	21.95%	1.73%	9.62%	4.88%	0.68%	-0.06%	-0.34%	-1.09%	-11.63%	-15.43%	-11.97%	-16.22%
Operating Expense	65,002	67,281	76,435	63,788	66,856	68,173	68,296	68,037	67,445	67,323	68,071	67,526	54,737	54,769
% of Loans	1.82%	1.89%	2.29%	1.88%	1.87%	1.84%	1.83%	1.82%	1.82%	1.83%	1.84%	1.82%	1.83%	1.83%
ACA87 Expense/Loan Vol.	0.32%		0.22%	0.25%	0.24%	0.23%	0.30%	0.32%	0.32%	0.31%	0.31%	0.37%	0.42%	0.46%
Total Capital	316,832	429,181	297,491	302,991	334,276	350,324	352,527	352,351	351,338	348,283	318,889	284,560	260,130	229,483
%of Assets	7.12%	10.44%	7.36%	7.14%	7.65%	7.67%	7.60%	7.63%	7.64%	7.61%	6.94%	6.18%	6.17%	6.04%
Owner Capital	476,613	429,181	471,133	462,422	490,778	501,377	493,322	480,142	465,436	448,296	405,654	358,256	334,644	303,401
%Of Assets	10.72%	10.44%	11.66%	10.90%	11.24%	10.98%	10.63%	10.40%	10.12%	9.79%	8.83%	7.78%	7.94%	7.98%
Capital at Risk	336,198	216,270	297,491	302,991	334,276	350,324	352,527	352,351	351,338	348,283	318,889	284,560	260,130	229,483
%of Assets	8.55%	5.79%	8.31%	8.24%	8.60%	8.67%	8.62%	8.64%	8.67%	8.65%	7.88%	7.03%	7.11%	7.00%
%Of Loans	9.31%	6.07%	8.90%	8.93%	9.35%	9.48%	9.44%	9.44%	9.48%	9.44%	8.61%	7.67%	7.77%	7.66%

Appendix Table 23. Summary of St. Louis FCS Banks Financial Analysis, 1988 - 2000, with Minimum Margins of 171 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

Financial Output:	--Year Ended--												
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,393,010	3,295,861	3,491,306	3,659,237	3,731,324	3,738,041	3,723,836	3,691,439	3,684,794	3,725,695	3,695,890	2,995,888	2,997,686
Nonaccruals	384,622	275,684	133,408	52,959	18,657	18,690	18,619	79,270	367,556	208,532	97,659	38,218	19,032
% of Loans	10.79%	8.24%	3.93%	1.48%	0.50%	0.50%	0.50%	2.14%	9.97%	5.63%	2.63%	1.14%	0.64%
Restructured	86,666	107,389	12,780	19,161	10,225	5,670	3,325	16,419	10,336	14,105	10,079	9,278	0
% of Loans	2.43%	3.21%	0.38%	0.54%	0.28%	0.15%	0.09%	0.44%	0.28%	0.38%	0.27%	0.28%	0.00%
Performing Loans	2,818,575	2,838,000	3,132,694	3,384,516	3,500,761	3,511,979	3,491,024	3,370,264	2,809,710	3,294,595	3,317,771	2,718,294	2,748,755
% of Loans	79.09%	84.86%	92.31%	94.66%	94.74%	94.04%	93.57%	90.90%	76.18%	88.92%	89.41%	81.24%	91.72%
Other High Risk	103,147	74,788	212,425	202,601	201,682	201,702	210,868	225,486	497,192	208,464	270,381	230,099	229,900
% of Loans	2.89%	2.24%	6.26%	5.67%	5.46%	5.40%	5.65%	6.08%	13.48%	5.63%	7.29%	6.88%	7.67%
Allowances	161,160	117,526	97,021	65,460	52,747	52,764	54,826	80,264	247,244	123,502	97,194	66,351	59,312
% of Loans	4.52%	3.51%	2.86%	1.83%	1.43%	1.41%	1.47%	2.16%	6.70%	3.33%	2.62%	1.98%	1.98%
Charge Offs	7,644	(15,212)	7,830	3,659	3,731	3,738	3,724	8,913	41,838	16,410	6,903	2,996	2,998
% of Loans	0.21%	-0.45%	0.23%	0.10%	0.10%	0.10%	0.10%	0.24%	1.13%	0.44%	0.19%	0.09%	0.10%
Acquired Property	61,860	44,339	35,259	26,684	19,412	13,742	10,260	13,220	36,863	31,298	23,509	14,335	10,749
% of Assets	1.5312%	1.0457%	0.8078%	0.5849%	0.4189%	0.2982%	0.2243%	0.2965%	0.8259%	0.6860%	0.5598%	0.3775%	0.5714%
Provisions (REC)	(85,206)	(58,845)	(12,675)	(27,903)	(8,982)	3,755	5,786	34,350	208,818	(107,332)	(19,405)	(27,848)	(4,041)
% of Loans	-2.39%	-1.76%	-0.37%	-0.78%	-0.24%	0.10%	0.16%	0.93%	5.66%	-2.90%	-0.52%	-0.83%	-0.13%
Net Interest Income	71,062	326,665	323,037	306,243	313,546	312,128	301,389	294,281	287,209	283,090	300,773	275,951	247,992
% of Assets	1.73%	8.09%	7.62%	7.02%	6.87%	6.74%	6.54%	6.43%	6.44%	6.34%	6.59%	6.57%	6.53%
Net Income	99,752	75,067	19,442	45,743	33,370	20,683	18,522	(12,993)	(216,617)	60,047	(19,109)	3,442	(21,179)
Return on Assets	2.43%	1.86%	0.46%	1.05%	0.73%	0.45%	0.40%	-0.28%	-4.86%	1.35%	-0.42%	0.08%	-0.56%
Return on Equity	22.12%	21.95%	5.98%	13.48%	9.49%	5.84%	5.26%	-3.91%	-103.21%	26.54%	-9.39%	1.73%	-11.23%
Operating Expense	67,281	76,435	63,788	66,857	68,174	68,296	68,037	67,445	71,600	78,542	77,914	63,157	63,195
% of Loans	1.89%	2.29%	1.88%	1.87%	1.84%	1.83%	1.82%	1.82%	1.94%	2.12%	2.10%	1.89%	2.11%
ACA87 Exp.(% of Loans)		0.22%	0.25%	0.24%	0.23%	0.30%	0.32%	0.32%	0.32%	0.31%	0.37%	0.42%	0.46%
Total Capital	429,181	297,491	316,933	362,675	396,045	416,728	435,249	422,256	205,639	265,686	246,576	250,018	228,839
% of Assets	10.44%	7.36%	7.47%	8.31%	8.68%	8.99%	9.44%	9.23%	4.61%	5.95%	5.40%	5.95%	6.03%
Owner Capital	429,181	471,133	476,363	519,178	547,098	557,522	563,040	536,354	305,652	352,450	320,272	324,532	302,756
% of Assets	10.44%	11.66%	11.23%	11.89%	11.99%	12.03%	12.22%	11.72%	6.86%	7.90%	7.02%	7.73%	7.97%
Capital at Risk	216,270	297,491	316,933	362,675	396,045	416,728	435,249	422,256	205,639	265,686	246,576	250,018	228,839
% of Assets	5.79%	8.31%	8.62%	9.34%	9.81%	10.20%	10.68%	10.47%	5.25%	6.78%	6.15%	6.87%	6.99%
% of Loans	6.07%	8.90%	9.34%	10.14%	10.72%	11.16%	11.67%	11.39%	5.58%	7.17%	6.64%	7.47%	7.64%

Appendix Table 24. Summary of St. Paul FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 171 Basis Points Over the Cost of Funds, Baseline Economic Scenario

	Year Ended													
Financial Output:	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	5,011,687	6,280,613	5,926,482	6,072,273	6,290,875	6,387,126	6,428,003	6,449,216	6,443,411	6,442,767	6,465,961	6,403,241	6,426,293	6,362,030
Nonaccruals	109,050	730,299	457,419	220,799	95,148	45,626	32,588	32,246	32,217	33,077	32,330	32,016	32,308	36,621
% of Total Loans	2.18%	13.16%	8.36%	3.77%	1.54%	0.72%	0.51%	0.50%	0.50%	0.52%	0.50%	0.50%	0.51%	0.58%
Restructured	271,302	153,725	797,547	962,618	516,314	99,068	20,826	1,113	4,422	30,245	9,569	12,211	18,589	14,891
% of Total Loans	5.41%	51.78%	12.70%	15.77%	8.21%	1.55%	0.32%	0.02%	0.07%	0.47%	0.15%	0.19%	0.29%	0.23%
Performing Loans	4,695,996	3,955,399	3,896,811	4,487,341	5,260,343	5,494,592	5,573,776	5,590,033	5,561,319	5,581,306	5,602,977	5,534,092	5,565,125	5,511,601
% of Total Loans	93.70%	62.98%	65.75%	73.90%	83.62%	86.03%	86.71%	86.68%	86.31%	86.63%	86.65%	86.43%	86.60%	86.63%
High Risk Loans	734,053	797,368	609,634	847,820	836,316	826,082	820,526	822,515	819,631	818,815	818,444	818,544	813,969	813,807
% of Total Loans	14.65%	12.70%	10.29%	13.96%	13.29%	12.93%	12.76%	12.75%	12.72%	12.71%	12.66%	12.78%	12.67%	12.79%
Allowances	225,579	332,447	274,209	283,158	233,050	211,958	205,730	206,070	205,379	205,511	205,142	205,047	201,552	202,803
% of Total Loans	4.50%	5.29%	4.63%	4.66%	3.70%	3.32%	3.20%	3.20%	3.19%	3.19%	3.17%	3.20%	3.14%	3.19%
Charge Offs	8,189	27,363	13,159	15,636	6,291	6,387	6,428	6,449	6,443	6,443	6,466	6,403	5,094	5,043
% of Total Loans	0.16%	0.4846%	0.2156%	0.2606%	0.1018%	0.1008%	0.1003%	0.1002%	0.1000%	0.1000%	0.1002%	0.0995%	0.0886%	0.0995%
Acquired Property	38,499	163,481	100,856	73,455	52,753	37,581	27,243	19,747	14,533	11,389	8,931	6,991	4,805	4,538
% of Total Assets	0.62%	2.2816%	1.7018%	1.2097%	0.8386%	0.5884%	0.4238%	0.3062%	0.2255%	0.1768%	0.1381%	0.1092%	0.0943%	0.0900%
Provisions (Recover)	(5,956)	(176,403)	(45,079)	24,585	(43,816)	(14,705)	200	6,789	5,753	6,575	6,097	6,309	1,598	6,294
% of Total Loans	-0.10%	-2.81%	-0.74%	0.41%	-0.71%	-0.23%	0.00%	0.11%	0.09%	0.10%	0.09%	0.10%	0.03%	0.12%
Net Interest Incom	110,020	58,809	107,735	81,716	100,826	111,809	117,360	118,784	118,735	118,355	114,856	127,068	119,851	106,092
% of Total Assets	1.56%	0.78%	1.53%	1.20%	1.47%	1.59%	1.66%	1.67%	1.66%	1.66%	1.60%	1.77%	1.85%	1.85%
Net Income	11,976	171,418	65,795	(38,671)	41,924	23,059	7,961	1,930	3,592	2,733	(535)	6,696	31,065	14,995
Return on Assets	0.17%	2.26%	0.93%	-0.57%	0.61%	0.33%	0.11%	0.03%	0.05%	0.04%	-0.01%	0.09%	0.48%	0.26%
Return on Equity	2.24%	33.67%	10.54%	-6.42%	7.16%	3.84%	1.34%	0.33%	0.65%	0.51%	-0.11%	1.37%	6.33%	3.00%
Operating Expenses	109,375	87,439	98,995	103,572	109,520	111,195	111,907	112,276	112,175	112,164	112,568	111,476	88,679	87,792
% of Total Loans	1.73%	1.39%	1.62%	1.73%	1.77%	1.75%	1.75%	1.74%	1.74%	1.74%	1.74%	1.73%	1.54%	1.73%
ACA87 Expense/LV	0.34%		0.32%	0.31%	0.30%	0.29%	0.38%	0.38%	0.40%	0.37%	0.37%	0.46%	0.38%	0.40%
Total Capital	577,757	617,257	631,663	572,586	598,824	603,603	588,400	565,240	542,736	519,001	492,374	481,718	499,061	500,452
% of Total Assets	8.22%	8.14%	8.97%	8.38%	8.73%	8.61%	8.30%	7.94%	7.60%	7.26%	6.86%	6.72%	7.70%	8.72%
Owner Capital	444,361	483,861	498,267	439,190	465,428	470,207	455,004	431,844	409,340	385,605	358,978	348,322	365,665	367,056
% of Total Assets	6.33%	6.38%	7.08%	6.43%	6.79%	6.71%	6.42%	6.06%	5.73%	5.39%	5.00%	4.86%	5.64%	6.40%
Capital at Risk	414,009	103,919	255,453	439,190	465,428	470,207	455,004	431,844	409,340	385,605	358,978	348,322	365,665	367,056
% of Assets	6.34%	1.52%	3.98%	7.00%	7.26%	7.15%	6.86%	6.49%	6.15%	5.80%	5.39%	5.24%	6.16%	7.02%
% of Total Loans	6.57%	1.65%	4.19%	7.32%	7.53%	7.42%	7.10%	6.71%	6.35%	5.98%	5.56%	5.41%	6.36%	7.24%

Appendix Table 25. Summary of St. Paul FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 171 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

	Year Ended												
Financial Output:	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	6,280,613	5,926,482	6,072,273	6,290,875	6,387,126	6,428,003	6,449,216	6,443,411	6,442,767	6,465,961	6,403,241	5,093,778	5,042,841
Nonaccruals	730,299	457,419	220,813	95,170	45,650	32,624	32,246	139,586	644,367	363,777	171,138	66,554	32,918
% of Total Loans	13.16%	8.36%	3.77%	1.54%	0.72%	0.51%	0.50%	2.21%	11.11%	5.96%	2.75%	1.32%	0.66%
Restructured	797,547	962,618	516,314	98,922	20,658	961	6,510	103,588	203,741	0	0	3,843	
% of Total Loans	51.78%	12.70%	15.77%	8.21%	1.55%	0.32%	0.01%	0.10%	1.61%	3.15%	0.00%	0.00%	0.08%
Performing Loans	3,955,399	3,896,811	4,500,363	5,274,555	5,506,587	5,584,960	5,604,698	5,402,570	4,807,706	5,322,069	5,454,481	4,247,519	4,231,303
% of Total Loans	62.98%	65.75%	74.11%	83.84%	86.21%	86.38%	86.91%	83.85%	74.62%	82.31%	85.18%	83.39%	83.91%
High Risk Loans	797,368	609,634	834,783	822,228	814,231	809,459	805,761	797,667	786,953	321,127	247,877	208,013	195,041
% of Total Loans	12.70%	10.29%	13.75%	13.07%	12.75%	12.59%	12.49%	12.38%	12.21%	4.97%	3.87%	4.08%	3.87%
Allowances	332,447	274,209	280,090	229,737	209,173	203,135	202,121	240,701	428,578	321,127	247,877	208,013	195,041
% of Total Loans	5.29%	4.63%	4.61%	3.65%	3.27%	3.16%	3.13%	3.74%	6.65%	4.97%	3.87%	4.08%	3.87%
Charge Offs	27,363	13,159	15,637	6,291	6,387	6,428	6,449	15,643	73,273	28,612	12,097	5,094	5,043
% of Total Loans	0.4846%	0.2156%	0.2606%	0.1018%	0.1008%	0.1003%	0.1002%	0.2427%	1.1372%	0.4433%	0.1880%	0.0886%	0.0995%
Acquired Property	163,481	100,856	73,455	52,753	37,581	27,244	19,311	22,861	60,677	48,603	34,470	19,512	13,689
% of Total Assets	2.2816%	1.7018%	1.2097%	0.8386%	0.5884%	0.4238%	0.2994%	0.3548%	0.9418%	0.7517%	0.5383%	0.3831%	0.2715%
Provisions (Recovery	(176,403)	(45,079)	21,518	(44,061)	(14,177)	390	5,435	54,224	261,149	(78,839)	(61,154)	(34,770)	(7,929)
% of Total Loans	-2.81%	-0.74%	0.36%	-0.71%	-0.22%	0.01%	0.08%	0.84%	4.05%	-1.22%	-0.95%	-0.60%	-0.16%
Net Interest Income	58,809	107,735	108,205	131,109	145,572	154,103	158,274	155,367	124,078	105,787	135,233	136,935	125,723
% of Total Assets	0.78%	1.53%	1.58%	1.91%	2.08%	2.18%	2.22%	2.18%	1.77%	1.51%	1.90%	2.12%	2.19%
Net Income	171,418	65,795	(9,108)	70,854	54,502	42,781	41,213	(9,564)	(269,842)	50,954	52,123	52,227	18,588
Return on Assets	2.26%	0.93%	-0.13%	1.03%	0.78%	0.60%	0.58%	-0.13%	-3.84%	0.73%	0.73%	0.81%	0.32%
Return on Equity	33.67%	10.54%	-1.48%	11.25%	8.07%	6.08%	5.71%	-1.34%	-49.47%	12.44%	11.86%	10.97%	3.73%
Operating Expenses	87,439	98,995	103,572	109,520	111,195	111,907	112,276	112,175	120,258	133,017	139,915	119,264	118,071
% of Total Loans	1.39%	1.62%	1.73%	1.77%	1.75%	1.75%	1.74%	1.74%	1.87%	2.06%	2.17%	2.07%	2.33%
ACAB7 Expense/LV		0.32%	0.31%	0.30%	0.29%	0.38%	0.40%	0.38%	0.38%	0.37%	0.46%	0.38%	0.40%
Total Capital	617,257	631,663	602,149	657,318	693,539	713,156	729,280	693,619	397,309	422,171	456,741	495,247	500,230
% of Total Assets	8.14%	8.97%	8.81%	9.58%	9.89%	10.07%	10.25%	9.75%	5.66%	6.01%	6.42%	7.65%	8.70%
Owner Capital	483,861	498,267	468,753	523,922	560,143	579,760	595,884	560,223	263,913	288,775	323,345	361,851	366,834
% of Total Assets	6.38%	7.08%	6.86%	7.64%	7.99%	8.19%	8.37%	7.87%	3.76%	4.11%	4.54%	5.59%	6.38%
Capital at Risk	103,919	255,453	468,753	523,922	560,143	579,760	595,884	560,223	263,913	288,775	323,345	361,851	366,834
% of Assets	1.52%	3.98%	7.47%	8.17%	8.52%	8.74%	8.96%	8.44%	4.04%	4.43%	4.91%	6.10%	7.00%
% of Total Loans	1.65%	4.19%	7.81%	8.48%	8.84%	9.05%	9.25%	8.69%	4.10%	4.47%	5.03%	6.29%	7.24%

Appendix Table 26. Summary of Omaha FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 146 Basis Points Over the Cost of Funds, Baseline Economic Scenario

Financial Output:	Year Ended													
	90-2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	5,146,509	3,729,543	3,594,026	4,050,467	4,396,377	4,639,057	4,843,176	5,038,356	5,226,286	5,406,071	5,596,364	5,721,163	5,798,720	5,895,559
Nonaccruals	32,581	165,573	104,051	64,807	52,757	23,195	24,216	25,192	26,131	27,030	27,982	28,606	28,994	29,478
% of Total Loans	0.68%	4.28%	2.84%	1.70%	1.25%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	0.50%	0.50%
Restructured	66,610	91,960	462,773	482,112	101,505	26,599	12,497	7,034	4,238	23,597	16,464	22,520	16,848	19,295
% of Total Loans	1.62%	2.38%	12.64%	12.61%	2.40%	0.59%	0.26%	0.14%	0.08%	0.44%	0.30%	0.40%	0.29%	0.33%
Performing Loans	4,994,411	2,955,577	2,957,876	3,795,480	4,216,881	4,503,623	4,713,063	4,910,628	5,079,211	5,265,649	5,449,622	5,579,738	5,654,245	5,770,379
% of Total Loans	99.11%	76.35%	80.78%	99.30%	99.85%	99.69%	99.41%	99.39%	98.97%	99.05%	99.06%	98.60%	98.16%	98.69%
High Risk Loans	96,736	145,620	49,987	88,675	100,141	99,743	98,863	98,298	97,348	96,927	96,241	95,972	96,186	95,702
% of Total Loans	1.95%	3.76%	1.37%	2.32%	2.37%	2.21%	2.09%	1.99%	1.90%	1.82%	1.75%	1.70%	1.67%	1.64%
Allowances	67,992	239,838	215,790	87,861	84,291	62,507	62,851	63,306	63,558	64,023	64,405	64,738	65,119	65,252
% of Total Loans	1.39%	6.20%	5.89%	2.30%	2.00%	1.38%	1.33%	1.28%	1.24%	1.20%	1.17%	1.14%	1.13%	1.12%
Charge Offs	5,147	(3,957)	(822)	4,050	4,396	4,639	4,843	5,038	5,226	5,406	5,596	5,721	5,799	5,896
% of Total Loans	0.10%	-0.10%	-0.02%	0.11%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Acquired Property	2,237	55,750	28,282	14,133	7,380	2,859	234	0	0	0	0	0	0	0
% of Total Assets	0.04%	1.3385%	0.6406%	0.2896%	0.1410%	0.0519%	0.0041%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Provisions (Recover)	(8,539)	(271,116)	(15,808)	(123,879)	826	(17,145)	5,187	5,493	5,479	5,871	5,978	6,054	6,180	6,028
% of Total Loans	-0.25%	-7.00%	-0.43%	-3.24%	0.02%	-0.38%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.11%	0.10%
Net Interest Income	99,245	52,944	96,820	79,032	88,188	94,571	98,861	100,658	102,206	102,909	102,895	106,200	107,364	108,813
% of Total Assets	1.71%	1.21%	2.32%	1.79%	1.81%	1.81%	1.80%	1.76%	1.72%	1.67%	1.62%	1.63%	1.61%	1.61%
Net Income	26,171	271,150	69,347	134,563	20,973	41,974	18,511	16,410	14,804	12,401	9,530	7,435	5,589	5,687
Return on Assets	0.53%	6.17%	1.66%	3.05%	0.43%	0.80%	0.34%	0.29%	0.25%	0.20%	0.15%	0.11%	0.08%	0.08%
Return on Equity	5.37%	87.61%	17.93%	29.18%	4.22%	8.00%	3.46%	3.02%	2.71%	2.27%	1.76%	1.37%	1.02%	2.06%
Operating Expenses	79,977	62,406	68,406	73,535	75,953	80,146	83,672	87,044	90,291	93,397	96,684	98,841	100,180	0
% of Total Loans	1.62%	1.61%	1.87%	1.92%	1.80%	1.77%	1.76%	1.76%	1.76%	1.76%	1.76%	1.75%	1.74%	0.00%
ACA87 Expense/LV	0.27%		0.26%	0.25%	0.23%	0.23%	0.28%	0.29%	0.29%	0.28%	0.27%	0.31%	0.33%	0.33%
Total Capital	633,312	399,433	433,867	553,821	582,665	625,330	638,660	647,100	652,384	653,844	651,659	645,855	653,940	661,178
% of Total Assets	10.97%	9.09%	10.42%	12.55%	11.94%	11.95%	11.60%	11.31%	10.99%	10.64%	10.25%	9.88%	9.83%	9.79%
Owner Capital	525,937	292,276	326,710	446,664	475,508	518,173	531,503	539,943	545,227	546,687	543,902	538,098	546,183	553,421
% of Total Assets	9.10%	6.65%	7.84%	10.12%	9.74%	9.90%	9.65%	9.44%	9.18%	8.89%	8.56%	8.23%	8.21%	8.19%
Capital at Risk	382,185	86,060	149,570	284,133	305,106	347,080	365,592	382,001	396,805	409,206	418,736	426,171	431,760	437,447
% of Assets	7.12%	2.20%	3.95%	7.09%	6.80%	7.21%	7.23%	7.25%	7.25%	7.22%	7.14%	7.06%	7.03%	7.01%
% of Total Loans	7.58%	2.22%	4.08%	7.43%	7.22%	7.68%	7.71%	7.73%	7.73%	7.70%	7.61%	7.53%	7.50%	7.48%

Appendix Table 27. Summary of Omaha FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 185 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

Financial Output:	Year Ended												
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,729,543	3,594,026	4,050,467	4,396,377	4,639,057	4,843,176	5,038,356	5,226,286	5,406,071	5,596,364	4,756,910	4,821,395	4,901,912
Nonaccruals	165,573	104,051	64,807	52,757	23,195	24,216	25,192	111,158	537,679	311,454	124,118	72,014	29,818
% of Total Loans	4.28%	2.84%	1.70%	1.25%	0.51%	0.51%	0.51%	2.17%	10.11%	5.66%	2.40%	1.50%	0.61%
Restructured	91,721	462,773	482,112	101,505	26,548	12,462	6,903	4,030	23,244	15,977	21,956	13,509	15,476
% of Total Loans	2.37%	12.64%	12.61%	2.40%	0.59%	0.26%	0.14%	0.08%	0.44%	0.29%	0.42%	0.28%	0.32%
Performing Loans	2,955,577	2,957,876	3,795,050	4,215,965	4,472,940	4,682,638	4,878,972	4,960,143	4,721,535	4,906,460	4,075,800	4,377,648	4,515,763
% of Total Loans	76.35%	80.78%	99.29%	99.82%	99.01%	98.77%	98.75%	96.65%	88.81%	89.19%	78.73%	91.41%	92.89%
High Risk Loans	145,620	49,987	89,105	101,108	130,460	129,419	130,161	131,742	130,880	356,494	543,482	356,257	356,332
% of Total Loans	3.76%	1.37%	2.33%	2.39%	2.89%	2.73%	2.63%	2.57%	2.46%	6.48%	10.50%	7.44%	7.33%
Allowances	239,838	215,790	192,193	184,936	167,047	167,637	169,934	208,863	247,792	213,705	189,292	117,870	103,428
% of Total Loans	6.20%	5.89%	5.03%	4.38%	3.70%	3.54%	3.44%	4.07%	4.66%	3.88%	3.66%	2.46%	2.13%
Charge Offs	(3,957)	(822)	4,050	4,396	4,639	4,843	5,038	12,543	61,270	24,524	10,552	5,799	5,896
% of Total Loans	-0.10%	-0.02%	0.11%	0.10%	0.10%	0.10%	0.10%	0.24%	1.15%	0.45%	0.19%	0.10%	0.10%
Acquired Property	55,750	28,282	14,133	7,380	2,859	234	211	5,958	32,294	22,056	12,703	7,212	7,212
% of Total Assets	1.3385%	0.6483%	0.2960%	0.1440%	0.0530%	0.0042%	0.0036%	0.0996%	0.5220%	0.3447%	0.1934%	0.1074%	0.2128%
Provisions (Recover)	(271,116)	(15,808)	(19,547)	(2,860)	(13,250)	5,432	7,336	51,471	100,199	(9,563)	(13,862)	(65,623)	(8,547)
% of Total Loans	-7.00%	-0.43%	-0.51%	-0.07%	-0.29%	0.11%	0.15%	1.00%	1.88%	-0.17%	-0.24%	-1.14%	-0.15%
Net Interest Incom	52,944	96,820	93,806	105,969	115,073	121,905	126,172	125,934	102,099	91,034	109,884	122,181	129,950
% of Total Assets	1.21%	2.32%	2.15%	2.22%	2.25%	2.26%	2.25%	2.17%	1.71%	1.47%	1.72%	1.86%	1.94%
Net Income	271,150	69,347	50,259	41,880	59,138	41,600	40,392	(5,034)	(87,856)	8,593	17,127	83,178	35,241
Return on Assets	6.17%	1.66%	1.15%	0.88%	1.15%	0.77%	0.72%	-0.09%	-1.47%	0.14%	0.27%	1.27%	0.52%
Return on Equity	87.61%	20.13%	12.98%	9.47%	12.07%	7.93%	7.57%	-1.06%	-20.64%	2.02%	3.64%	15.64%	12.81%
Operating Expenses	64,627	62,406	68,406	72,773	74,299	78,400	81,850	85,148	88,324	97,447	109,943	103,127	104,525
% of Total Loans	1.67%	1.70%	1.79%	1.72%	1.64%	1.65%	1.66%	1.66%	1.66%	1.77%	1.94%	1.79%	1.79%
ACA87 Expense/LW		0.26%	0.25%	0.23%	0.23%	0.28%	0.29%	0.29%	0.26%	0.27%	0.31%	0.33%	0.33%
Total Capital	399,433	433,867	469,517	519,267	579,097	615,515	647,937	633,383	534,586	531,464	535,353	621,027	657,819
% of Total Assets	9.09%	10.42%	10.76%	10.88%	11.30%	11.41%	11.55%	10.90%	8.94%	8.59%	8.37%	9.46%	9.80%
Owner Capital	292,276	326,710	362,360	412,110	471,940	508,358	540,780	526,226	427,429	423,707	427,596	513,270	550,062
% of Total Assets	6.65%	7.84%	8.31%	8.63%	9.21%	9.42%	9.64%	9.06%	7.15%	6.85%	6.68%	7.82%	8.19%
Capital at Risk	86,060	149,570	199,829	241,708	300,847	342,446	382,838	377,804	289,948	298,541	315,668	398,847	434,087
% of Assets	2.20%	3.95%	5.05%	5.51%	6.39%	6.91%	7.42%	7.07%	5.26%	5.23%	5.35%	6.58%	7.01%
% of Total Loans	2.22%	4.08%	5.23%	5.72%	6.66%	7.22%	7.75%	7.36%	5.45%	5.43%	5.58%	6.92%	7.42%

Appendix Table 28. Summary of Wichita FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 83 Basis Points Over the Cost of Funds, Baseline Economic Scenario

	Year Ended													
Financial Output:	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	4,360,535	3,598,469	3,420,566	3,743,467	4,067,277	4,209,225	4,307,300	4,393,446	4,474,725	4,579,881	4,720,483	4,833,775	4,954,619	5,078,485
Nonaccruals	24,753	259,007	140,497	51,174	20,336	21,046	21,537	21,967	22,374	22,899	23,602	24,169	24,773	25,392
% of Total Loans	0.59%	7.00%	4.00%	1.43%	0.52%	0.51%	0.51%	0.50%	0.50%	0.51%	0.51%	0.51%	0.51%	0.51%
Restructured	30,449	36,578	140,584	175,777	0	43,340	12,992	7,406	4,984	21,772	15,577	20,846	16,234	18,595
% of Total Loans	0.77%	0.99%	4.01%	4.91%	0.00%	1.05%	0.31%	0.17%	0.11%	0.48%	0.33%	0.44%	0.33%	0.37%
Performing Loans	4,036,276	2,924,242	2,910,744	3,409,457	3,720,860	3,891,217	3,993,551	4,080,876	4,144,984	4,255,413	4,390,124	4,507,436	4,625,256	4,767,097
% of Total Loans	93.55%	79.03%	82.94%	95.18%	95.28%	94.03%	93.78%	93.81%	93.48%	93.99%	94.41%	94.35%	94.50%	95.03%
High Risk Loans	285,036	274,636	193,548	282,836	282,741	283,971	284,806	285,619	285,596	285,992	285,911	285,936	285,996	285,996
% of Total Loans	6.64%	7.42%	5.51%	7.90%	7.24%	6.86%	6.69%	6.57%	6.44%	6.32%	6.15%	5.99%	5.84%	5.70%
Allowances	140,127	231,047	183,911	157,424	136,086	137,107	137,806	138,455	138,725	139,259	139,710	140,112	138,173	138,541
% of Total Loans	3.27%	6.24%	5.24%	4.39%	3.48%	3.31%	3.24%	3.18%	3.13%	3.08%	3.00%	2.93%	2.82%	2.76%
Charge Offs	4,361	27,269	3,093	3,743	4,067	4,209	4,307	4,393	4,475	4,580	4,720	4,834	4,265	4,371
% of Total Loans	0.10%	0.74%	0.09%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.09%	0.09%
Acquired Property	10,026	30,577	26,278	26,261	24,651	20,444	16,214	11,855	7,522	3,333	0	0	0	0
% of Total Assets	0.21%	0.7473%	0.6071%	0.5692%	0.5174%	0.4246%	0.3298%	0.2365%	0.1469%	0.0633%	0.0000%	0.0000%	0.0000%	0.0000%
Provisions (Recovery)	236	(118,943)	(44,043)	(22,743)	(17,271)	5,230	5,007	5,042	4,745	5,114	5,171	5,236	2,326	4,740
% of Total Loans	-0.01%	-3.21%	-1.25%	-0.63%	-0.44%	0.13%	0.12%	0.12%	0.11%	0.11%	0.11%	0.11%	0.05%	0.11%
Net Interest Income	55,311	80,124	88,445	50,271	52,286	56,903	58,883	58,377	57,814	56,751	55,278	56,322	53,859	51,678
% of Total Assets	1.12%	1.95%	2.16%	1.16%	1.13%	1.19%	1.22%	1.19%	1.15%	1.11%	1.05%	1.04%	1.04%	1.05%
Net Income	(3,991)	110,121	77,054	18,265	22,157	3,523	(2,311)	(5,595)	(7,497)	(10,125)	(12,814)	(15,912)	(14,268)	(19,321)
Return on Assets	-0.07%	2.68%	1.88%	0.42%	0.48%	0.07%	-0.05%	-0.11%	-0.15%	-0.20%	-0.24%	-0.29%	-0.27%	-0.39%
Return on Equity	-0.91%	24.38%	15.68%	3.94%	4.79%	0.73%	-0.47%	-1.15%	-1.56%	-2.14%	-2.76%	-3.53%	-3.26%	-4.57%
Operating Expenses	73,049	68,011	61,225	62,712	68,136	70,514	72,157	73,600	74,962	76,723	79,079	80,977	71,446	73,232
% of Total Loans	1.69%	1.84%	1.74%	1.75%	1.74%	1.70%	1.69%	1.69%	1.69%	1.69%	1.70%	1.70%	1.57%	1.70%
ACA87 Expense/LV	0.27%		0.36%	0.25%	0.24%	0.23%	0.29%	0.31%	0.30%	0.29%	0.29%	0.34%	0.22%	0.23%
Total Capital	461,713	505,109	478,002	448,327	476,942	486,941	487,469	483,836	478,062	469,562	458,851	442,939	431,483	414,428
% of Total Assets	9.38%	12.30%	11.68%	10.36%	10.34%	10.22%	10.12%	9.84%	9.54%	9.17%	8.72%	8.18%	8.31%	8.39%
Owner Capital	461,713	505,109	478,002	448,327	476,942	486,941	487,469	483,836	478,062	469,562	458,851	442,939	431,483	414,428
% of Total Assets	9.38%	12.30%	11.68%	10.36%	10.34%	10.22%	10.12%	9.84%	9.54%	9.17%	8.72%	8.18%	8.31%	8.39%
Capital at Risk	375,658	283,193	361,651	379,916	402,073	405,595	403,285	397,690	390,193	380,068	367,253	351,341	337,074	317,752
% of Assets	8.32%	7.54%	9.91%	10.03%	9.71%	9.26%	8.99%	8.68%	8.36%	7.98%	7.51%	6.99%	7.04%	7.00%
% of Total Loans	8.78%	7.65%	10.30%	10.61%	10.30%	9.80%	9.47%	9.14%	8.80%	8.40%	7.90%	7.35%	7.41%	7.36%

Appendix Table 29. Summary of Wichita FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 126 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

Financial Output:	-Year Ended-												
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,598,469	3,420,566	3,743,467	4,067,277	4,209,225	4,307,300	4,393,446	4,474,725	4,579,881	4,720,483	4,833,775	4,264,840	4,371,461
Nonaccruals	259,007	140,497	50,909	20,336	21,046	21,537	21,967	96,389	457,289	264,791	128,375	54,999	28,666
% of Total Loan	7.00%	4.00%	1.42%	0.52%	0.51%	0.51%	0.50%	2.17%	10.10%	5.69%	2.69%	1.21%	0.66%
Restructured	35,980	140,584	175,777	0	43,350	13,005	7,172	4,538	20,851	14,206	19,266	14,564	14,430
% of Total Loans	0.97%	4.01%	4.91%	0.00%	1.05%	0.31%	0.16%	0.10%	0.46%	0.31%	0.40%	0.32%	0.33%
Performing Loans	2,924,242	2,910,744	3,409,440	3,720,477	3,891,774	3,995,198	4,084,184	4,075,918	3,828,388	3,964,551	4,082,930	3,514,472	3,662,110
% of Total Loans	79.03%	82.94%	95.18%	95.27%	94.04%	93.82%	93.88%	91.92%	84.56%	85.26%	85.47%	77.25%	84.81%
High Risk Loans	274,636	193,548	283,119	283,113	283,400	283,394	282,757	281,566	279,998	471,875	607,907	680,939	680,685
% of Total Loans	7.42%	5.51%	7.90%	7.25%	6.85%	6.66%	6.50%	6.35%	6.18%	10.15%	12.73%	14.97%	15.76%
Allowances	231,047	183,911	157,363	136,247	136,861	137,197	137,220	188,103	252,915	223,885	203,327	192,234	181,637
% of Total Loans	6.24%	5.24%	4.39%	3.49%	3.31%	3.22%	3.15%	4.24%	5.59%	4.81%	4.26%	4.23%	4.21%
Charge Offs	27,269	3,093	3,743	4,067	4,209	4,307	4,393	10,825	52,032	20,833	9,074	4,265	4,371
% of Total Loans	0.74%	0.09%	0.10%	0.10%	0.10%	0.10%	0.10%	0.24%	1.15%	0.45%	0.19%	0.09%	0.10%
Acquired Property	30,577	26,278	26,260	24,650	20,443	16,212	16,373	25,447	70,016	76,904	78,107	68,025	68,672
% of Total Assets	0.7473%	0.6071%	0.5693%	0.5176%	0.4249%	0.3301%	0.3287%	0.5060%	1.3515%	1.4245%	1.4996%	1.3703%	2.7458%
Provisions (Recoveries)	(118,943)	(44,043)	(22,804)	(17,049)	4,823	4,643	4,416	61,708	116,844	(8,197)	(11,485)	(6,827)	(6,225)
% of Total Loans	3.21%	-1.25%	-0.64%	-0.44%	0.12%	0.11%	0.10%	1.39%	2.58%	-0.18%	-0.24%	-0.15%	-0.14%
Net Interest Income	80,124	88,445	65,836	70,794	77,981	82,123	83,700	81,619	61,097	49,180	60,067	64,507	66,029
% of Total Assets	1.95%	2.16%	1.52%	1.53%	1.64%	1.71%	1.70%	1.64%	1.21%	0.95%	1.11%	1.24%	1.33%
Net Income	110,121	77,054	33,344	39,848	24,296	20,576	19,239	(41,930)	(124,398)	(8,437)	(2,485)	(1,593)	(1,301)
Return on Assets	2.68%	1.88%	0.77%	0.86%	0.51%	0.43%	0.39%	-0.84%	-2.47%	-0.16%	-0.05%	-0.03%	-0.03%
Return on Equity	24.38%	15.68%	7.08%	8.19%	4.63%	3.73%	3.35%	-7.42%	-25.73%	-2.01%	-0.60%	-0.38%	-0.31%
Operating Expenses	68,011	61,225	62,709	68,133	70,511	72,154	73,597	75,725	83,670	86,238	88,308	77,914	79,862
% of Total Loans	1.84%	1.74%	1.75%	1.74%	1.70%	1.69%	1.69%	1.71%	1.85%	1.85%	1.85%	1.71%	1.85%
ACAB7 Expense/LV		0.36%	0.25%	0.24%	0.23%	0.29%	0.31%	0.30%	0.30%	0.29%	0.34%	0.22%	0.23%
Total Capital	375,109	478,002	463,406	509,713	540,485	563,900	585,101	544,894	422,122	415,789	413,303	414,522	415,487
% of Total Assets	12.30%	11.68%	10.71%	11.05%	11.35%	11.72%	11.92%	10.94%	8.39%	8.03%	7.66%	7.96%	8.37%
Owner Capital	505,109	478,002	463,406	509,713	540,485	563,900	585,101	544,894	422,122	415,789	413,303	414,522	415,487
% of Total Assets	12.30%	11.68%	10.71%	11.05%	11.35%	11.72%	11.92%	10.94%	8.39%	8.03%	7.66%	7.96%	8.37%
Capital at Risk	283,193	361,651	394,995	434,843	459,139	479,716	498,955	457,025	332,628	324,191	321,706	320,112	318,812
% of Assets	7.54%	9.91%	10.43%	10.50%	10.49%	10.69%	10.89%	9.84%	7.11%	6.73%	6.41%	6.67%	6.98%
% of Total Loans	7.65%	10.30%	11.03%	11.13%	11.10%	11.27%	11.47%	10.31%	7.35%	6.97%	6.73%	7.04%	7.38%

Appendix Table 30. Summary of Texas/ Jackson FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 119 Basis Points Over the Cost of Funds, Baseline Economic Scenario

	-----Year Ended-----													
Financial Output:	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	4,009,121	3,128,453	3,711,351	3,623,763	3,693,702	3,756,495	3,812,466	3,873,085	3,918,012	3,986,969	4,121,330	4,189,332	4,526,155	4,599,026
Nonaccruals	25,060	154,220	199,100	73,276	18,469	18,782	19,062	19,365	19,590	19,935	20,607	20,947	22,631	22,995
% of Total Loans	0.64%	4.85%	5.82%	2.00%	0.50%	0.50%	0.50%	0.50%	0.50%	0.50%	0.51%	0.50%	0.52%	0.50%
Restructured	2,632	2,498	3,526	5,500	0	20,956	343	0	0	0	1,810	0	0	343
% of Total Loans	0.07%	0.08%	0.10%	0.15%	0.00%	0.56%	0.01%	0.00%	0.00%	0.00%	0.04%	0.00%	0.00%	0.01%
Performing Loans	3,765,441	2,861,367	3,345,051	3,275,644	3,393,358	3,495,636	3,565,673	3,637,538	3,691,515	3,771,584	3,911,518	3,981,820	4,318,724	4,376,839
% of Total Loans	94.75%	90.06%	97.81%	89.31%	92.75%	93.84%	94.22%	94.66%	94.76%	95.42%	96.48%	95.82%	99.10%	95.93%
High Risk Loans	216,489	109,340	161,700	274,844	260,919	241,734	227,731	216,181	206,908	193,641	189,205	186,565	184,457	199,191
% of Total Loans	5.52%	3.44%	4.73%	7.49%	7.13%	6.49%	6.02%	5.63%	5.31%	4.90%	4.67%	4.49%	4.23%	4.37%
Allowances	73,016	116,993	116,487	111,576	82,659	77,342	73,485	70,336	67,799	64,181	63,225	62,628	62,795	67,154
% of Total Loans	1.86%	3.68%	3.41%	3.04%	2.26%	2.08%	1.94%	1.83%	1.74%	1.62%	1.56%	1.51%	1.44%	1.47%
Charge Offs	4,072	24,009	14,420	4,312	3,694	3,756	3,812	3,873	3,918	3,987	4,121	4,189	4,526	4,599
% of Total Loans	0.10%	0.76%	0.42%	0.12%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Acquired Property	2,273	50,739	32,351	15,708	7,123	2,171	0	0	0	0	0	0	0	0
% of Total Assets	0.05%	1.0792%	0.6331%	0.3218%	0.1535%	0.0479%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Provisions (Recover)	(413)	7,366	4,642	(599)	(25,223)	(1,560)	(45)	724	1,381	369	3,165	3,593	4,693	8,958
% of Total Loans	-0.02%	0.23%	0.14%	-0.02%	-0.69%	-0.04%	0.00%	0.02%	0.04%	0.01%	0.08%	0.09%	0.11%	0.20%
Net Interest Incom	70,472	60,914	95,805	69,866	71,041	74,686	75,196	73,488	71,712	69,103	66,355	67,476	67,799	68,468
% of Total Assets	1.45%	1.43%	2.04%	1.37%	1.46%	1.61%	1.66%	1.61%	1.55%	1.47%	1.37%	1.36%	1.30%	1.26%
Net Income	(78)	71,810	28,387	7,868	30,711	11,186	7,269	3,073	513	(1,937)	(9,760)	(10,014)	(17,508)	(22,256)
Return on Assets	0.01%	1.68%	0.60%	0.15%	0.63%	0.24%	0.16%	0.07%	0.01%	-0.04%	-0.20%	-0.20%	-0.34%	-0.41%
Return on Equity														
ON Average Cap	-0.76%	13.31%	5.10%	1.39%	5.41%	1.99%	1.31%	0.57%	0.10%	-0.39%	-2.06%	-2.21%	-4.03%	-10.49%
Operating Expenses	69,133	47,594	57,954	62,488	63,694	64,777	65,742	66,788	67,562	68,751	71,068	72,241	78,049	79,306
% of Total Loans	1.74%	1.50%	1.69%	1.70%	1.74%	1.74%	1.74%	1.74%	1.73%	1.74%	1.75%	1.74%	1.79%	1.74%
ACAB7 Expense/LV	0.28%		0.29%	0.23%	0.23%	0.23%	0.29%	0.32%	0.31%	0.30%	0.29%	0.28%	0.31%	0.29%
Total Capital	515,477	526,338	552,875	560,093	569,172	567,026	560,014	547,966	533,001	514,570	488,494	460,151	445,330	424,434
% of Total Assets	10.66%	15.08%	11.76%	10.96%	11.66%	12.22%	12.36%	11.97%	11.48%	10.91%	10.10%	9.27%	8.57%	7.80%
Owner Capital	515,477	525,054	551,399	560,093	569,172	567,026	560,014	547,966	533,001	514,570	488,494	460,151	445,330	424,434
% of Total Assets	10.66%	12.28%	11.73%	10.96%	11.66%	12.22%	12.36%	11.97%	11.48%	10.91%	10.10%	9.27%	8.57%	7.80%
Capital at Risk	381,597	313,519	341,503	349,371	380,082	391,268	398,537	401,610	402,123	400,186	390,425	380,411	362,904	340,648
% of Assets	9.02%	8.98%	10.05%	8.48%	9.49%	9.69%	9.86%	9.81%	9.67%	9.50%	9.10%	8.58%	8.05%	7.00%
% of Total Loans	9.68%	9.87%	9.99%	9.53%	10.39%	10.50%	10.53%	10.45%	10.32%	10.12%	9.63%	9.15%	8.33%	7.47%

Appendix Table 31. Summary of Texas/Jackson FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 157 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

	-----Year Ended-----												
Financial Output:	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,128,453	3,711,351	3,623,763	3,693,702	3,756,495	3,812,466	3,873,085	3,918,012	3,986,969	4,121,330	3,297,064	3,350,147	3,404,084
Nonaccruals	154,220	199,100	73,276	18,469	18,782	19,062	19,365	83,240	396,423	229,256	85,944	41,522	20,682
% of Total Loans	4.85%	5.82%	2.00%	0.50%	0.50%	0.50%	0.50%	2.14%	10.03%	5.65%	2.32%	1.25%	0.61%
Restructured	17,441	3,526	5,500	0	20,956	343	0	1,858	62,184	126,072	0	0	3,061
% of Total Loans	0.55%	0.10%	0.15%	0.00%	0.56%	0.01%	0.00%	0.05%	1.57%	3.11%	0.00%	0.00%	0.07%
Performing Loans	2,861,367	3,345,051	3,275,644	3,393,358	3,495,636	3,565,673	3,556,692	3,482,041	3,174,249	3,601,442	2,920,735	3,015,343	3,090,052
% of Total Loans	90.06%	97.81%	89.31%	92.75%	93.84%	94.22%	92.56%	89.39%	80.31%	88.83%	91.20%	95.85%	93.76%
High Risk Loans	109,340	161,700	274,844	260,919	241,734	227,731	295,169	290,547	290,226	290,633	228,400	214,870	214,585
% of Total Loans	3.44%	4.73%	7.49%	7.13%	6.49%	6.02%	7.68%	7.46%	7.34%	7.17%	6.16%	6.46%	6.35%
Allowances	116,993	116,487	111,576	82,659	77,342	73,485	92,814	120,581	263,086	187,088	132,356	108,130	95,280
% of Total Loans	3.68%	3.41%	3.04%	2.26%	2.08%	1.94%	2.42%	3.10%	6.66%	4.61%	3.19%	2.48%	2.09%
Charge Offs	24,009	14,420	4,312	3,694	3,756	3,812	3,873	9,396	45,178	18,052	7,719	4,526	4,599
% of Total Loans	0.76%	0.42%	0.12%	0.10%	0.10%	0.10%	0.10%	0.24%	1.14%	0.45%	0.19%	0.10%	0.10%
Acquired Property	50,739	32,351	15,708	7,123	2,171	0	0	4,133	22,701	15,002	8,278	4,830	2,642
% of Total Assets	1.0792%	0.6331%	0.3218%	0.1536%	0.0480%	0.0000%	0.0000%	0.0905%	0.4867%	0.3078%	0.1608%	0.0892%	0.0964%
Provisions (Recovery)	7,366	4,642	(599)	(25,223)	(1,560)	(45)	23,202	37,164	187,683	(57,945)	(47,013)	(19,700)	(8,251)
% of Total Loans	0.23%	0.14%	-0.02%	-0.69%	-0.04%	0.00%	0.60%	0.95%	4.75%	-1.43%	-1.13%	-0.45%	-0.18%
Net Interest Income	60,914	95,805	84,017	86,558	91,720	93,680	93,509	90,294	70,230	58,608	69,649	78,541	84,559
% of Total Assets	1.43%	2.04%	1.64%	1.77%	1.98%	2.07%	2.05%	1.97%	1.54%	1.26%	1.43%	1.53%	1.56%
Net Income	71,810	28,387	20,610	44,682	26,523	23,912	862	(16,695)	(194,015)	34,352	34,415	13,802	8,064
Return on Assets	1.68%	0.60%	0.40%	0.92%	0.57%	0.53%	0.02%	-0.36%	-4.25%	0.74%	0.71%	0.27%	0.15%
Return on Equity	13.31%	5.04%	3.53%	7.42%	4.32%	3.91%	0.15%	-3.57%	-52.33%	8.86%	8.52%	3.31%	3.82%
Operating Expenses	47,594	57,954	62,488	63,694	64,777	65,742	66,788	67,562	73,273	75,743	76,992	80,170	81,461
% of Total Loans	1.50%	1.69%	1.70%	1.74%	1.74%	1.74%	1.74%	1.73%	1.85%	1.87%	1.85%	1.84%	1.79%
ACM87 Expense/LV		0.29%	0.23%	0.23%	0.23%	0.29%	0.32%	0.31%	0.30%	0.30%	0.28%	0.31%	0.29%
Total Capital	526,338	552,875	572,835	595,885	609,077	618,707	604,448	572,275	361,766	379,802	395,888	412,377	421,801
% of Total Assets	15.08%	11.76%	11.21%	12.21%	13.13%	13.67%	13.26%	12.46%	7.92%	8.14%	8.12%	8.01%	7.79%
Owner Capital	525,054	551,399	572,835	595,885	609,077	618,707	604,448	572,275	361,766	379,802	395,888	412,377	421,801
% of Total Assets	12.28%	11.73%	11.21%	12.21%	13.13%	13.67%	13.26%	12.46%	7.92%	8.14%	8.12%	8.01%	7.79%
Capital at Risk	313,519	341,503	362,113	406,795	433,318	457,230	458,092	441,397	247,382	281,734	316,148	329,951	338,014
% of Assets	8.98%	10.05%	8.79%	10.16%	10.73%	11.31%	11.19%	10.67%	5.96%	6.91%	7.32%	7.41%	7.00%
% of Total Loans	9.87%	9.99%	9.87%	11.12%	11.63%	12.08%	11.92%	11.33%	6.26%	6.95%	7.61%	7.57%	7.41%

Appendix Table 32 Summary of Western PCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 153 Basis Points Over the Cost of Funds, Baseline Economic Scenario

	Year Ended													
Financial Output:	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	5,372,788	5,423,673	5,160,657	5,165,818	4,792,846	5,050,221	5,176,477	5,248,948	5,282,016	5,336,949	5,453,294	5,480,561	6,020,944	6,092,593
Nonaccruals	66,209	433,386	381,509	364,555	118,033	25,251	25,882	26,245	26,410	26,685	27,266	27,403	30,105	30,463
% of Total Loans	1.27%	7.76%	7.21%	7.06%	2.37%	0.51%	0.51%	0.50%	0.50%	0.50%	0.51%	0.50%	0.52%	0.50%
Restructured	42,259	51,526	204,992	222,919	141,638	65,621	11,112	0	0	0	389	3,461	19,706	0
% of Total Loans	0.83%	0.92%	3.87%	4.32%	2.84%	1.33%	0.22%	0.00%	0.00%	0.00%	0.01%	0.06%	0.34%	0.00%
Performing Loans	4,984,277	4,356,825	4,241,429	4,353,490	4,308,549	4,715,449	4,852,577	4,923,908	4,955,504	5,009,963	5,124,386	5,134,145	5,688,890	5,760,181
% of Total Loans	93.40%	78.05%	80.15%	84.32%	86.53%	95.81%	94.90%	94.46%	94.11%	94.36%	94.98%	93.91%	98.92%	95.10%
High Risk Loans	300,309	428,470	314,800	306,135	300,642	298,409	298,017	298,795	300,102	299,912	298,181	299,307	301,950	301,950
% of Total Loans	5.65%	7.68%	5.95%	5.93%	6.04%	6.06%	5.83%	5.73%	5.70%	5.65%	5.53%	5.47%	5.25%	4.99%
Allowances	91,606	141,602	122,831	117,858	103,503	89,148	84,857	85,197	85,589	85,807	86,836	93,670	87,529	87,673
% of Total Loans	1.73%	2.54%	2.32%	2.28%	2.08%	1.81%	1.66%	1.63%	1.63%	1.62%	1.61%	1.71%	1.52%	1.45%
Charge Offs	7,265	23,139	4,377	24,385	6,386	5,050	5,176	5,249	5,282	5,337	5,453	5,481	6,021	6,093
% of Total Loans	0.14%	0.41%	0.08%	0.47%	0.13%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%
Acquired Property	6,679	69,066	48,368	32,860	19,592	11,971	6,556	2,492	0	0	0	0	0	0
% of Total Assets	0.11%	1.0570%	0.7543%	0.5468%	0.3366%	0.1991%	0.1067%	0.0400%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Provisions (Recoveries)	3,483	(23,444)	(14,394)	27,887	5,238	(2,384)	2,265	2,831	393	218	1,029	6,834	(6,141)	143
% of Total Loans	0.07%	-0.42%	-0.27%	0.54%	0.11%	-0.05%	0.04%	0.05%	0.01%	0.00%	0.02%	0.13%	-0.11%	0.00%
Net Interest Income	90,091	98,651	127,567	59,664	71,443	86,781	92,982	93,374	93,498	93,034	92,490	95,276	101,977	110,487
% of Total Assets	1.43%	1.48%	1.95%	0.93%	1.19%	1.49%	1.55%	1.52%	1.50%	1.48%	1.45%	1.47%	1.53%	1.61%
Net Income	19,635	129,121	60,653	(25,679)	10,956	28,465	24,858	23,427	25,702	25,605	23,142	16,063	26,719	28,599
Return on Assets	0.31%	1.93%	0.93%	-0.40%	0.18%	0.49%	0.41%	0.38%	0.41%	0.41%	0.36%	0.25%	0.40%	0.42%
Return on Equity	3.91%	24.68%	12.43%	-5.60%	2.43%	6.23%	5.29%	4.89%	5.27%	5.19%	4.67%	3.16%	4.89%	5.05%
Operating Expenses	60,475	61,048	69,644	58,146	53,948	56,844	58,266	59,081	59,454	60,072	61,381	61,688	67,771	68,577
% of Total Loans	1.13%	1.09%	1.32%	1.13%	1.08%	1.16%	1.14%	1.13%	1.13%	1.14%	1.14%	1.13%	1.18%	1.13%
ACAB Expense/LV	0.31%	0.33%	0.33%	0.24%	0.24%	0.25%	0.33%	0.34%	0.33%	0.31%	0.31%	0.39%	0.41%	0.38%
Total Capital	486,773	532,746	513,634	462,088	454,377	448,266	465,431	474,736	483,724	491,007	496,103	494,946	522,211	569,741
% of Total Assets	7.72%	7.98%	7.86%	7.21%	7.56%	7.70%	7.74%	7.72%	7.77%	7.81%	7.77%	7.64%	7.84%	8.29%
Owner Capital	486,773	532,746	513,634	462,088	454,377	448,266	465,431	474,736	483,724	491,007	496,103	494,946	522,211	569,741
% of Total Assets	7.72%	7.98%	7.86%	7.21%	7.56%	7.70%	7.74%	7.72%	7.77%	7.81%	7.77%	7.64%	7.84%	8.29%
Capital at Risk	319,810	172,688	233,341	207,662	218,617	247,083	271,941	295,368	321,070	346,675	369,817	385,880	412,599	449,323
% of Assets	5.57%	2.92%	4.13%	3.73%	4.11%	4.71%	4.99%	5.31%	5.71%	6.11%	6.42%	6.61%	6.75%	7.00%
% of Total Loans	5.95%	3.09%	4.41%	4.02%	4.39%	5.02%	5.32%	5.67%	6.10%	6.53%	6.85%	7.06%	7.17%	7.42%

Appendix Table 33. Summary of Western FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 223 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

Financial Output:	Year Ended												
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	5,423,673	5,160,657	5,165,818	4,792,846	5,050,221	5,176,477	5,248,948	5,282,016	5,336,949	5,453,294	4,907,965	4,966,370	5,025,470
Nonaccruals	433,386	381,509	364,093	117,839	25,251	25,882	26,245	112,851	531,581	304,433	128,969	62,625	31,605
% of Total Loans	7.76%	7.21%	7.05%	2.37%	0.51%	0.51%	0.50%	2.14%	10.01%	5.64%	2.49%	1.27%	0.63%
Restructured	70,539	204,992	222,919	141,638	66,264	11,401	0	4,685	84,871	169,709	0	0	4,229
% of Total Loans	1.26%	3.87%	4.32%	2.84%	1.35%	0.22%	0.00%	0.09%	1.60%	3.15%	0.00%	0.00%	0.08%
Performing Loans	4,356,825	4,241,429	4,330,518	4,279,727	4,684,847	4,822,113	4,890,737	4,759,602	4,311,789	4,597,903	4,280,037	4,509,489	4,599,544
% of Total Loans	78.05%	80.15%	83.87%	85.95%	95.19%	94.30%	93.82%	90.39%	81.21%	85.22%	82.62%	91.34%	92.07%
High Risk Loans	428,470	314,800	329,569	329,016	328,722	328,482	327,281	324,692	323,870	550,958	498,959	390,027	389,865
% of Total Loans	7.68%	5.95%	6.38%	6.61%	6.68%	6.42%	6.28%	6.17%	6.10%	10.21%	9.63%	7.90%	7.80%
Allowances	141,602	122,831	120,254	103,503	96,841	92,473	94,192	160,262	361,484	259,513	178,584	130,364	115,390
% of Total Loans	2.54%	2.32%	2.33%	2.08%	1.97%	1.81%	1.81%	3.04%	6.81%	4.81%	3.45%	2.64%	2.31%
Charge Offs	23,139	4,377	24,352	6,373	5,050	5,176	5,249	12,712	60,542	23,963	10,180	6,021	6,093
% of Total Loans	0.41%	0.08%	0.47%	0.13%	0.10%	0.10%	0.10%	0.24%	1.14%	0.44%	0.19%	0.10%	0.10%
Acquired Property	69,066	48,368	32,858	19,590	11,969	6,555	4,943	11,528	46,774	39,872	29,743	24,078	17,877
% of Total Assets	1.0570%	0.7545%	0.5471%	0.3372%	0.1997%	0.1071%	0.0802%	0.1892%	0.7601%	0.6292%	0.4512%	0.3524%	0.5192%
Provisions (Recovery)	(23,444)	(14,394)	30,281	2,839	5,308	2,187	6,662	77,598	247,996	(62,099)	(51,186)	(24,142)	2,903
% of Total Loans	-0.42%	-0.27%	0.59%	0.06%	0.11%	0.04%	0.13%	1.47%	4.67%	-1.15%	-0.94%	-0.42%	0.05%
Net Interest Income	98,651	127,567	94,742	108,824	127,722	138,590	142,662	141,620	116,081	103,828	121,925	139,278	153,055
% of Total Assets	1.48%	1.95%	1.48%	1.81%	2.20%	2.31%	2.33%	2.30%	1.90%	1.69%	1.92%	2.11%	2.24%
Net Income	129,121	60,653	6,321	46,493	58,155	65,655	63,976	(2,039)	(216,711)	69,186	62,604	36,694	16,718
Return on Assets	1.93%	0.93%	0.10%	0.77%	1.00%	1.10%	1.05%	-0.03%	-3.56%	1.12%	0.99%	0.56%	0.24%
Return on Equity	24.68%	12.04%	1.24%	8.71%	10.12%	10.45%	9.94%	-0.39%	-50.98%	14.62%	12.16%	6.66%	2.95%
Operating Expenses	61,048	69,644	58,146	53,948	56,844	58,266	59,081	60,573	69,512	83,784	94,288	111,885	121,627
% of Total Loans	1.09%	1.32%	1.13%	1.08%	1.16%	1.14%	1.13%	1.15%	1.31%	1.55%	1.72%	1.95%	2.01%
ACAB7 Expense/LV	0.33%	0.33%	0.24%	0.24%	0.25%	0.33%	0.34%	0.33%	0.29%	0.30%	0.39%	0.41%	0.38%
Total Capital	532,746	513,634	494,089	521,915	545,494	603,455	653,309	634,556	399,523	450,663	496,046	533,285	568,925
% of Total Assets	7.98%	7.86%	7.71%	8.69%	9.39%	10.07%	10.67%	10.30%	6.56%	7.32%	7.83%	8.09%	8.33%
Owner Capital	532,746	513,634	494,089	521,915	545,494	603,455	653,309	634,556	399,523	450,663	496,046	533,285	568,925
% of Total Assets	7.98%	7.86%	7.71%	8.69%	9.39%	10.07%	10.67%	10.30%	6.56%	7.32%	7.83%	8.09%	8.33%
Capital at Risk	172,688	233,341	239,662	286,155	344,310	409,965	473,941	471,902	255,190	324,376	386,980	423,674	448,506
% of Assets	2.92%	4.13%	4.31%	5.38%	6.57%	7.53%	8.53%	8.46%	4.64%	5.84%	6.77%	7.00%	7.02%
% of Total Loans	3.09%	4.41%	4.64%	5.75%	7.00%	8.02%	9.09%	8.96%	4.81%	6.01%	7.08%	7.37%	7.41%

Appendix Table 34 Summary of Spokane FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 220 Basis Points Over the Cost of Funds, Baseline Economic Scenario

Financial Output:	Year Ended													
	90 -2000	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	3,651,794	2,856,018	2,705,398	2,856,900	3,042,313	3,215,117	3,366,227	3,505,252	3,629,689	3,754,913	3,895,722	3,991,557	4,431,426	4,480,615
Nonaccruals	38,816	395,403	425,543	185,795	69,826	16,076	16,831	17,526	18,148	18,775	19,479	19,958	22,157	22,403
% of Total Loans	1.24%	13.37%	15.30%	6.68%	2.37%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	0.51%	0.53%	0.50%
Restructured	11,940	13,807	48,145	33,106	0	14,975	8,163	4,533	2,610	16,027	11,091	15,315	11,301	14,223
% of Total Loans	0.35%	0.47%	1.73%	1.19%	0.00%	0.48%	0.25%	0.13%	0.07%	0.43%	0.29%	0.39%	0.27%	0.32%
Performing Loans	3,127,647	2,290,818	2,137,162	2,159,581	2,465,258	2,711,693	2,872,505	3,016,549	3,129,061	3,257,204	3,395,992	3,493,114	3,919,996	3,983,162
% of Total Loans	87.16%	77.46%	76.86%	77.65%	83.58%	86.67%	87.29%	87.80%	87.71%	88.22%	88.78%	88.58%	93.08%	89.39%
High Risk Loans	476,400	48,145	33,106	511,524	492,255	479,185	472,358	468,567	466,452	467,842	464,936	467,184	475,050	475,050
% of Total Loans	13.64%	1.63%	1.19%	18.39%	16.69%	15.32%	14.35%	13.64%	13.08%	12.67%	12.15%	11.85%	11.28%	10.66%
Allowances	56,265	121,065	86,333	60,032	44,830	48,227	50,493	52,579	54,445	56,324	58,436	59,873	66,471	67,209
% of Total Loans	1.59%	4.09%	3.10%	2.16%	1.52%	1.54%	1.53%	1.53%	1.53%	1.53%	1.53%	1.52%	1.58%	1.51%
Charge Offs	4,577	(8,893)	39,266	12,262	3,811	3,215	3,366	3,505	3,630	3,755	3,896	3,992	4,431	4,481
% of Total Loans	0.14%	-0.30%	1.41%	0.44%	0.13%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.10%	0.11%	0.10%
Acquired Property	2,357	35,727	35,390	16,402	7,124	2,315	87	0	0	0	0	0	0	0
% of Total Assets	0.07%	1.1408%	1.1209%	0.4918%	0.2013%	0.0622%	0.0022%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%	0.0000%
Provisions (Recover)	2,838	(27,946)	4,534	(14,039)	(11,391)	6,612	5,633	5,591	5,496	5,633	6,008	5,429	11,029	5,218
% of Total Loans	0.06%	-0.94%	0.16%	-0.50%	-0.39%	0.21%	0.17%	0.16%	0.15%	0.15%	0.16%	0.14%	0.26%	0.12%
Net Interest Incom	92,959	24,296	19,623	43,572	68,397	81,942	89,296	93,046	96,603	99,589	102,738	108,675	115,922	122,768
% of Total Assets	2.27%	0.73%	0.63%	1.38%	2.05%	2.32%	2.40%	2.39%	2.39%	2.38%	2.37%	2.44%	2.44%	2.44%
Net Income	28,096	121,629	(28,409)	10,917	29,067	22,157	25,612	26,778	28,387	29,307	29,697	35,619	29,908	41,609
Return on Assets	0.69%	3.66%	-0.91%	0.35%	0.87%	0.63%	0.69%	0.69%	0.70%	0.70%	0.69%	0.80%	0.63%	0.83%
Return on Equity	10.89%	66.51%	-17.12%	6.03%	14.27%	9.91%	10.50%	10.15%	10.02%	9.69%	9.17%	10.34%	8.12%	21.65%
Operating Expenses	61,688	35,975	46,973	48,260	51,392	54,311	56,864	59,212	61,314	63,430	65,808	67,427	74,858	75,689
% of Total Loans	1.73%	1.22%	1.69%	1.74%	1.74%	1.74%	1.73%	1.72%	1.72%	1.72%	1.72%	1.71%	1.78%	1.70%
ACAB7 Expense/LV	0.27%		0.33%	0.26%	0.24%	0.23%	0.30%	0.31%	0.30%	0.28%	0.28%	0.27%	0.28%	0.27%
Total Capital	364,098	202,167	163,600	258,212	284,030	303,236	323,988	343,822	363,731	383,096	401,918	426,019	442,606	474,417
% of Total Assets	8.96%	6.09%	5.22%	8.18%	8.52%	8.57%	8.71%	8.85%	9.01%	9.16%	9.29%	9.56%	9.33%	9.44%
Owner Capital	274,098	202,167	163,600	168,212	194,030	213,236	233,988	253,822	273,731	293,096	311,918	336,019	352,606	384,417
% of Total Assets	6.69%	6.09%	5.22%	5.33%	5.82%	6.03%	6.29%	6.53%	6.78%	7.01%	7.21%	7.54%	7.43%	7.65%
Capital at Risk	170,240	50,403	20,564	31,481	60,548	82,705	108,317	135,095	163,482	192,789	222,486	258,104	288,013	329,622
% of Assets	4.24%	1.63%	0.70%	1.07%	1.93%	2.49%	3.10%	3.70%	4.32%	4.92%	5.48%	6.17%	6.46%	6.99%
% of Total Loans	4.50%	1.70%	0.74%	1.13%	2.05%	2.64%	3.29%	3.93%	4.58%	5.22%	5.82%	6.54%	6.84%	7.40%

Appendix Table 35 Summary of Spokane FCS Banks Financial Analysis, 1988 - 2000, With Minimum Margins of 270 Basis Points Over the Cost of Funds, Pessimistic Economic Scenario

Financial Output	Year Ended												
	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000
Total Loans	2,856,018	2,705,398	2,856,900	3,042,313	3,215,117	3,366,227	3,505,252	3,629,689	3,754,913	3,895,722	3,798,329	3,798,329	3,798,329
Nonaccruals	395,403	425,543	185,500	69,462	16,076	16,831	17,526	77,647	374,136	217,630	99,962	48,051	23,983
% of Total Loans	13.37%	15.30%	6.67%	2.35%	0.51%	0.51%	0.51%	2.18%	10.13%	5.69%	2.60%	1.27%	0.63%
Restructured	13,804	48,145	33,106	0	15,236	8,424	4,710	2,721	16,014	10,884	15,071	10,596	12,001
% of Total Loans	0.47%	1.73%	1.19%	0.00%	0.49%	0.26%	0.14%	0.08%	0.43%	0.28%	0.39%	0.28%	0.32%
Performing Loans	2,290,818	2,137,162	2,158,342	2,446,839	2,681,279	2,836,140	2,977,698	3,031,541	2,869,741	3,008,484	3,076,181	3,189,916	3,226,557
% of Total Loans	77.46%	76.86%	77.61%	82.95%	85.70%	86.19%	86.67%	84.98%	77.72%	78.65%	82.76%	90.54%	87.62%
High Risk Loans	48,145	33,106	513,059	510,776	509,338	508,546	507,308	504,487	500,152	654,538	616,676	551,284	550,709
% of Total Loans	1.63%	1.19%	18.45%	17.32%	16.28%	15.45%	14.77%	14.14%	13.55%	17.11%	16.03%	14.51%	14.50%
Allowances	121,065	86,333	60,111	46,161	48,227	50,493	52,579	54,445	56,324	58,436	59,873	66,471	67,209
% of Total Loans	4.09%	3.10%	2.16%	1.56%	1.54%	1.53%	1.53%	1.53%	1.53%	1.53%	1.52%	1.58%	1.51%
Charge Offs	(8,893)	39,266	12,241	3,786	3,215	3,366	3,505	8,743	42,605	17,129	7,425	4,431	4,481
% of Total Loans	-0.30%	1.41%	0.44%	0.13%	0.10%	0.10%	0.10%	0.25%	1.15%	0.45%	0.19%	0.11%	0.10%
Acquired Property	35,727	35,390	16,401	7,123	2,314	87	88	3,492	18,765	11,302	5,623	3,029	1,489
% of Total Assets	1.1408%	1.1209%	0.4919%	0.2014%	0.0622%	0.0022%	0.0022%	0.0836%	0.4344%	0.2543%	0.1189%	0.0605%	0.0590%
Provisions (Recovery)	(27,946)	4,534	(13,981)	(10,164)	5,281	5,633	5,591	10,609	44,483	19,241	8,863	11,029	5,218
% of Total Loans	-0.94%	0.16%	-0.50%	-0.34%	0.17%	0.17%	0.16%	0.30%	1.20%	0.50%	0.22%	0.26%	0.12%
Net Interest Income	24,296	19,623	56,620	84,143	100,113	109,633	115,403	117,673	102,163	97,183	115,384	131,970	144,296
% of Total Assets	0.73%	0.63%	1.79%	2.52%	2.83%	2.95%	2.97%	2.92%	2.45%	2.25%	2.60%	2.79%	2.88%
Net Income	121,629	(28,409)	21,303	40,771	38,465	42,605	45,588	40,831	(17,052)	(1,046)	22,858	27,733	45,580
Return on Assets	3.66%	-0.91%	0.67%	1.22%	1.09%	1.15%	1.17%	1.01%	-0.41%	-0.02%	0.51%	0.59%	0.91%
Return on Equity	10.35%	-16.60%	10.79%	17.43%	14.22%	13.80%	13.24%	11.77%	-5.21%	-0.32%	6.72%	7.60%	23.80%
Operating Expenses	35,975	46,973	50,280	53,543	56,585	59,244	61,691	63,881	70,217	78,855	83,659	93,066	93,107
% of Total Loans	1.22%	1.69%	1.81%	1.82%	1.81%	1.80%	1.80%	1.79%	1.90%	2.06%	2.12%	2.21%	2.09%
ACAB7 Expense/LV		0.33%	0.26%	0.24%	0.23%	0.30%	0.31%	0.30%	0.29%	0.29%	0.27%	0.28%	0.27%
Total Capital	202,167	163,600	268,598	306,119	341,633	379,378	418,022	450,375	423,381	411,461	422,801	437,213	472,995
% of Total Assets	6.09%	5.22%	8.51%	9.18%	9.66%	10.20%	10.77%	11.17%	10.14%	9.53%	9.51%	9.24%	9.45%
Owner Capital	202,167	163,600	178,598	216,119	251,633	289,378	328,022	360,375	333,381	321,461	332,801	347,213	382,995
% of Total Assets	6.09%	5.22%	5.66%	6.48%	7.12%	7.78%	8.45%	8.93%	7.98%	7.44%	7.49%	7.34%	7.65%
Capital at Risk	50,403	20,564	41,867	82,638	121,102	163,708	209,295	250,127	233,075	232,029	254,886	282,619	328,200
% of Assets	1.63%	0.70%	1.42%	2.64%	3.64%	4.68%	5.74%	6.61%	5.95%	5.72%	6.11%	6.36%	6.98%
% of Total Loans	1.70%	0.74%	1.51%	2.80%	3.87%	4.97%	6.09%	7.01%	6.31%	6.07%	6.46%	6.71%	7.37%

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