REPRESENTATIVE FARMS ECONOMIC OUTLOOK FOR THE NOVEMBER 1998 FAPRI/AFPC BASELINE

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The farm level economic impacts of the Federal Agriculture Improvement and Reform Act of 1996 (FAIR) on representative crop and livestock operations are projected in this report. For this report the FAIR Act will be referred to as the 1996 Farm Bill. The analysis was conducted over the 1996-2002 planning horizon using AFPC's whole farm simulation model. Data to simulate farming operations in the nation's major production regions came from two sources:

- Producer panel cooperation to develop economic information to describe representative crop, livestock, and dairy farms.

- Projected prices, policy variables, and input inflation rates from the Food and Agricultural Policy Research Institute (FAPRI) November 1998 Baseline.

The primary objective of the analysis is to determine the farms' economic viability by region and commodity throughout the life of the 1996 Farm Bill.

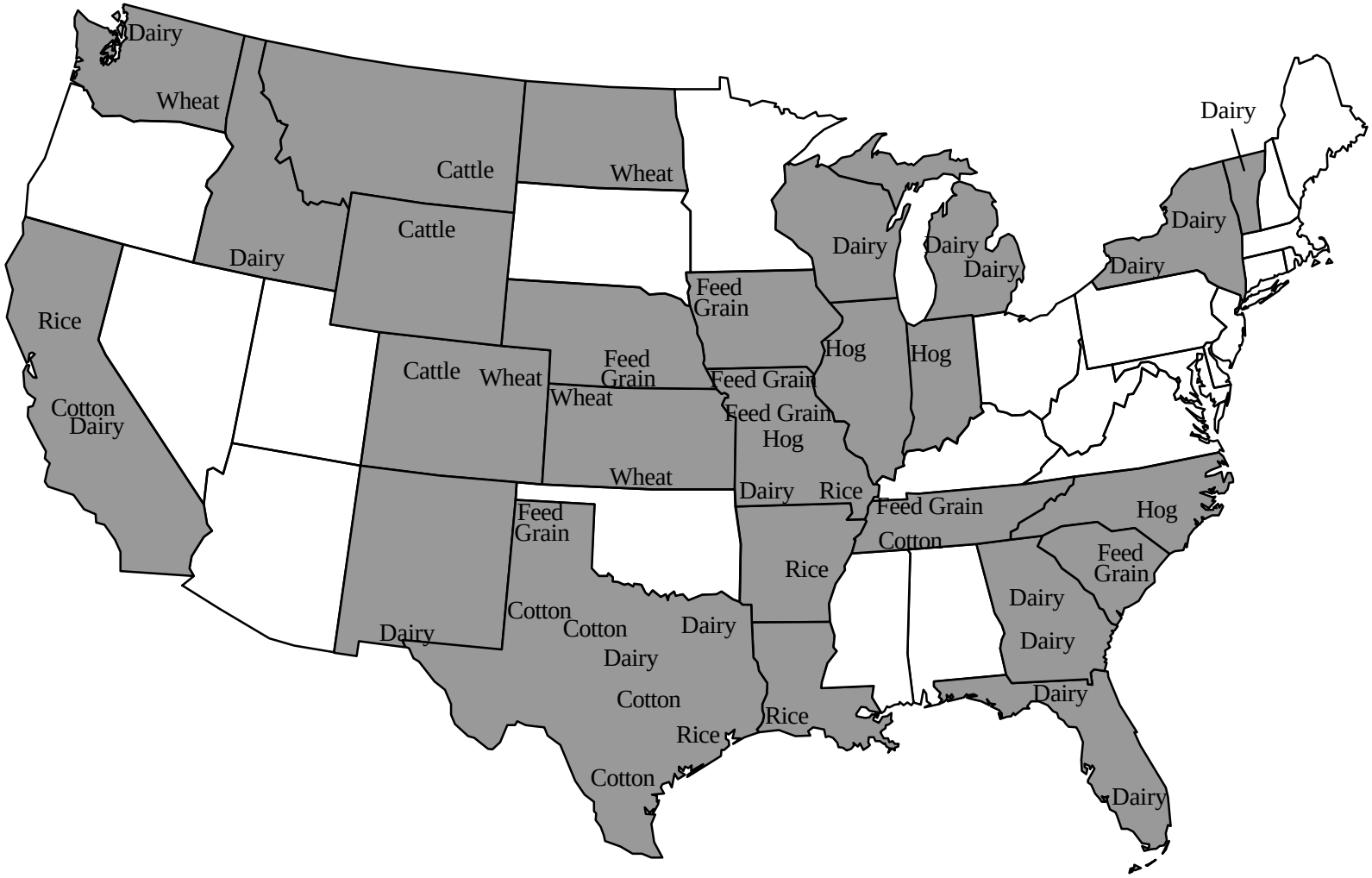
The AFPC farm level policy simulation model incorporates the historical risk faced by farmers for prices and production. Averages for the simulated values of key output variables are presented in AFPC policy analysis reports. This report breaks from that tradition by presenting the results of the November 1998 Baseline in a risk context using selected probabilities and simulated ranges for annual net cash farm income values. The probability of a farm experiencing annual cash flow deficits and the probability of having to refinance cash flow deficits are provided to show the financial risk faced by the representative farms. The probability of a farm losing real net worth is included as an indicator of the equity risk facing farms over the of the 1996 Farm Bill..

This report is organized into ten sections. The first section summarizes the process used to develop the representative farms and the key assumptions for the farm level analysis. The second section summarizes the FAPRI November 1998 Baseline and the policy and price assumptions used for the representative farm analyses. The third through sixth sections present the results of the simulation analyses for feed grain, wheat, cotton, and rice farms. The seventh through ninth sections summarize simulation results for dairy, cattle and hog farms. Two appendices constitute the final section of the report. Appendix A provides tables to summarize the physical and financial characteristics for each of the representative farms. Appendix B provides the names of producers, land grant faculty, and industry leaders who cooperated in the panel interview process.

Panel Process

AFPC has developed and maintains data to simulate more than 80 representative crop and livestock farms chosen from major production areas across the United States (Figure 1). Characteristics for each of the farms in terms of location, size, crop mix, assets, and average receipts are summarized in Appendix A. The location of these farms is primarily the result of discussions with staffers for the House and Senate Agriculture Committees. Information

Figure 1. Representative Farms



necessary to simulate the economic activity on these representative farms are developed from panels of producers using a consensus building interview process. Normally two farms are developed in each region using separate panels of producers: one is representative of moderate size full-time farm operations, and the second panel usually represents farms two to three times larger.

The data collected from the panel farms are analyzed in a whole farm simulation model (FLIPSIM) developed by AFPC. The producer panels are provided pro-forma financial statements for their representative farm and are asked to verify the accuracy of simulated results for the past year and the reasonableness of a four to five year projection. Each panel must approve of the model's ability to reasonably reflect the economic activity on their representative farm prior to using the farm for policy analyses.

The farms used in the analysis have been updated with the panels through 1996. Representative farms in the whole farm data base that have not been updated are not reported in this Working Paper. All of the crop farms are assumed to begin 1996 with 20 percent intermediate- and long-term debt, based on information provided by ERS-USDA and the panel members. Initial debt levels for dairy farms were set at 30 percent; initial debt levels for beef cattle ranches were 1 percent for land and 5 percent for cattle and machinery; and initial debt levels for hog farms were 45 percent.

Key Assumptions

- All farms classified as moderate scale are the size (acres or number of livestock) considered to be representative of a majority of full-time commercial farming operations in the study area. In many regions, a second farm, two to three times larger than the moderate scale farm is developed as an indicator of size economies.

- Dairy, hog, and cattle herd sizes are held constant for all farms over the 1996-2002 planning horizon.

- The farm was structured so government payment limits were not effective at reducing contract payments and loan deficiency payments.

- Minimum family living withdrawals were assumed at a base rate of 10 percent of gross receipts or $25,000 annually, whichever is lower. Actual family living withdrawals are determined by historical consumption patterns. Therefore, as the farm's profitability increases so does the level of family living withdrawals.

- The farm is subject to owner/operator federal (income and self-employment) and state income taxes as a sole proprietor, based on the current tax provisions..

- No off-farm-related income including family employment was included in the analyses.

- Farm program parameters, average annual prices, crop and livestock yield trends, interest rates, and input cost inflation (deflation) are based on the November 1998 FAPRI Baseline which assumes implementation of the 1996 Farm Bill.

- Contract payments for participating cotton, wheat, feed grain, and rice producers are made based on 85 percent of their historical base acreage times farm program yield times a contract payment rate. The contract payment rate is included in the November 1998 FAPRI Baseline.

- The farms are assumed to be enrolled in the 7 year production flexibility program and take full advantage of the flexibility provisions in the 1996 Farm Bill (within the current crop mix). Crop mix changes after 1996 were estimated based on projected net returns for each of the enterprises currently produced on the farms. During the update process most of the crop farm panels indicated that they would flex out of their current crop mix, but only if expected net returns per acre from the change exceeded $40, due to rotation and/or other cultural concerns.

- Marketing loan provisions for cotton and rice were continued under the 1996 Farm Bill. Marketing loans for wheat, feed grains, and soybeans were authorized in the 1996 Farm Bill and are assumed to be in place for the farm level analysis.

- The farm level simulation model incorporates price and yield risk faced by farmers. Historical yield variability for crops and production for livestock (sale weights and milk/cow) over the past ten years are assumed to prevail for the planning horizon. Market prices for crops and feedstuffs are assumed to be more variable than over the past ten years due to the 1996 Farm Bill provisions, based on recent research. The assumed increase in relative price variability is: 82 percent for feed grains, 40 percent for wheat, 26 percent for soybeans, 1 percent for cotton and rice, and 10 percent for livestock. Random prices are appropriately correlated based on historical correlations, among crop and livestock prices, both within year and across years.

- To simulate the historical portion of the planning horizon crop yields were held constant, based on county averages obtained from USDA/NASS for 1996 and 1997. Crop yields for 1998 were held constant at their USDA/NASS state averages or at average yields provided by facilitators. In Texas the 1998 yields were based on values provided by the county agents who reported the effects of drought on crops. Prices were held constant at USDA/NASS state values for 1996 and 1997. The 1998 prices were stochastic to simulate the effect that the 1998 crops have not been all marketed.

- The 1996 Farm Bill eliminated the dairy assessments after 1996 and provides for a reduction in the milk support price starting in 1997. Each year the dairy support price falls 15 cents per hundred weight until the support price reaches $9.90 per hundred weight in 1999, after which it is eliminated.

FAPRI November 1998 Baseline

Projected crop prices for FAPRI's November 1998 baseline are summarized in Table 1. Projected corn prices decline from the high of $2.71/bu. in 1996 to a low of $2.01/bu. in 1998 then increase until they reach $2.22/bu. in 2002. Wheat prices are projected to decline to

$2.61/bu. by 1998 and then increase through 2002 when wheat prices are projected at $3.31/bu. Cotton prices will likely decline until 1999 reaching a low of $0.6369lb. and then increase slightly to $0.6721/lb. in 2002. Rice prices are projected to decline from the $9.96/cwt. level realized in 1996 to $9.30/cwt. by 1998 and remain below $9.50/cwt. throughout the remainder of the study period.

Assumed loan rates and projected annual contract payment rates, net of 1995 deficiency repayments in 1996 and 1997, are also summarized in Table 1. The farms growing contract commodities were assumed to have accepted the 1995 advance deficiency payments and had the repayments offset against 1996 contract payments for wheat, barley, oats, and upland cotton. The assumed contract or AMTA payment rates are summarized in Table 1.

Projected livestock prices for FAPRI's November 1998 Baseline are summarized in Table 2. Beef cattle prices are projected to increase throughout the planning horizon after the drought induced decline in 1998. Actual feeder cattle prices were reported at $61.31 and $81.34/cwt. for 1996 and 1997, and then projected to decline to $78.08/cwt. in 1998. Following this one year adjustment prices are projected to increase gradually to $89.67/cwt. in 2002. Hog prices decline after 1996 reaching a low of $33.07/cwt. in 1998 and then recovering to $43.65/cwt. in 2002. Annual milk prices for the 12 states, where representative dairy farms are located, are summarized in Table 2. Milk prices increased dramatically in 1998 to $15.31/cwt. but are projected to decrease to the $13.30 to $13.68/cwt. range for the remainder of the planning horizon.

Projected annual rates of change for variable cash expenses are presented in Table 3. The rate of change in input prices and interest rates come from FAPRI's November 1998 Baseline which relies on WEFA's macroeconomic projections. Annual interest rates paid for long- and intermediate-term loans and earned for savings are also summarized in Table 3. Assumed annual rates of change in land values over the 1997-2002 period are provided by the FAPRI Baseline (Table 3).

Definitions of Variables in the Summary Tables

- **Annual Change in Real Net Worth, 1996-2002 --** annualized percentage change in the operator's net worth from January 1, 1996 through December 31, 2002, after adjusting for inflation. This value reflects the real annualized increase or decrease in net worth or equity for the farm over the planning horizon including changes in real estate values.

- **Net Income Adjustment (NIA), 1996-2002 --** NIA is the annual increase or decrease in net cash farm income necessary to cause the change in real net worth, including land inflation, to equal zero over the planning horizon. If the change in net worth is negative, the NIA is the annual increase in net income necessary to prevent a loss in total real net worth. NIA's are expressed both as total dollars per year and as a percent of average annual cash receipts.

- **Cost to Receipts Ratio, 1996-2002 --** average ratio of total cash expenses to total receipts (from all sources). Cash expenses include interest costs, fixed cash costs, and variable costs but exclude principal payments, depreciation, income taxes, and family living expenses. Total receipts include crop and livestock receipts plus government payments and insurance indemnities.

Table 1 . Comparison of Crop Prices, Loan Rates, and AMTA Payment Rates, 1996-2002.

	1996	1997	1998	1999	2000	2001	2002
Crop Prices							
Corn ($/bu.)	2.71	2.45	2.01	2.11	2.14	2.16	2.22
Wheat ($/bu.)	4.30	3.38	2.61	3.03	3.23	3.23	3.31
Cotton ($/lb.)	0.6930	0.6520	0.6783	0.6369	0.6423	0.6591	0.6721
Sorghum ($/bu.)	2.34	2.20	1.82	1.93	1.96	1.99	2.05
Soybeans ($/bu.)	7.35	6.45	5.36	5.20	5.31	5.41	5.54
Barley ($/bu.)	2.74	2.38	1.88	2.00	2.02	2.05	2.10
Oats ($/bu.)	1.96	1.60	1.14	1.23	1.27	1.27	1.28
Rice ($/cwt.)	9.96	9.64	9.30	9.34	9.39	9.45	9.47
Soybean Meal ($/ton)	260.40	170.00	131.40	133.80	138.80	142.70	149.40
All Hay ($/ton)	93.00	101.30	88.60	85.30	84.10	83.30	83.70
Loan Rates							
Corn ($/bu.)	1.89	1.89	1.89	1.89	1.89	1.80	1.73
Wheat ($/bu.)	2.58	2.58	2.58	2.58	2.58	2.58	2.55
Cotton ($/lb.)	0.5192	0.5192	0.5192	0.5192	0.5192	0.5192	0.5192
Sorghum ($/bu.)	1.81	1.76	1.74	1.74	1.74	1.66	1.59
Soybeans ($/bu.)	4.97	5.26	5.26	5.26	5.25	4.92	4.92
Barley ($/bu.)	1.55	1.57	1.56	1.56	1.56	1.49	1.42
Oats ($/bu.)	1.03	1.11	1.11	1.11	1.11	1.06	1.01
Rice ($/cwt.)	6.50	6.50	6.50	6.50	6.50	6.50	6.50
AMTA Payment Rates							
Corn ($/bu.)	0.2510	0.4860	0.5612	0.3630	0.3310	0.2665	0.2587
Wheat ($/bu.)	0.8740	0.6310	0.9869	0.6370	0.5804	0.4678	0.4542
Cotton ($/lb.)	0.0888	0.0763	0.1221	0.0788	0.0708	0.0571	0.0554
Sorghum ($/bu.)	0.3230	0.5440	0.6728	0.4350	0.3973	0.3202	0.3109
Barley ($/bu.)	0.3320	0.2770	0.4227	0.2710	0.2477	0.1998	0.1941
Oats ($/bu.)	0.0330	0.0310	0.0461	0.0300	0.0257	0.0207	0.0201
Rice ($/cwt.)	2.7660	2.7100	4.3465	2.8200	2.6027	2.1051	2.0444

Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University.

Table 2 . Comparison of Livestock Prices, Milk Prices and Production per Cow, 1996-2002.

	1996	1997	1998	1999	2000	2001	2002
Cattle Prices							
Feeder Cattle ($/cwt)	61.31	81.34	78.08	83.57	86.45	87.02	89.67
Fat Cattle ($/cwt)	65.05	66.32	62.27	66.55	70.12	72.58	74.52
Culled Cows ($/cwt)	30.33	34.27	37.87	41.07	43.18	43.82	45.60
Hog Prices							
Barrows/Gilts ($/cwt)	53.39	51.36	33.07	35.78	38.82	40.92	43.65
Culled Sows ($/cwt)	44.61	44.51	25.75	27.18	30.29	31.56	33.70
Milk Prices -- National and State							
All Milk Price ($/cwt)	14.75	13.36	15.31	13.68	13.42	13.30	13.32
California ($/cwt)	13.66	12.62	14.95	13.33	13.14	13.05	13.08
Florida ($/cwt)	18.00	16.50	18.12	16.50	16.30	16.20	16.24
Georgia ($/cwt)	16.30	14.70	16.31	14.69	14.48	14.38	14.41
Idaho ($/cwt)	13.90	12.30	14.19	12.50	12.16	11.98	11.99
Michigan ($/cwt)	15.00	13.60	15.34	13.72	13.51	13.41	13.44
Missouri ($/cwt)	15.10	13.70	15.36	13.73	13.52	13.41	13.44
New Mexico ($/cwt)	13.80	12.90	14.51	12.84	12.53	12.38	12.39
New York ($/cwt)	14.90	13.40	15.20	13.55	13.31	13.19	13.21
Texas ($/cwt)	15.10	13.70	15.58	13.93	13.69	13.57	13.59
Vermont ($/cwt)	15.30	14.30	16.07	15.20	14.26	14.15	14.17
Washington ($/cwt)	14.50	13.20	15.56	13.87	13.53	13.36	13.37
Wisconsin ($/cwt)	14.75	13.33	15.45	13.82	13.59	13.48	13.51

Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University.

Table 3 . Comparison of Assumed Rates of Change in Input Prices, and Annual Interest Rates, 1997-2002.

	1997	1998	1999	2000	2001	2002
Annual Rate of Change for Input Prices Paid						
Seed Prices (%)	7.73	-0.50	0.39	1.82	1.93	1.64
Fertilizer Prices (%)	-1.74	-3.09	0.79	1.76	1.33	1.31
Chemical Prices (%)	-2.01	0.65	0.71	1.34	2.00	2.12
Machinery Prices (%)	2.50	-1.06	0.28	0.08	0.02	0.23
Fuel and Lube Prices (%)	0.49	-9.98	0.99	2.48	1.81	1.77
Labor (%)	8.30	2.45	5.44	5.59	5.96	5.20
Other Input Prices (%)	-0.06	-1.85	0.84	1.68	1.82	1.90
Non-Feed Dairy Costs (%)	4.04	-1.24	0.14	0.72	0.89	0.81
Non-Feed Beef Costs (%)	3.66	-0.95	1.45	1.95	1.89	-28.56
Non-Feed Hog Costs (%)	-0.89	-2.91	1.62	2.63	2.56	2.44
Annual Change in Consumer Price Index (%)	1.66	2.26	2.38	2.37	2.39	2.40
Annual Interest Rates						
Long-Term (%)	7.17	7.42	7.62	7.61	7.66	7.64
Intermediate-Term (%)	8.50	8.62	8.58	8.49	8.50	8.43
Savings Account (%)	4.50	4.62	4.58	4.49	4.50	4.43
Annual Rate of Change for U.S. Land Prices (%)	4.20	2.86	2.90	2.26	1.79	0.54

Source: Food and Agricultural Policy Research Institute (FAPRI) at the University of Missouri-Columbia and Iowa State University.

- **Government Payments/Receipts, 1996-2002 –** sum of all farm program payments (AMTA and marketing loan deficiency payments) divided by total receipts received from the market plus farm program payments, CCC loans, crop insurance indemnities, and other farm related income.

- **Total Cash Receipts --** sum of all cash receipts from all sources, including market sales, AMTA (or contract) payments, CCC loans, marketing loan deficiency payments, crop insurance indemnities, and other farm related income. The values in the tables are the average total receipts for each year in the planning horizon.

- **Net Cash Farm Income –** equals total cash receipts minus all cash expenses. Net cash farm income is used to pay family living expenses, principal payments, income taxes, self employment taxes, and machinery replacement costs. The values in the tables are the averages for each year in the planning horizon.

- **Probability of a Cash Flow Deficit** -- is the number of times out of 100 that the farm's annual net cash farm income does not exceed cash requirements for family living, principal payments, taxes (income and self-employment), and machinery replacement expenses. This probability is reported for each year of the planning horizon to indicate whether the cash flow risk for a farm increases or decreases over the planning horizon.

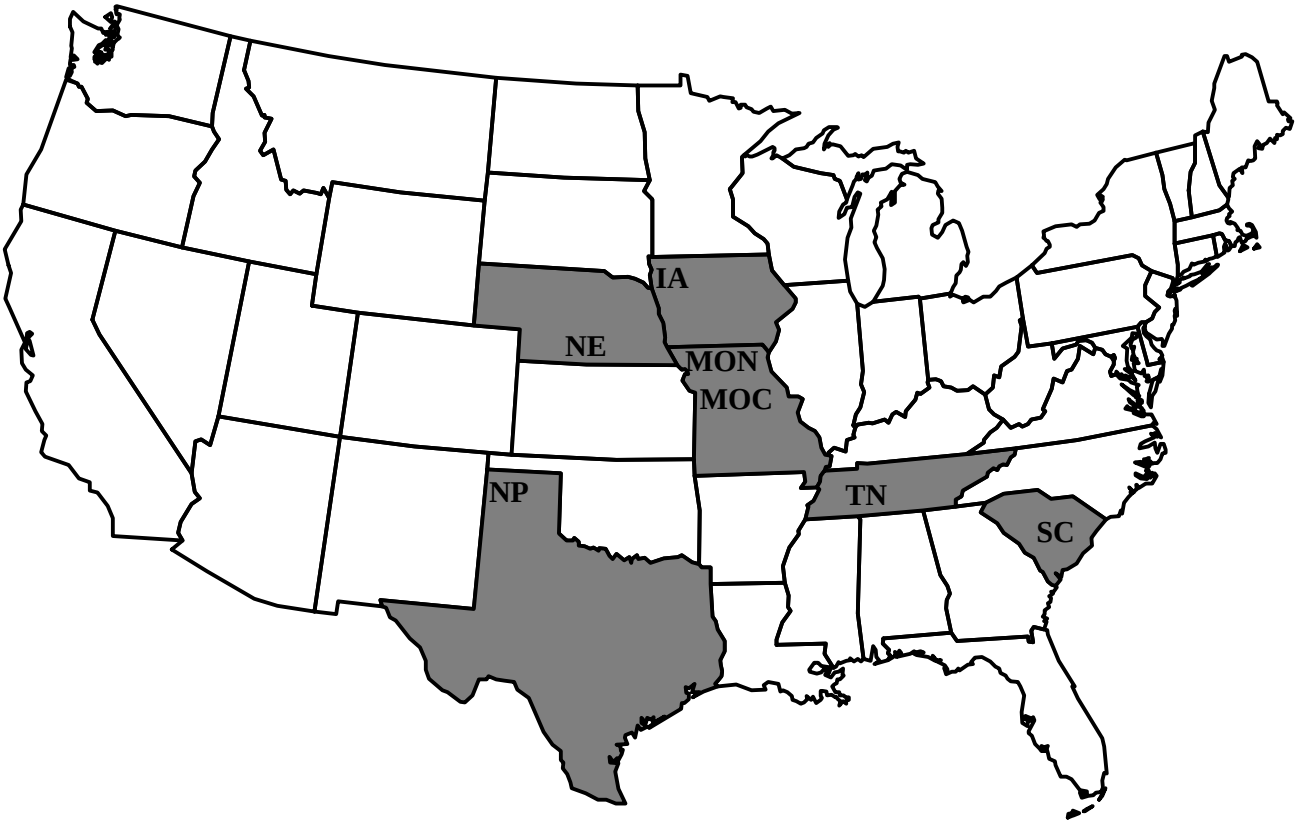
- **Ending Cash Reserves** -- equals total cash on hand at the end of the year. Ending cash equals beginning cash reserves plus net cash farm income and interest earned on cash reserves less principal payments, federal taxes (income and self employment), state income taxes, family living withdrawals, and machinery replacement costs.

- **Probability of Refinancing Deficits** -- is the number of times out of 100 that cash flow deficits are greater than available cash reserves. This probability is reported for each year of the planning horizon to indicate whether the financial risk for a farm increases or decreases over the planning horizon.

- **Nominal Net Worth** -- equity at the end of each year equals total assets including land minus total debt from all sources. Net worth is not adjusted for inflation and averages are reported for each year in the planning horizon.

- **Probability of Losing Real Net Worth** -- is the number of times out of 100 that real net worth is less than the initial net worth for the farm. The probability is reported for each year of the planning horizon to indicate whether the equity risk is increasing or decreasing from year to year.

FIGURE 2. REPRESENTATIVE FARMS PRODUCING FEED GRAINS



Feed Grain Farm Impacts

- Ten of the thirteen feed grain farms are projected to increase real net worth over the 1996-2002 study period. Annual average changes in net worth, after adjusting for inflation, range from -2.46 percent on the Nebraska farm (NEG800) to more than 6.89 percent for the large Texas Northern High Plains operation (Figure 3). Six of the thirteen feed grain farms had projected annualized increases in real net worth of more than four percent.

- Land value for all farms is projected to increase only 0.3 percent faster than the rate of inflation. As a result real land value appreciation accounts for less than 0.12 percentage points of the annual growth in real net worth.

- In all regions where AFPC monitors both a moderate and large scale operation, the larger operations are more financially sound than their moderate scale counterparts (Tables 4-5 and Figure 3-7).

- While most of the feed grain farms appear sound based on their ability to maintain net worth over the study period, there are some warning flags from an operational perspective.

    - Ten of the thirteen feed grain farms had greater than a 40 percent probability of a cash flow deficit in 1998. Low prices for crops and livestock, and low yields in the Texas and the Southeast, were responsible for the low farm incomes which caused cash flow deficits for many farmers.

    - The probability that the farm will annually experience a cash flow deficit after 1998 is greater than 40 percent for the moderate Iowa, both Nebraska, the Northern Missouri, the moderate Texas Northern Plains, moderate Tennessee, and the moderate South Carolina operations (Figure 4-7).

    - These annual cash flow deficits will have to be covered either through refinancing operating debt or drawing down cash surpluses. Eight of the feed grain farms appear very capable of offsetting annual declines in cash flow from cash reserves. Both Nebraska farms, the moderate Tennessee farm, the moderate South Carolina farm, and the Northern Missouri farm, however, will likely have to depend on debt refinancing if they are to maintain operations. The probability of refinancing ranges from 89-99 percent for the moderate Nebraska, 55-72 percent for the large Nebraska farm, 65-77 percent for the moderate Texas farm, 44-55 percent for the moderate South Carolina farm, 31-54 percent for the Northern Missouri, and 29-42 percent for the large Nebraska farm. On all five farms the initial cash expense to receipts ratio approached or exceeded 80 percent. Past experience suggests that beginning expense to receipt ratios exceeding 80 percent will likely lead to operational cash flow problems for most crop dependent farms.

Table 4. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Feed Grains.

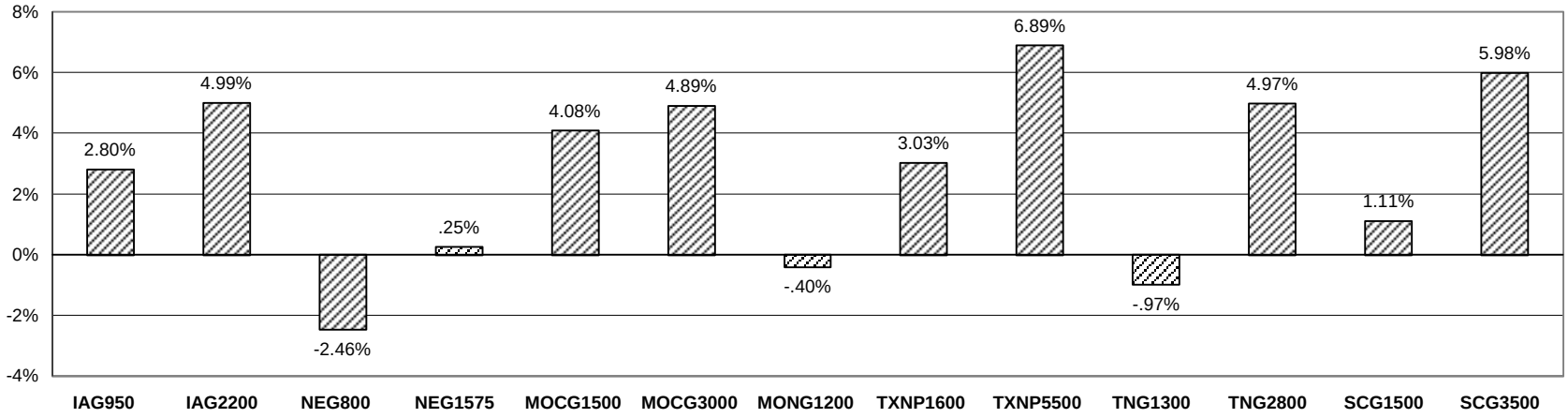
	IAG950	IAG2200	NEG800	NEG1575	MOCG1500	MOCG3000	MONG1200
Annual Change Real Net Worth (%)							
1996-2002 Average	2.80	4.99	-2.46	0.25	4.08	4.89	-0.40
Net Income Adjustment (NIA)							
1996-2002 ($1,000)	-35.43	-95.82	31.19	-6.30	-87.61	-237.04	8.40
Net Income Adjustment (NIA)							
1996-2002 (% Receipts)	-12.34	-18.46	8.89	-0.91	-25.93	-30.41	1.98
Cost to Receipts Ratio (%)							
1996-2002 Average	70.19	64.58	96.48	89.39	56.97	55.07	87.66
Govt Payments/Receipts (%)							
1996-2002 Average	9.88	11.67	11.88	12.75	8.05	7.96	3.98
Total Cash Receipts ($1000)							
1996	347.03	621.18	389.37	817.35	454.02	1,038.13	464.99
1997	306.58	556.97	374.12	760.79	357.59	794.62	472.77
1998	259.39	476.01	298.36	597.50	321.21	721.84	354.22
1999	270.17	489.45	341.81	685.87	321.43	716.54	402.84
2000	275.60	498.15	350.14	698.57	326.86	727.90	418.42
2001	273.79	493.18	348.56	695.35	322.26	718.23	424.98
2002	276.56	497.82	354.59	706.23	331.79	739.91	438.08
Net Cash Farm Income ($1000)							
1996	151.06	290.19	86.62	233.61	253.85	613.67	100.08
1997	115.02	237.00	69.37	182.31	166.88	390.23	111.32
1998	72.48	164.75	-10.55	22.25	139.13	328.10	7.38
1999	82.62	175.46	22.64	96.54	137.44	319.06	50.41
2000	85.15	180.84	21.85	98.83	141.48	323.12	53.54
2001	80.48	173.35	9.49	80.16	131.59	304.32	51.05
2002	82.76	174.74	7.75	78.67	135.37	319.80	52.37
Prob. of a Cash Flow Deficit (%)							
1998	64	33	91	88	29	14	99
1999	40	29	93	74	17	7	89
2000	39	24	95	76	25	22	94
2001	49	29	96	80	26	23	93
2002	55	35	98	81	38	24	97
Ending Cash Reserves ($1000)							
1996	62.47	113.59	16.70	79.69	112.67	277.72	9.70
1997	83.95	178.50	3.79	105.00	157.63	394.09	26.56
1998	75.24	195.56	-75.07	-9.29	182.91	484.38	-49.08
1999	81.17	230.85	-129.22	-57.84	224.46	598.29	-70.08
2000	92.63	271.41	-180.57	-99.76	261.45	704.33	-104.59
2001	97.63	311.91	-250.26	-165.25	298.73	798.54	-148.36
2002	92.08	344.42	-314.80	-218.92	327.78	901.51	-191.78
Prob. of Refinancing Deficits (%)							
1998	4	1	91	43	1	1	99
1999	10	2	92	55	1	1	89
2000	11	1	95	62	1	1	92
2001	16	2	96	71	1	1	93
2002	19	5	97	72	1	1	97
Nominal Net Worth ($1000)							
1996	954.71	1,179.93	1,050.67	2,222.47	1,436.89	2,795.81	1,266.83
1997	1,030.44	1,311.99	1,102.06	2,363.42	1,560.23	3,056.18	1,363.25
1998	1,070.72	1,388.32	1,067.26	2,359.19	1,656.33	3,270.83	1,314.59
1999	1,121.74	1,467.63	1,067.78	2,428.67	1,753.72	3,480.63	1,352.68
2000	1,177.83	1,569.81	1,060.14	2,477.15	1,847.29	3,680.34	1,375.63
2001	1,219.07	1,649.98	1,032.75	2,511.70	1,941.38	3,867.24	1,394.87
2002	1,244.74	1,715.85	1,005.83	2,516.18	2,009.49	4,035.11	1,397.86
Prob. of Losing Real Net Worth (%)							
1998	4	1	67	27	1	1	41
1999	5	2	69	31	1	1	37
2000	2	1	75	35	1	1	50
2001	7	2	81	39	1	1	53
2002	11	3	85	48	1	1	60

Table 5. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Feed Grains.

	TXNP1600	TXNP5500	TNG1300	TNG2800	SCG1500	SCG3500
Annual Change Real Net Worth (%)						
1996-2002 Average	3.03	6.89	-0.97	4.97	1.11	5.98
Net Income Adjustment (NIA)						
1996-2002 ($1,000)	-16.28	-168.63	7.14	-73.58	-6.90	-217.82
Net Income Adjustment (NIA)						
1996-2002 (% Receipts)	-4.94	-13.87	2.64	-10.38	-1.34	-15.78
Cost to Receipts Ratio (%)						
1996-2002 Average	79.53	74.06	91.29	80.20	88.61	74.10
Govt Payments/Receipts (%)						
1996-2002 Average	14.52	12.69	5.81	8.83	10.45	8.62
Total Cash Receipts ($1000)						
1996	396.33	1,494.88	323.38	878.57	618.46	1,640.75
1997	348.17	1,305.45	301.25	759.69	591.86	1,563.31
1998	260.13	947.88	220.78	551.19	321.22	883.86
1999	320.42	1,198.59	267.27	677.64	503.12	1,349.06
2000	327.22	1,220.09	272.92	690.51	516.16	1,383.37
2001	322.01	1,208.70	276.22	687.74	517.14	1,401.59
2002	331.03	1,241.90	281.03	717.12	530.88	1,438.74
Net Cash Farm Income ($1000)						
1996	137.22	596.35	86.90	344.62	201.15	672.82
1997	104.77	444.37	65.55	235.80	173.63	605.40
1998	11.04	78.67	-12.57	26.26	-72.83	-47.38
1999	75.53	347.58	25.70	144.17	75.44	382.15
2000	78.25	359.40	28.45	147.04	80.47	407.73
2001	69.08	342.88	26.41	135.36	71.43	416.70
2002	71.71	364.94	23.34	154.00	71.65	447.64
Prob. of a Cash Flow Deficit (%)						
1998	85	87	95	83	99	99
1999	34	24	75	27	57	27
2000	51	38	73	41	64	28
2001	68	25	88	57	73	30
2002	59	38	87	56	73	26
Ending Cash Reserves ($1000)						
1996	72.65	271.36	32.87	198.49	89.83	319.94
1997	113.75	401.34	41.73	302.46	150.85	562.32
1998	65.10	212.73	-22.01	212.50	12.15	331.97
1999	84.52	340.40	-31.85	284.51	6.42	467.67
2000	94.48	441.34	-47.66	319.62	4.56	587.88
2001	86.53	547.05	-70.13	307.27	-20.53	701.94
2002	83.64	637.38	-100.88	296.13	-52.92	833.81
Prob. of Refinancing Deficits (%)						
1998	12	15	77	1	44	1
1999	8	9	70	4	49	1
2000	10	4	65	4	47	1
2001	12	2	76	8	56	2
2002	23	5	77	18	55	1
Nominal Net Worth ($1000)						
1996	480.36	1,792.31	576.15	1,364.68	770.78	2,446.26
1997	529.71	2,015.63	619.63	1,520.20	867.74	2,799.92
1998	498.11	1,952.90	579.64	1,478.01	758.54	2,676.64
1999	531.42	2,150.32	582.33	1,575.84	793.44	2,943.74
2000	557.18	2,338.93	580.59	1,647.03	824.98	3,166.12
2001	572.69	2,528.00	570.68	1,695.17	834.14	3,399.99
2002	580.99	2,682.30	549.63	1,742.44	836.39	3,635.46
Prob. of Losing Real Net Worth (%)						
1998	42	30	72	27	81	8
1999	40	12	70	20	62	3
2000	30	6	65	19	48	1
2001	31	2	76	22	57	2
2002	34	5	79	24	54	1

Figure 3. Feed Grain Farms

Average Annual Percentage Change in Real Net Worth 1997-2002



Average Annual Percentage Change in Receipts 1997-2002 Needed to Maintain 1996 Net Worth

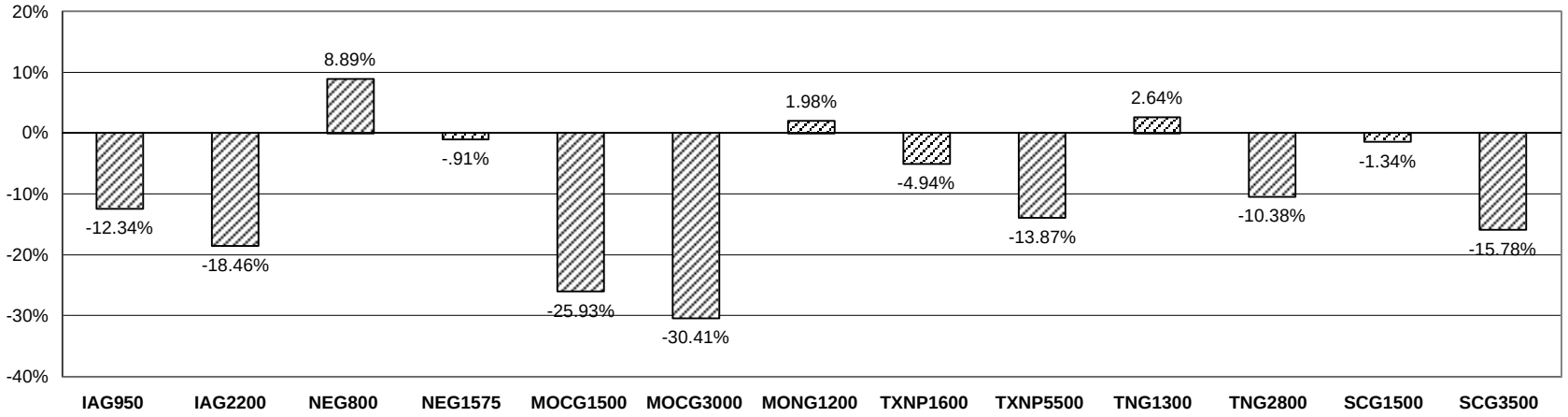


Figure 4. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms

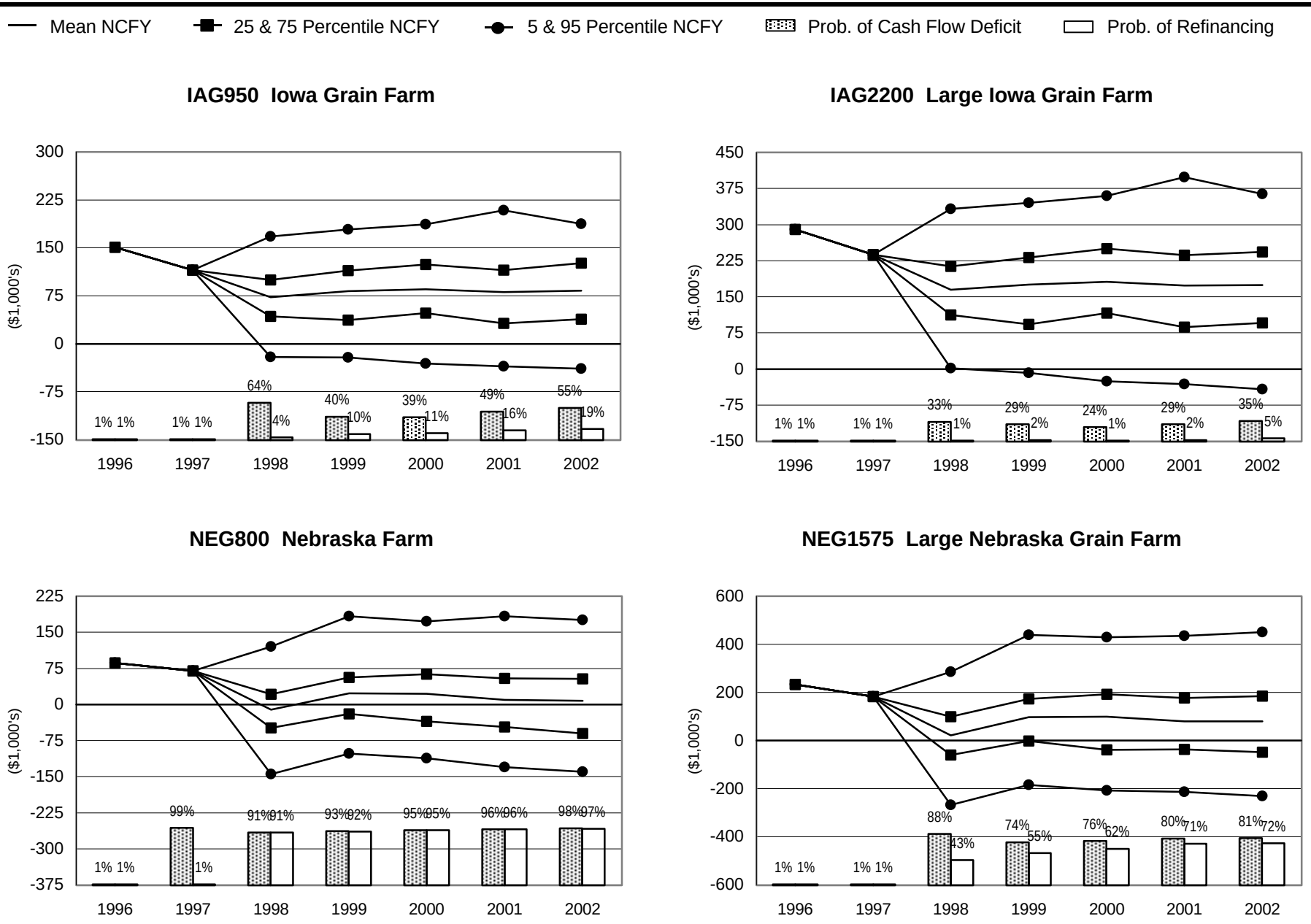


Figure 5. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms

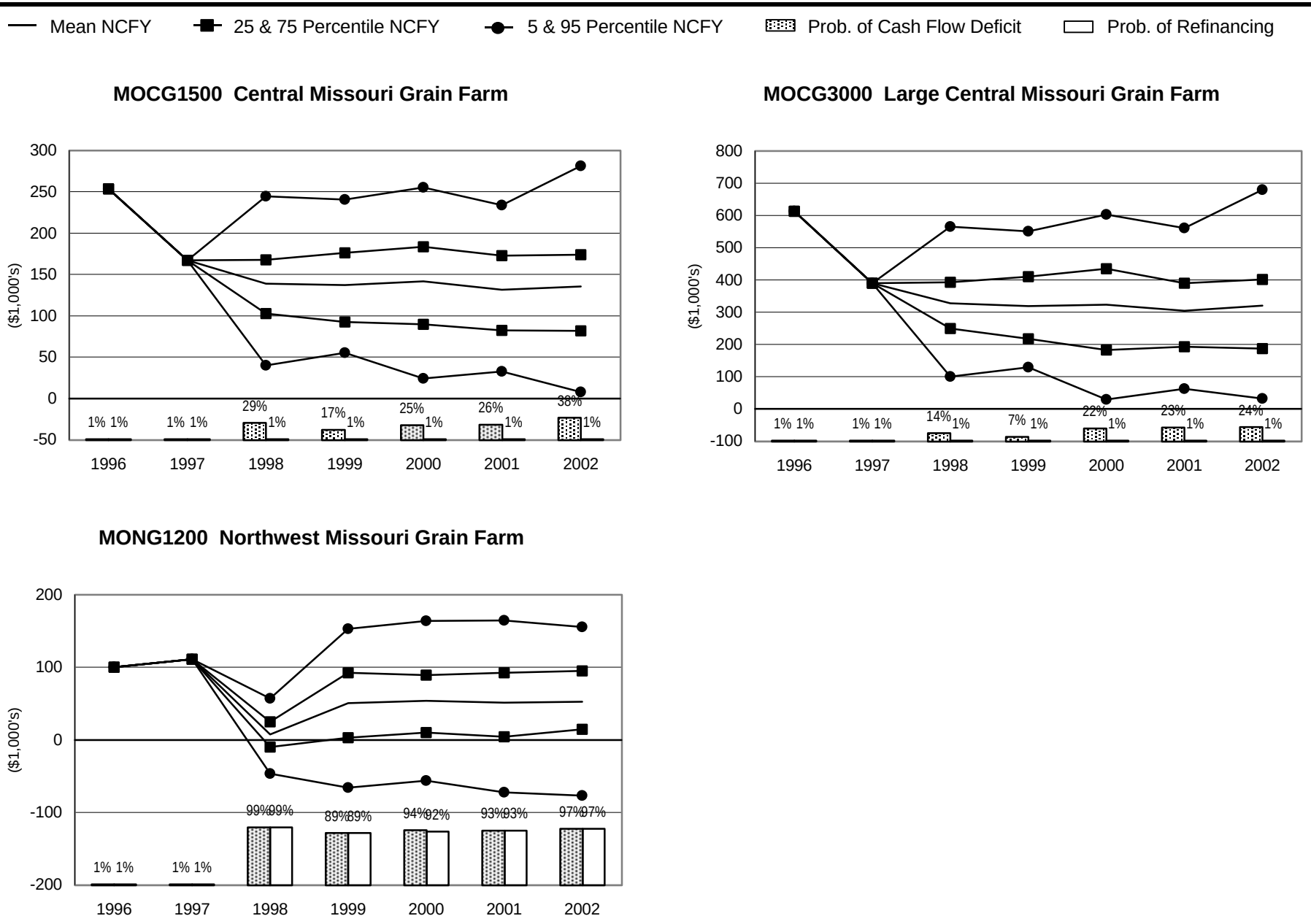


Figure 6. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms

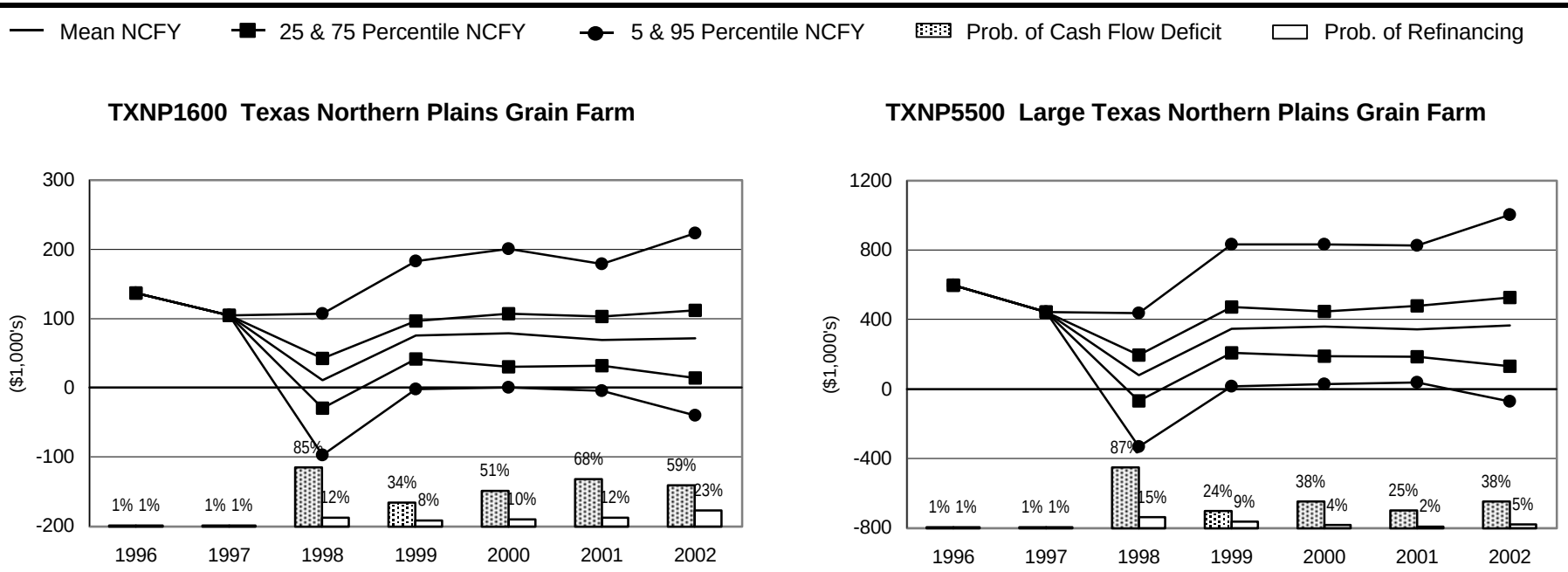


Figure 7. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Feed Grain Farms

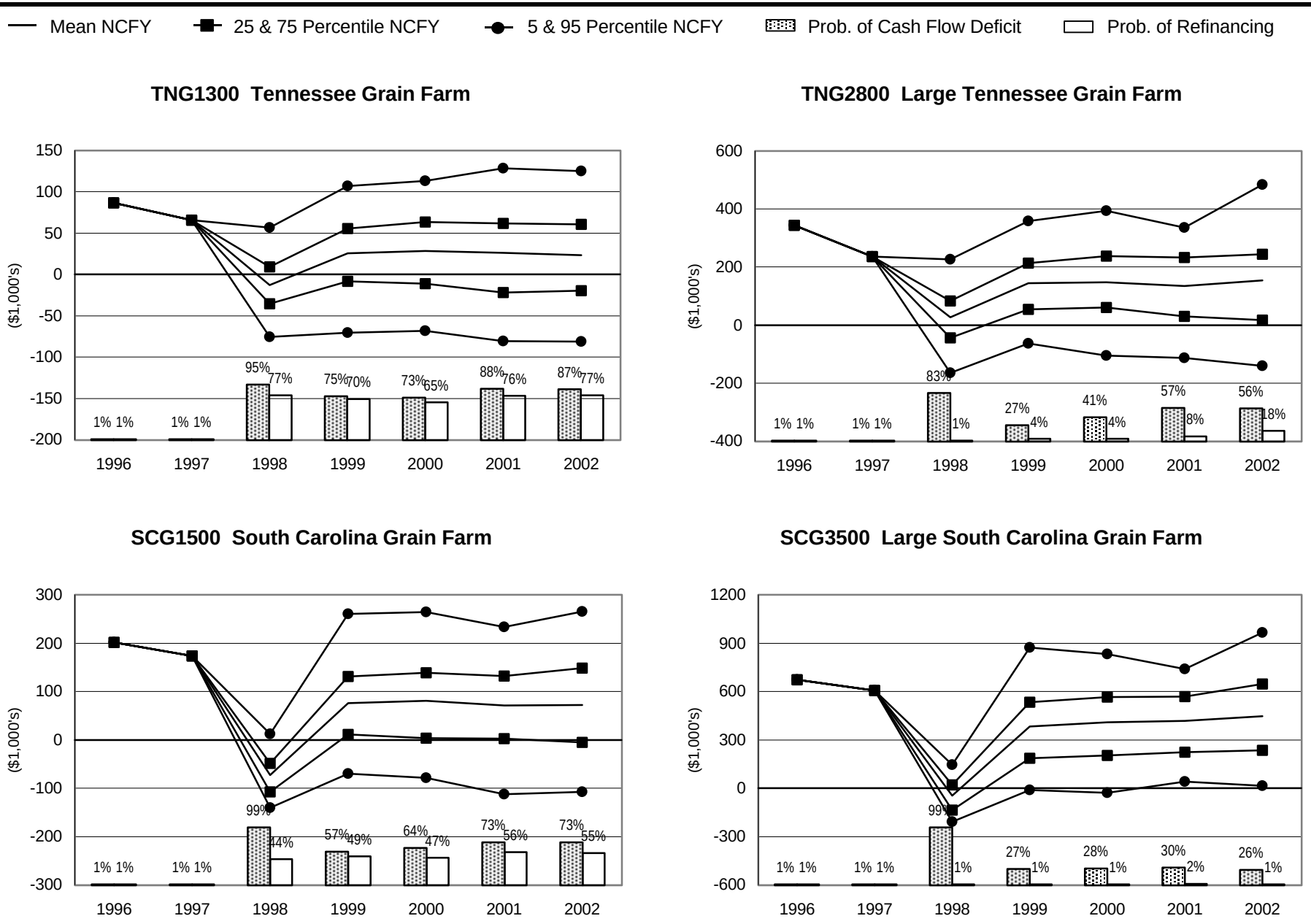
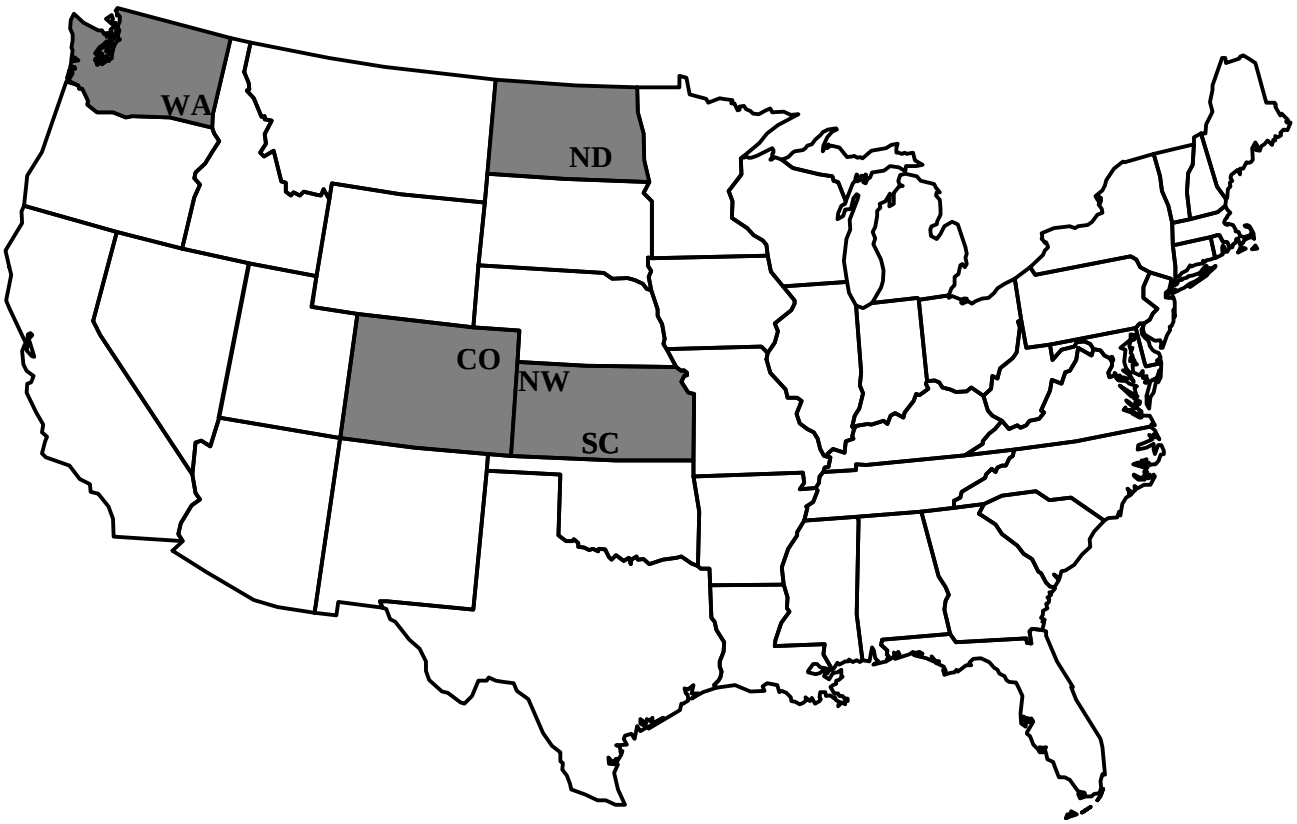


FIGURE 8. REPRESENTATIVE FARMS PRODUCING WHEAT



Wheat Farm Impacts

Seven of the ten wheat farms experience annual growth in real net worth greater than 3.5 percent over the 1996-2002 study period (Figure 9). Only the moderate South Central Kansas farm (KSSC1495) experiences an annual decline in real wealth over the period.

- The KSSC1495 farm's average cash receipts of only $139,000 (Table 6) makes it the smallest wheat farm monitored and, as such, it is not large enough to generate the profits necessary to maintain family living, principal payments, and capital replacement. The farm will either have to subsidize the operation from off farm income or restructure to survive.

- The average cost to receipts ratio for the KSSC1495 farm is 95.2 percent, 15 percentage points more than the other representative wheat farms.

While the majority of the wheat farms appear sound based on their ability to maintain real net wealth, there are some warning signs from an operational perspective.

- Eight of the ten farms, WAW1500, NDW1760, NDW4600, KSSC1495, KSSC3080, KSNW2325, KSNW4300, and COW4000, have greater than a 40 percent probability of routinely experiencing annual cash flow deficits (Figures 9-12).

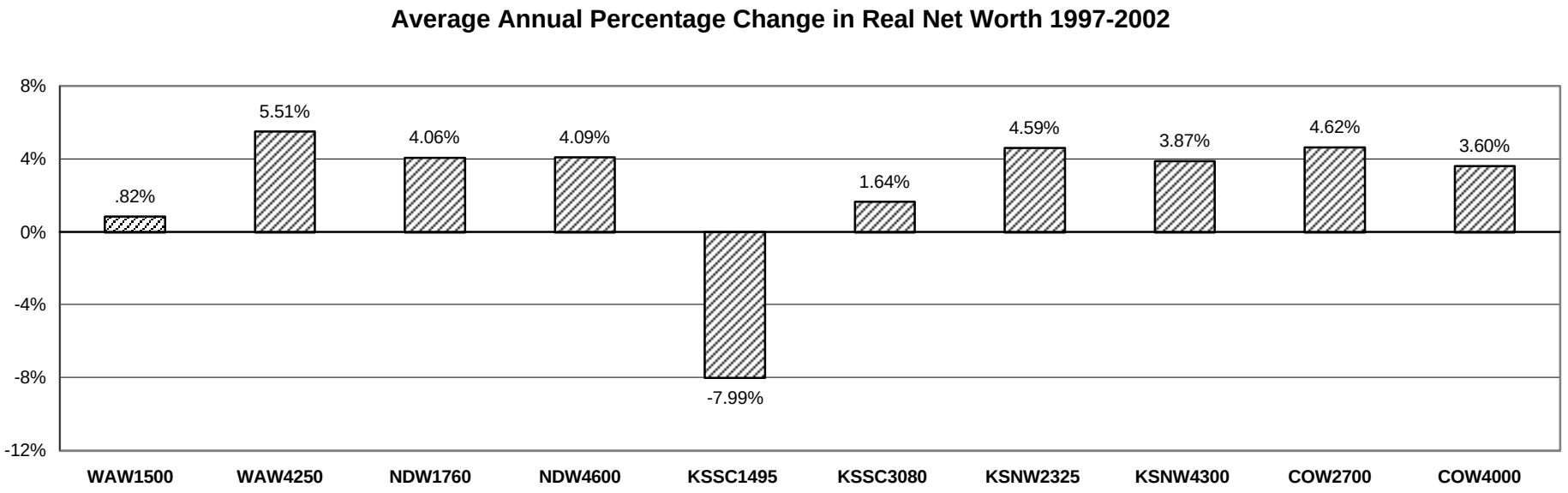
- Only three of these eight farms, however, will likely have to seek outside sources to refinance cash flow deficits. The moderate Washington farm is projected to seek outside refinancing from 15 to 65 percent of the time. It is also troubling that this percentage is steadily increasing over the period. The large Central Kansas (KSSC3080) farm will likely need to refinance operations 59-65 percent of the time. While this probability is of concern the operation appears to have a high probability of increasing its real net worth. The moderate South Central Kansas farm has a 99 percent chance of refinancing deficits each of the study period (Figures 9-12).

In three of the five wheat regions, the larger scale operation appears to be in better financial shape than their moderate scale counterparts (Table 6 and Figure 9). This is not the case, however, in Eastern Colorado and Northwest Kansas where the moderate scale operations have a slight financial advantage. The moderate scale farms in Colorado and Northwest Kansas are economically more efficient than the larger scale operations in the region with at least a 12 percentage point lower average cash cost to receipts ratios. .

Table 6. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Wheat.

	WAW1500	WAW4250	NDW1760	NDW4600	KSSC1495	KSSC3080	KSNW2325	KSNW4300	COW2700	COW4000
Annual Change Real Net Worth (%)										
1996-2002 Average	0.82	5.51	4.06	4.09	-7.99	1.64	4.59	3.87	4.62	3.60
Net Income Adjustment (NIA)										
1996-2002 ($1,000)	-8.41	-239.82	-22.52	-98.27	17.97	-10.05	-55.96	-64.85	-51.33	-60.98
Net Income Adjustment (NIA)										
1996-2002 (% Receipts)	-2.31	-23.58	-9.02	-12.94	12.92	-2.87	-24.25	-13.60	-25.59	-18.46
Cost to Receipts Ratio (%)										
1996-2002 Average	80.93	62.38	73.58	73.65	95.27	78.22	54.73	72.10	50.65	62.37
Govt Payments/Receipts (%)										
1996-2002 Average	8.92	8.77	9.98	9.22	19.51	17.23	11.95	12.53	11.98	12.47
Total Cash Receipts ($1000)										
1996	476.39	1,412.22	318.22	954.35	120.04	301.97	308.46	666.68	265.51	418.87
1997	397.85	1,079.71	240.24	719.55	151.83	376.57	206.58	432.25	208.80	331.57
1998	312.87	843.57	238.16	709.74	122.18	299.26	283.90	556.04	193.76	304.58
1999	321.65	903.96	240.60	722.86	143.90	363.89	200.98	415.60	190.74	308.53
2000	343.20	950.47	246.03	739.31	146.25	371.19	207.05	421.91	194.61	314.65
2001	341.93	955.36	246.39	741.88	143.61	365.92	203.43	417.80	194.15	314.32
2002	351.30	974.41	253.67	764.50	145.78	369.79	210.18	426.58	199.09	319.24
Net Cash Farm Income ($1000)										
1996	203.08	815.85	137.30	414.25	10.17	46.19	179.04	310.67	154.48	214.12
1997	129.43	483.24	63.15	190.61	34.44	115.13	89.70	116.86	106.87	136.74
1998	42.90	256.27	62.23	185.92	1.24	43.42	165.12	215.01	95.08	112.26
1999	47.69	307.81	64.64	200.92	14.28	101.08	85.80	109.01	93.48	117.15
2000	59.53	349.06	70.32	214.07	12.97	106.03	86.63	106.58	96.18	121.46
2001	46.64	342.23	70.92	209.78	5.34	97.63	81.48	94.73	97.93	119.69
2002	51.52	358.92	77.08	227.92	2.69	97.37	88.76	96.34	103.53	125.58
Prob. of a Cash Flow Deficit (%)										
1998	68	40	47	41	99	86	1	11	31	31
1999	69	28	45	46	99	71	39	48	48	43
2000	68	32	51	43	99	73	22	59	45	31
2001	83	37	52	39	99	74	45	49	26	42
2002	81	35	53	44	99	72	41	61	28	40
Ending Cash Reserves ($1000)										
1996	94.84	420.10	72.25	220.55	-31.92	-23.39	92.16	168.66	56.37	107.68
1997	129.34	569.63	82.51	250.74	-33.87	19.55	108.17	178.92	84.94	144.50
1998	103.56	614.93	88.90	275.44	-88.46	-27.54	182.50	272.83	100.81	168.80
1999	83.79	707.81	96.10	287.51	-126.03	-32.22	194.87	283.10	112.28	183.66
2000	54.97	809.20	99.77	336.09	-170.58	-29.22	218.85	287.16	122.29	218.50
2001	7.59	883.05	95.04	371.67	-229.26	-29.53	227.22	299.77	147.92	240.95
2002	-33.64	980.93	102.47	416.39	-290.16	-29.03	240.47	294.42	173.45	261.96
Prob. of Refinancing Deficits (%)										
1998	1	1	1	1	99	65	1	1	1	1
1999	15	1	6	6	99	63	1	1	1	1
2000	24	1	10	5	99	62	1	1	1	1
2001	47	1	14	7	99	62	1	1	1	1
2002	65	1	17	10	99	59	1	2	1	1
Nominal Net Worth ($1000)										
1996	1,042.40	2,876.51	470.35	1,684.88	330.76	619.14	854.69	1,186.03	809.18	1,191.52
1997	1,116.61	3,148.47	499.04	1,774.85	345.28	698.54	919.68	1,248.96	881.51	1,280.53
1998	1,121.74	3,300.17	524.89	1,869.49	320.61	681.87	1,023.49	1,374.94	939.91	1,346.74
1999	1,143.52	3,506.69	550.14	1,963.49	307.74	724.74	1,076.95	1,429.10	1,000.41	1,419.54
2000	1,166.72	3,731.58	573.15	2,051.84	292.31	759.86	1,124.19	1,479.92	1,056.61	1,487.15
2001	1,165.83	3,932.47	590.49	2,138.37	266.65	794.73	1,169.69	1,513.65	1,125.07	1,547.26
2002	1,161.27	4,119.22	609.09	2,233.03	234.22	826.63	1,211.17	1,537.30	1,171.18	1,600.61
Prob. of Losing Real Net Worth (%)										
1998	30	1	14	10	86	28	1	4	1	1
1999	32	1	22	14	87	24	1	2	1	1
2000	33	1	22	13	88	19	1	1	1	1
2001	50	1	21	12	93	22	1	3	1	1
2002	62	1	26	13	95	23	1	7	1	1

Figure 9. Wheat Farms



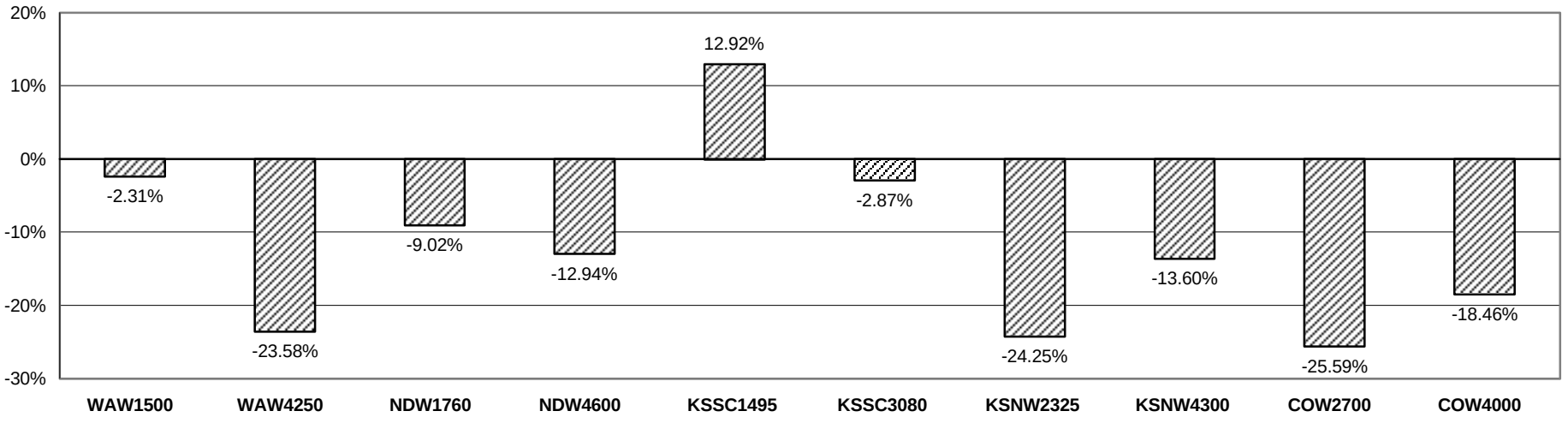


Figure 10. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms

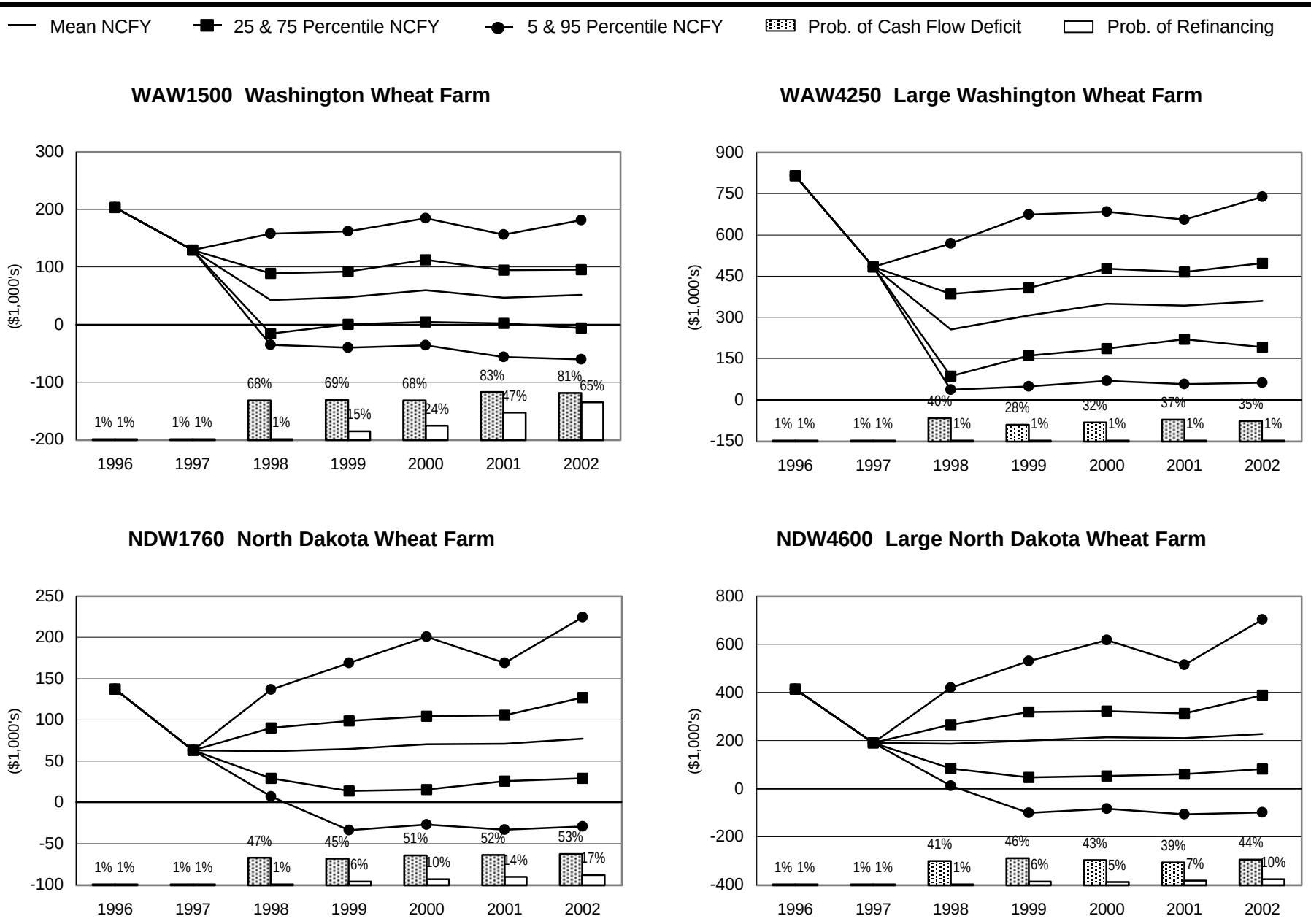


Figure 11. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms

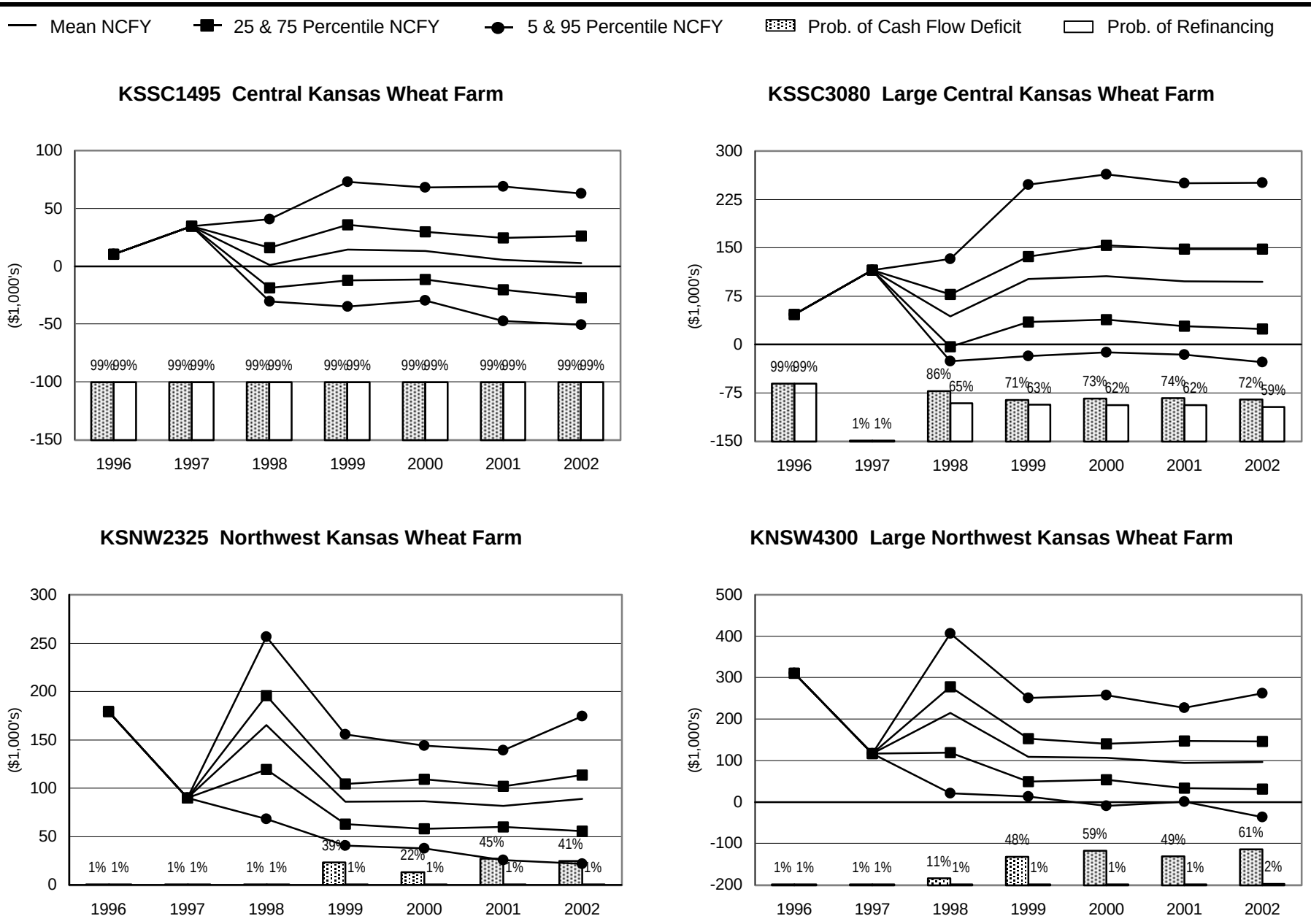


Figure 12. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Wheat Farms

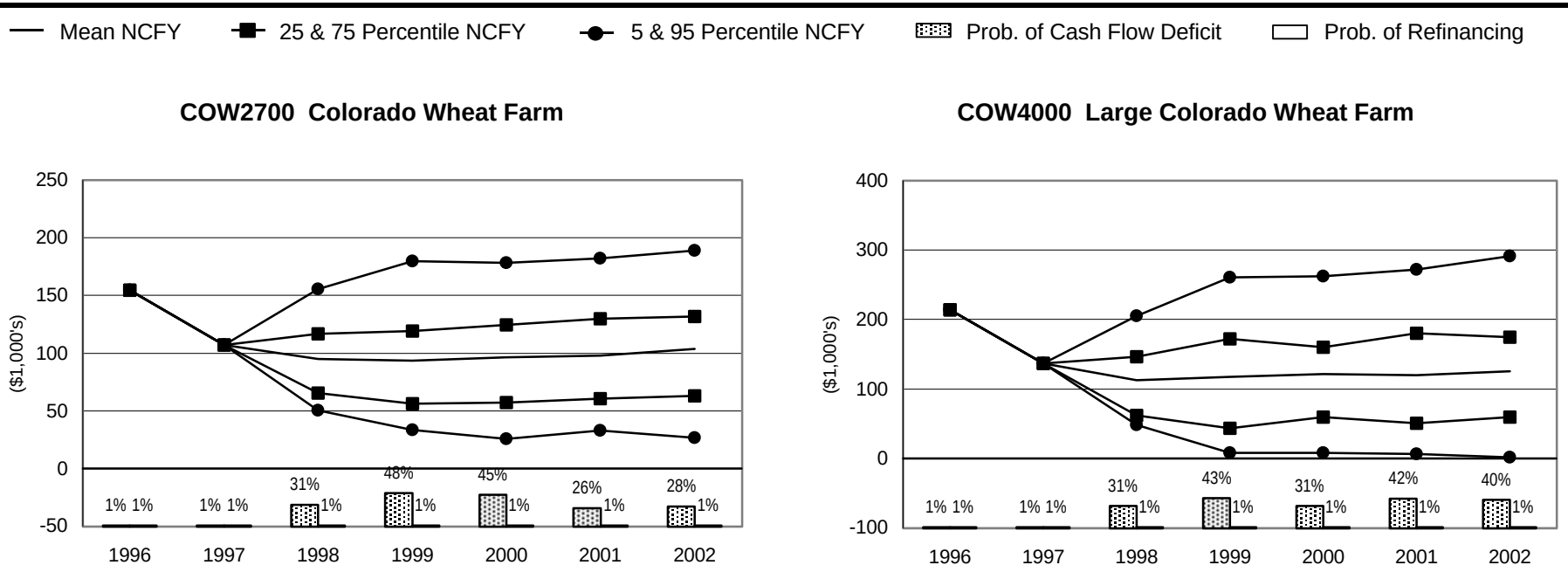
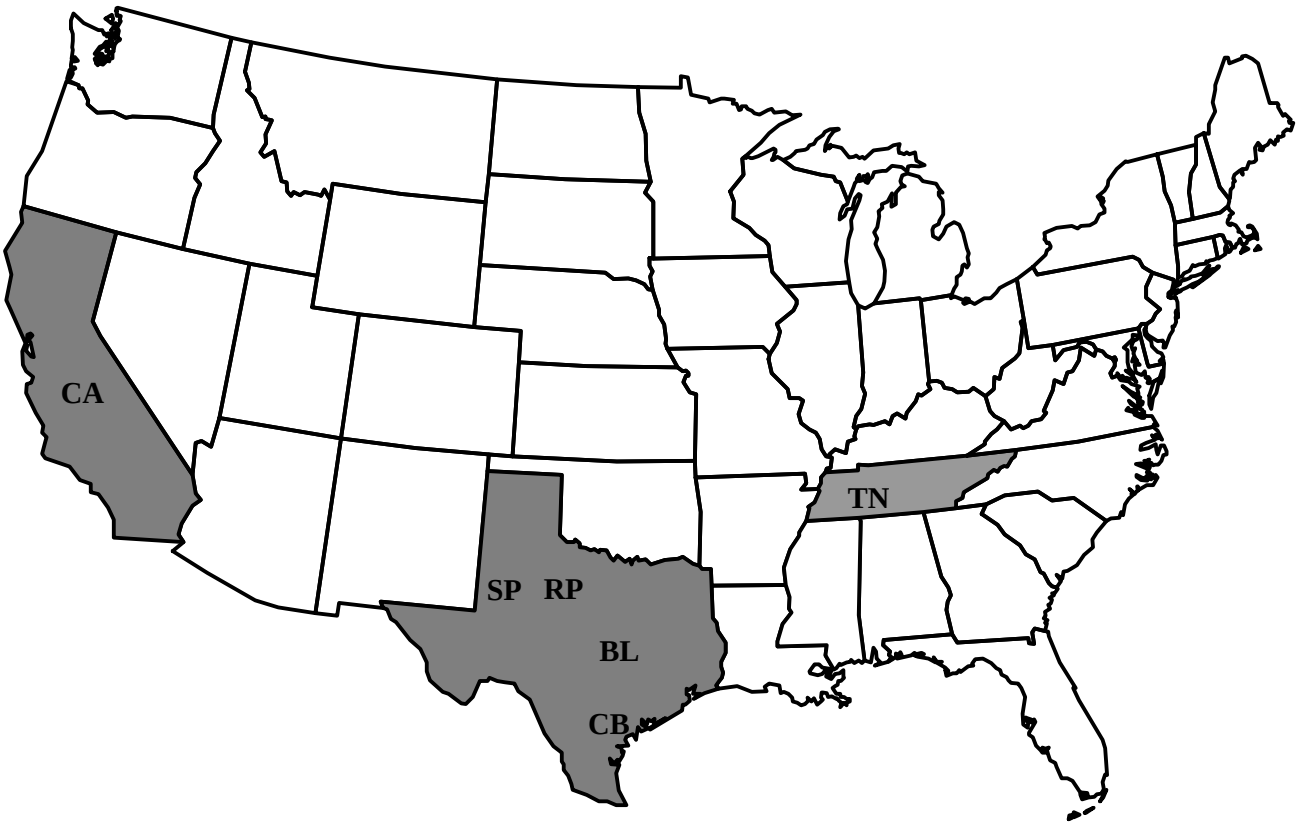


FIGURE 13. REPRESENTATIVE FARMS PRODUCING COTTON



Cotton Farm Impacts

All but two of the nine farms are projected to have serious cash flow problems over the 1996 to 2002 period. Only the two California farms have less than a 40 percent probability of having annual cash flow deficits in 1998-2002. Even then the large Texas Southern Plains and large Tennessee farms are projected to have annual cash flow deficits more than 40 percent of the time (Table 7).

Four of the seven farms having chronic cash flow deficits will lose real net worth over the 1996-2002 planning horizon (Figure 14). All four of these farms are in Texas (TXSP1682, TXRP2065, TCBL1200, and TXCB1700) and suffered from severe droughts in two of the past three years. A 3 to 7 percent increase in cash receipts would reverse the loss in real net worth for these farms, so they are managerially capable of surviving if they restructure.

The cash flow problems projected for the Texas and Tennessee cotton farms will likely lead to an increase in the need for refinancing.

- The probability of refinancing cash flow deficits is 99 percent in the drought year (1998) for the TXSP1682 farm and improves only slightly to 92 percent by 2002. The probability of the TXRP2065, TXBLl1200, TXCB1700, and TNC1675 farms refinancing cash flow deficits increases over the planning horizon, indicating that these farms will have to restructure to handle the risk conditions facing cotton farmers (Figures 15-17).

- The probability of refinancing cash flow deficits improves from 72 percent in 1998 to 46 percent in 2002 for the large cotton farm in the Texas Southern High Plains (TXSP3697). The probability of refinancing deficits increases for the large Tennessee (TNC3800) farms but ends the period at 40 percent.

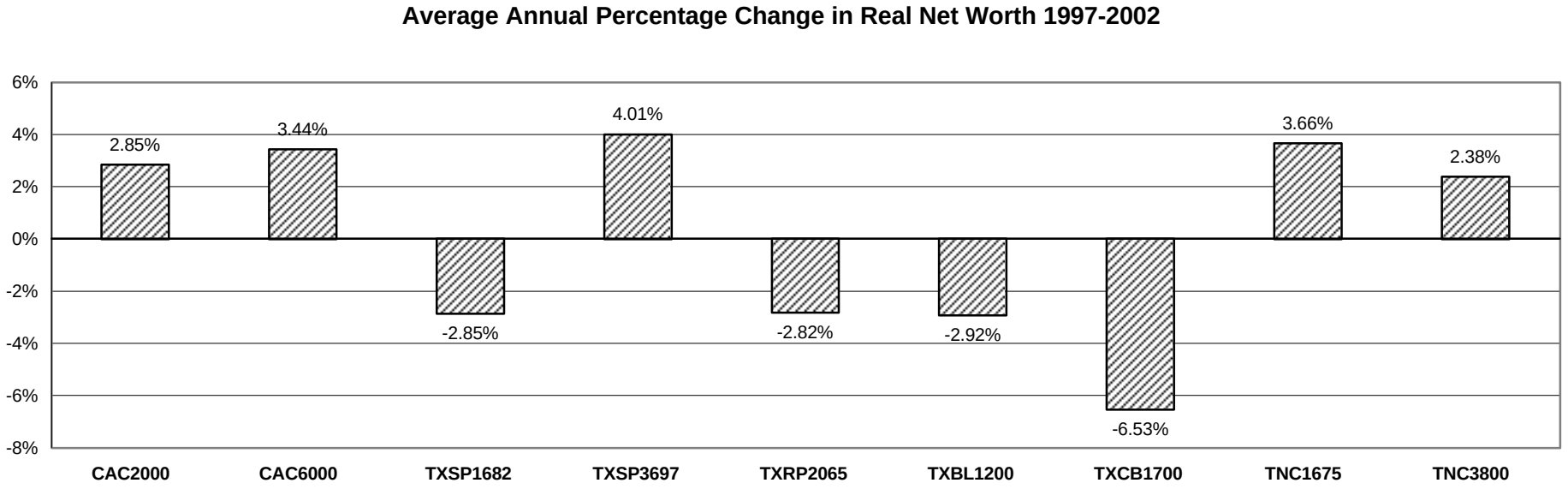
- The California cotton farms are better able to handle the increased risk associated with cotton due to their lower cost to receipts ratios and diversification in other crops. These farms are projected to have very small probabilities of refinancing cash flow deficits, even though their probabilities of cash flow deficits increase over the period to around 38 percent.

The high probabilities of refinancing cash flow deficits lead to elevated probabilities of decreasing real net worth for five of the nine farms. The moderate size farms in Texas and Tennessee are projected to experience probabilities of losing real net worth that are greater than 55 percent by 2002.

Table 7. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Cotton.

	CAC2000	CAC6000	TXSP1682	TXSP3697	TXRP2065	TXBL1200	TXCB1700	TNC1675	TNC3800
Annual Change Real Net Worth (%)									
1996-2002 Average	2.85	3.44	-2.85	4.01	-2.82	-2.92	-6.53	3.66	2.38
Net Income Adjustment (NIA)									
1996-2002 ($1,000)	-162.69	-636.19	13.02	-35.85	7.38	15.23	29.40	-26.33	-87.60
Net Income Adjustment (NIA)									
1996-2002 (% Receipts)	-8.81	-11.99	5.02	-4.04	3.22	6.38	7.16	-4.84	-6.48
Cost to Receipts Ratio (%)									
1996-2002 Average	83.70	82.42	91.49	85.49	90.83	88.79	98.94	90.32	87.00
Govt Payments/Receipts (%)									
1996-2002 Average	5.76	4.13	8.88	7.16	14.12	10.55	11.33	6.58	6.65
Total Cash Receipts ($1000)									
1996	2,108.07	5,996.69	211.90	835.46	242.21	249.63	426.55	537.12	1,437.43
1997	1,884.14	5,243.63	289.11	936.63	220.27	242.27	413.49	568.05	1,390.51
1998	1,787.33	5,073.27	183.72	685.61	233.33	239.68	426.40	502.37	1,257.52
1999	1,758.51	5,082.41	287.26	925.29	223.43	230.80	397.26	531.12	1,299.87
2000	1,773.16	5,160.23	285.18	926.67	226.09	233.23	398.09	542.12	1,337.57
2001	1,791.44	5,242.57	288.09	939.21	225.45	234.82	401.02	553.37	1,371.00
2002	1,821.64	5,355.52	293.06	962.19	233.66	239.88	409.21	573.67	1,419.90
Net Cash Farm Income ($1000)									
1996	572.46	1,680.91	8.18	130.02	56.66	47.77	52.81	58.69	276.19
1997	377.48	1,026.57	63.79	213.29	35.34	42.01	30.26	102.13	256.22
1998	301.53	901.83	-20.21	6.31	47.76	37.62	50.30	30.79	118.40
1999	258.07	843.98	54.41	185.31	34.66	24.94	15.28	55.10	140.03
2000	252.64	836.61	48.64	176.52	33.82	24.83	7.44	55.68	170.54
2001	238.32	832.98	43.43	176.86	28.89	19.30	-1.91	54.65	185.68
2002	252.46	858.20	44.68	190.17	26.08	22.14	-5.34	63.64	219.04
Prob. of a Cash Flow Deficit (%)									
1998	26	16	99	99	57	55	45	71	65
1999	41	32	97	54	72	78	72	59	66
2000	30	29	93	64	77	87	82	69	62
2001	47	38	92	65	78	97	88	82	71
2002	38	36	92	60	83	92	92	84	57
Ending Cash Reserves ($1000)									
1996	269.37	847.35	-37.74	13.06	16.96	14.60	9.68	8.05	167.08
1997	378.28	1,191.57	-34.46	110.24	11.24	17.87	2.15	44.26	255.65
1998	452.47	1,477.45	-112.87	-23.94	8.70	13.56	6.90	19.94	203.55
1999	482.51	1,659.41	-119.28	-0.87	-22.77	-8.01	-30.55	19.85	163.23
2000	541.43	1,874.70	-130.49	0.47	-40.47	-34.49	-78.85	-0.13	128.40
2001	561.41	2,066.98	-152.58	-17.19	-65.46	-71.17	-141.40	-43.86	68.55
2002	601.05	2,251.05	-170.52	-10.11	-100.16	-97.00	-200.59	-60.08	102.14
Prob. of Refinancing Deficits (%)									
1998	1	1	99	72	31	24	43	35	2
1999	1	1	97	53	62	62	62	44	28
2000	1	1	92	52	69	77	76	51	40
2001	5	5	91	48	68	82	78	61	49
2002	4	3	90	46	74	86	86	65	40
Nominal Net Worth ($1000)									
1996	3,584.84	11,920.75	438.05	819.25	342.09	435.05	415.62	751.54	3,350.88
1997	3,856.37	12,898.13	474.16	954.58	353.48	454.64	420.26	807.73	3,564.93
1998	4,068.77	13,694.20	419.37	875.60	367.24	459.31	436.63	799.25	3,635.76
1999	4,250.61	14,445.02	442.78	973.24	362.74	450.22	412.38	817.41	3,738.02
2000	4,411.13	15,101.77	448.13	1,031.77	356.46	442.84	381.14	823.15	3,857.06
2001	4,535.20	15,715.11	442.98	1,099.75	345.68	425.36	337.05	820.65	3,958.44
2002	4,653.32	16,191.50	445.35	1,179.95	320.18	406.92	286.95	819.14	4,077.35
Prob. of Losing Real Net Worth (%)									
1998	1	1	99	40	26	33	44	35	11
1999	1	1	61	31	53	65	62	44	25
2000	3	1	65	26	58	75	71	48	28
2001	5	1	63	25	59	79	75	52	27
2002	5	3	63	25	64	85	84	56	27

Figure 14. Cotton Farms



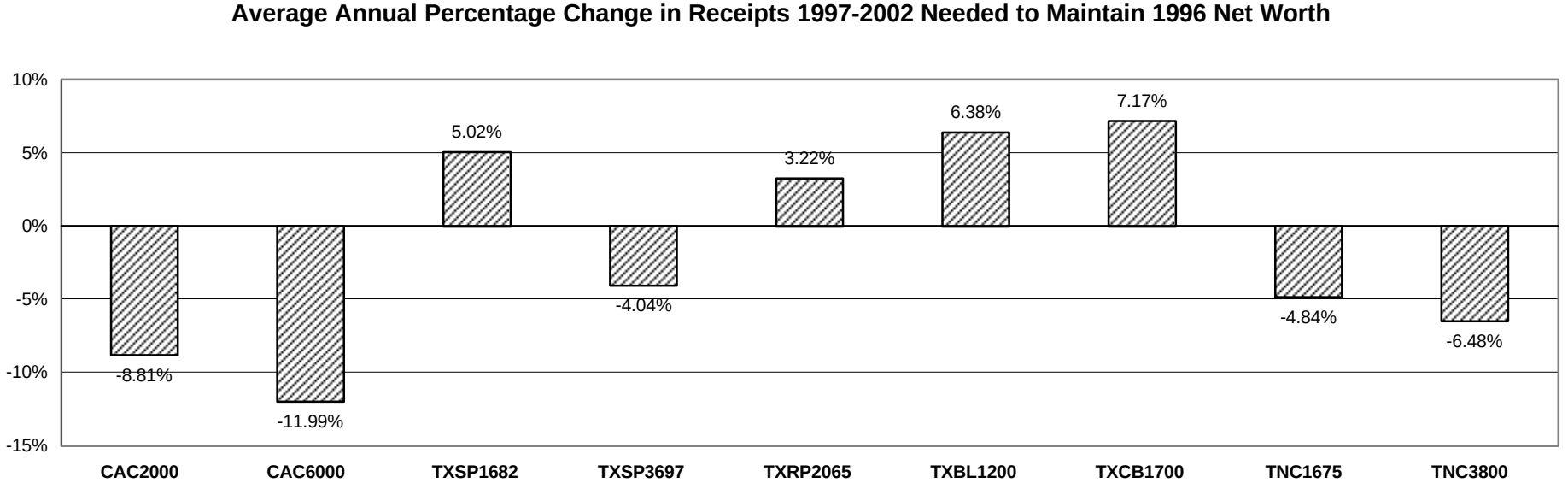


Figure 15. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cotton Farms

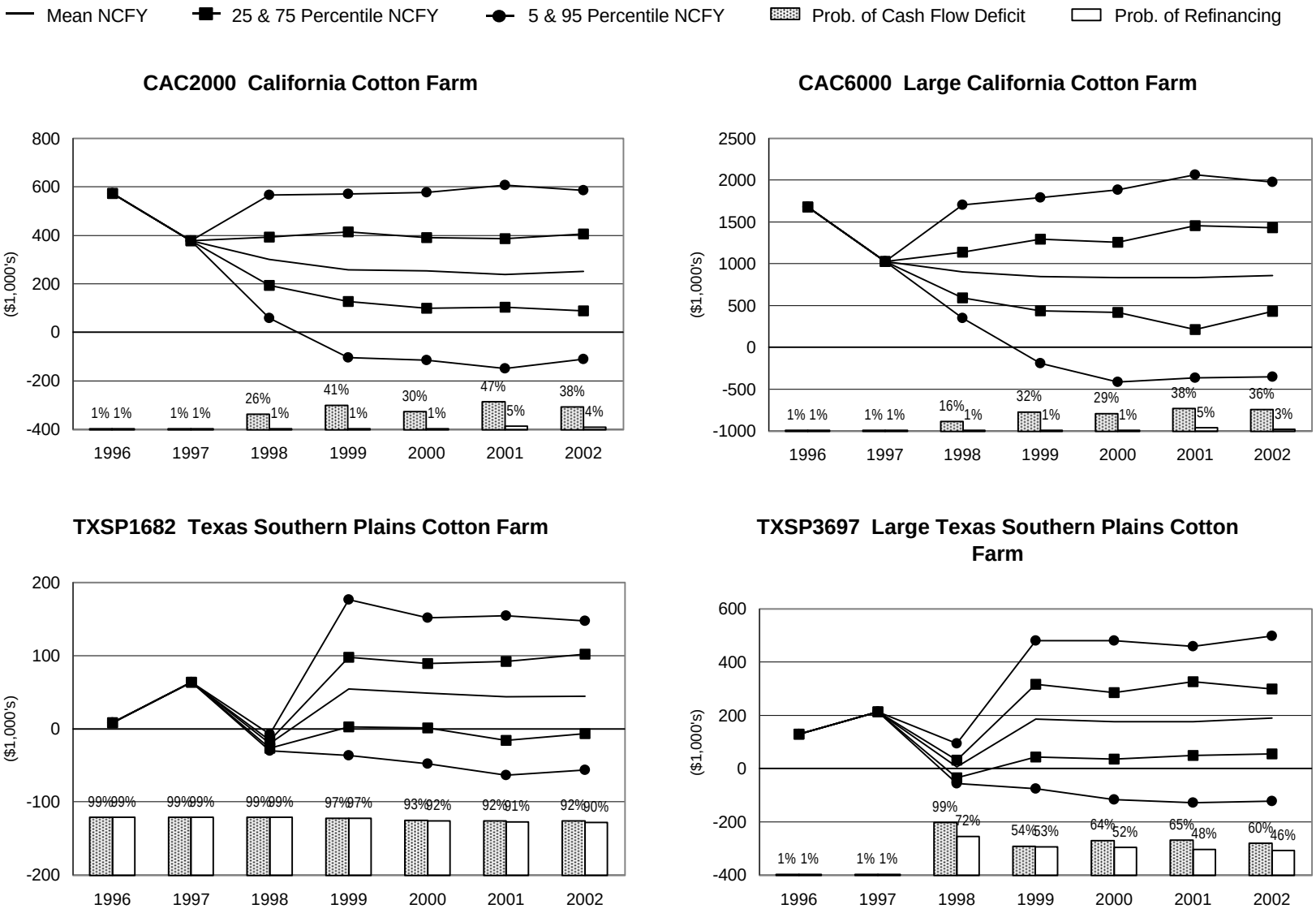


Figure 16. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cotton Farms

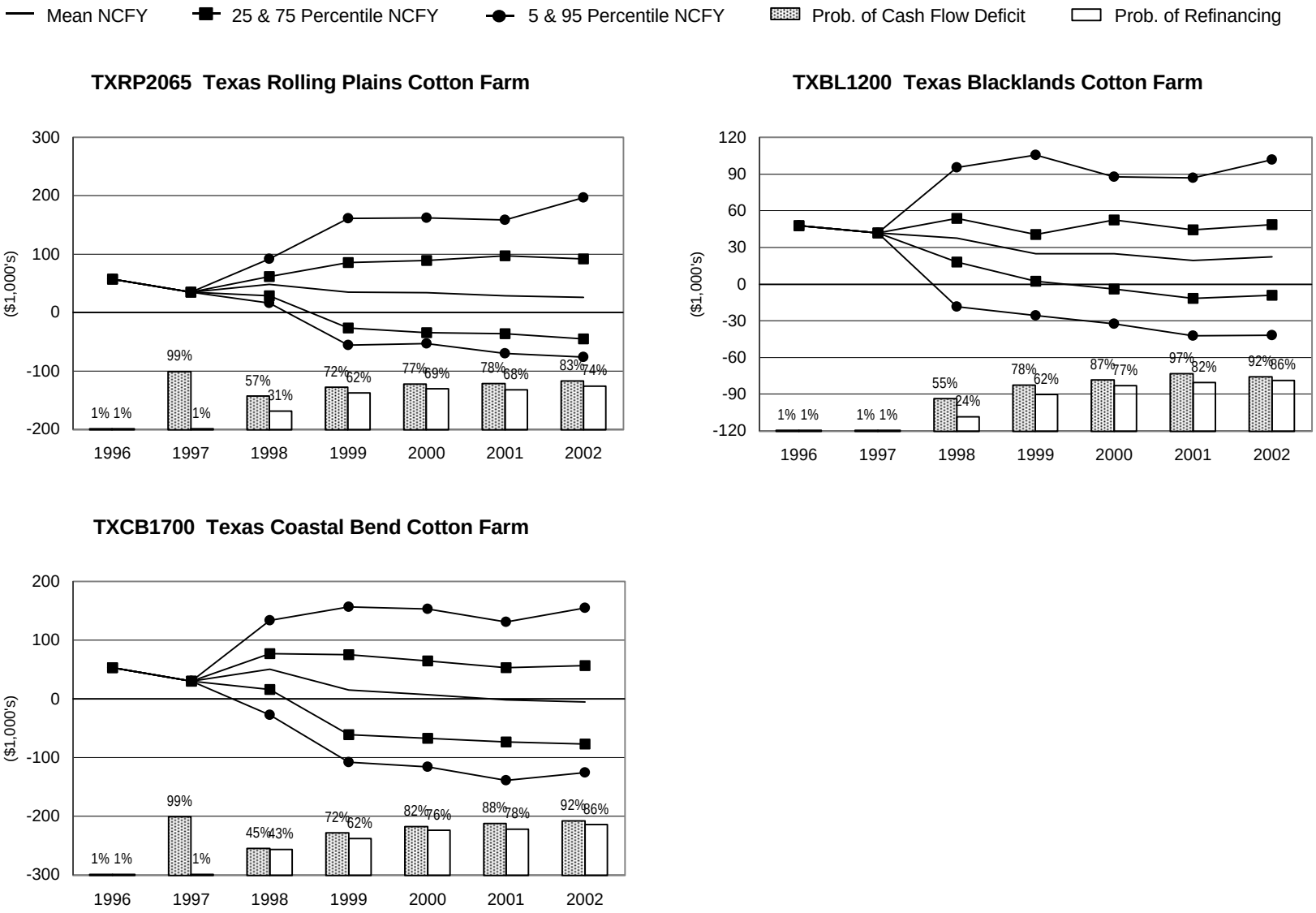


Figure 17. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cotton Farms

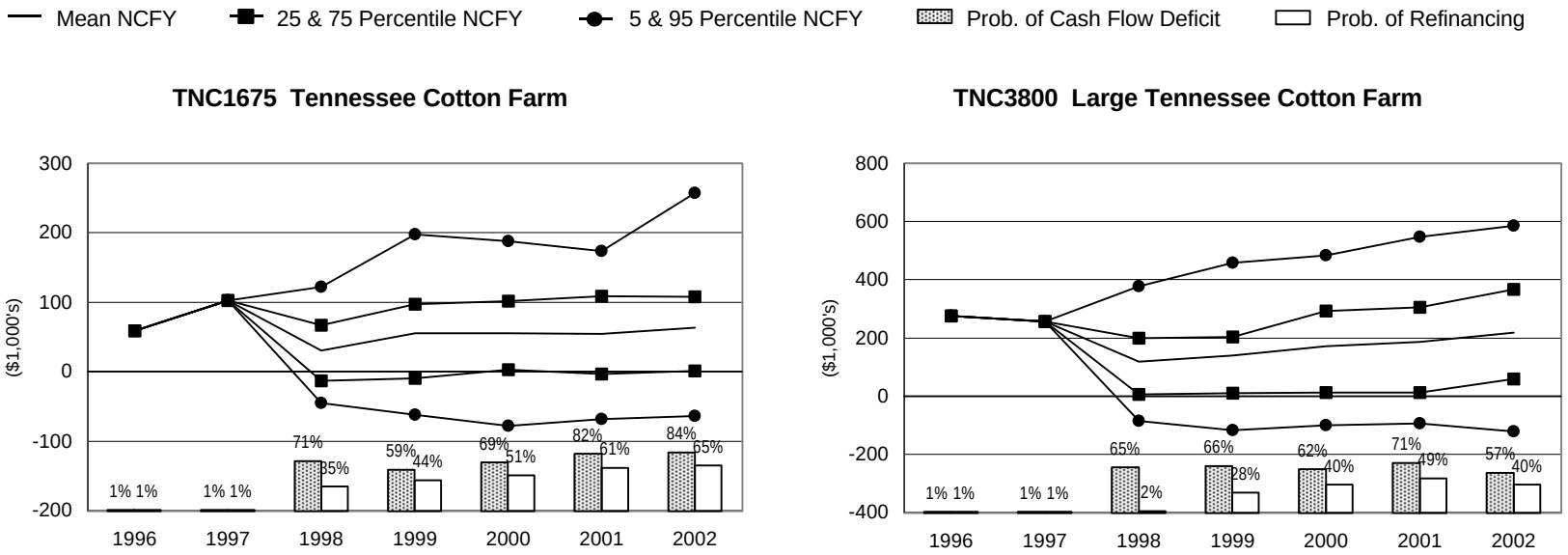
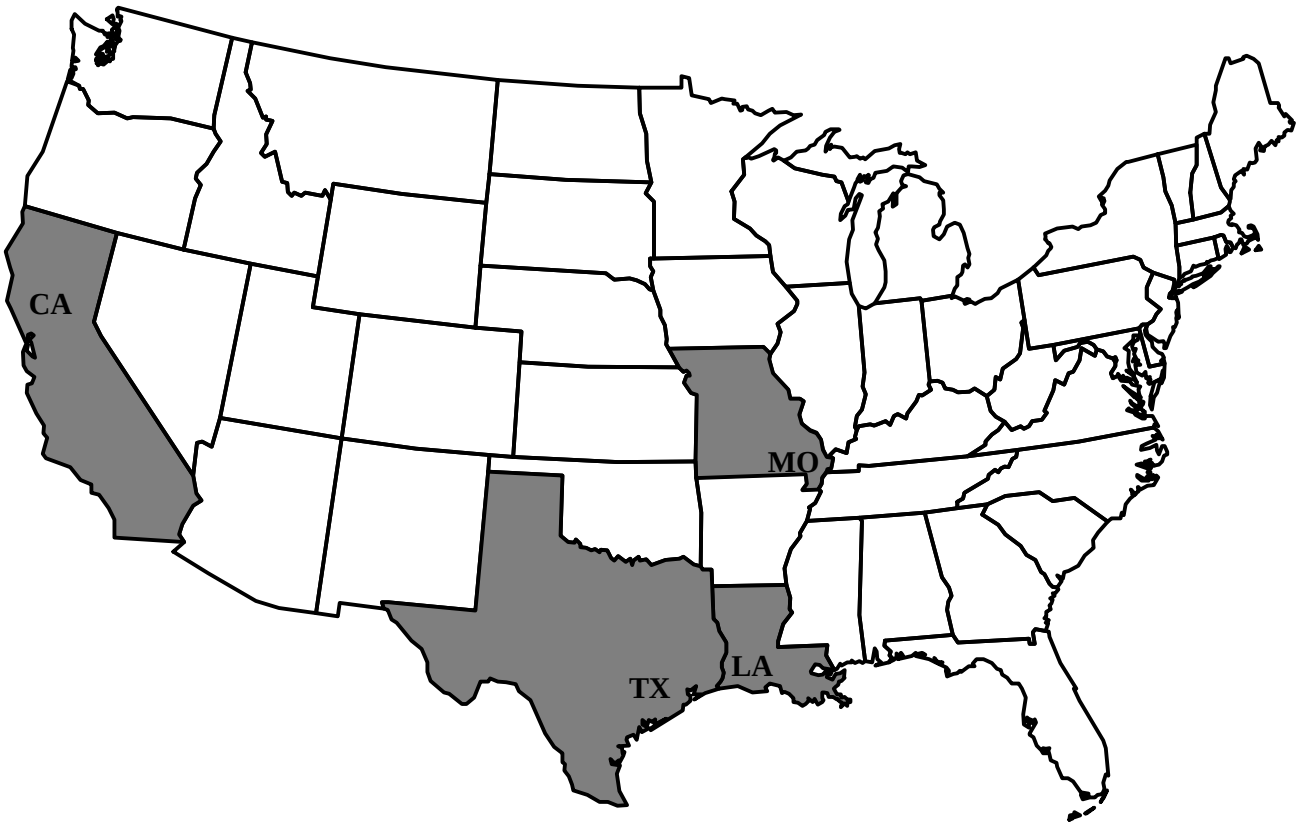


FIGURE 18. REPRESENTATIVE FARMS PRODUCING RICE



Rice Farm Impacts

With production flexibility payments and rice prices that are projected to stay in the $9.30 to $9.50/cwt range, all but one of the nine representative rice farms experience annual growth in real net worth, ranging from 1 - 9 percent over the study period (Figure 19). Only the moderate Missouri (MOR1900) operation loses real equity on average. Simulation under risk, however, reveals financial problems for the Louisiana operation as well. By 2002, the MOR1900 is losing equity 95 percent of the time while the LAR1100 is experiencing real equity decline in 42 percent of the time. The large Missouri (MOR4000) farm is beginning to show signs of financial stress as the probability of losing real net worth increases from 13 percent in 1998 to 33 percent in 2002 (Table 8).

The problem with maintaining real equity is explained by examining the operational parameters on these three farms. Both of the Missouri farms and the Louisiana farm are experiencing cash flow deficits over 75 percent of the time by year 2002. Refinancing from outside sources is necessary more than 95 percent of the time for the moderate Missouri farm and roughly 75 percent of the time for the Louisiana farm (Figures 21 and 22).

Both California farms appear financially sound although there is an upward trend observed in the probability of an annual cash flow deficit (Figure 20). The moderate California (CAR424) farm is experiencing a cash flow deficit 44 percent of the time by 2002, while the large (CAR1365) operation is 30 percent. Both farms, however, appear to be able to cover their cash flow deficits from retained cash reserves.

The large Missouri rice (MOR4000) farm is in better shape compared to its moderate scale counterpart, but there are some warning signs. The MOR4000 is experiencing annual cash flow deficits in excess of 65 percent of the time throughout most of the period. Initially it is able to cover the cash shortfalls through retained earnings (9% in 1998) but is having to borrow outside funds roughly 57 percent of the time by 2002. The operational trend, therefore, is troublesome although the farm experiences real net worth declines less than 33 percent of the time (Table 8).

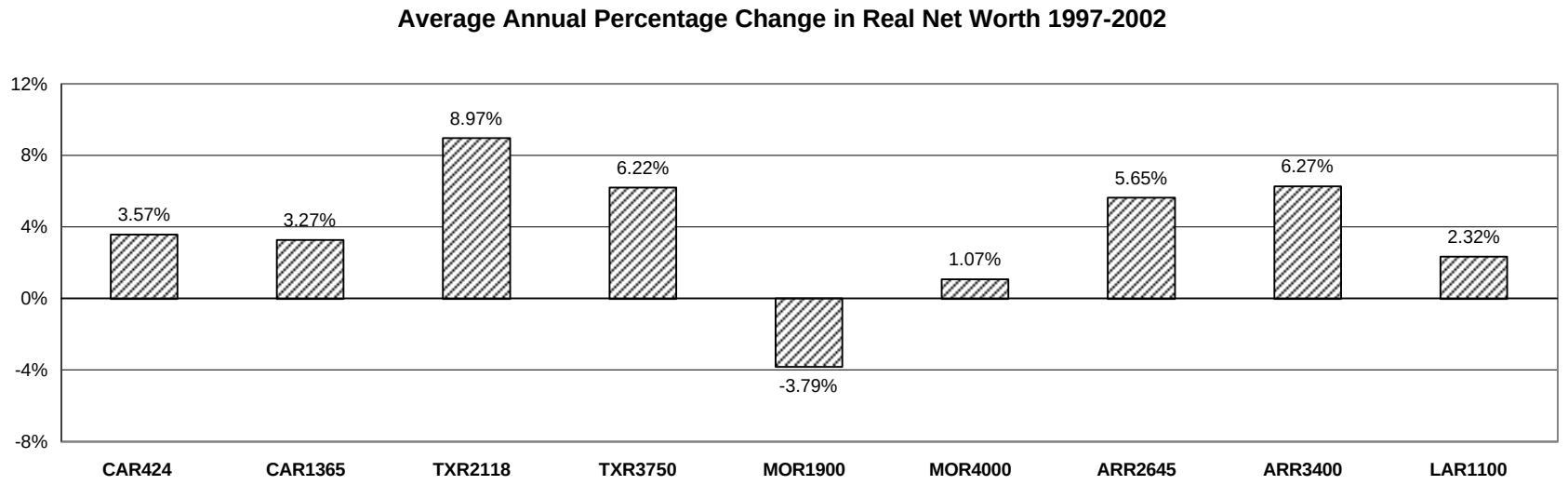
The Texas and Arkansas rice farms are financially sound by most any measure. The only caution being an increasing probability that the large Texas farm will experience cash flow problems (8% in 1998 rising to 29% by 2002).

- During the update process, the Texas and Arkansas farms changed locations within the state. The Texas rice farms are geographically concentrated in what is believed to be the most efficient rice growing area in the Texas rice belt. We now have two Arkansas farms located in the Stuttgart area. Both are larger than our previous panel farm that was located further north. The two Arkansas farms are very efficient as seen by average cash expense to receipt ratios of 66 percent for the ARR2645 and 57 percent for the ARR3400. The Arkansas farms are also the most diversified of our rice panels receiving 50-60 percent of their revenue from rice, 32-38 percent from soybeans, and 8-13 percent from wheat.

Table 8. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Rice.

	CAR424	CAR1365	TXR2118	TXR3750	MOR1900	MOR4000	ARR2645	ARR3400	LAR1100
Annual Change Real Net Worth (%)									
1996-2002 Average	3.57	3.27	8.97	6.22	-3.79	1.07	5.65	6.27	2.32
Net Income Adjustment (NIA)									
1996-2002 ($1,000)	-31.17	-86.53	-71.50	-158.28	51.51	-59.55	-142.37	-260.49	-6.60
Net Income Adjustment (NIA)									
1996-2002 (% Receipts)	-9.44	-8.12	-15.22	-11.73	8.36	-3.26	-20.44	-27.17	-2.11
Cost to Receipts Ratio (%)									
1996-2002 Average	75.89	84.33	70.46	80.16	95.31	86.60	66.33	57.64	81.07
Govt Payments/Receipts (%)									
1996-2002 Average	18.50	18.17	19.38	17.51	13.34	11.47	12.02	15.77	13.35
Total Cash Receipts ($1000)									
1996	330.21	1,029.15	490.15	1,391.45	697.13	2,021.90	848.47	1,131.17	345.32
1997	356.53	1,110.22	477.69	1,371.94	634.25	1,861.91	724.25	989.17	318.57
1998	344.58	1,068.35	494.84	1,407.04	585.75	1,712.44	599.58	861.15	303.73
1999	356.18	1,108.52	478.36	1,377.10	597.30	1,776.27	676.90	933.28	311.88
2000	354.94	1,105.55	474.03	1,367.27	604.41	1,798.43	684.24	938.79	312.57
2001	347.95	1,085.18	460.86	1,335.22	592.44	1,788.24	679.79	922.74	309.47
2002	349.28	1,089.83	460.51	1,339.65	602.75	1,812.12	689.33	935.45	310.56
Net Cash Farm Income ($1000)									
1996	79.01	144.46	146.54	293.77	138.34	506.10	381.04	568.05	101.17
1997	96.71	205.02	138.85	284.43	81.37	336.94	267.56	436.03	75.75
1998	93.62	195.21	165.50	335.16	32.80	194.70	153.59	319.80	59.12
1999	93.70	203.67	149.25	299.75	28.82	227.01	221.53	391.84	62.68
2000	88.52	193.95	145.87	285.45	20.92	234.14	229.31	404.64	53.17
2001	78.08	162.55	134.12	247.49	-9.33	200.71	223.65	381.82	48.31
2002	75.90	151.53	130.23	237.88	-17.74	201.99	230.87	390.78	45.30
Prob. of a Cash Flow Deficit (%)									
1998	20	16	1	8	84	66	42	13	55
1999	34	29	16	23	92	65	5	1	64
2000	39	26	13	26	95	68	8	1	70
2001	46	27	17	29	99	82	12	6	83
2002	44	30	15	29	99	76	9	2	91
Ending Cash Reserves ($1000)									
1996	20.99	51.43	58.67	112.18	44.34	249.09	193.07	256.21	35.24
1997	45.13	138.94	105.84	224.94	39.07	323.81	284.57	391.57	47.71
1998	58.90	192.75	165.38	338.88	-26.89	246.21	302.47	462.27	45.94
1999	68.39	232.39	207.79	420.11	-107.75	190.00	372.04	569.14	38.95
2000	75.54	296.88	265.62	508.92	-179.15	116.25	452.03	708.97	21.01
2001	73.83	338.88	315.08	582.19	-292.19	-28.42	525.63	840.30	-4.60
2002	74.27	380.90	369.42	638.25	-433.74	-145.96	602.86	993.08	-39.13
Prob. of Refinancing Deficits (%)									
1998	1	1	1	1	67	9	1	1	1
1999	1	1	1	1	89	24	1	1	11
2000	2	1	1	1	94	37	1	1	38
2001	7	1	1	1	99	53	1	1	52
2002	10	3	1	1	99	57	1	1	74
Nominal Net Worth ($1000)									
1996	541.28	1,560.50	456.25	1,559.64	1,209.29	4,398.51	1,498.17	2,375.47	249.29
1997	593.61	1,719.33	519.77	1,766.07	1,248.75	4,652.70	1,655.07	2,638.70	269.90
1998	633.89	1,834.29	597.09	1,958.87	1,226.45	4,758.59	1,729.91	2,820.69	277.58
1999	673.93	1,950.89	660.26	2,132.96	1,206.77	4,915.81	1,860.12	3,060.31	292.24
2000	707.43	2,049.68	722.88	2,281.64	1,171.94	5,054.84	1,987.22	3,285.93	287.55
2001	736.57	2,124.51	779.31	2,418.50	1,106.12	5,141.86	2,100.77	3,508.67	289.72
2002	764.87	2,180.35	835.28	2,517.10	1,017.93	5,172.69	2,207.66	3,718.09	285.07
Prob. of Losing Real Net Worth (%)									
1998	1	1	1	1	67	13	1	1	15
1999	1	1	1	1	78	16	1	1	21
2000	1	1	1	1	92	20	1	1	40
2001	1	1	1	1	94	21	1	1	43
2002	1	3	1	1	95	33	1	1	42

Figure 19. Rice Farms



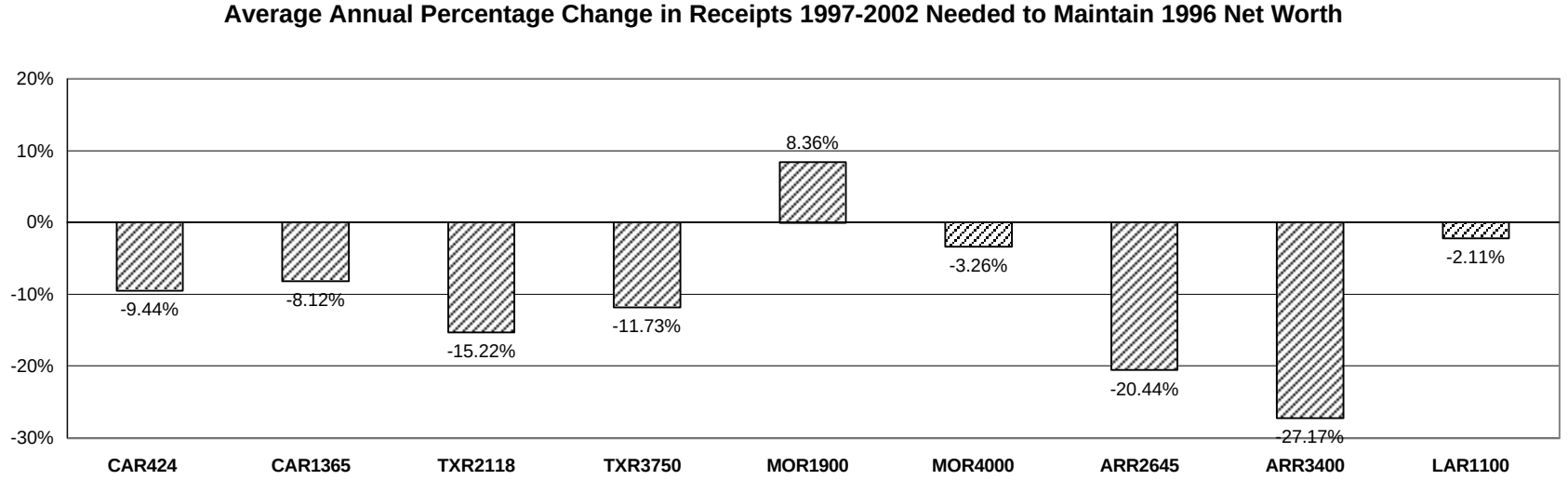


Figure 20. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms

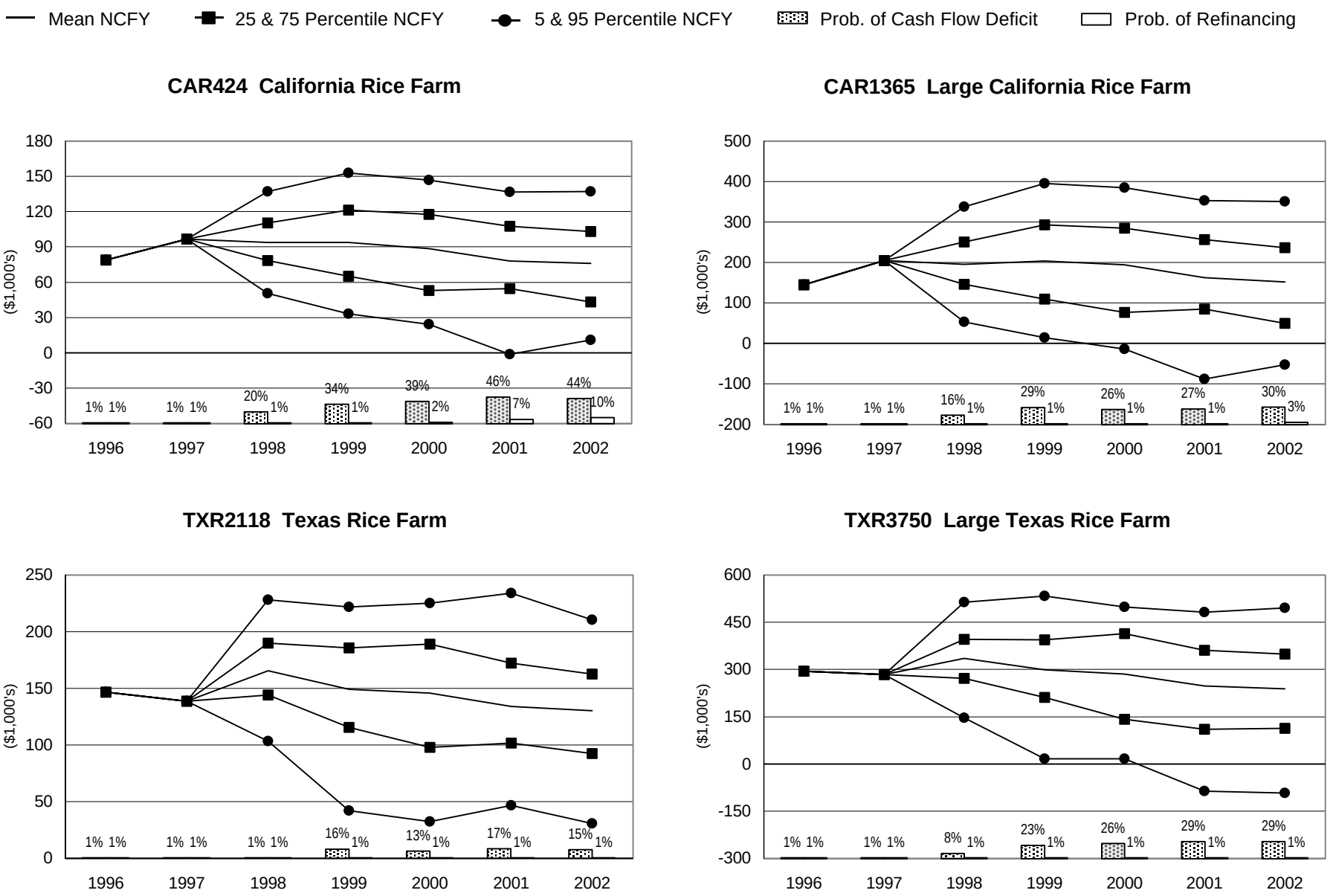


Figure 21. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms

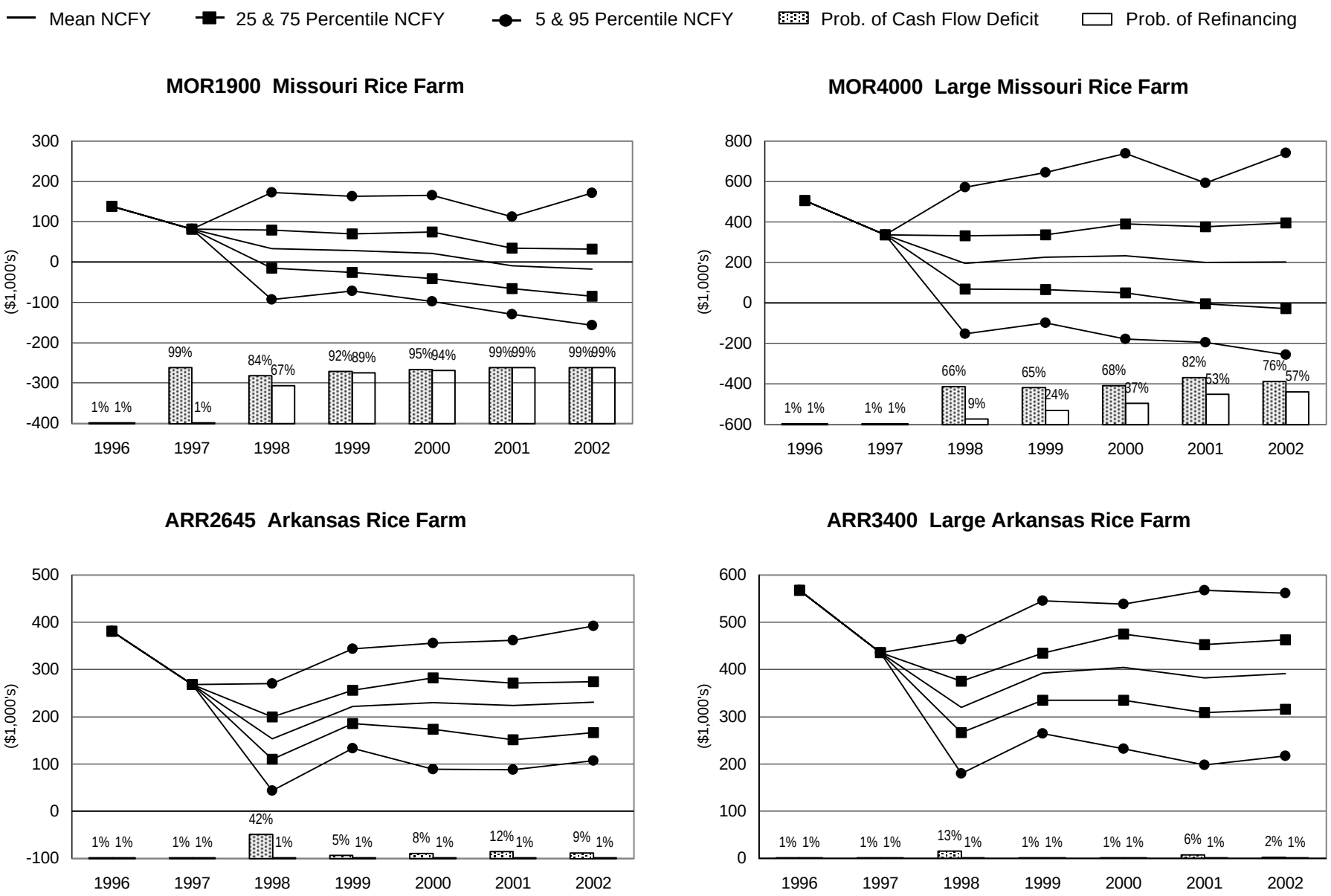


Figure 22. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Rice Farms

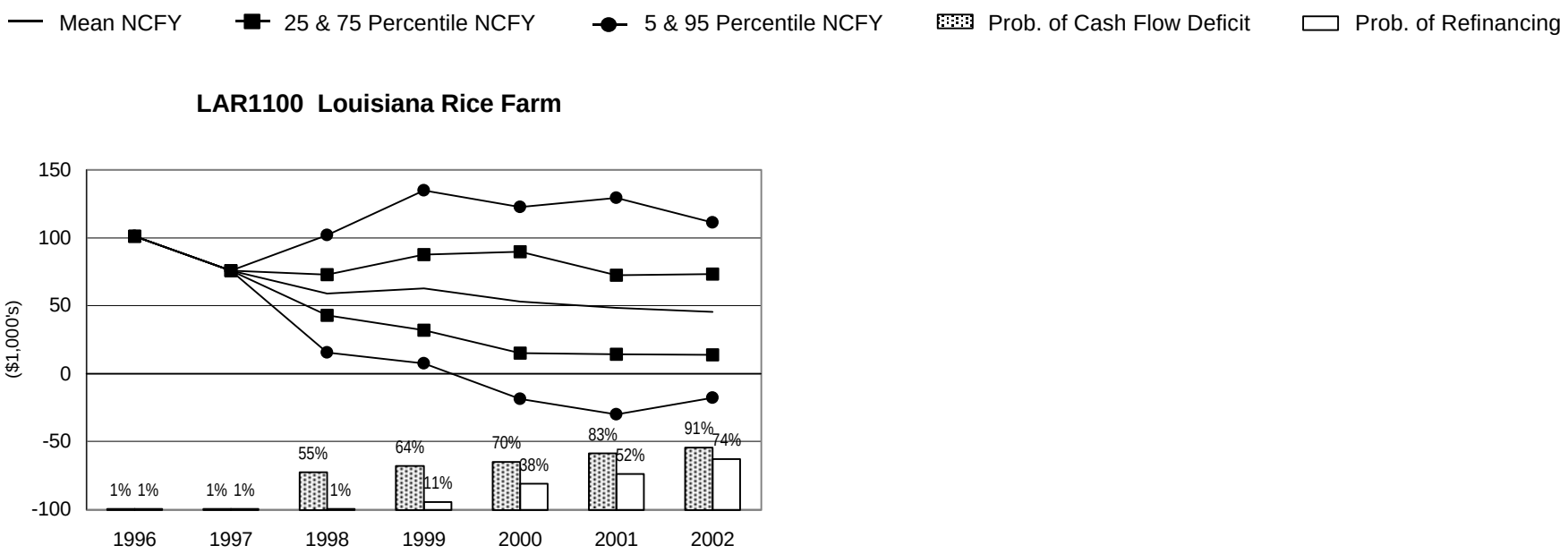
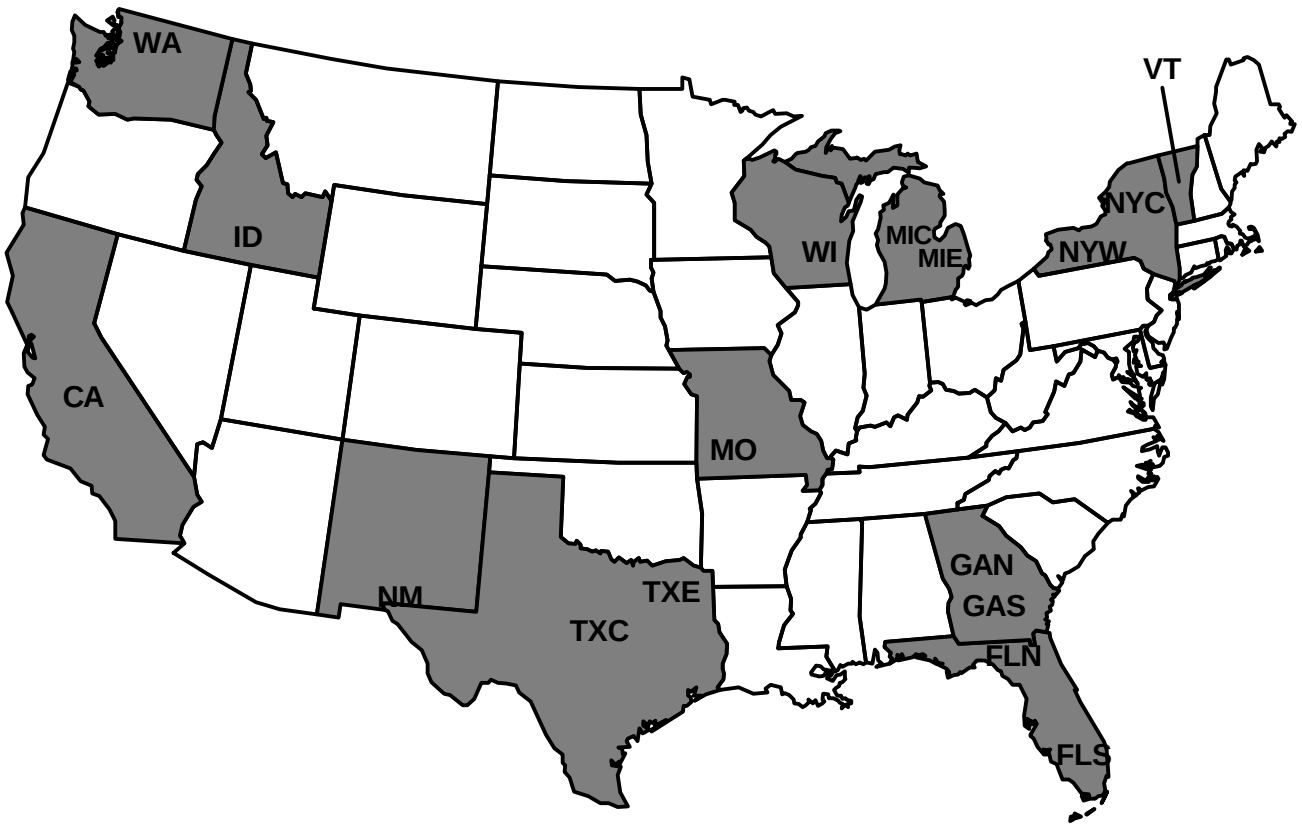


FIGURE 23. REPRESENTATIVE FARMS PRODUCING MILK



Dairy Impacts

- All of the 26 representative dairy farms increase real net worth over the 1996-2002 study period. The annual average increase in real net worth ranges from 0.4 percent on the Central Michigan dairy (MICD140) to over 12 percent on the California dairy (CAD1710), 700 cow Western New York (NYWD700), and large Central New York dairy (NYCD300) (Figures 24-26).

- Only one of the 26 dairies (GAND175) experiences a high (greater than 30 percent) probability of losing real net worth in 1998. But, by 2002 the dairy is able to reduce that probability to one percent. The Central Michigan dairy has a 44 percent probability of losing real net worth by 2002 (Tables 9-11).

- The combination of low feed prices in the 1997-1999 crop years and high milk prices in 1998 allow the dairies to recover from the reverse situation in earlier years. Net cash farm income sharply rebounds in 1998. Increased receipts allow 5 of the dairies to rebound from negative ending cash reserve positions in 1997 (Figures 27-33).

- Seven (27 percent) of the dairies have a 25 percent or greater probability of a cash flow deficit in 2002. Meaning that expenses and other cash flow requirements exceeded cash receipts in that year.

- Overall, the baseline is extremely favorable for the representative dairy farms. However, 6 of the dairy farms would lose real net worth if their receipts declined by more than 10 percent.

Table 9. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk.

	CAD1710	NMD2000	WAD185	WAD850	IDD500	IDD1800	TXCD400	TXCD825	TXED210	TXED650
Annual Change Real Net Worth (%)										
1996-2002 Average	12.15	7.44	10.30	8.20	7.54	10.79	3.05	11.92	8.37	8.61
Net Income Adjustment (NIA)										
1996-2002 ($1,000)	-1,503.58	-635.34	-125.33	-425.09	-220.85	-1,225.93	-41.00	-403.98	-93.89	-266.47
Net Income Adjustment (NIA)										
1996-2002 (% Receipts)	-27.43	-9.85	-17.65	-14.09	-13.94	-22.57	-4.02	-16.15	-16.73	-15.00
Cost to Receipts Ratio (%)										
1996-2002 Average	66.02	86.92	73.99	81.39	80.21	72.39	88.91	78.57	75.62	80.14
Govt Payments/Receipts (%)										
1996-2002 Average	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Cash Receipts ($1000)										
1996	5,242.70	6,401.23	697.76	2,962.71	1,609.53	5,557.06	1,018.55	2,499.30	558.04	1,772.49
1997	4,991.39	6,164.09	652.74	2,774.98	1,484.20	5,088.78	955.19	2,340.21	525.85	1,663.26
1998	5,983.48	7,012.39	779.79	3,310.90	1,718.15	5,919.29	1,097.29	2,690.00	600.88	1,908.05
1999	5,476.31	6,375.17	710.29	3,017.39	1,568.58	5,367.24	1,008.66	2,471.70	555.28	1,756.16
2000	5,494.15	6,337.90	704.17	2,991.83	1,558.06	5,320.50	1,010.06	2,475.26	556.50	1,758.64
2001	5,538.61	6,365.91	707.84	3,007.29	1,559.83	5,325.33	1,018.26	2,494.46	561.08	1,773.75
2002	5,645.98	6,488.87	719.22	3,055.49	1,592.71	5,437.10	1,035.93	2,537.69	570.39	1,803.12
Net Cash Farm Income ($1000)										
1996	1,539.80	672.11	139.37	396.93	294.72	1,387.17	108.01	442.97	120.13	302.61
1997	1,097.16	103.96	92.52	186.88	142.45	870.21	37.13	281.29	92.75	194.23
1998	2,338.53	1,461.26	275.33	951.81	467.13	2,036.20	212.38	769.03	186.63	518.44
1999	2,022.00	1,113.04	224.11	725.59	363.35	1,685.99	133.34	608.35	149.26	399.02
2000	2,055.90	1,005.23	208.83	654.03	343.18	1,613.81	121.43	585.07	144.22	386.72
2001	2,039.96	919.94	197.79	605.63	319.89	1,546.07	110.46	567.88	142.00	376.44
2002	2,077.54	929.64	194.69	589.10	329.45	1,582.01	104.65	576.15	145.09	379.24
Prob. of a Cash Flow Deficit (%)										
1998	1	1	1	1	1	1	1	1	1	1
1999	1	18	4	11	12	1	42	3	15	20
2000	1	16	4	13	11	1	35	1	11	14
2001	1	22	10	20	18	4	45	6	14	16
2002	1	19	13	21	10	2	47	3	6	13
Ending Cash Reserves ($1000)										
1996	763.63	317.58	54.11	167.99	107.57	654.72	24.65	212.33	46.91	144.25
1997	1,245.15	231.08	72.72	182.34	95.91	930.98	-13.36	306.86	74.00	202.73
1998	2,525.64	1,099.68	217.62	718.11	305.17	1,981.41	79.56	750.42	164.83	480.08
1999	3,524.84	1,601.30	308.96	1,017.43	420.86	2,722.67	87.15	1,022.94	217.47	626.38
2000	4,611.76	2,086.62	397.26	1,307.22	556.82	3,491.51	107.86	1,319.87	276.96	809.92
2001	5,699.83	2,516.14	480.73	1,580.34	671.54	4,211.28	113.32	1,608.14	338.08	987.08
2002	6,821.79	2,968.79	553.36	1,841.39	800.67	4,950.10	117.35	1,903.32	400.64	1,171.68
Prob. of Refinancing Deficits (%)										
1998	1	1	1	1	1	1	1	1	1	1
1999	1	1	1	1	1	1	14	1	1	1
2000	1	1	1	1	1	1	12	1	1	1
2001	1	1	1	1	1	1	19	1	1	1
2002	1	1	1	1	1	1	17	1	1	1
Nominal Net Worth ($1000)										
1996	5,838.45	4,944.30	609.50	2,774.78	1,628.21	5,774.63	874.31	1,742.33	630.31	1,717.75
1997	6,612.25	5,172.01	664.37	2,963.78	1,744.53	6,471.15	889.63	1,951.49	709.40	1,884.68
1998	8,078.97	6,206.54	831.34	3,605.35	2,047.28	7,818.09	1,020.86	2,461.84	825.36	2,246.92
1999	9,306.98	6,925.90	948.22	4,037.79	2,272.87	8,907.13	1,076.63	2,820.13	909.86	2,500.36
2000	10,547.87	7,568.81	1,055.53	4,430.72	2,475.37	9,923.01	1,126.31	3,173.89	993.49	2,748.89
2001	11,725.36	8,092.53	1,152.54	4,777.29	2,636.34	10,822.58	1,158.18	3,489.73	1,068.73	2,965.54
2002	12,965.90	8,677.93	1,254.67	5,129.31	2,833.43	11,783.05	1,192.15	3,836.13	1,149.68	3,202.62
Prob. of Losing Real Net Worth (%)										
1998	1	1	1	1	1	1	1	1	1	1
1999	1	1	1	1	1	1	4	1	1	1
2000	1	1	1	1	1	1	3	1	1	1
2001	1	1	1	1	1	1	10	1	1	1
2002	1	1	1	1	1	1	11	1	1	1

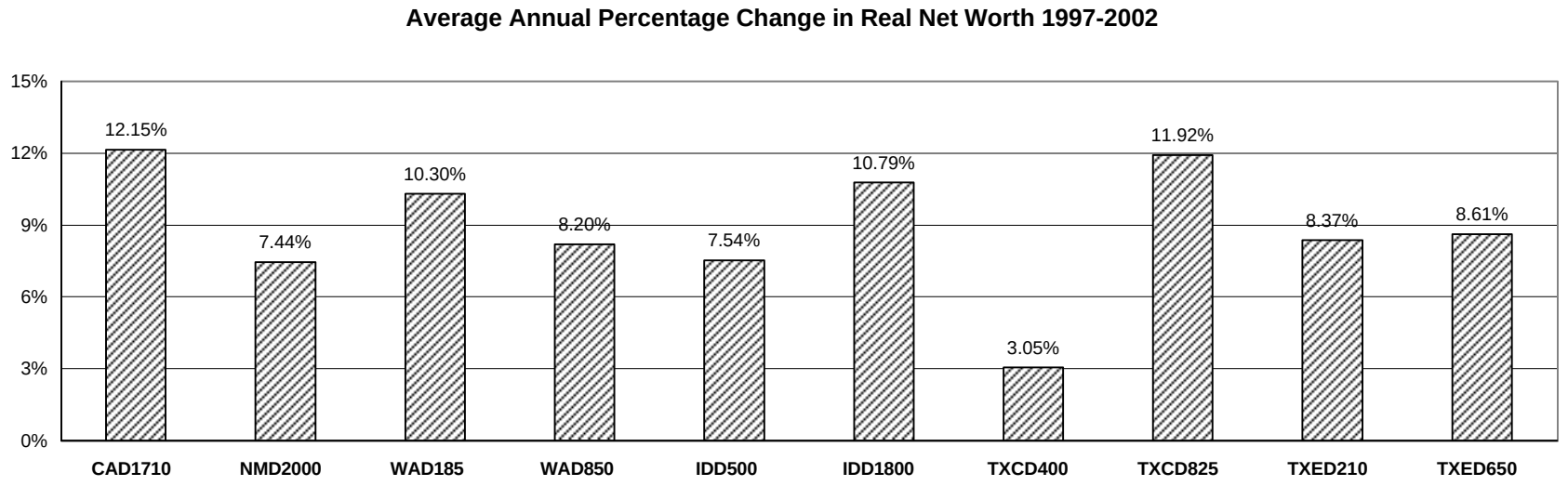
Table 10. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk.

	WID70	WID600	MIED200	MICD140	NYWD700	NYWD1200	NYCD110	NYCD300	VTD85	VTD350
Annual Change Real Net Worth (%)										
1996-2002 Average	10.48	11.07	1.96	0.42	12.11	10.80	3.88	12.13	11.13	9.60
Net Income Adjustment (NIA)										
1996-2002 ($1,000)	-63.92	-432.44	-36.17	-3.79	-596.60	-831.76	-28.39	-307.04	-104.61	-283.89
Net Income Adjustment (NIA)										
1996-2002 (% Receipts)	-27.83	-22.96	-5.33	-0.84	-24.17	-20.83	-7.59	-30.54	-32.23	-22.66
Cost to Receipts Ratio (%)										
1996-2002 Average	55.36	70.37	86.13	86.90	69.77	73.80	80.45	61.95	53.83	70.12
Govt Payments/Receipts (%)										
1996-2002 Average	0.00	0.00	0.16	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Total Cash Receipts ($1000)										
1996	226.46	1,858.22	682.32	447.66	2,495.55	4,036.47	377.08	1,012.87	316.76	1,220.77
1997	212.19	1,739.27	638.76	420.97	2,318.50	3,746.89	350.39	941.65	305.68	1,174.04
1998	247.67	2,032.24	728.08	481.22	2,649.42	4,290.21	401.20	1,077.02	346.08	1,335.07
1999	228.32	1,871.74	667.30	442.43	2,430.56	3,932.25	368.12	990.99	335.86	1,291.58
2000	228.25	1,870.76	669.54	444.24	2,435.53	3,940.84	369.20	994.60	322.63	1,236.48
2001	230.21	1,886.74	675.84	448.15	2,452.44	3,968.62	372.00	1,002.37	325.08	1,246.14
2002	234.98	1,925.68	688.07	456.57	2,493.42	4,036.16	378.26	1,018.09	330.43	1,266.77
Net Cash Farm Income ($1000)										
1996	89.80	483.16	72.99	38.52	679.92	1,038.80	67.37	369.86	134.59	334.73
1997	85.13	374.94	43.38	23.08	535.76	768.39	46.64	305.46	125.45	288.28
1998	116.98	745.55	177.16	105.89	981.96	1,421.91	102.91	454.22	175.47	479.47
1999	108.48	615.53	110.09	69.56	795.07	1,084.81	80.60	397.79	168.34	440.57
2000	107.28	597.61	103.21	65.86	770.03	1,053.20	77.44	391.89	152.17	373.55
2001	107.30	581.38	94.13	59.33	754.61	1,017.51	73.33	387.65	150.68	364.10
2002	110.64	595.78	94.33	60.83	759.29	1,031.23	72.46	389.66	152.76	367.60
Prob. of a Cash Flow Deficit (%)										
1998	1	1	1	1	1	1	1	1	1	1
1999	1	1	39	45	1	1	46	1	1	1
2000	1	2	36	40	1	1	33	1	1	1
2001	1	5	48	57	1	1	47	1	1	1
2002	1	2	54	71	1	2	61	1	1	1
Ending Cash Reserves ($1000)										
1996	36.43	229.07	24.96	-2.90	333.81	535.40	9.24	164.32	62.73	163.83
1997	66.47	379.02	19.72	-23.03	549.38	851.31	3.50	282.50	113.79	282.99
1998	114.38	784.40	104.76	26.53	1,071.88	1,582.65	35.79	493.15	197.17	513.95
1999	153.82	1,061.35	125.01	29.48	1,421.43	2,043.16	42.06	648.16	268.41	697.25
2000	195.15	1,355.87	150.76	37.58	1,790.44	2,534.73	53.85	817.83	338.74	858.89
2001	235.39	1,647.55	163.33	34.47	2,160.98	3,011.70	59.64	992.07	408.29	1,010.80
2002	276.88	1,961.66	170.67	28.29	2,545.90	3,506.81	61.30	1,165.52	480.22	1,171.92
Prob. of Refinancing Deficits (%)										
1998	1	1	1	1	1	1	1	1	1	1
1999	1	1	1	14	1	1	2	1	1	1
2000	1	1	1	12	1	1	1	1	1	1
2001	1	1	4	19	1	1	3	1	1	1
2002	1	1	7	28	1	1	6	1	1	1
Nominal Net Worth ($1000)										
1996	349.74	1,894.89	1,252.25	1,033.97	2,418.54	4,008.82	451.53	1,186.97	509.78	1,425.44
1997	402.91	2,135.25	1,309.08	1,084.29	2,800.49	4,594.35	478.48	1,402.75	588.94	1,616.80
1998	470.44	2,597.62	1,430.94	1,128.56	3,427.60	5,498.96	529.64	1,662.00	695.93	1,899.54
1999	531.75	2,944.83	1,496.66	1,150.47	3,911.68	6,182.64	567.17	1,892.57	797.23	2,147.50
2000	592.45	3,287.38	1,558.14	1,175.51	4,381.71	6,848.58	599.27	2,120.75	886.39	2,348.52
2001	651.62	3,603.46	1,594.51	1,182.09	4,830.60	7,451.75	624.93	2,334.16	977.68	2,539.00
2002	710.39	3,955.82	1,628.15	1,190.80	5,299.60	8,099.88	650.04	2,555.82	1,067.89	2,737.45
Prob. of Losing Real Net Worth (%)										
1998	1	1	1	8	1	1	1	1	1	1
1999	1	1	1	11	1	1	1	1	1	1
2000	1	1	1	14	1	1	1	1	1	1
2001	1	1	3	29	1	1	1	1	1	1
2002	1	1	4	44	1	1	1	1	1	1

Table 11. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Milk.

	MOD85	MOD300	GAND175	GASD650	FLND380	FLSD2000
Annual Change Real Net Worth (%)						
1996-2002 Average	4.80	4.62	3.43	9.88	9.95	10.81
Net Income Adjustment (NIA)						
1996-2002 ($1,000)	-23.24	-89.52	-6.73	-320.17	-182.57	-806.34
Net Income Adjustment (NIA)						
1996-2002 (% Receipts)	-10.58	-11.00	-1.28	-15.61	-15.37	-13.07
Cost to Receipts Ratio (%)						
1996-2002 Average	73.56	80.55	90.58	78.71	77.46	82.54
Govt Payments/Receipts (%)						
1996-2002 Average	0.00	0.00	0.00	0.00	0.00	0.00
Total Cash Receipts ($1000)						
1996	218.92	819.60	532.15	2,088.34	1,194.43	6,175.59
1997	207.31	767.43	495.00	1,941.24	1,129.58	5,837.50
1998	234.32	871.37	557.16	2,183.51	1,256.04	6,504.15
1999	216.54	799.47	513.49	2,011.08	1,168.65	6,073.30
2000	217.63	803.63	516.19	2,020.83	1,173.66	6,116.74
2001	219.86	810.65	520.29	2,036.67	1,184.27	6,175.95
2002	223.73	826.34	531.02	2,078.06	1,206.41	6,289.80
Net Cash Farm Income ($1000)						
1996	30.18	118.50	-46.61	388.74	16.32	-174.91
1997	29.92	121.61	-80.69	244.07	-15.15	-352.07
1998	76.03	209.68	94.93	625.56	381.07	1,633.53
1999	68.25	176.51	101.70	480.17	399.07	1,715.48
2000	69.93	173.65	100.96	467.39	386.79	1,686.39
2001	70.41	170.91	94.96	442.81	370.69	1,622.67
2002	71.08	172.90	93.48	451.52	364.84	1,605.66
Prob. of a Cash Flow Deficit (%)						
1998	36	1	99	1	1	3
1999	35	38	99	4	1	1
2000	39	27	95	1	1	1
2001	28	28	79	3	1	1
2002	32	33	60	2	1	1
Ending Cash Reserves ($1000)						
1996	-5.89	27.08	-77.59	162.89	-46.49	-299.26
1997	-15.43	53.33	-192.32	224.64	-106.76	-756.52
1998	3.89	129.58	-133.30	531.32	104.07	277.20
1999	12.23	152.39	-92.80	697.65	283.05	1,172.03
2000	23.48	196.61	-65.97	896.86	456.46	2,073.58
2001	37.29	238.95	-42.84	1,086.72	625.28	2,951.02
2002	51.79	279.74	-17.93	1,285.89	794.05	3,834.60
Prob. of Refinancing Deficits (%)						
1998	36	1	99	1	1	3
1999	26	1	99	1	1	1
2000	17	1	95	1	1	1
2001	15	1	78	1	1	1
2002	11	2	59	1	1	1
Nominal Net Worth ($1000)						
1996	358.14	1,091.26	321.60	1,554.97	868.28	3,816.55
1997	384.55	1,187.20	237.02	1,717.16	880.02	3,705.49
1998	421.33	1,309.92	315.21	2,092.29	1,135.19	4,965.80
1999	466.93	1,415.45	380.97	2,346.86	1,362.10	6,127.93
2000	507.21	1,509.79	425.83	2,598.49	1,577.20	7,231.74
2001	541.55	1,586.24	460.27	2,820.18	1,775.57	8,218.25
2002	573.70	1,666.72	501.61	3,059.04	1,979.55	9,239.23
Prob. of Losing Real Net Worth (%)						
1998	1	1	73	1	1	1
1999	1	1	21	1	1	1
2000	1	1	7	1	1	1
2001	1	1	5	1	1	1
2002	1	1	1	1	1	1

Figure 24. Dairy Farms



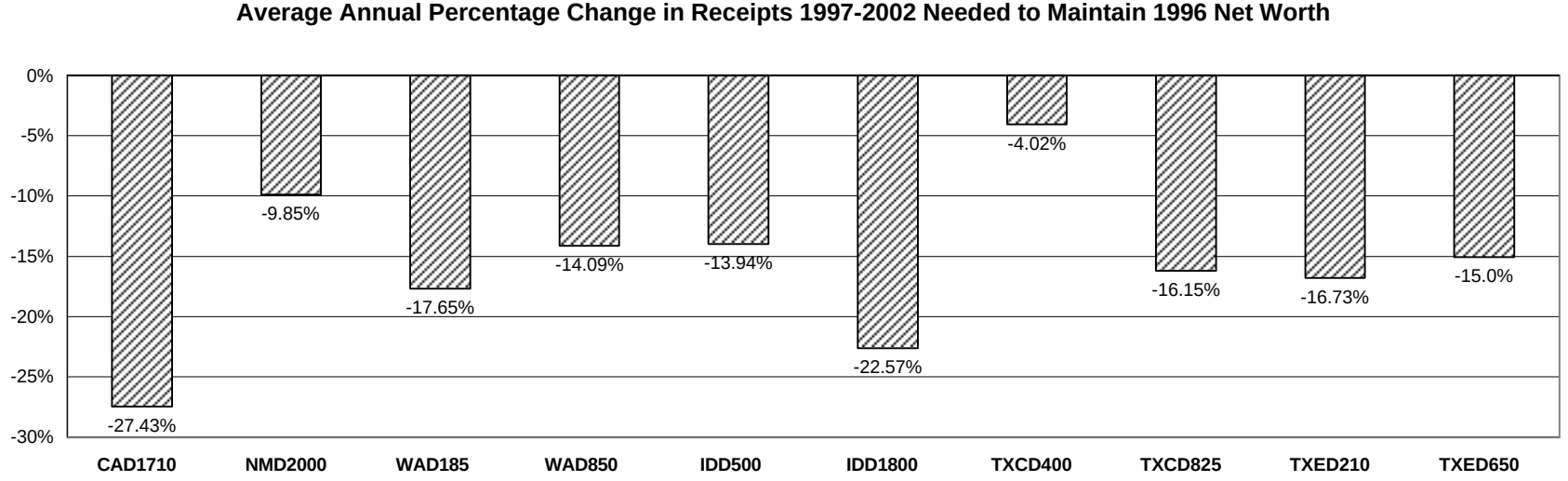
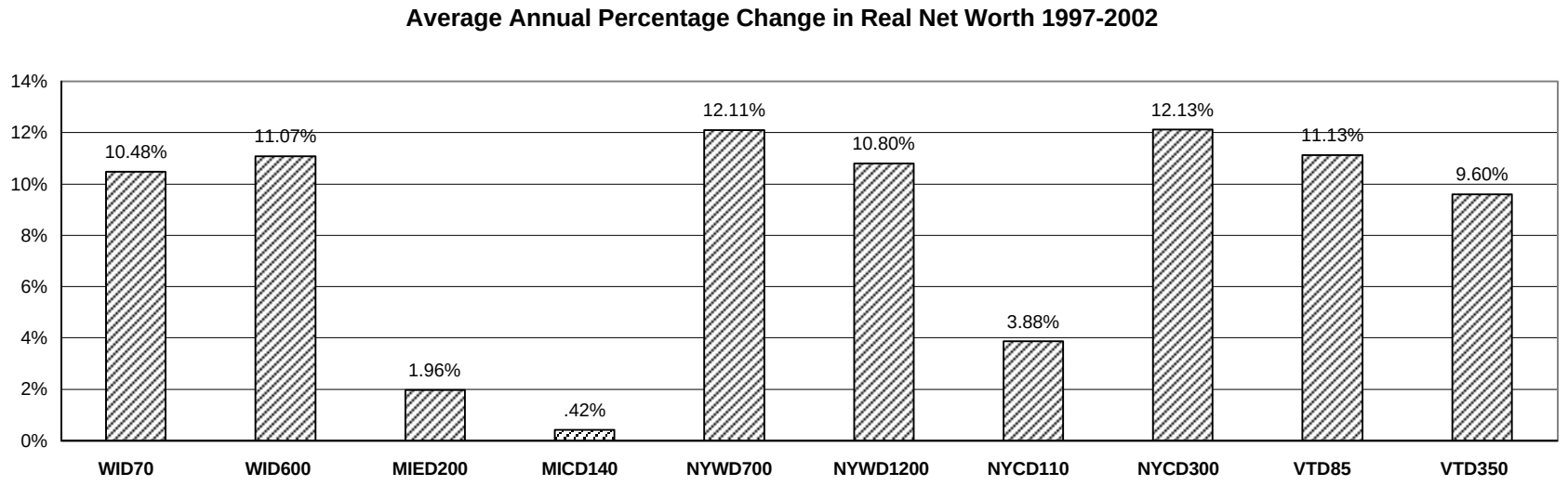


Figure 25. Dairy Farms



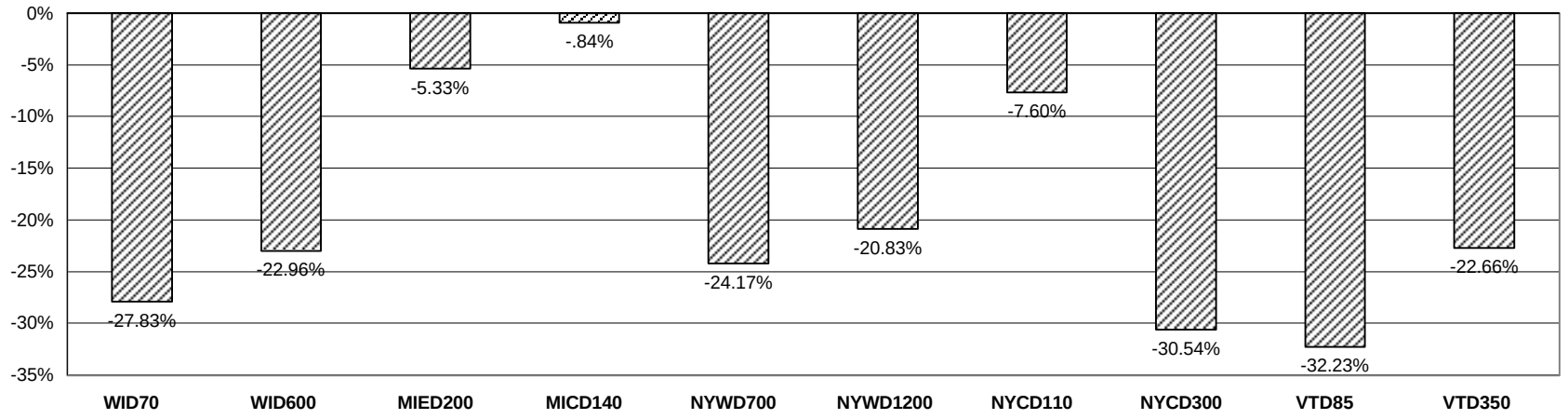
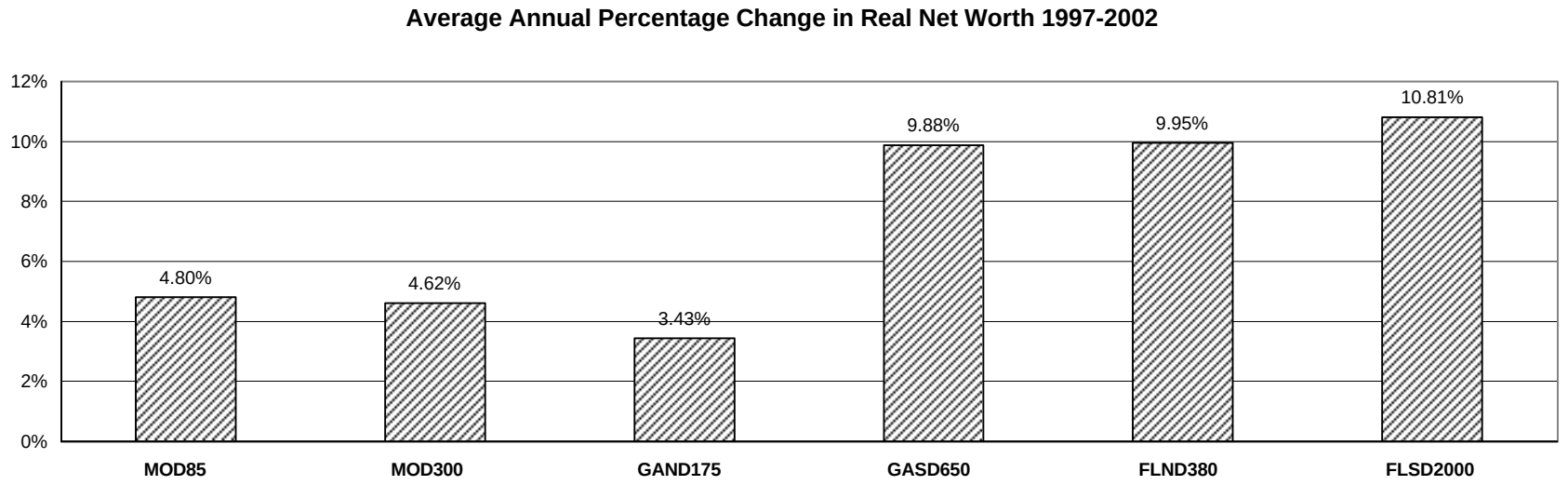


Figure 26. Dairy Farms



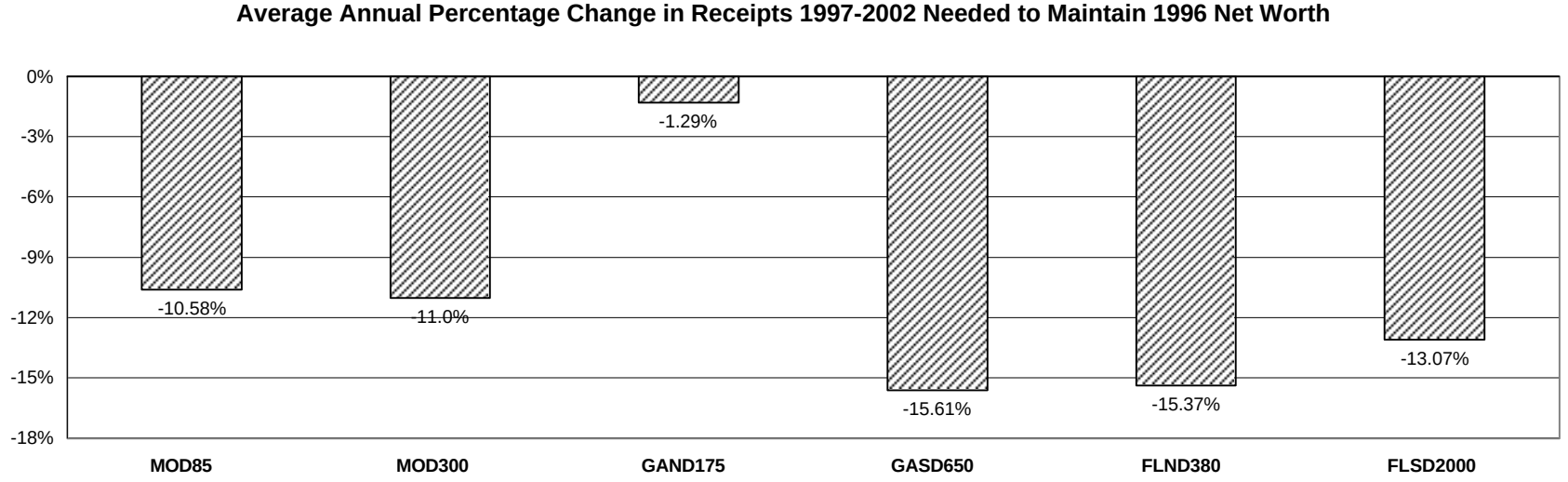


Figure 27. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

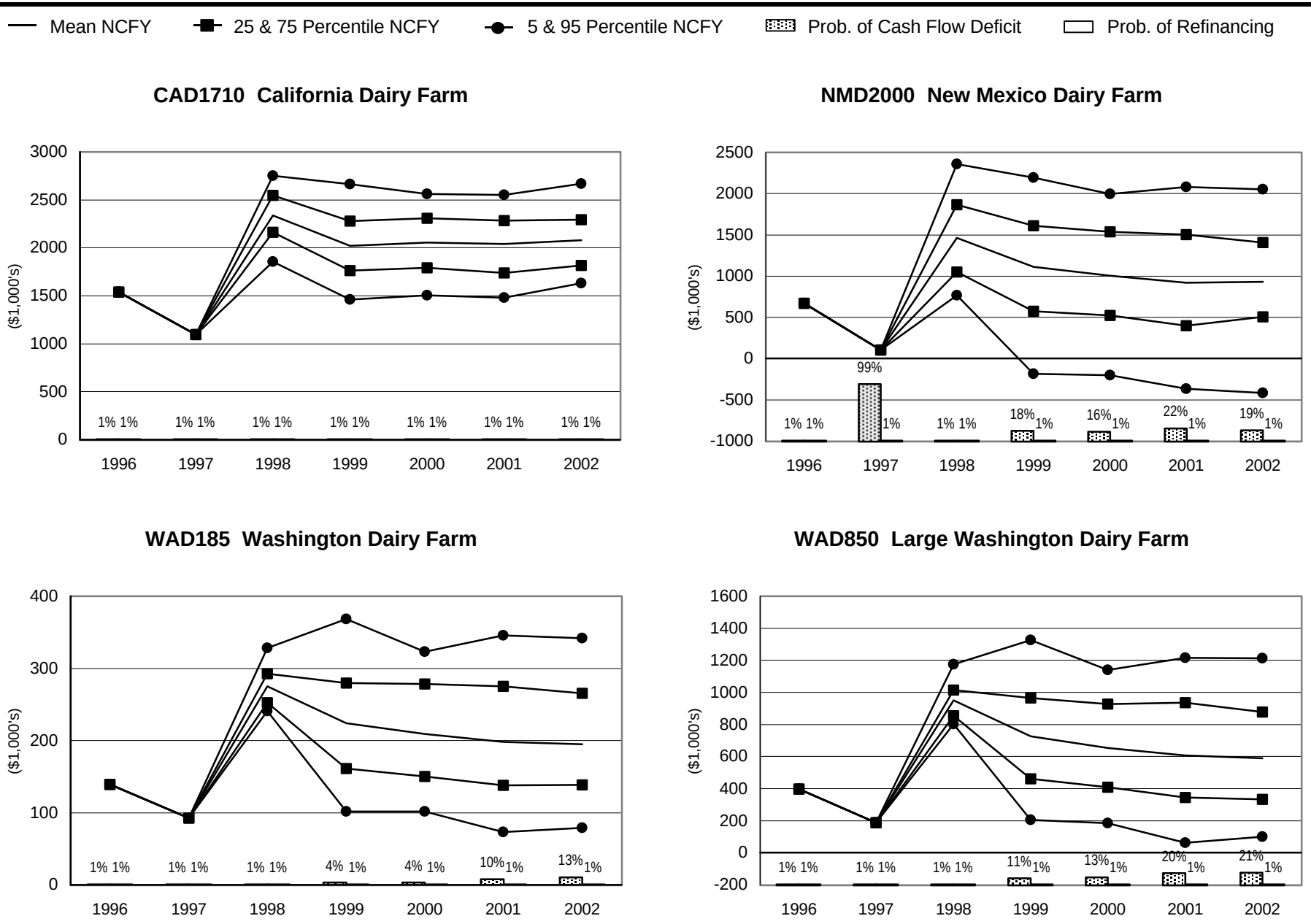


Figure 28. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

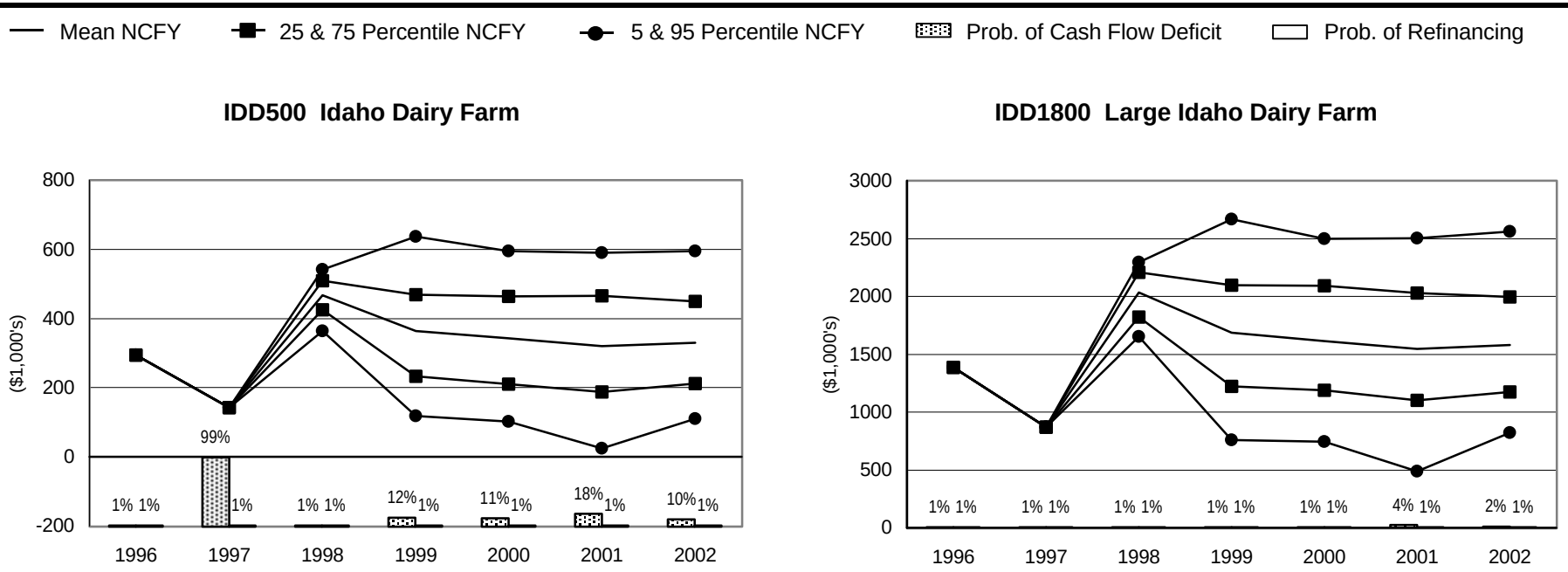


Figure 29. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

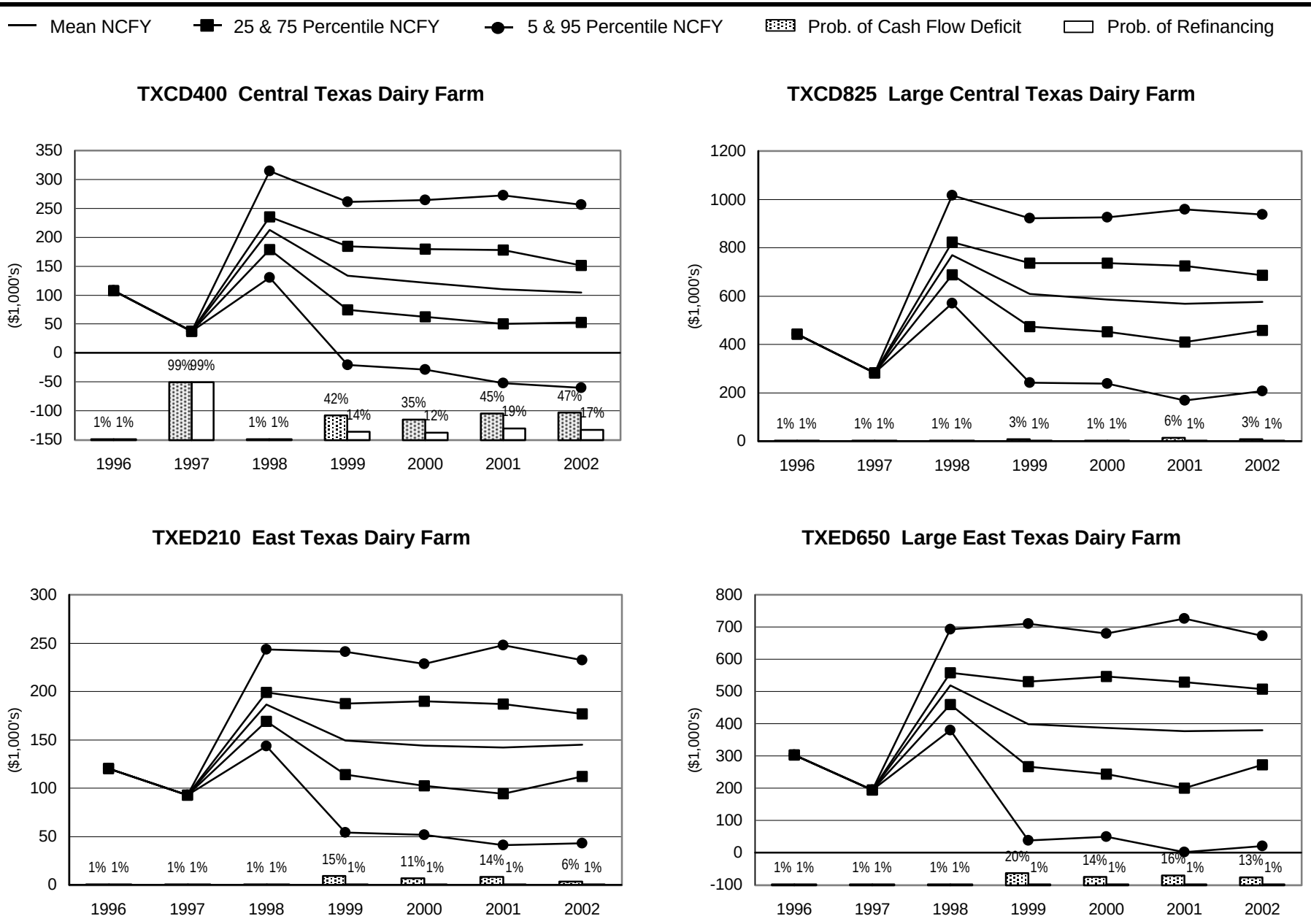


Figure 30. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

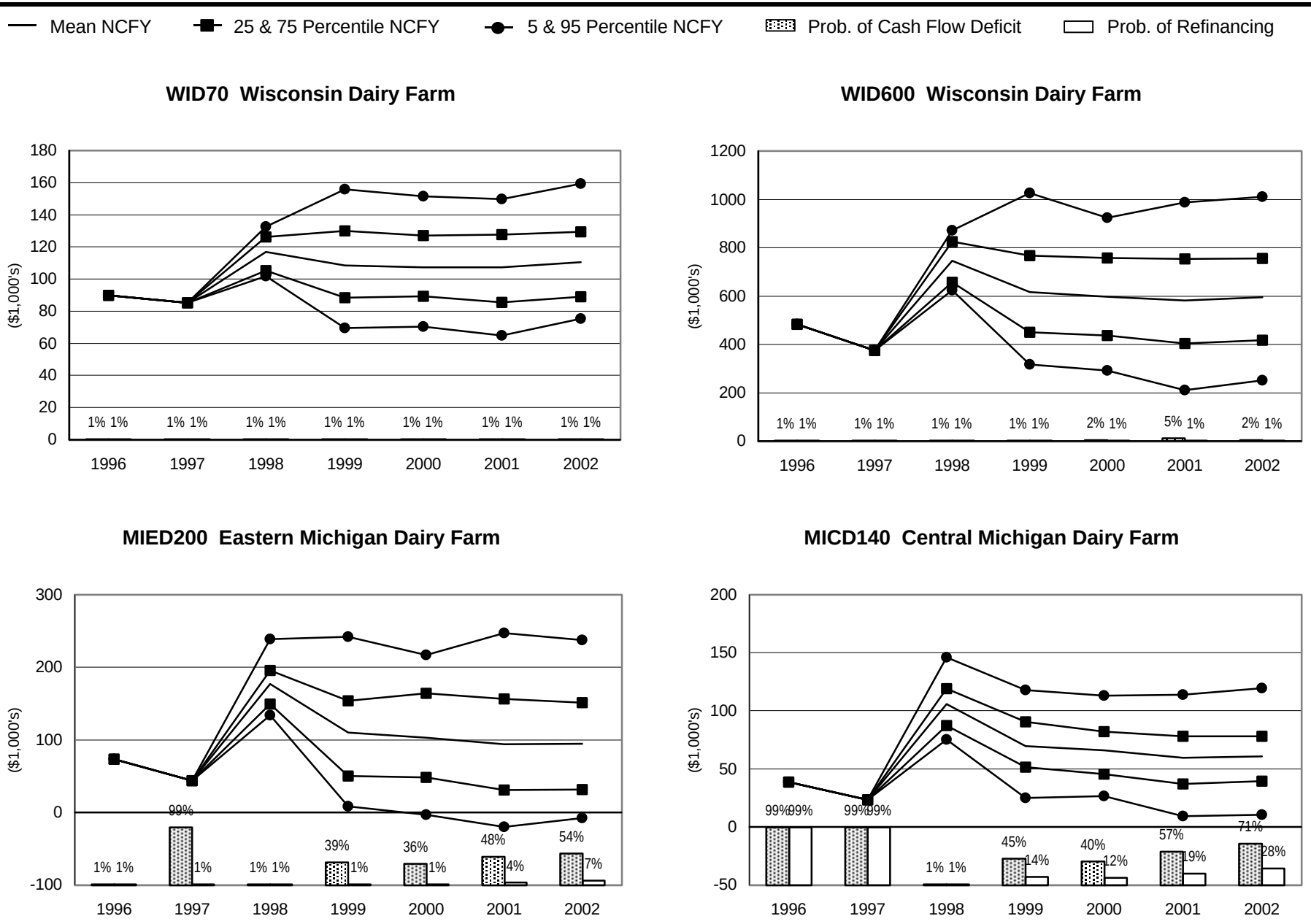


Figure 31. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

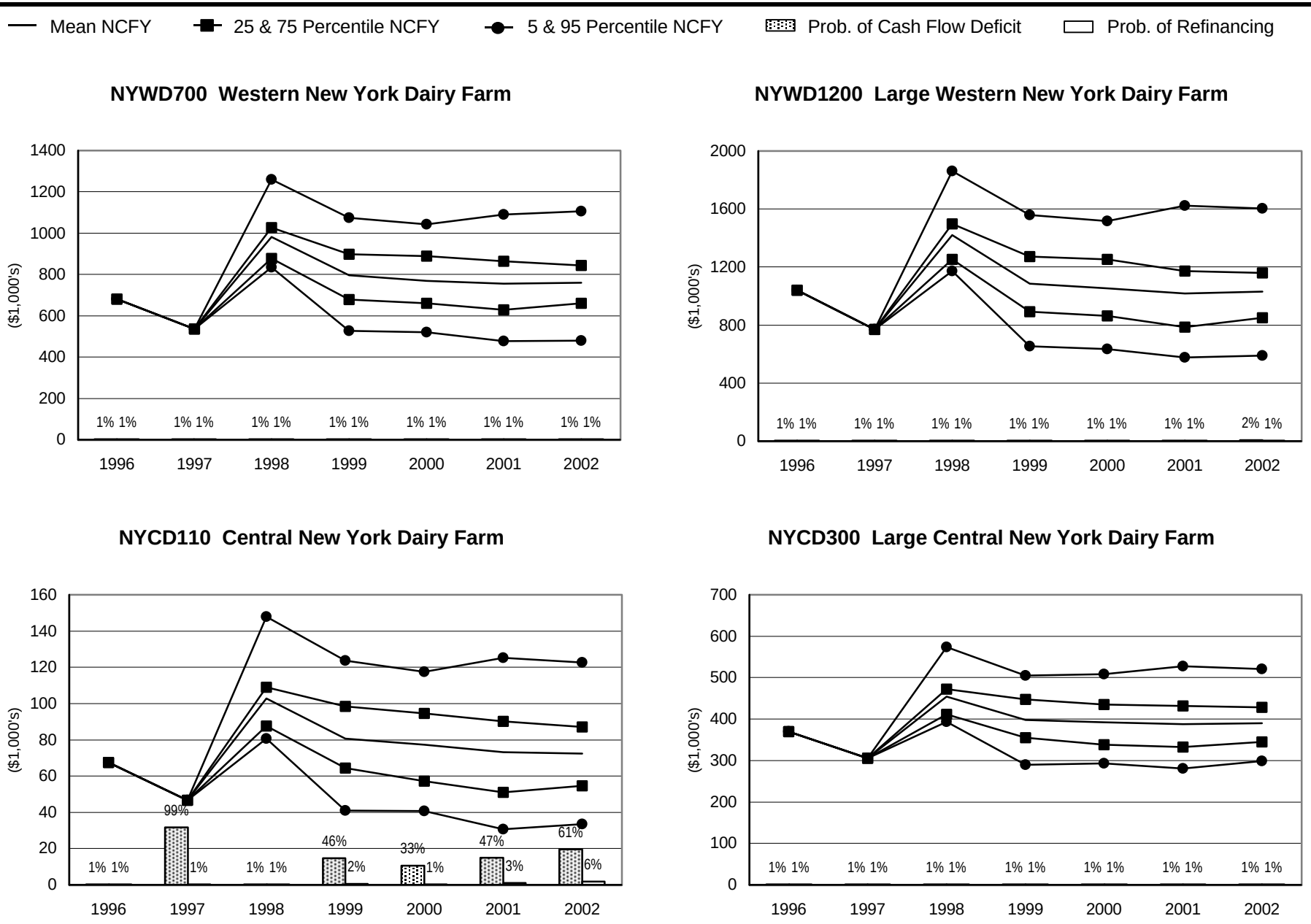


Figure 32. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

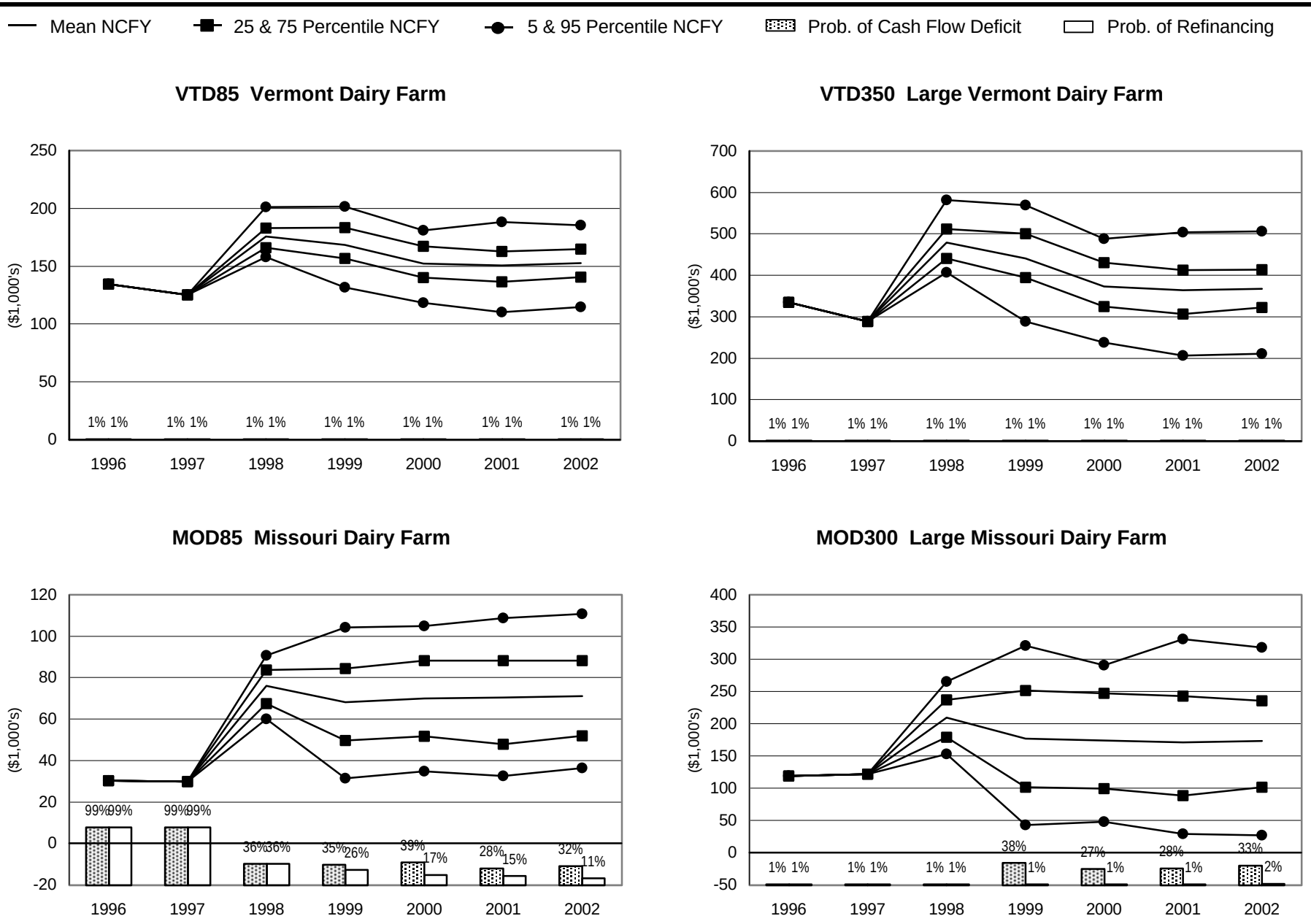


Figure 33. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Dairy Farms

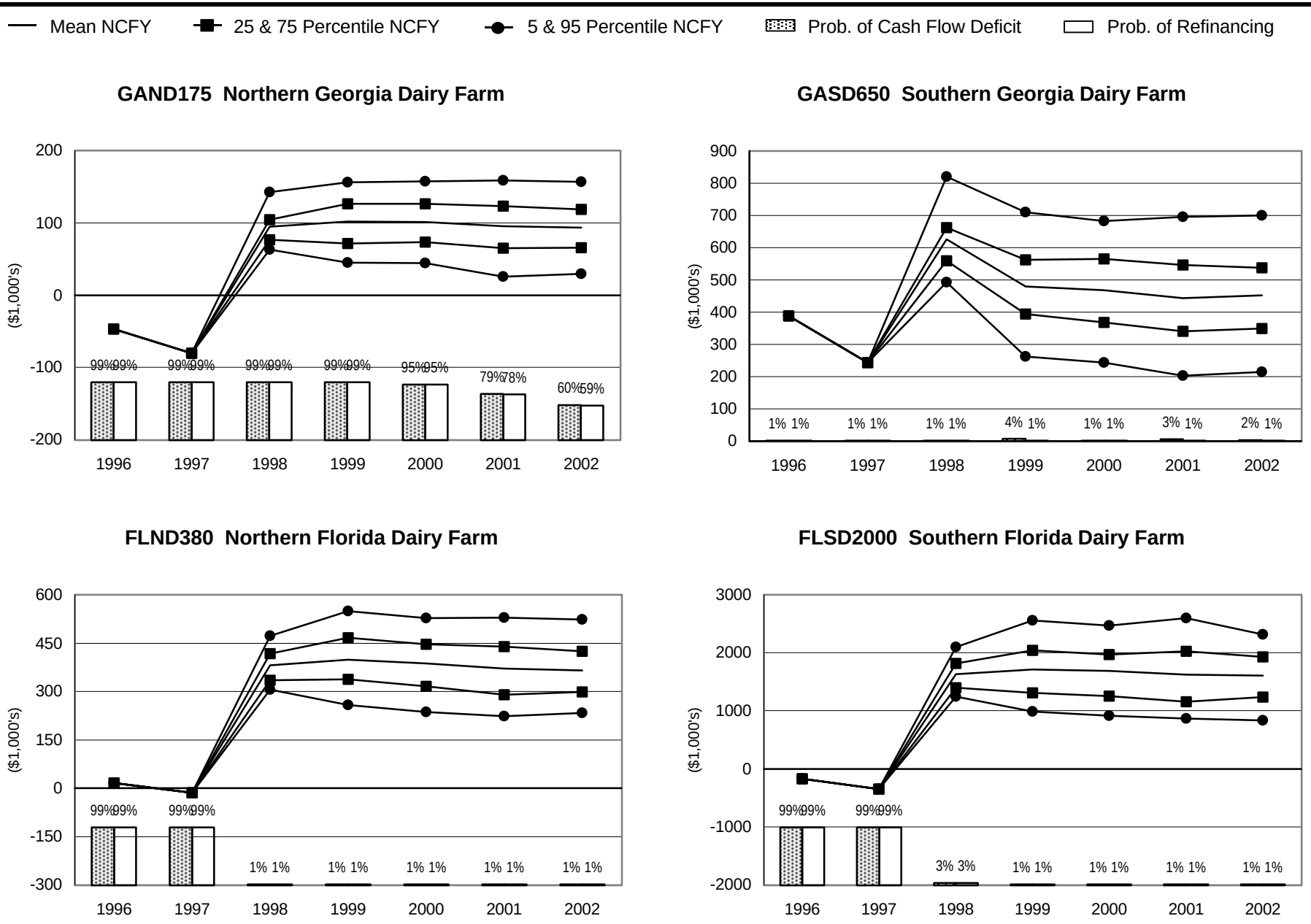
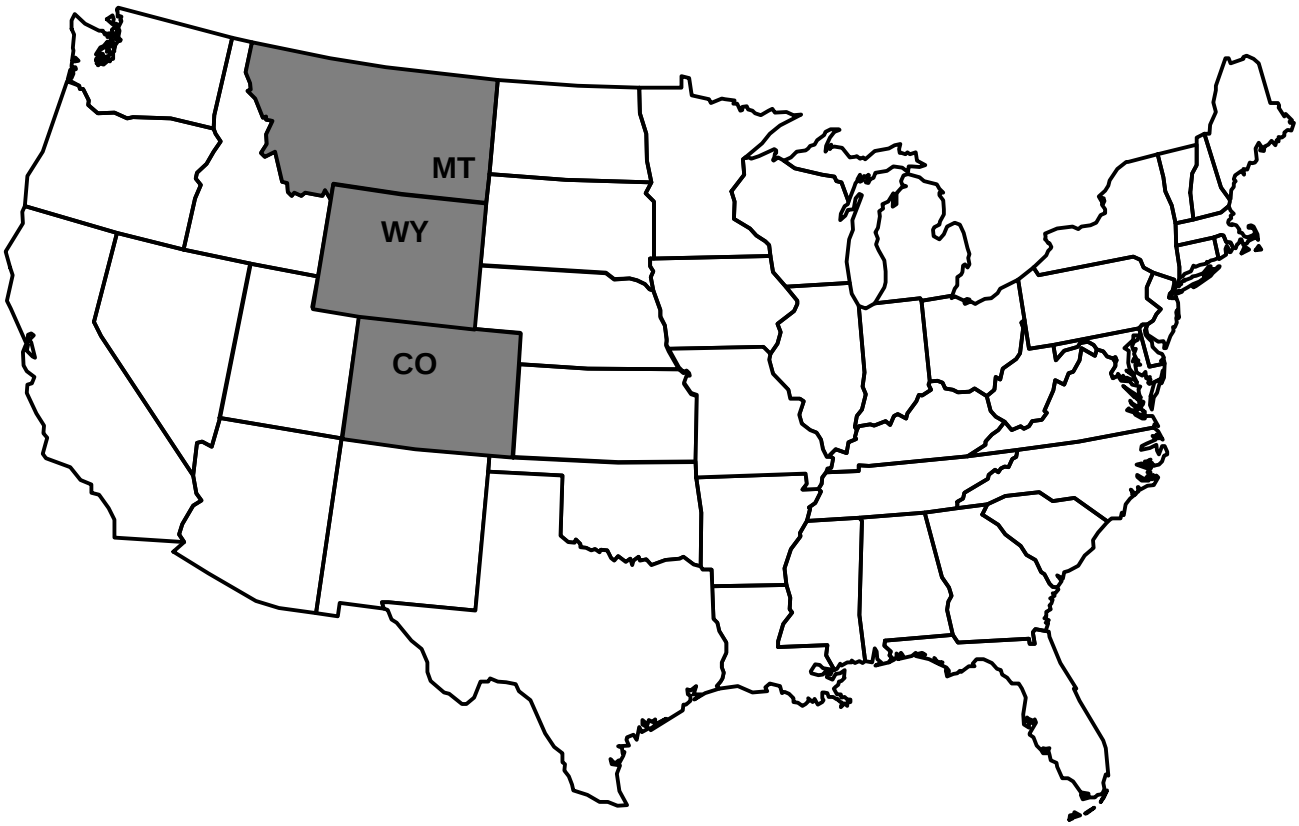


FIGURE 34. REPRESENTATIVE FARMS PRODUCING BEEF CATTLE



Beef Cattle Impacts

- The beef cattle situation is positively impacted due to the upturn in cattle prices projected over the study period (Figure 35). Feeder cattle prices are projected to rise from approximately $61/cwt. in 1996 to $90/cwt. in 2002.

- The four representative cattle ranches experience real growth in net worth over the 1996-2002 study period (Table 12). The Wyoming ranch has a 28 percent chance of experiencing a decline in real net worth in year 2002.

- Ending cash reserves grow over the period for the Montana and Colorado ranches. The Wyoming ranch experiences negative ending cash balances throughout the period. The probability of refinancing deficits declines for each of the ranches as cattle prices increase through 2002 (Figure 36).

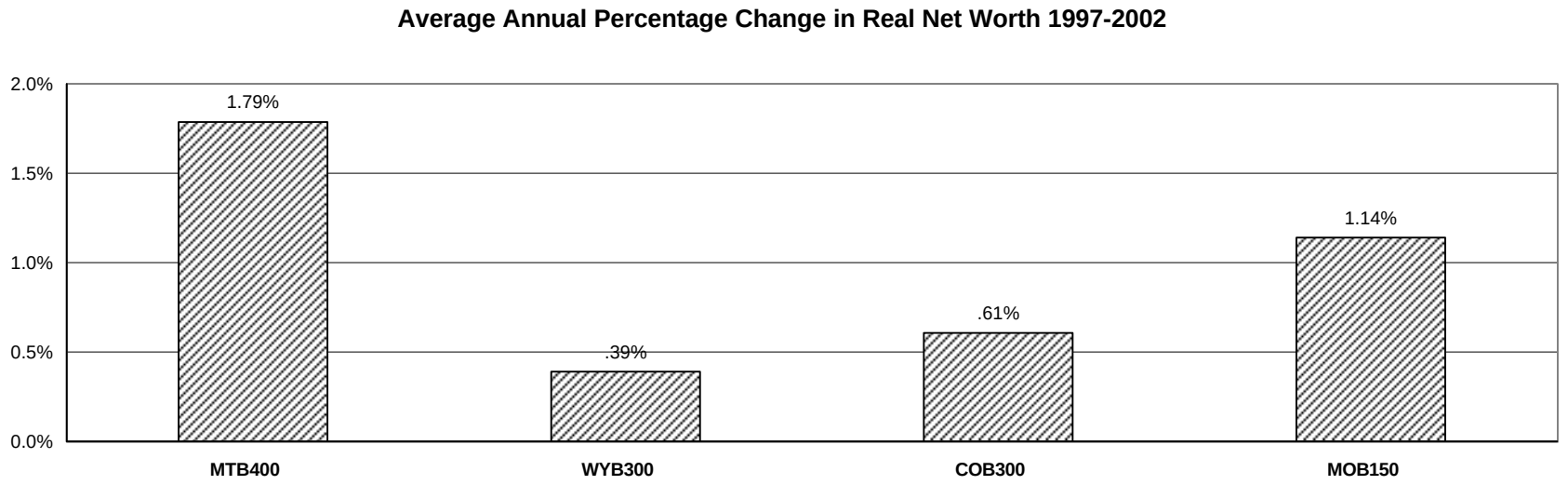
- Net cash farm incomes (NCFIs) show substantial improvement over the 1999-2002 period as cattle prices rebound. The Montana and Colorado ranches have larger ending cash positions than the Wyoming ranch and are able to keep the probability of refinancing low.

- Ten other representative farms have cattle operations ranging from 25 to 200 cows. Increasing returns from cattle throughout the study period contribute to the bottom line of those representative farms.

Table 12. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Beef Cattle.

	MTB400	WYB300	COB300	MOB150
Annual Change Real Net Worth (%)				
1996-2002 Average	1.79	0.39	0.61	1.14
Net Income Adjustment (NIA)				
1996-2002 ($1,000)	-33.39	-0.82	-16.14	-5.60
Net Income Adjustment (NIA)				
1996-2002 (% Receipts)	-23.30	-0.70	-10.98	-4.93
Cost to Receipts Ratio (%)				
1996-2002 Average	63.12	88.95	74.85	75.52
Govt Payments/Receipts (%)				
1996-2002 Average	0.00	0.00	0.00	4.39
Total Cash Receipts ($1000)				
1996	103.08	87.35	135.71	97.51
1997	139.54	114.94	151.57	117.29
1998	136.07	112.43	155.78	108.46
1999	148.66	120.63	160.29	115.03
2000	156.37	126.63	166.42	118.69
2001	157.15	127.47	169.28	117.99
2002	162.02	131.20	174.16	121.24
Net Cash Farm Income ($1000)				
1996	14.31	-4.94	14.51	15.26
1997	49.98	21.79	33.40	34.88
1998	44.72	-4.98	41.38	16.72
1999	63.68	21.14	45.95	30.25
2000	73.01	24.89	44.96	33.83
2001	69.94	22.00	49.72	33.58
2002	76.80	28.28	60.79	38.16
Prob. of a Cash Flow Deficit (%)				
1998	13	99	8	99
1999	4	98	13	91
2000	1	95	23	88
2001	9	86	20	81
2002	3	85	10	74
Ending Cash Reserves ($1000)				
1996	-2.39	-18.25	-4.48	-9.86
1997	19.89	-10.96	5.34	-5.19
1998	38.17	-32.18	19.84	-27.17
1999	69.22	-29.22	36.96	-28.81
2000	108.67	-34.15	46.44	-27.43
2001	138.42	-38.71	60.70	-25.11
2002	176.84	-43.30	80.09	-20.96
Prob. of Refinancing Deficits (%)				
1998	1	99	4	99
1999	1	98	3	91
2000	1	94	5	88
2001	1	83	3	77
2002	1	82	1	72
Nominal Net Worth ($1000)				
1996	1,530.77	553.45	2,663.34	577.19
1997	1,669.12	616.47	2,839.65	629.46
1998	1,726.16	604.47	2,929.16	632.91
1999	1,818.95	633.44	3,041.56	659.91
2000	1,905.44	657.34	3,126.96	685.74
2001	1,971.68	664.57	3,197.44	709.66
2002	2,034.20	679.15	3,250.31	732.24
Prob. of Losing Real Net Worth (%)				
1998	1	22	1	7
1999	1	20	1	5
2000	1	17	1	4
2001	1	24	1	2
2002	1	28	1	7

Figure 35. Cattle Ranches



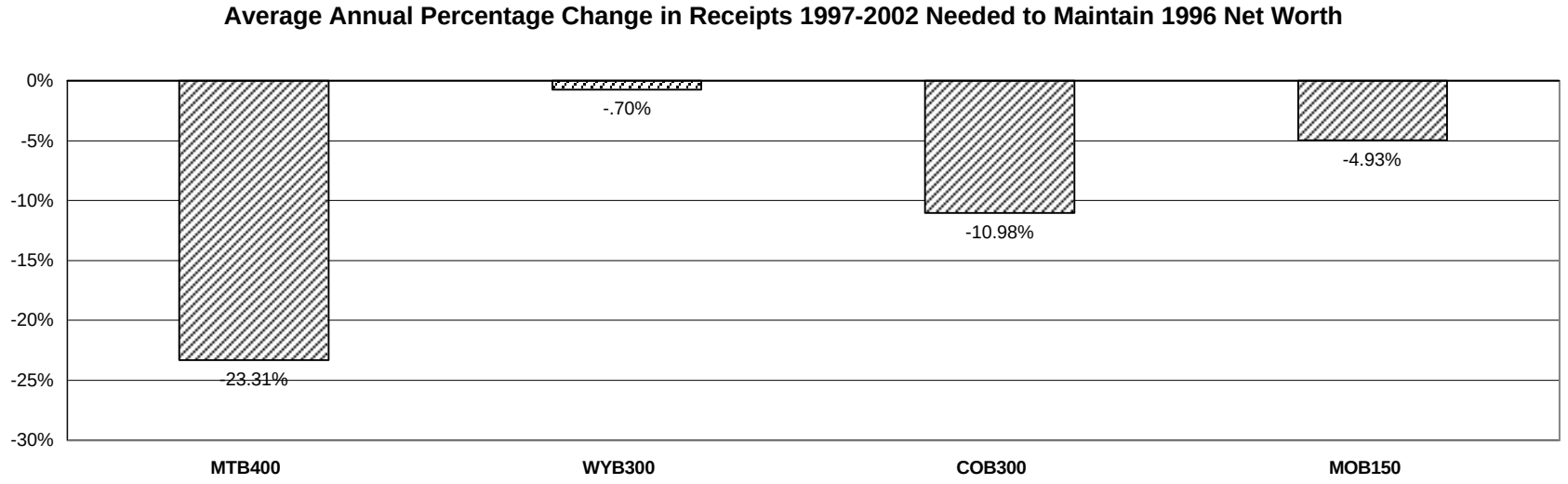


Figure 36. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Cattle Ranches

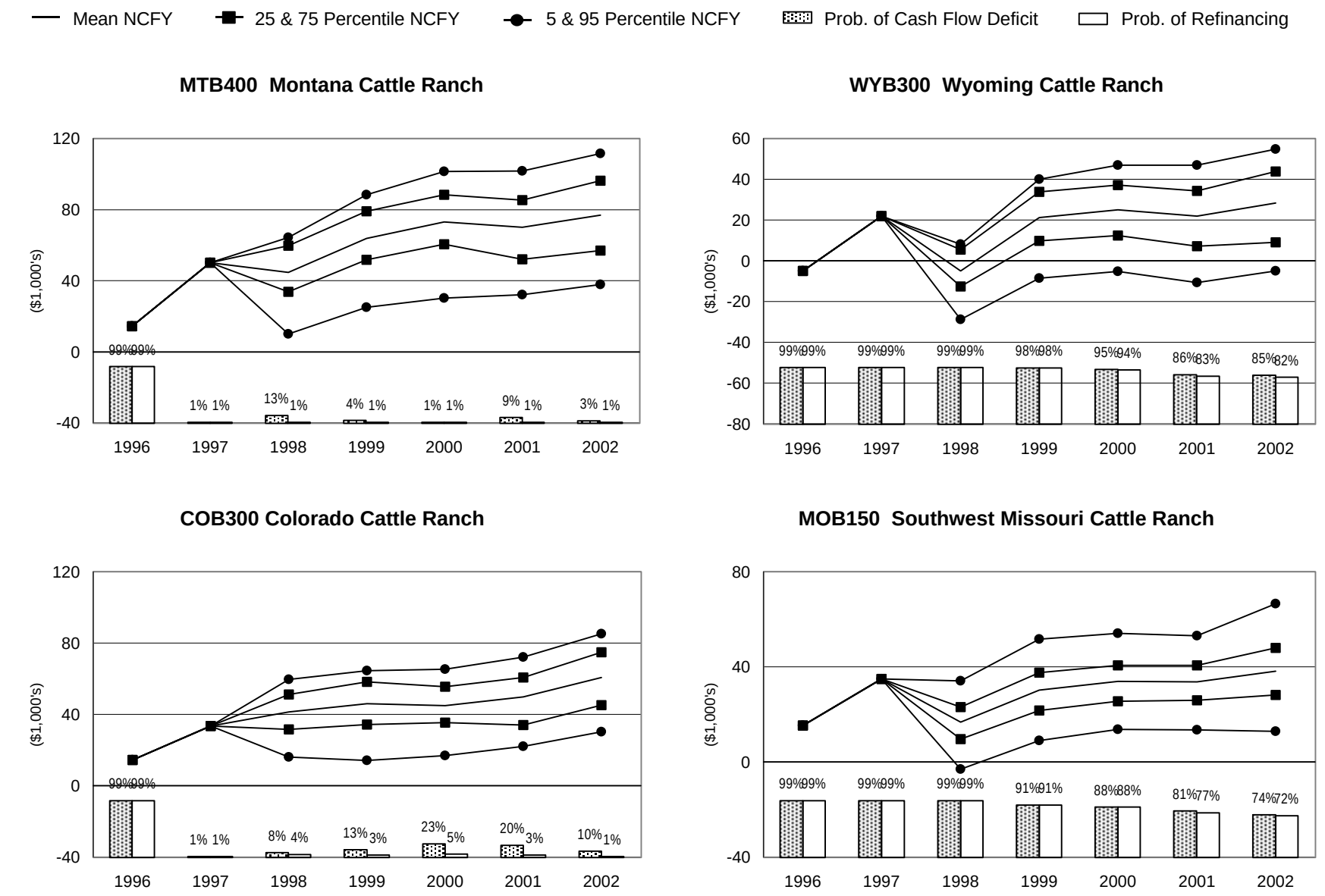
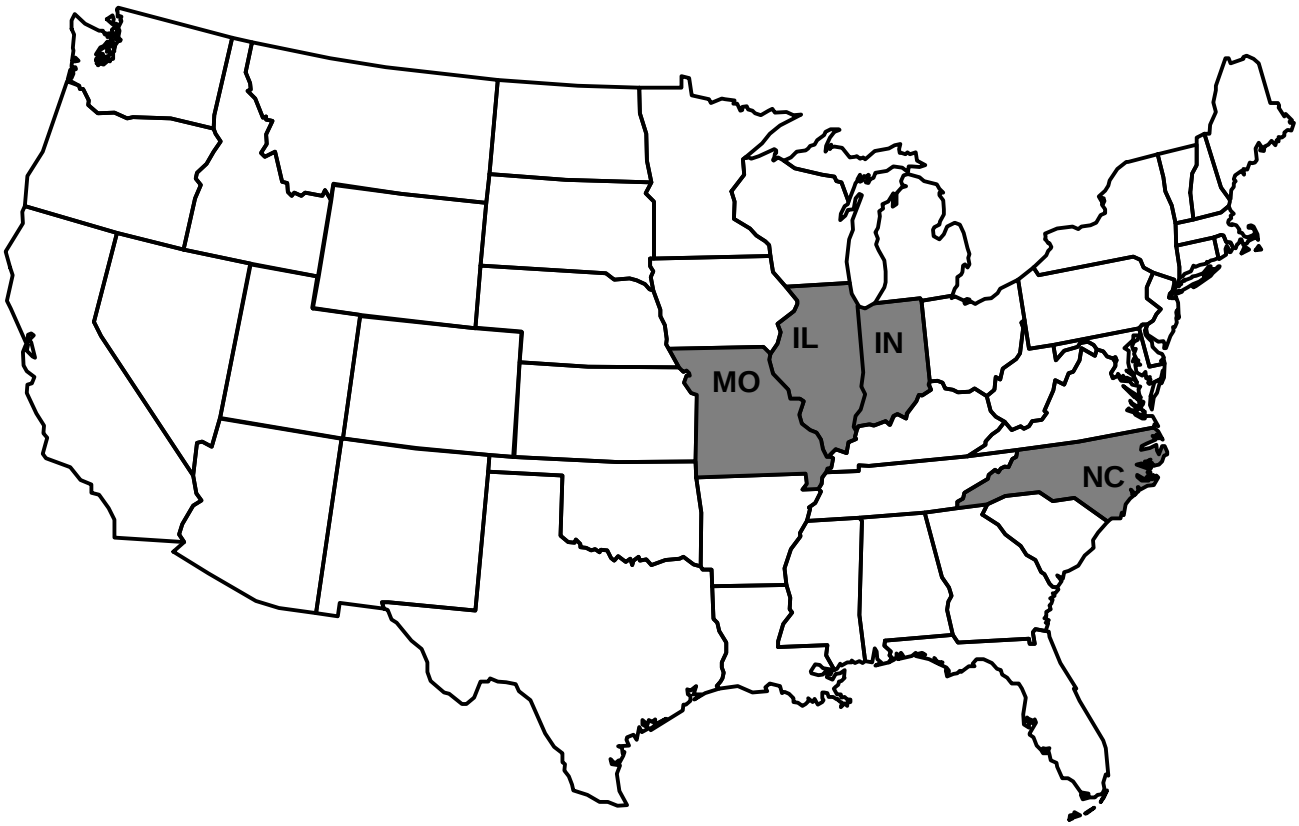


FIGURE 35. REPRESENTATIVE FARMS PRODUCING HOGS



Hog Farm Impacts

- Baseline projected hog prices range from $33 per cwt. in 1998 to $43 per cwt. in 2002.

- All eight hog farms experience an increase in real equity over the 1997-2002 period. The annual real equity growth ranges from 0.3 percent on the moderate Missouri (MOH100) farm to about 7 percent on the ILH750. Annual real equity growth on the large contract farming operation in North Carolina is substantially higher than the other farms at 14 percent (Figure 38).

- All of the hog farms show probabilities of cash flow deficits greater than 50 percent in 1998. The Missouri and Indiana hog farms have a 99 percent probability of a cash flow deficit in 1998 (Table 13 and Figures 39-40).

- The moderate Indiana farm shows serious signs of financial stress through 2002. Ending cash balances generally decline from 1998-2002, requiring refinancing of the operation. The probability of refinancing is 89 percent in 2002. The moderate Missouri hog farm also has negative cash reserves and its probability of refinancing deficits is 76 percent in 2002 (Figures 39-40).

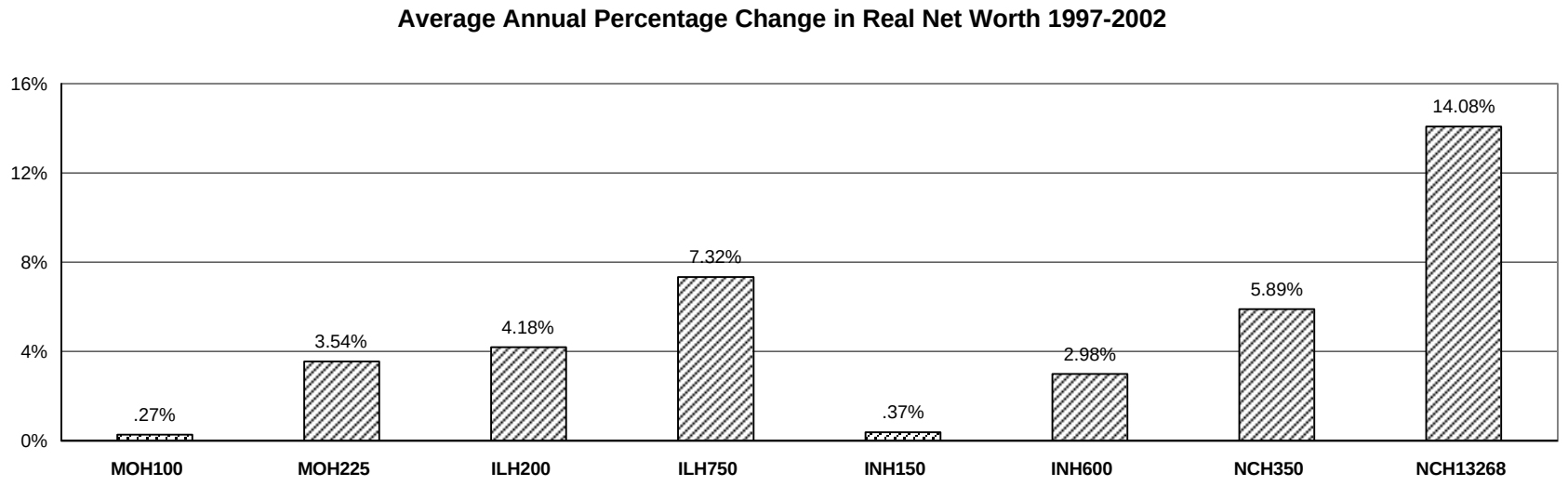
- While each farm generates a positive annual change in real net worth a reduction in receipts of less than one percent would cause a negative real net worth change on 2 of the operations.

- The hog price debacle in 1998 is extremely difficult for the moderate size Missouri and Indiana farms to overcome. The largest farms are able to well survive the debacle over the long haul and suggests continued growth in this sector.

Table 13. Implications of the 1996 Farm Bill and the November 1998 FAPRI Baseline on the Economic Viability of Representative Farms Primarily Producing Hogs.

	MOH100	MOH225	ILH200	ILH750	INH150	INH600	NCH350	NCH13268
Annual Change Real Net Worth (%)								
1996-2002 Average	0.27	3.54	4.18	7.32	0.37	2.98	5.89	14.08
Net Income Adjustment (NIA)								
1996-2002 ($1,000)	0.00	-59.50	-97.99	-408.15	-3.52	-121.60	-91.48	-3,582.16
Net Income Adjustment (NIA)								
1996-2002 (% Receipts)	0.00	-10.86	-15.61	-20.81	-0.68	-6.56	-11.94	-12.66
Cost to Receipts Ratio (%)								
1996-2002 Average	80.73	73.27	70.30	65.81	86.17	83.50	74.90	82.71
Govt Payments/Receipts (%)								
1996-2002 Average	3.86	3.58	4.87	2.88	6.11	4.49	0.00	0.00
Total Cash Receipts ($1000)								
1996	261.28	680.94	748.44	2,386.79	622.77	2,262.34	949.80	35,093.50
1997	253.96	644.88	731.25	2,326.33	586.92	2,154.19	917.30	33,878.37
1998	178.47	448.18	525.83	1,576.96	434.59	1,519.06	609.38	22,474.14
1999	190.56	475.57	563.99	1,714.00	462.76	1,635.06	654.54	24,155.38
2000	204.30	508.91	594.93	1,832.42	488.11	1,741.94	707.74	26,125.26
2001	211.26	525.83	607.85	1,897.05	497.94	1,790.86	740.49	27,343.07
2002	221.22	552.46	637.85	1,995.13	517.89	1,876.14	783.90	28,955.15
Net Cash Farm Income ($1000)								
1996	73.66	273.06	284.39	955.04	155.56	592.53	232.69	8,928.55
1997	71.47	212.18	274.11	941.05	129.04	533.75	293.65	8,815.41
1998	11.04	59.65	103.96	354.52	20.40	60.90	72.39	356.05
1999	28.06	100.97	147.10	520.58	50.95	200.62	148.84	3,150.94
2000	39.46	129.66	173.14	634.11	62.79	282.03	192.65	4,609.20
2001	40.70	142.52	179.30	683.92	62.22	299.42	218.20	5,413.57
2002	49.27	167.48	205.63	769.45	74.16	361.22	253.60	6,574.47
Prob. of a Cash Flow Deficit (%)								
1998	99	99	86	53	99	99	67	61
1999	91	75	43	31	93	69	21	22
2000	75	35	26	2	90	33	8	12
2001	73	35	26	2	89	40	5	7
2002	76	16	21	1	92	35	2	2
Ending Cash Reserves ($1000)								
1996	17.12	111.28	119.51	409.63	54.67	217.24	80.61	5,182.98
1997	33.17	165.69	230.14	769.99	71.24	352.83	198.24	10,327.07
1998	6.25	111.01	212.80	797.71	6.28	159.86	177.39	10,013.77
1999	-9.77	97.08	229.76	905.39	-42.40	92.57	229.17	12,066.51
2000	-11.95	117.38	273.39	1,178.48	-70.23	137.56	303.07	15,153.58
2001	-13.66	138.05	313.77	1,470.94	-96.41	191.40	390.86	18,742.32
2002	-13.07	184.56	371.94	1,828.94	-115.39	277.80	503.95	23,053.83
Prob. of Refinancing Deficits (%)								
1998	41	1	1	1	36	4	1	1
1999	66	2	1	1	79	27	1	1
2000	66	5	1	1	87	20	1	1
2001	62	5	1	1	85	20	1	1
2002	61	2	1	1	89	18	1	1
Nominal Net Worth ($1000)								
1996	450.97	1,120.60	1,486.88	3,494.16	1,116.15	2,967.94	871.60	18,023.49
1997	481.24	1,218.50	1,657.99	4,035.56	1,190.99	3,268.73	991.97	22,797.46
1998	441.15	1,149.51	1,639.00	3,934.95	1,134.62	3,051.53	869.93	18,098.14
1999	452.24	1,211.66	1,743.52	4,313.69	1,160.94	3,206.89	951.76	20,725.53
2000	468.18	1,285.36	1,857.21	4,745.97	1,186.71	3,402.72	1,053.44	24,576.62
2001	479.48	1,355.10	1,959.39	5,188.60	1,213.87	3,602.18	1,162.30	28,593.81
2002	494.31	1,448.69	2,076.71	5,672.45	1,238.20	3,797.40	1,295.65	33,495.05
Prob. of Losing Real Net Worth (%)								
1998	89	63	1	1	74	62	65	58
1999	82	35	1	1	59	36	40	35
2000	73	22	1	1	54	19	21	18
2001	69	12	1	1	54	15	6	4
2002	71	4	1	1	58	10	1	2

Figure 38. Hog Farms



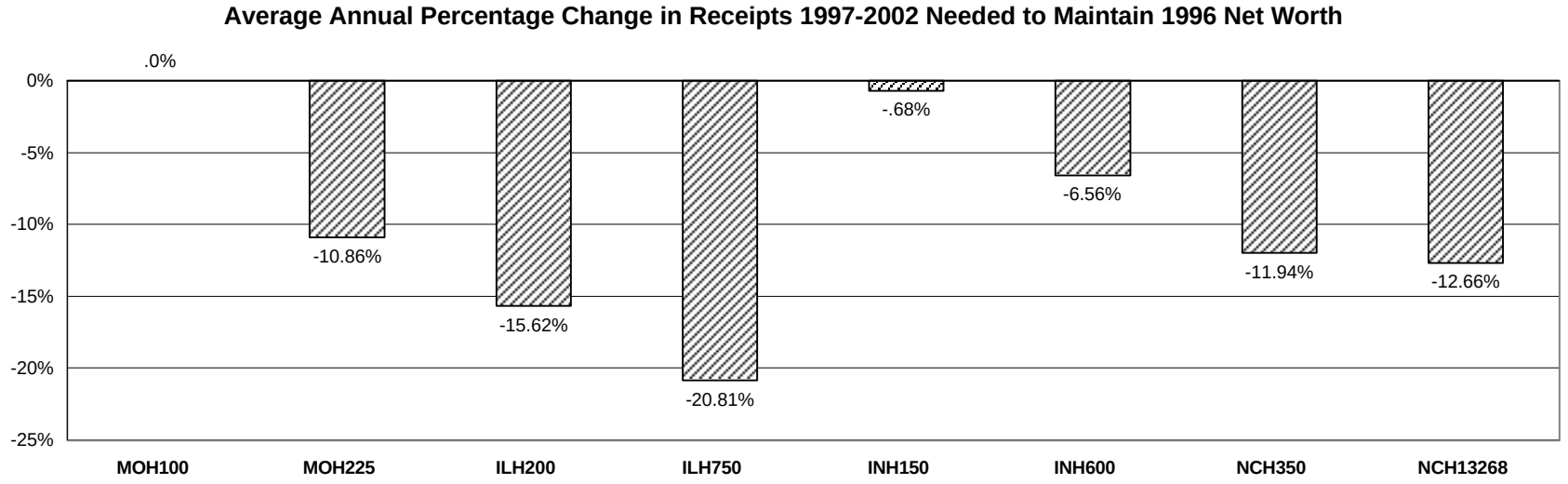


Figure 39. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Hog Farms

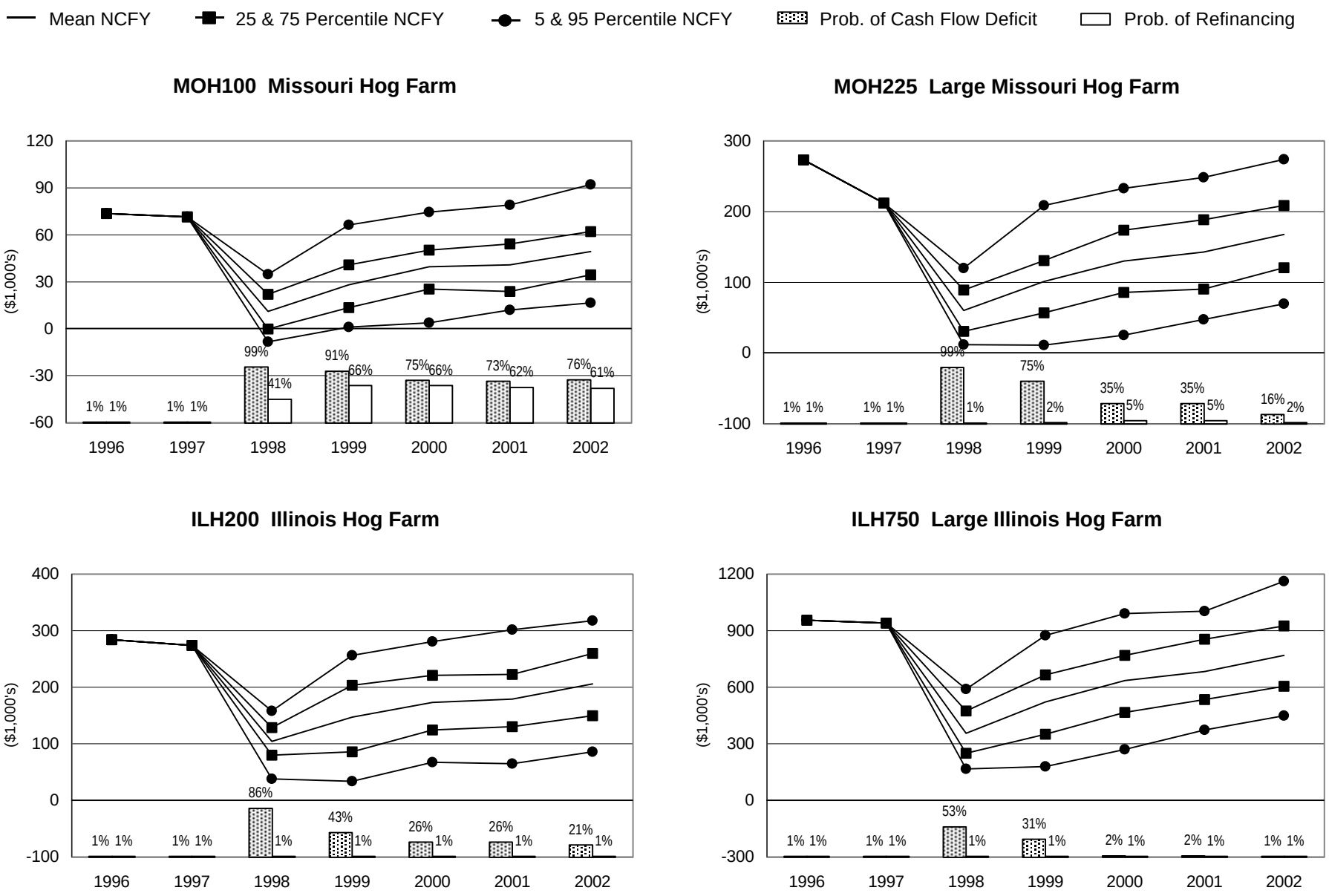
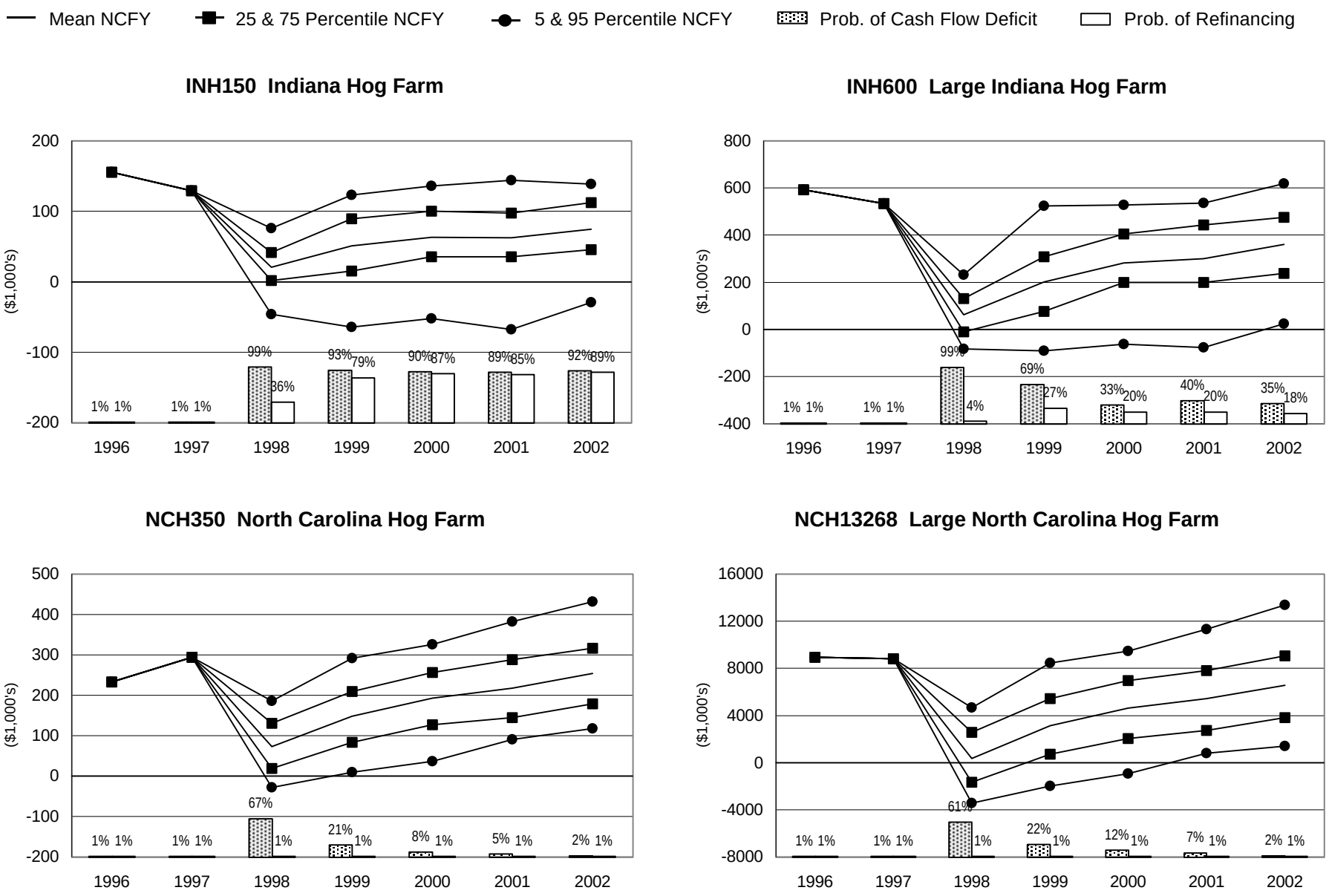


Figure 40. Net Cash Farm Income and Probabilities of a Cash Flow Deficit and Refinancing: Hog Farms



APPENDIX A:

CHARACTERISTICS OF REPRESENTATIVE FARMS

1999 CHARACTERISTICS OF PANEL FARMS PRODUCING FEED GRAINS

IAG950 A 950-acre Northwestern Iowa (Webster County) moderate size grain farm that plants 475 acres of corn and 475 acres of soybeans. The farm receives 57 percent of its receipts from corn.

IAG2200 A 2,200-acre Northwestern Iowa (Webster County) large grain farm that plants 1,100 acres of corn and 1,100 acres of soybeans. The farm generates 59 percent of its receipts from corn.

NEG800 A 800-acre South Central Nebraska (Phelps County) moderate size 100 percent irrigated grain farm that plants 770 acres of corn, and 30 acres of alfalfa. The farm also has 100 breeding cows. The farm generates 87 percent of its receipts from corn.

NEG1575 A 1,575-acre South Central Nebraska (Phelps County) large 100 percent irrigated grain farm that plants 1,575 acres of corn. The farm generates about 97 percent of its receipts from corn.

MOCG1500 A 1,500-acre Central Missouri (Carroll County) moderate size grain farm with 250 acres of wheat, 550 acres of corn, and 700 acres of soybeans. This farm is located in the Missouri river bottom and supplies feed to the livestock producers in the region at a premium to other areas of Missouri. Corn generates about 46 percent of the farm's receipts.

MOCG3000 A 3,000-acre Central Missouri (Carroll County) large grain farm with 300 acres of wheat, 1,350 acres of corn, and 1,350 acres of soybeans. This farm is located in the Missouri river bottom and supplies feed to the livestock producers in the region at a premium to other areas of Missouri. The farm generates about 57 percent of its total revenue from corn.

MONG1200 A 1,200-acre Northern Missouri (Nodaway County) diversified grain farm with 525 acres of corn, 525 acres of soybeans, and 150 acres of hay. The farm also has 150 breeding cows and 80 breeding sows. The farm generates about 46 percent of its total revenue from corn and soybeans, 31 percent from hogs, and 22 percent from cattle.

Appendix Table A1. Characteristics of Panel Farms Producing Feed Grains.

	IAG950	IAG2200	NEG800	NEG1575	MOCG1500	MOCG3000	MONG1200
County	Webster	Webster	Phelps	Phelps	Carroll	Carroll	Nodaway
Total Cropland	950	2,200	800	1,575	1,500	3,000	1,200
Acres Owned	320	320	400	1,040	750	1,500	600
Acres Leased	630	1,880	400	535	750	1,500	600
Pastureland							
Acres Owned	0	0	250	0	0	0	300
Acres Leased	0	0	250	0	0	0	300
Assets ($1000)							
Total	1,329	1,732	1,479	3,017	2,060	4,023	1,724
Real Estate	1,012	1,026	1,037	2,339	1,460	2,802	1,214
Machinery	238	485	375	678	384	636	341
Other & Livestock	79	221	67	0	217	585	169
Debt/Asset Ratios							
Total	0.16	0.16	0.28	0.19	0.15	0.14	0.22
Intermediate	0.16	0.15	0.54	0.30	0.15	0.10	0.37
Long Run	0.16	0.16	0.17	0.16	0.15	0.15	0.16
Number of Livestock							
Beef Cows	0	0	100	0	0	0	150
Sows	0	0	0	0	0	0	80
1999 Gross Receipts ($1,000)*							
Total	256.6	465.7	320.9	642.9	305.9	682.0	387.9
Cattle	0.0	0.0	42.0	0.0	0.0	0.0	85.2
	0.00%	0.00%	13.10%	0.00%	0.00%	0.00%	22.00%
Hogs	0.0	0.0	0.0	0.0	0.0	0.0	120.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	30.90%
Corn	147.1	273.9	278.9	622.9	140.9	386.0	79.5
	57.30%	58.80%	86.90%	96.90%	46.10%	56.60%	20.50%
Wheat	0.0	0.0	0.0	0.0	34.1	45.0	0.0
	0.00%	0.00%	0.00%	0.00%	11.10%	6.60%	0.00%
Soybeans	109.5	191.7	0.0	0.0	121.0	251.0	97.9
	42.70%	41.20%	0.00%	0.00%	39.50%	36.80%	25.20%
Hay	0.0	0.0	0.0	0.0	0.0	0.0	5.4
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.40%
Other Receipts	0.0	0.0	0.0	20.0	10.0	0.0	0.0
	0.00%	0.00%	0.00%	3.10%	3.30%	0.00%	0.00%
1999 Planted Acres**							
Total	950.0	2,200.0	800.0	1,575.0	1,500.0	3,000.0	1,200.0
Corn	475.0	1,100.0	770.0	1,575.0	550.0	1,350.0	525.0
	50.00%	50.00%	96.30%	100.00%	36.70%	45.00%	43.80%
Wheat	0.0	0.0	0.0	0.0	250.0	300.0	0.0
	0.00%	0.00%	0.00%	0.00%	16.70%	10.00%	0.00%
Soybeans	475.0	1,100.0	0.0	0.0	700.0	1,350.0	525.0
	50.00%	50.00%	0.00%	0.00%	46.70%	45.00%	43.80%
Hay	0.0	0.0	30.0	0.0	0.0	0.0	150.0
	0.00%	0.00%	3.80%	0.00%	0.00%	0.00%	12.50%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

1999 CHARACTERISTICS OF PANEL FARMS PRODUCING FEED GRAINS (CONTINUED)

TXNP1600 a 1,600-acre Northern High Plains of Texas (Moore County) moderate size, 100 percent irrigated, grain farm with 642 acres of wheat, 280 acres of sorghum, 470 acres of corn, and 208 acres fallow. The farm generates 70 percent of its total receipts from feed grains.

TXNP5500 A 5,500-acre Northern High Plains of Texas (Moore County) large, 85 percent irrigated, grain farm with 1,675 acres of irrigated wheat, 800 acres of dryland wheat in the corners of all pivot irrigated fields, 275 acres of irrigated sorghum, 2,200 acres of irrigated corn, and 550 acres fallow. The farm generates about 72 percent of its receipts from feed grains.

TNG1300 a 1,300-acre Western Tennessee (Henry County) grain and soybean farm with 400 acres of corn, 500 acres of soybeans, 200 acres of wheat, and 250 acres of hay. The farm generates about 77 percent of its receipts from corn and soybeans.

TNG2800 a 2,800-acre Western Tennessee (Henry County) grain and soybean farm with 1,200 acres of corn, 1,200 acres of soybeans and 600 acres of wheat. The farm generates about 63 percent of its receipts from corn and soybeans.

SCG1500 A 1,500-acre South Carolina (Clarendon County) moderate size grain farm with 750 acres of double cropped wheat and soybeans, 600 acres of corn, and 150 acres of full season soybeans. The farm generates about 69 percent of its total receipts from corn and soybeans. This farm enjoys high returns on double cropped acreage but timing will not allow more than 750 acres.

SCG3500 a 3,500-acre South Carolina (Clarendon County) large grain farm with 2020 acres of double crop wheat and soybeans, 350 acres of cotton, 1,130 acres of corn. This farm enjoys high returns on double cropped acreage but timing is a limiting factor. The farm generates 59 percent of its receipts from corn and soybeans.

Appendix Table A2. Characteristics of Panel Farms Producing Feed Grains.

	TXNP1600	TXNP5500	TNG1300	TNG2800	SCG1500	SCG3500
County	Moore	Moore	Henry	Henry	Clarendon	Clarendon
Total Cropland	1,600	5,500	900	2,400	1,500	3,500
Acres Owned	320	1,100	207	482	500	1,400
Acres Leased	1,280	4,400	693	1,918	1,000	2,100
Pastureland						
Acres Owned	0	0	57	0	300	1,400
Acres Leased	0	0	190	0	0	0
Assets ($1000)						
Total	629	2,498	706	1,737	1,031	3,607
Real Estate	202	706	416	901	617	2,131
Machinery	344	1,456	250	688	414	1,018
Other & Livestock	84	336	39	148	0	458
Debt/Asset Ratios						
Total	0.16	0.14	0.24	0.17	0.25	0.19
Intermediate	0.15	0.14	0.39	0.20	0.37	0.22
Long Run	0.16	0.14	0.14	0.14	0.17	0.16
Number of Livestock						
Beef Cows	0	0	50	0	0	0
1999 Gross Receipts ($1,000)*						
Total	300.9	1,123.7	257.5	643.0	474.3	1,297.4
Cattle	0.0	0.0	20.8	0.0	0.0	0.0
	0.00%	0.00%	8.10%	0.00%	0.00%	0.00%
Corn	152.9	778.1	94.5	317.2	162.0	347.4
	50.80%	69.20%	36.70%	49.30%	34.20%	26.80%
Sorghum	60.0	58.3	0.0	0.0	0.0	0.0
	19.90%	5.20%	0.00%	0.00%	0.00%	0.00%
Wheat	88.0	272.3	23.4	85.1	149.5	335.6
	29.30%	24.20%	9.10%	13.20%	31.50%	25.90%
Soybeans	0.0	0.0	102.9	240.7	162.8	415.8
	0.00%	0.00%	40.00%	37.40%	34.30%	32.00%
Cotton	0.0	0.0	0.0	0.0	0.0	179.0
	0.00%	0.00%	0.00%	0.00%	0.00%	13.80%
Hay	0.0	0.0	8.9	0.0	0.0	0.0
	0.00%	0.00%	3.50%	0.00%	0.00%	0.00%
Other Receipts	0.0	15.0	7.0	0.0	0.0	0.0
	0.00%	1.30%	2.70%	0.00%	0.00%	0.00%
1999 Planted Acres**						
Total	1,600.0	5,500.0	1,350.0	3,000.0	2,250.0	5,169.5
Corn	470.0	2,200.0	400.0	1,200.0	600.0	1,130.5
	29.40%	40.00%	29.60%	40.00%	26.70%	21.90%
Sorghum	280.0	275.0	0.0	0.0	0.0	0.0
	17.50%	5.00%	0.00%	0.00%	0.00%	0.00%
Wheat	642.0	2,475.0	200.0	600.0	750.0	1,669.5
	40.10%	45.00%	14.80%	20.00%	33.30%	32.30%
Soybeans	0.0	0.0	500.0	1,200.0	900.0	2,019.5
	0.00%	0.00%	37.00%	40.00%	40.00%	39.10%
Cotton	0.0	0.0	0.0	0.0	0.0	350.0
	0.00%	0.00%	0.00%	0.00%	0.00%	6.80%
Fallow	208.0	550.0	0.0	0.0	0.0	0.0
	13.00%	10.00%	0.00%	0.00%	0.00%	0.00%
Hay	0.0	0.0	250.0	0.0	0.0	0.0
	0.00%	0.00%	18.50%	0.00%	0.00%	0.00%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

1999 CHARACTERISTICS OF PANEL FARMS PRODUCING WHEAT

WAW1500 A 1,500-acre Southeastern Washington (Whitman County) moderate size grain farm that plants 750 acres of wheat, 300 acres of barley, and 450 acres of peas. Disease problems require a rotation that includes a minimum amount of barley and peas in order to maintain wheat yields. The farm generates 65 percent of its receipts from wheat.

WAW4250 A 4,250-acre Southeastern Washington (Whitman County) large size grain farm that is harvesting 3,188 acres of wheat, 425 acres of Barley, and 638 acres of Peas. Disease problems require a rotation that includes a minimum amount of barley and peas in order to maintain wheat yields. Winter and spring wheat account for 85 percent of receipts.

NDW1760 A 1,760-acre South Central North Dakota (Barnes County) moderate size grain farm that has 920 acres of wheat, 400 acres of barley, and 440 acres of sunflowers. Rotation and disease problems will not allow more than 25 percent of the acres to be planted to sunflowers. The farm receives about 55 percent of receipts from wheat.

NDW4600 A 4,600-acre South Central North Dakota (Barnes County) large grain farm that plants 2,400 acres of wheat, 1,200 acres of barley, and 1,000 acres of sunflowers. Rotation and disease problems will not allow more than 25 percent of the acres to be planted to sunflowers. Wheat accounts for 50 percent of the farms total gross receipts.

KSSC1495 A 1,495-acre South Central Kansas (Sumner County) moderate size grain farm that plants 1,200 acres of wheat, and 295 acres of grain sorghum. The farm generates 79 percent of its receipts from wheat.

KSSC3080 A 3,080-acre South Central Kansas (Sumner County) large grain farm harvesting 2,464 acres of wheat, 462 acres of grain sorghum, and 154 acres of hay. The farm also has 67 breeding cows. The farm generates 77 percent of its receipts from wheat.

KSNW2325 A 2,325-acre North Western Kansas (Thomas County) moderate size grain farm that plants 900 acres of wheat, 225 acres of grain sorghum, 225 acres of corn and has 900 acres of fallow. The farm also has 100 breeding cows. The farm generates 48 percent of its receipts from wheat.

KSNW4300 A 4,300-acre North Western Kansas (Thomas County) large grain farm harvesting 2,000 acres of wheat, 250 acres of sorghum, 490 acres of corn, 75 acres of hay, and 1485 acres of fallow. The farm also has 100 breeding cows. The farm generates 52 percent of its receipts from wheat.

COW2700 A 2,700-acre Northeast Colorado (Washington County) moderate size grain farm that plants 1,100 acres of wheat, 400 acres of millet, and 120 acres of corn, and will leave 810 acres fallow. This farm is using a smaller fallow rotation than its larger counterpart thus allowing for only 680 less harvested acres per year. The farm generates 69 percent of its receipts from wheat.

COW4000 A 4,000-acre Northeast Colorado (Washington County) large size grain farm that plants 1,700 acres of wheat, and 600 acres of millet, and will leave 1700 acres in fallow. The 50/50 rotation on wheat and fallow makes the harvested acres on this farm closer to the harvested acres on the moderate farm. Wheat produces 81 percent of the farms gross revenue.

Appendix Table A3. Characteristics of Panel Farms Producing Wheat.

	WAW1500	WAW4250	NDW1760	NDW4600	KSSC1495	KSSC3080	KSNW2325	KSNW4300	COW2700	COW4000
County	Whitman	Whitman	Barnes	Barnes	Sumner	Sumner	Thomas	Thomas	Washington	Washington
Total Cropland	1,500	4,250	1,760	4,600	1,495	3,080	2,325	4,300	2,700	4,000
Acres Owned	750	1,700	400	1,840	498	330	930	1,075	1,650	2,000
Acres Leased	750	2,550	1,360	2,760	997	2,750	1,395	3,225	1,050	2,000
Pastureland										
Acres Owned	0	0	0	0	0	25	500	500	0	0
Acres Leased	0	0	0	0	0	775	500	500	0	0
Assets ($1000)										
Total	1,448	4,241	654	2,230	663	956	1,224	1,597	1,205	1,679
Real Estate	1,003	2,489	231	1,045	299	363	642	782	806	1,033
Machinery	381	1,064	371	987	364	539	320	456	287	458
Other & Livestock	65	688	52	198	0	54	263	359	112	188
Debt/Asset Ratios										
Total	0.22	0.18	0.23	0.16	0.54	0.24	0.12	0.11	0.17	0.15
Intermediate	0.37	0.22	0.26	0.15	0.86	0.27	0.08	0.06	0.20	0.15
Long Run	0.16	0.15	0.16	0.17	0.16	0.18	0.15	0.16	0.15	0.15
Number of Livestock										
Beef Cows	0	0	0	0	0	67	100	100	0	0
1999 Gross Receipts ($1,000)*										
Total	313.0	873.6	229.9	688.6	136.6	345.1	189.2	387.6	184.3	296.9
Cattle	0.0	0.0	0.0	0.0	0.0	30.0	39.2	39.2	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	8.70%	20.70%	10.10%	0.00%	0.00%
Wheat	202.6	738.6	114.7	343.3	107.2	266.8	91.0	202.2	126.5	240.1
	64.70%	84.60%	49.90%	49.90%	78.50%	77.30%	48.10%	52.20%	68.70%	80.90%
Sorghum	0.0	0.0	0.0	0.0	29.4	48.0	23.7	29.9	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	21.50%	13.90%	12.50%	7.70%	0.00%	0.00%
Barley	49.2	67.3	48.8	173.9	0.0	0.0	0.0	0.0	0.0	0.0
	15.70%	7.70%	21.20%	25.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Corn	0.0	0.0	0.0	0.0	0.0	0.0	34.6	116.4	12.2	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.30%	30.00%	6.60%	0.00%
Dry Peas	61.2	67.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	19.60%	7.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sunflowers	0.0	0.0	61.4	166.4	0.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	26.70%	24.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Millet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	41.3	56.8
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	22.40%	19.10%
Hay	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.10%	0.00%	0.00%	0.00%	0.00%
Other Receipts	0.0	0.0	5.0	5.0	0.0	0.0	0.7	0.0	4.3	0.0
	0.00%	0.00%	2.20%	0.70%	0.00%	0.00%	0.40%	0.00%	2.30%	0.00%
1999 Planted Acres**										
Total	1,500.0	4,250.0	1,760.0	4,600.0	1,495.0	3,080.0	2,250.0	4,300.0	2,430.0	4,000.0
Wheat	750.0	3,187.5	920.0	2,400.0	1,200.0	2,464.0	900.0	2,000.0	1,100.0	1,700.0
	50.00%	75.00%	52.30%	52.20%	80.30%	80.00%	40.00%	46.50%	45.30%	42.50%
Sorghum	0.0	0.0	0.0	0.0	295.0	462.0	225.0	250.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	19.70%	15.00%	10.00%	5.80%	0.00%	0.00%
Barley	300.0	425.0	400.0	1,200.0	0.0	0.0	0.0	0.0	0.0	0.0
	20.00%	10.00%	22.70%	26.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Corn	0.0	0.0	0.0	0.0	0.0	0.0	225.0	490.0	120.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%	11.40%	4.90%	0.00%
Dry Peas	450.0	637.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	30.00%	15.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sunflowers	0.0	0.0	440.0	1,000.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	25.00%	21.70%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Millet	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	400.0	600.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	16.50%	15.00%
Hay	0.0	0.0	0.0	0.0	0.0	154.0	0.0	75.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	0.00%	1.70%	0.00%	0.00%
Fallow	0.0	0.0	0.0	0.0	0.0	0.0	900.0	1,485.0	810.0	1,700.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	40.00%	34.50%	33.30%	42.50%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total

1999 CHARACTERISTICS OF PANEL FARMS PRODUCING COTTON

CAC2000 A 2000-acre Central San Joaquin Valley California (Kings County) moderate size cotton farm that plants 1100 acres of cotton, 300 acres of wheat, 300 acres of corn and 300 acres of hay. The farm generates 66 percent of its gross income from cotton.

CAC6000 A 6000-acre Central San Joaquin Valley California (Kings County) large cotton farm harvesting 3,000 acres of cotton, 1,500 acres of vegetables, 720 acres of wheat, 240 acres of corn, and 300 acres of hay. Vegetables on this farm vary from year to year depending on the price of the particular vegetable, however, the returns to this 1500 acres remain relatively stable over time. Cotton generates about 70 percent of this farm's receipts.

TXSP1682 A 1,682-acre Texas Southern High Plains (Dawson County) moderate size cotton farm. The farm plants 961 acres of cotton (886 dryland and 75 irrigated), 95 acres of peanuts, and has 183 acres in CRP. This farm is just now starting to adopt the irrigation practices of its larger counterpart. The farm generates 81 percent of its receipts from cotton.

TXSP3697 A 3,697-acre Texas Southern High Plains (Dawson County) large cotton farm. The farm plants 2,822 acres of cotton (2,094 dryland and 728 irrigated), 128 acres of peanuts and has 214 acres in CRP. Cotton generates 93 percent of this farms receipts.

TXRP2065 A 2,065-acre Texas Rolling Plains (Jones County) cotton farm that plants 1,240 acres of cotton, and 825 acres of wheat. The farm also has 25 breeding cows and uses the wheat acreage to graze the cattle in the winter. About 67 percent of this farms receipts are derived from cotton. This farm represents the consolidation of two previous representative farms.

TXBL1200 A 1,200-acre Texas Blacklands (Williamson County) moderate size cotton and grain farm with 400 acres of cotton, 350 acres of sorghum, 350 acres of corn, and 100 acres of wheat. This farm also has 50 breeding cows which are pastured on rented land that cannot be cropped. Cotton generates 43 percent of the farms receipts.

TXCB1700 A 1,700-acre Texas Coastal Bend (San Patricio County) cotton farm with 765 acres of cotton and 935 acres of grain sorghum. Severe disease problems force this farm to plant at a minimum 50 percent of the land to grain sorghum. About 62 percent of this farm's receipts are cotton receipts.

TNC1675 A 1,675-acre Southwest Tennessee (Fayette County) cotton farm with 838 acres of cotton, 670 acres of soybeans, and 168 acres of corn. The farm generates about 70 percent of its cash receipts from cotton.

TNC3800 A 3,800-acre Southwest Tennessee (Haywood County) cotton farm with 2,508 acres of cotton, 760 acres of soybeans, 300 acres of wheat, and 532 acres of corn. The farm generates about 79 percent of its cash receipts from cotton.

Appendix Table A4. Characteristics of Panel Farms Producing Cotton.

	CAC2000	CAC6000	TXSP1682	TXSP3697	TXRP2065	TXBL1200	TXCB1700	TNC1675	TNC3800
County	Kings	Kings	Dawson	Dawson	Jones	Williamson	San Patricio	Fayette	Haywood
Total Cropland	2,000	6,000	1,682	3,697	2,500	1,200	1,700	1,675	3,800
Acres Owned	1,000	5,400	653	705	400	150	300	225	1,520
Acres Leased	1,000	600	1,029	2,992	2,100	1,050	1,400	1,450	2,280
Pastureland									
Acres Owned	0	0	0	0	0	30	0	0	0
Acres Leased	0	0	0	0	500	210	0	0	0
Assets ($1000)									
Total	4,935	16,808	653	1,316	473	573	583	890	4,473
Real Estate	3,591	13,243	325	408	206	248	310	579	2,840
Machinery	843	1,916	329	908	253	297	273	311	1,543
Other & Livestock	501	1,648	0	0	14	29	0	0	90
Debt/Asset Ratios									
Total	0.13	0.14	0.33	0.27	0.22	0.21	0.27	0.14	0.18
Intermediate	0.08	0.09	0.51	0.32	0.27	0.26	0.40	0.20	0.24
Long Run	0.16	0.15	0.14	0.15	0.16	0.16	0.16	0.10	0.15
Number of Livestock									
Beef Cows	0	0	0	0	25	50	0	0	0
1999 Gross Receipts ($1,000)*									
Total	1,756.5	5,058.1	279.3	904.7	212.0	222.7	386.8	518.7	1,285.0
Cattle	0.0	0.0	0.0	0.0	9.5	12.1	0.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	4.50%	5.40%	0.00%	0.00%	0.00%
Cotton	1,159.2	3,562.1	225.0	840.3	141.3	95.6	241.2	363.6	1,016.1
	66.00%	70.40%	80.60%	92.90%	66.60%	42.90%	62.40%	70.10%	79.10%
Sorghum	0.0	0.0	0.0	0.0	0.0	39.3	112.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	17.70%	28.90%	0.00%	0.00%
Wheat	98.9	291.0	0.0	0.0	42.8	8.9	0.0	0.0	49.9
	5.60%	5.80%	0.00%	0.00%	20.20%	4.00%	0.00%	0.00%	3.90%
Soybeans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	112.9	99.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	21.80%	7.70%
Corn	175.5	119.8	0.0	0.0	0.0	47.8	0.0	42.2	112.9
	10.00%	2.40%	0.00%	0.00%	0.00%	21.50%	0.00%	8.10%	8.80%
Hay	322.8	311.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	18.40%	6.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Additional Peanuts	0.0	0.0	44.0	55.9	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	15.80%	6.20%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Receipts	0.0	774.0	10.3	8.6	0.0	0.0	0.0	0.0	7.0
	0.00%	15.30%	3.70%	0.90%	0.00%	0.00%	0.00%	0.00%	0.50%
1999 Planted Acres**									
Total	2,000.0	5,760.0	1,239.0	3,164.0	2,065.0	1,200.0	1,700.0	1,675.0	4,100.0
Cotton	1,100.0	3,000.0	961.0	2,822.0	1,240.0	400.0	765.0	837.5	2,508.0
	55.00%	52.10%	77.60%	89.20%	60.00%	33.30%	45.00%	50.00%	61.20%
Sorghum	0.0	0.0	0.0	0.0	0.0	350.0	935.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	29.20%	55.00%	0.00%	0.00%
Wheat	300.0	720.0	0.0	0.0	825.0	100.0	0.0	0.0	300.0
	15.00%	12.50%	0.00%	0.00%	40.00%	8.30%	0.00%	0.00%	7.30%
Soybeans	0.0	0.0	0.0	0.0	0.0	0.0	0.0	670.0	760.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	40.00%	18.50%
Corn	300.0	240.0	0.0	0.0	0.0	350.0	0.0	167.5	532.0
	15.00%	4.20%	0.00%	0.00%	0.00%	29.20%	0.00%	10.00%	13.00%
Hay	300.0	300.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	15.00%	5.20%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Additional Peanuts	0.0	0.0	95.0	128.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	7.70%	4.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Vegetables	0.0	1,500.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.00%	26.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
CRP	0.0	0.0	183.0	214.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	14.80%	6.80%	0.00%	0.00%	0.00%	0.00%	0.00%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

1999 CHARACTERISTICS OF PANEL FARMS PRODUCING RICE

CAR424 A 424-acre Sacramento Valley California (Sutter and Yuba Counties) moderate size rice farm that plants 400 acres of rice. The farm generates 95 percent of its gross income from rice.

CAR1365 A 1,365-acre Sacramento Valley California (Sutter and Yuba Counties) large rice farm that plants 1,265 acres of rice. The farm generates about 98 percent of its gross income from rice.

TXR2118 A 2,118-acre West of Houston, Texas (Wharton County) moderate size rice farm that harvests 600 acres of first crop rice, and 510 acres of ratoon rice. The farm receives 99 percent of its gross receipts from rice.

TXR3750 A 3,750-acre West of Houston, Texas (Wharton County) large rice farm that harvests 1,500 acres of first-crop rice, 1,275 acres of ratoon rice, and 200 acres of hay. The farm also has 200 breeding cows. About 95 percent of the farm's gross receipts are from rice.

MOR1900 A 1,900-acre Southeastern Missouri (Butler County) moderate size rice farm with 616 acres of rice, 650 acres of soybeans, and 633 acres of corn. Rice accounts for 53 percent of this farms receipts.

MOR4000 A 4,000-acre Southeastern Missouri (Butler County) large rice farm with 1,710 acres of rice, 800 acre soybeans, 1,250 acres of corn, and 240 acres of cotton. About 60 percent of this farm's receipts are generated from rice.

ARR2645 A 2,645-acre Arkansas (Arkansas County) moderate size rice farm with 175 acres of medium grain rice, 512 acres of long grain rice, 958 acres of soybeans, 230 acres of corn, and 450 acres of wheat. About of 55 percent of the farms receipts come from rice.

ARR3400 A 3,400-acre Arkansas (Arkansas County) moderate size rice farm with 325 acres of medium grain rice, 975 acres of long grain rice, 1,700 acres of soybeans, and 500 acres of wheat. About of 67 percent of the farms receipts come from rice.

LAR1100 A 1,100-acre Louisiana (Jefferson Davis, Acadia, and Vermilion Parishes) moderate size rice farm harvesting 189 acres of medium grain rice, 351 acres of long grain rice, 362 acres of soybeans, and 198 acres of fallow. About 86 percent of this farm's receipts are generated by rice.

Appendix Table A5. Characteristics of Panel Farms Producing Rice.

	CAR424	CAR1365	TXR2118	TXR3750	MOR1900	MOR4000	ARR2645	ARR3400	LAR1100
County	Sutter	Sutter	Wharton	Wharton	Butler	Butler	Arkansas	Arkansas	Acadia
Total Cropland	424	1,365	2,118	3,750	1,900	4,000	2,645	3,400	1,100
Acres Owned	212	515	318	1,688	380	2,000	815	1,020	50
Acres Leased	212	850	1,800	2,062	1,520	2,000	1,830	2,380	1,050
Pastureland									
Acres Owned	0	0	0	200	0	0	0	0	0
Assets ($1000)									
Total	843	2,262	720	2,483	1,630	6,479	2,142	3,603	398
Real Estate	488	1,456	215	1,243	901	4,260	1,152	1,923	82
Machinery	286	569	296	699	729	1,979	625	1,114	273
Other & Livestock	68	237	209	541	0	240	366	566	43
Debt/Asset Ratios									
Total	0.20	0.14	0.08	0.14	0.26	0.23	0.13	0.15	0.26
Intermediate	0.25	0.07	0.05	0.12	0.38	0.38	0.11	0.15	0.28
Long Run	0.17	0.17	0.16	0.16	0.16	0.16	0.15	0.16	0.16
Number of Livestock									
Beef Cows	0	0	0	200	0	0	0	0	0
1999 Gross Receipts ($1,000)*									
Total	348.8	1,084.5	468.4	1,347.4	576.6	1,725.5	654.5	906.8	303.7
Cattle	0.0	0.0	0.0	50.3	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	0.00%	3.70%	0.00%	0.00%	0.00%	0.00%	0.00%
Medium Grain Rice	330.6	1,064.9	0.0	0.0	0.0	0.0	105.3	152.8	91.5
	94.80%	98.20%	0.00%	0.00%	0.00%	0.00%	16.10%	16.90%	30.10%
Long Grain Rice	0.0	0.0	461.4	1,277.2	302.9	1,029.1	254.2	451.9	169.7
	0.00%	0.00%	98.50%	94.80%	52.50%	59.60%	38.80%	49.80%	55.90%
Soybeans	0.0	0.0	0.0	0.0	96.1	147.4	158.0	239.2	39.5
	0.00%	0.00%	0.00%	0.00%	16.70%	8.50%	24.10%	26.40%	13.00%
Corn	0.0	0.0	0.0	0.0	177.7	422.9	59.6	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	30.80%	24.50%	9.10%	0.00%	0.00%
Wheat	0.0	0.0	0.0	0.0	0.0	0.0	73.4	62.9	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	11.20%	6.90%	0.00%
Cotton	0.0	0.0	0.0	0.0	0.0	126.2	0.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	7.30%	0.00%	0.00%	0.00%
Other Receipts	18.3	19.6	7.0	20.0	0.0	0.0	4.0	0.0	3.0
	5.20%	1.80%	1.50%	1.50%	0.00%	0.00%	0.60%	0.00%	1.00%
1999 Planted Acres**									
Total	400.0	1,265.0	1,110.2	2,975.0	1,899.0	4,000.0	2,325.0	3,500.0	1,100.0
Medium Grain Rice	400.0	1,265.0	0.0	0.0	0.0	0.0	175.0	325.0	189.1
	100.00%	100.00%	0.00%	0.00%	0.00%	0.00%	7.50%	9.30%	17.20%
Long Grain Rice	0.0	0.0	1,110.2	2,775.0	616.0	1,710.0	512.0	975.0	350.9
	0.00%	0.00%	100.00%	93.30%	32.40%	42.80%	22.00%	27.90%	31.90%
Soybeans	0.0	0.0	0.0	0.0	650.0	800.0	958.0	1,700.0	361.9
	0.00%	0.00%	0.00%	0.00%	34.20%	20.00%	41.20%	48.60%	32.90%
Corn	0.0	0.0	0.0	0.0	633.0	1,250.0	230.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	33.30%	31.30%	9.90%	0.00%	0.00%
Wheat	0.0	0.0	0.0	0.0	0.0	0.0	450.0	500.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	19.40%	14.30%	0.00%
Cotton	0.0	0.0	0.0	0.0	0.0	240.0	0.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	6.00%	0.00%	0.00%	0.00%
Hay	0.0	0.0	0.0	200.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	0.00%	6.70%	0.00%	0.00%	0.00%	0.00%	0.00%
Fallow	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	198.1
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	18.00%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

1999 CHARACTERISTICS OF PANEL FARMS PRODUCING MILK

CAD1710 A 1,710-cow Central California (Tulare County) large dairy farm that produces 21,800 pounds of milk per cow. The farm plants 200 acres of hay and 325 acres of silage for which it employs custom harvesting. Milk receipts generate 93 percent of all receipts.

NMD2000 A 2,000-cow Southern New Mexico (Dona Anna and Chaves County) large dairy farm that averages 22,400 pounds per cow. Rather than plant any crops, this farm purchased all commodities necessary for blending its own total mixed ration. Milk sales account for 93 percent of cash receipts.

WAD185 A 185-cow Northern Washington (Whatcom County) moderate size dairy farm that produces 25,500 pounds of milk per cow. The farm plants 115 acres of silage and generates 97 percent of its receipts from milk.

WAD850 A 850-cow Northern Washington (Whatcom County) large dairy farm that produces 23,500 pounds of milk per cow. The farm plants 505 acres of silage and generates 96 percent of its receipts from milk.

IDD500 A 500-cow Idaho (Twin Falls County) moderate size dairy farm that produces 21,000 pounds of milk per cow. The farm plants 120 acres of hay and 183 acres of silage. Milk is 88 percent of the farms gross income.

IDD1800 A 1,800-cow Idaho (Twin Falls County) large dairy farm that produces 21,000 pounds of milk per cow. The farm plants 156 acres of hay and 398 acres of silage. Milk is 92 percent of the farms gross income.

TXCD400 A 400-cow Central Texas (Erath County) moderate size dairy farm that produces 16,100 pounds of milk per cow. The farm plants 120 acres of hay and 183 acres of silage. Milk is 93 percent of the farms gross income.

TXCD825 A 825-cow Central Texas (Erath County) large dairy farm that produces 19,200 pounds of milk per cow. The farm plants 430 acres for silage, 20 acres of haylage, and milk accounts for 94 percent of receipts.

TXED210 A 210-cow East Texas (Hopkins County) moderate size dairy farm that produces 16,000 pounds of milk per cow. The farm plants 195 acres of hay and generates 87 percent of its receipts from milk.

TXED650 A 650-cow East Texas (Lamar County) large dairy farm that produces 17,000 pounds of milk per cow. The farm plants 140 acres of hay and 360 acres of silage. The farm generates 91 percent of its receipts from milk.

Appendix Table A6. Characteristics of Panel Farms Producing Milk.

	CAD1710	NMD2000	WAD185	WAD850	IDD500	IDD1800	TXCD400	TXCD825	TXED210	TXED650
County	Tulare	Dona Ana	Whatcom	Whatcom	Twin Falls	Twin Falls	Erath	Erath	Hopkins	Lamar
Total Cropland	528	300	120	505	80	620	300	250	250	500
Acres Owned	528	300	60	250	80	620	150	250	200	500
Acres Leased	0	0	60	255	0	0	150	0	50	0
Pastureland										
Acres Owned	0	0	0	0	0	0	0	250	25	300
Acres Leased	0	0	0	0	0	0	150	0	0	0
Assets ($1000)										
Total	10,196	7,805	1,071	4,615	2,428	9,420	1,241	3,044	1,018	2,809
Real Estate	4,566	3,450	487	2,516	1,024	3,729	521	913	394	1,000
Machinery	470	524	102	389	314	475	248	299	123	409
Other & Livestock	5,160	3,831	482	1,710	1,090	5,216	472	1,832	501	1,400
1999 Gross Receipts ($1,000)*										
Total	5,470.6	6,382.9	710.7	3,019.2	1,569.0	5,368.8	1,009.4	2,472.6	555.7	1,757.6
Milk	5,087.7	5,921.2	685.5	2,897.5	1,379.1	4,960.1	939.4	2,319.7	484.9	1,594.6
	93.00%	92.80%	96.50%	96.00%	87.90%	92.40%	93.10%	93.80%	87.30%	90.70%
Dairy Cattle	382.9	461.7	25.2	121.8	189.9	408.7	70.0	152.9	70.8	163.0
	7.00%	7.20%	3.50%	4.00%	12.10%	7.60%	6.90%	6.20%	12.70%	9.30%
1999 Planted Acres**										
Total	525.0	0.0	115.0	505.0	0.0	554.0	303.0	450.0	195.0	500.0
Hay	200.0	0.0	0.0	0.0	0.0	156.0	120.0	0.0	195.0	140.0
	38.10%	0.00%	0.00%	0.00%	0.00%	28.20%	39.60%	0.00%	100.00%	28.00%
Silage	325.0	0.0	115.0	505.0	0.0	398.0	183.0	430.0	0.0	360.0
	61.90%	0.00%	100.00%	100.00%	0.00%	71.80%	60.40%	95.60%	0.00%	72.00%
Haylage	0.0	0.0	0.0	0.0	0.0	0.0	0.0	20.0	0.0	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.40%	0.00%	0.00%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

1999 CHARACTERISTICS OF PANEL FARM PRODUCING MILK (CONTINUED)

WID70 A 70-cow Eastern Wisconsin (Winnebago County) moderate size dairy farm that produces 20,500 pounds of milk per cow. The farm plants 37 acres of hay, 45 acres of corn, 24 acres of silage, and 89 acres of haylage. Milk makes up 90 percent of this farm=s receipts.

WID600 A 600-cow Eastern Wisconsin (Winnebago County) large dairy farm that produces 19,800 pounds of milk per cow. The farm plants 350 acres of corn, 200 acres of silage, and 450 acres of haylage. Milk accounts for 91 percent of the farm=s receipts.

MIED200 A 200-cow Michigan (Sanilac County) moderate size dairy farm that produces 22,000 pounds of milk per cow. The farm plants 220 acres of corn and 170 acres of silage. Milk accounts for 93 percent of the farm=s receipts.

MIED140 A 140-cow Michigan (Isabella County) moderate size dairy farm that produces 20,300 pounds of milk per cow. The farm plants 175 acres of corn, 70 acres of hay, 65 acres of silage, and 70 acres of haylage. Milk accounts for 88 percent of the farm=s receipts.

NYWD700 A 700-cow Western New York (Wyoming County) moderate size dairy farm that produces 22,700 pounds of milk per cow. The farm plants 535 acres of silage and 450 acres of haylage. About 92 percent of the farm=s receipts come from milk.

NYWD1200 A 1,200-cow Western New York (Wyoming County) large dairy farm that produces 21,700 pounds of milk per cow. The farm plants 825 acres of silage and 700 acres of haylage. Milk accounts for 94 percent of the farm=s receipts.

NYCD110 A 110-cow Central New York (Cayuga County) moderate size dairy farm that produces 22,000 pounds of milk per cow. The farm plants 49 acres of hay, 75 acres of corn, 78 acres of silage, and 84 acres of haylage. Milk accounts for 93 percent of the farms receipts.

NYCD300 A 300-cow Central New York (Cayuga County) large dairy farm that produces 21,500 pounds of milk per cow. The farm plants 170 acres of hay, 142 acres of corn, 190 acres of silage, and 298 acres of haylage. The farm generates 92 percent of its receipts from milk.

VTD85 A 85-cow Vermont (Washington County) moderate size dairy farm that averages 22,400 pounds of milk per cow. The farm plants 60 acres of hay, 58 acres of silage, and 70 acres of haylage. Milk accounts for 90 percent of the receipts.

VTD350 A 350-cow Vermont (Washington County) large dairy farm that averages 22,000 pounds of milk per cow. The farm plants 205 acres of hay, 200 acres of silage, and 177 acres of haylage. Milk accounts for 95 percent of the farm=s receipts.

Appendix Table A7. Characteristics of Panel Farms Producing Milk.

	WID70	WID600	MIED200	MICD140	NYWD700	NYWD1200	NYCD110	NYCD300	VTD85	VTD350
County	Winnebago	Winnebago	Sanilac	Isabella	Wyoming	Wyoming	Cayuga	Cayuga	Washington	Washington
Total Cropland	182	1,000	590	510	935	1,800	296	800	200	700
Acres Owned	152	400	363	300	800	1,200	250	700	140	525
Acres Leased	30	600	227	210	135	600	46	100	60	175
Pastureland										
Acres Owned	0	0	50	25	200	300	50	400	50	50
Acres Leased	0	0	0	0	0	0	0	0	0	50
Assets ($1000)										
Total	635	3,257	1,727	1,340	4,398	7,051	694	2,149	920	2,443
Real Estate	252	1,208	919	738	1,669	2,668	385	823	366	1,050
Machinery	139	245	323	280	444	913	130	294	169	310
Other & Livestock	245	1,804	485	322	2,285	3,470	178	1,032	385	1,084
1999 Gross Receipts ($1,000)*										
Total	228.2	1,871.0	667.8	442.2	2,433.6	3,937.2	368.6	990.0	335.6	1,290.8
Milk	205.1	1,696.1	617.7	389.6	2,247.9	3,684.5	342.9	913.9	301.9	1,223.5
	89.90%	90.70%	92.50%	88.10%	92.40%	93.60%	93.00%	92.30%	89.90%	94.80%
Dairy Cattle	23.1	174.9	44.2	52.6	185.6	252.6	25.7	76.1	32.3	67.3
	10.10%	9.30%	6.60%	11.90%	7.60%	6.40%	7.00%	7.70%	9.60%	5.20%
Wheat	0.0	0.0	6.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	0.90%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Other Receipts	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.0
	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.40%	0.00%
1999 Planted Acres**										
Total	195.0	1,000.0	440.0	490.0	985.0	1,525.0	286.0	800.0	188.0	582.0
Hay	37.0	0.0	0.0	70.0	0.0	0.0	49.0	170.0	60.0	205.0
	19.00%	0.00%	0.00%	14.30%	0.00%	0.00%	17.10%	21.30%	31.90%	35.20%
Silage	24.0	200.0	170.0	65.0	535.0	825.0	78.0	190.0	58.0	200.0
	12.30%	20.00%	38.60%	13.30%	54.30%	54.10%	27.30%	23.80%	30.90%	34.40%
Haylage	89.0	450.0	0.0	110.0	450.0	700.0	84.0	298.0	70.0	177.0
	45.60%	45.00%	0.00%	22.40%	45.70%	45.90%	29.40%	37.30%	37.20%	30.40%
Corn	45.0	350.0	220.0	175.0	0.0	0.0	75.0	142.0	0.0	0.0
	23.10%	35.00%	50.00%	35.70%	0.00%	0.00%	26.20%	17.80%	0.00%	0.00%
Wheat	0.0	0.0	50.0	70.0	0.0	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	11.40%	14.30%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

1999 CHARACTERISTICS OF PANEL FARM PRODUCING MILK (CONTINUED)

MOD85 A 85-cow Southwestern Missouri (Christian County) moderate size dairy farm that averages 15,600 pounds of milk per cow. The farm plants 220 acres of hay. About 88 percent of the farm=s receipts come from milk.

MOD300 A 300-cow Southwestern Missouri (Christian County) large dairy farm that averages 17,300 pounds of milk per cow. The farm plants 578 acres of hay and 107 acres of silage. Milk accounts for 93 percent of this farm=s receipts.

GAND175 A 175-cow Central Georgia (Putnam County) moderate size dairy farm that produces 18,000 pounds of milk per cow. Rather than plant any crops, this farm opts to purchase all of its feed requirements in the form of a premixed ration. Milk accounts for 94 percent of the farm=s gross income.

GASD650 A 650-cow Southern Georgia (Houston County) large dairy farm that produces 19,000 pounds of milk per cow. The farm plants 150 acres of hay and 400 acres of silage. Milk makes up 94 percent of the farm=s receipts.

FLND380 A 380-cow North Florida (Lafayette County) moderate size dairy farm that averages 17,000 pounds of milk per cow. The farm grows 200 acres of hay. All feed requirements, in addition to hay, are met through a purchased pre-mixed ration. Milk sales account for 93 percent of the farm=s receipts. Excess hay sales provide one percent of cash receipts and are expected to provide supplemental sales from year to year.

FLSD2000 A 2,000-cow South Central Florida (Okeechobee County) large dairy farm that produces 16,500 pounds of milk per cow. The farm grows 1,210 acres of hay. In addition to grass hay, grass silage, and pasture, cows receive a purchased premixed ration. Milk sales generate 91 percent of its receipts.

Appendix Table A8. Characteristics of Panel Farms Producing Milk.

	MOD85	MOD300	GAND175	GASD650	FLND380	FLSD2000
County	Christian	Christian	Putnam	Houston	Lafayette	Okeechobee
Total Cropland	220	685	0	350	590	2,250
Acres Owned	140	450	0	300	440	2,250
Acres Leased	80	235	0	50	150	0
Pastureland						
Acres Owned	55	20	200	150	60	0
Acres Leased	55	100	0	0	0	0
Assets ($1000)						
Total	584	1,698	568	2,565	1,511	6,516
Real Estate	309	898	289	909	740	2,952
Machinery	150	297	62	316	95	256
Other & Livestock	125	502	217	1,340	675	3,307
1999 Gross Receipts ($1,000)*						
Total	216.7	800.1	514.2	2,014.0	1,169.4	6,083.5
Milk	190.4	746.6	483.7	1,896.5	1,087.5	5,555.1
	87.90%	93.30%	94.10%	94.20%	93.00%	91.30%
Dairy Cattle	26.3	53.5	30.5	117.6	71.2	528.5
	12.10%	6.70%	5.90%	5.80%	6.10%	8.70%
Hay	0.0	0.0	0.0	0.0	10.8	0.0
	0.00%	0.00%	0.00%	0.00%	0.90%	0.00%
1999 Planted Acres**						
Total	220.0	685.0	0.0	550.0	200.0	1,210.0
Hay	220.0	578.0	0.0	150.0	200.0	1,210.0
	100.00%	84.40%	0.00%	27.30%	100.00%	100.00%
Silage	0.0	107.0	0.0	400.0	0.0	0.0
	0.00%	15.60%	0.00%	72.70%	0.00%	0.00%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

1999 CHARACTERISTICS OF PANEL FARMS PRODUCING BEEF CATTLE

MTB400 A 400-cow ranch located in the eastern plains of Montana (Custer County). The ranch runs cows on a combination of owned, federal, state, and private lease land. One quarter of its total animal unit month grazing needs come from federal land and the ranch owns 14,000 acres of pasture. Of the total land owned, 440 acres are planted for hay. Cattle generates 100 percent of the total receipts on the ranch.

WYB300 A 300-cow ranch located in North Central Wyoming (Washakie County). The ranch harvests hay from 200 acres of owned cropland, and it owns another 1000 acres of pastureland. Rangeland leased from the Forest Service provides 42 percent of the ranch=s grazing needs. Cattle generates 100 percent of the total receipts on the ranch.

COB300 A 300-cow ranch located in Northwest Colorado (Routt County). Federal land provides 7 percent of the ranch=s AUM needs. Hay is produced on 400 acres of the pasture-hay land, of which the ranch owns 300. The ranch owns 1800 acres of pastureland, and the cattle graze the federal land during the summer months. Cattle generates 91 percent of the total receipts on the ranch. This ranch participates in a retained ownership program through the feedlot with 75% of the steers raised.

MOB150 A 150-cow farm in Southwest Missouri (Dade County). The farm generates 57 percent of its receipts from beef cattle and ten remainder from crops. The farm has 80 acres of sorghum, 160 acres of soybeans, 80 acres of wheat, and 400 acres of hay. Surplus hay sales make up only 6 percent of cash receipts.

Appendix Table A9. Characteristics of Panel Farms Producing Beef Cattle.

	MTB400	WYB300	COB300	MOB150
County	Custer	Washakie	Routt	Dade
Total Cropland	0	200	400	440
Acres Owned	0	200	300	320
Acres Leased	0	0	100	120
Pastureland				
Acres Owned	14,000	1,000	1,800	320
Acres Leased	0	0	0	80
Federal AUMs Leased	1,350	1,500	250	0
State/Private AUMs	450	160	630	0
Assets ($1000)				
Total	1,843	694	3,086	766
Real Estate	1,390	372	2,647	445
Machinery	105	100	120	213
Other & Livestock	349	222	318	107
Debt/Asset Ratios				
Total	0.01	0.09	0.01	0.14
Intermediate	0.03	0.18	0.05	0.28
Long Run	0.01	0.01	0.01	0.04
Number of Livestock				
Beef Cows	400	300	300	150
1999 Gross Receipts ($1,000)*				
Total	147.2	120.9	160.5	112.6
Cattle	147.2	120.9	145.1	64.1
	100.00%	100.00%	90.50%	56.90%
Sorghum	0.0	0.0	0.0	11.4
	0.00%	0.00%	0.00%	10.20%
Soybeans	0.0	0.0	0.0	19.2
	0.00%	0.00%	0.00%	17.10%
Wheat	0.0	0.0	0.0	11.5
	0.00%	0.00%	0.00%	10.20%
Hay	0.0	0.0	3.3	6.4
	0.00%	0.00%	2.10%	5.60%
Other Receipts	0.0	0.0	12.0	0.0
	0.00%	0.00%	7.50%	0.00%
1999 Planted Acres**				
Total	440.0	200.0	400.0	720.0
Sorghum	0.0	0.0	0.0	80.0
	0.00%	0.00%	0.00%	11.10%
Soybeans	0.0	0.0	0.0	160.0
	0.00%	0.00%	0.00%	22.20%
Wheat	0.0	0.0	0.0	80.0
	0.00%	0.00%	0.00%	11.10%
Hay	440.0	200.0	400.0	400.0
	100.00%	100.00%	100.00%	55.60%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

1999 CHARACTERISTICS OF PANEL FARMS PRODUCING HOGS

MOH100 A 100-sow hog farm located in North Central Missouri (Carroll County). The farm plants 160 acres of corn, 80 acres of soybeans, 80 acres of wheat, and 40 acres of hay. The farm weans 16 pigs per sow in a year and has a feeding efficiency measure of 3.4 pounds of feed per pound of pork sold. Hogs generate 77 percent of the farm=s total receipts while crops produce another 17 percent of receipts.

MOH225 A 225-sow hog farm located in North Central Missouri (Carroll County). The farm plants 400 acres of corn, 400 acres of soybeans, and 200 acres of wheat. This farm feeds 3.7 pounds of feed for every pound of pork sold and averages 19 pigs weaned per sow per year. The hog enterprise generates about 78 percent of the total receipts for the farm. The remainder of total receipts is generated in crop sales.

ILH200 A 200-sow hog farm located in Western Illinois (Knox County). The farm plants 750 acres of corn, 610 acres of soybeans, and 20 acres of wheat. This farm weans 17 pigs/sow/year and operates on 3.5 pounds of feed per pound of pork sold. The hog operation produces about 56 percent of the farm=s total receipts while the sale of crops accounts for about 44 percent.

ILH750 A 750-sow hog farm located in Western Illinois (Knox County). The farm plants 1080 acres of corn and 720 acres of soybeans. This farm will wean an average of 22 pigs per sow in a year, and feeds about 3.1 pounds of feed per pound of pork sold in a year. The hog enterprise generates 86 percent of the total receipts on the farm. Corn and soybean sales account for the remaining 14 percent.

INH150 A 150-sow hog farm located in North Central Indiana (Carroll County). The farm plants 750 acres of corn, 225 acres of soybeans, and 25 acres of wheat. The farm feeds 3.3 pounds of feed per pound of pork sold and weans 17 pigs/sow/year. About 53 percent of the farm=s receipts comes from hogs, and the remainder of receipts is generated through crop sales.

INH600 A 600-sow hog farm located in North Central Indiana (Carroll County). The farm plants 1,500 acres of corn, 700 acres of soybeans, and 50 acres of wheat. The farm is able to wean 20 pigs per sow per year and feed 3.3 pounds of feed per pound of pork sold. The hog operation accounts for approximately 70 percent of the farm=s total receipts. The other quarter of receipts comes from crop sales.

NCH350 A 350-sow hog farm located in Eastern North Carolina (Wayne County). The farm plants 100 acres of hay to dispose of waste from the farrow-to-finish hog operation, but does not plant any crops for feed. All feed for the operation is purchased. The farm will wean 19.5 pigs per sow per year and will feed 3.0 pounds of feed per pound of pork sold. The sale of hogs produces 100 percent of the farm=s receipts.

NCH13268 A 13,268-sow hog farm located in Eastern North Carolina (Wayne County). The operation contracts with individual farmers who provide on-site management, labor, and facilities. The operation provides hogs, purchased feed and specialized labor for its group of contract farrowing, nursery and finishing farms. On average the farm will wean 20 pigs per sow per year. A measure of feed efficiency for this operation is 2.9 pounds of feed per pound of pork sold. 100 percent of the farm=s receipts are produced from the sale of hogs.

Appendix Table A10. Characteristics of Panel Farms Producing Hogs.

	MOH100	MOH225	ILH200	ILH750	INH150	INH600	NCH350	NCH13268
County	Carroll	Carroll	Knox	Knox	Carroll	Carroll	Wayne	Wayne
Total Cropland	330	1,020	1,400	1,800	1,020	2,250	100	0
Acres Owned	220	520	400	950	300	800	100	0
Acres Leased	110	500	1,000	850	720	1,450	0	0
Pastureland								
Acres Owned	100	0	0	0	0	0	0	0
Assets ($1000)								
Total	642	1,700	2,314	5,823	1,657	4,413	1,295	20,892
Real Estate	506	1,117	1,518	3,717	1,233	3,002	725	1
Machinery	67	363	438	700	341	968	106	22
Other & Livestock	69	220	358	1,407	84	443	464	20,869
Debt/Asset Ratios								
Total	0.30	0.29	0.25	0.26	0.31	0.28	0.26	0.00
Intermediate	0.13	0.18	0.16	0.09	0.34	0.18	0.06	0.00
Long Run	0.35	0.35	0.30	0.36	0.29	0.32	0.42	0.36
Number of Livestock								
Beef Cows	25	0	0	0	0	0	0	0
Sows	100	225	200	750	150	600	350	13,268
1999 Gross Receipts ($1,000)*								
Total	186.0	465.0	550.4	1,682.1	447.5	1,591.5	654.1	24,138.7
Cattle	10.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	5.40%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Hogs	144.0	364.4	312.5	1,447.9	237.8	1,118.1	654.1	24,138.7
	77.40%	78.40%	56.80%	86.10%	53.10%	70.30%	100.00%	100.00%
Corn	4.3	9.3	114.1	36.7	157.0	268.1	0.0	0.0
	2.30%	2.00%	20.70%	2.20%	35.10%	16.80%	0.00%	0.00%
Soybeans	16.1	64.0	117.5	197.4	48.1	193.1	0.0	0.0
	8.70%	13.80%	21.40%	11.70%	10.70%	12.10%	0.00%	0.00%
Wheat	11.5	27.3	3.8	0.0	4.6	12.2	0.0	0.0
	6.20%	5.90%	0.70%	0.00%	1.00%	0.80%	0.00%	0.00%
Other Receipts	0.0	0.0	2.5	0.0	0.0	0.0	0.0	0.0
	0.00%	0.00%	0.50%	0.00%	0.00%	0.00%	0.00%	0.00%
1999 Planted Acres**								
Total	360.0	1,000.0	1,380.0	1,800.0	1,000.0	2,250.0	100.0	0.0
Corn	160.0	400.0	750.0	1,080.0	750.0	1,500.0	0.0	0.0
	44.40%	40.00%	54.30%	60.00%	75.00%	66.70%	0.00%	0.00%
Soybeans	80.0	400.0	610.0	720.0	225.0	700.0	0.0	0.0
	22.20%	40.00%	44.20%	40.00%	22.50%	31.10%	0.00%	0.00%
Wheat	80.0	200.0	20.0	0.0	25.0	50.0	0.0	0.0
	22.20%	20.00%	1.40%	0.00%	2.50%	2.20%	0.00%	0.00%
Hay	40.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0
	11.10%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%	0.00%

*Receipts for 1999 are included to indicate the relative importance of each enterprise to the farm. Percents indicate the percentage of the total receipts accounted for by the livestock categories and the crops.

**Acreages for 1999 are included to indicate the relative importance of each enterprise to the farm. Total planted acreage may exceed total cropland available due to double cropping. Percents indicate the percentage of total planted acreage accounted for by the crop.

APPENDIX B:

LIST OF PANEL FARM

COOPERATORS

FEED GRAIN FARMS

Iowa

Facilitators

Mr. Jim Patton - Webster County Extension Agent
Dr. William Edwards - Professor and Extension Economist, Iowa State University

Panel Participants

Mr. Phil Naeve
Mr. Larry Lynch
Mr. Don Sandell
Mr. Bob Anderson
Mr. Larry Lane
Mr. Perry Black
Mr. Loren Wuebker
Mr. Dennis Ammen
Mr. John Ricke
Mr. Britt Shelton
Mr. Virgil Gordon
Mr. Merv Berg
Mr. and Mrs. Jim Carver

Nebraska

Facilitators

Mr. Gary Hall - Phelps County Agricultural Extension Agent
Dr. Roger Selley - Extension Farm Management Specialist, University of Nebraska
Mr. Joe Trujillo-University of Missouri-Columbia

Panel Participants

Mr. Frank Hadley
Mr. Gary Robison
Mr. Kerry Blythe
Mr. Brian Johnson
Mr. Tom Schwarz
Mr. Tony Davis
Mr. Johnny Nelson
Mr. Phil High

Missouri

Facilitator

Mr. Parman Green - Farm Management Specialist, University of Missouri - Columbia

Panel Participants

Mr. Larry Davies
Mr. Ron Gibson
Mr. Ron Venable
Mr. Gerald Kitchen
Mr. John Vogelsmeier
Mr. Clifford Lyons
Mr. Ron Linneman
Mr. Glenn Kaiser
Mr. Jack Harriman
Mr. Jim Wheeler

Texas - Northern High Plains

Facilitators

Mr. Robert Harris - Moore County Agricultural Extension Agent
Dr. Steve Amosson - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Kyle Williams
Mr. Ellis Moore
Mr. Ronnie Williams
Mr. Kerri Cartwright
Mr. Wesley Spurlock
Mr. Marion Garland
Mr. Tom Moore

FEED GRAIN FARMS CONTINUED

Northern Missouri

Facilitator

Mr. Mike Killingsworth - Farm Management Consultant, Maryville, Missouri
Mr. Joe Trujillo-University of Missouri-Columbia

Panel Participants

Mr. Jack Baldwin
Mr. Roger Vest
Mr. Kevin Rosenbohm
Mr. Don Mobley
Mr. Gary Ecker

South Carolina

Facilitator

Mr. Toby Boring - Extension Agricultural Economist, Clemson University

Panel Participants

Mr. Harry DuRant
Mr. John Ducworth
Mr. Tom Jackson
Mrs. Vikki Brogdon
Mr. Leslie McIntosh
Mr. Steve Lowder
Mr. Billy Davis
Mr. John Spann
Mr. Chris Cogdill

Tennessee

Facilitator

Dr. Daryll Ray, Professor, University of Tennessee

Panel Participants

Edwin Alles
Donald Parker
Greg Story
Paul Wengard
Jack Ogg
Doug Schoolfield
Daniel Wengerd
James Yarbro

WHEAT FARMS

Washington

Facilitators

Mr. John Burns - Whitman County Agricultural Extension Agent
Dr. Herb Hinman - Extension Economist, Washington State University
Mr. Earl Aehlschlaeger - Adult Farm Management, Community College of Spokane

Panel Participants

Mr. Brian Largent
Mr. Greg Largent
Mr. Bruce Nelson
Mr. John Whitman
Mr. Asa Clark
Mr. Henry Suess
Mr. David Harlow

North Dakota

Facilitators

Mr. Lester Stuber - Barnes County Agricultural Extension Agent
Mr. Dwight Aakre - Extension Associate - Farm Management, North Dakota State University

Panel Participants

Mr. Mike Clemens
Mr. Ray Haugen
Mr. Arvid Winkler
Mr. Jon Owen
Mr. Wade Bruns
Mr. Lloyd Thilmony
Mr. Jack Formo
Mr. Greg Shanenko

South Central Kansas

Facilitators

Mr. Gerald Le Valley - Sumner County Agricultural Extension Agent
Mr. Glen Brunkow - Harper County Extension Agent
Mr. Arlen Suderman - Sedgwick County Extension Agent
Mr. Fred Delano - Administrator of Farm Management Association Program, Kansas State University

Panel Participants

Mr. Robert White
Mr. Joe Allen
Mr. Nick Steffen
Mr. Tim Turek
Mr. Donald Applegate
Mr. David Messengerr

Colorado

Facilitators

Mr. Don Nitchie - Director, Farm Mgmt/Marketing, Colorado State University Cooperative Extension
Dr. Paul H. Gutierrez - Associate Professor, Colorado State University

Panel Participants

Mr. Terry Kuntz
Mr. John Hickert
Mr. Calvin Schaffert
Mr. Marlin E. Snyder
Mr. John Wright
Mr. Bill Rodwell
Mr. Cliff Fletcher
Mr. Gerry Ohr
Mr. David Foy
Mr. Rick Lewton
Mr. Leland Willeke

WHEAT FARMS CONTINUED

Northwestern Kansas

Facilitators

Mr. Rich Wahl - Extension Agricultural Economist, Farm Management Assoc., Kansas State University
Mr. Scott Docken - Extension Agricultural Economist, Farm Management Association, KSU
Mr. Mark Wood - Extension Agricultural Economist, Farm Management Association, KSU
Mr. Dan Obrien - Extension Agricultural Economist, Farm Management Association, KSU
Mr. Fred Delano - Administrator of Farm Management Association Program, Kansas State University

Panel Participants

Mr. Harold Mizell
Mr. Brian Laufer
Mr. Lee Jueneman
Mr. Lance Leebrick
Mr. Lyman Goetsch
Mr. Gerald Huessman
Mr. Steve Schertz
Mr. Dennis Franklin
Mr. Rich Calliham
Mr. Vernon Akers

COTTON FARMS

California

Facilitator

Mr. Bruce A. Roberts - Kings County Director and Farm Advisor, University of California Cooperative Extension

Panel Participants

Mr. Mark Hansen
Mr. Steve Boyett
Mr. Ernie Taylor
Mr. John Diener
Mr. Jeff Hildebrand
Mr. Wayne Wisecarver
Mr. Craig Pedersen
Mr. Dave Smith
Mr. Bill Tos
Mr. David Costa

Texas - Southern High Plains

Facilitators

Mr. John Farris - Dawson County Agricultural Extension Agent
Dr. Jackie Smith - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Nolan Vogler
Mr. Milton Schneider
Mr. Dave Nix
Mr. Allan Gibson
Mr. Glen Phipps
Mr. Donald Vogler
Mr. Kent Nix
Mr. Mark Furlow
Mr. Norris Barron

Texas - Rolling Plains

Facilitators

Mr. Todd Vineyard - Ellis County Agricultural Extension Agent
Mr. Stan Bevers - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Steve Blankenship
Mr. James Seidenberger
Mr. Ronnie Richmond
Mr. Mike Gray
Mr. Glen Gilbreath
Mr. Mark Lundgren
Mr. B.C. Spraberry
Mr. and Mrs. Darrell Richards
Mr. David Cook
Mr. Ronnie Riddle

Texas - Blacklands

Facilitator

Mr. Ronald Leps - Williamson County Agricultural Extension Agent

Panel Participants

Mr. Donald Stolte
Mr. Herbert Raesz
Mr. Doug Schernik
Mr. Bob Bartosh
Mr. Lonny Rinderknecht

Texas - Coastal Bend

Facilitators

Dr. Rick Jahn - San Patricio-Aransas Counties Agricultural Extension Agent
Dr. Larry Falconer - Extension Economist - Management, Texas A&M University

Panel Participants

Mr. Brad Bickham
Mr. Clarence Chopelas
Mr. Darby Salge
Mr. Howard Salge

Tennessee

Facilitator

Dr. Daryll Ray, Professor, University of Tennessee

Panel Participants

Harris Armour, III
Eugene McFerren
Lee Ann Rhea
Tom Karcher
Mark McNabb
Dewayne Hendrix

Travis London Ronald Woods

RICE FARMS

Arkansas

Facilitator

Mr. Bill Free, Riceland Foods, Inc.

Panel Participants

Mr. David Feilkie
Mr. Derek Bohanan
Mr. David Jessup

Texas

Facilitator

Dr. Ed Rister - Professor, Texas A&M University

Panel Participants

Mr. W. A. "Billy" Hefner, III
Mr. Andy Anderson
Mr. Ronald Gertson
Mr. Madison H. Smith
Mr. Jim Wiese
Mr. John Waligur
Mr. Glen Rod
Mr. Layton Raun
Mr. Kenneth "Peter" Stelzel
Mr. Jason Hlavinka
Mr. Steve Balas

California

Facilitator

Mr. Jack Williams - Farm Advisor, Sutter and Yuba Counties, University of California Cooperative Extension

Panel Participants

Mr. Bill Baggett
Mr. Frank Rosa
Mr. Jack DeWitt
Mr. Wayne Vineyard
Mr. Don Staas
Mr. Paul Lower
Mr. Ned Lemenager
Mr. Scott Tucker

Missouri

Facilitators

Mr. Bruce Beck - Farmer's Agronomy Specialist, University of Missouri - Columbia
Mr. David Reinbott - Farm Management Specialist, University of Missouri - Columbia
Mr. Joe Trujillo-University of Missouri-Columbia

Panel Participants

Mr. Sonny Martin
Mr. Fred Tanner
Mr. Bruce Yarbro
Mr. J. D. Sifford
Mr. C. P. Johnson
Mr. Mike Mick
Mr. Davis Minton
Mr. Rick Spargo
Mr. Floyd Page
Mr. Cloyce Sowell
Mr. Dale Conner

Louisiana

Facilitators

Mr. Eddie Eskew - County Agent, Louisiana Cooperative Extension Service
Mr. Howard J. Cormier - County Agent, Louisiana Cooperative Extension Service
Mr. Ronnie Levy - County Agent/Parrish Chairman, Louisiana Cooperative Extension Service
Mr. D. L. Eugene (Gene) Johnson - Specialist in Marketing, Louisiana Cooperative Extension Service, Natural Resources and Economic Development

Panel Participants

Mr. Alden Horten
Mr. Brian Wild
Mr. Tommy Faulk
Mr. Allan McLain
Mr. Jackie Loewes

DAIRY FARMS

California

Facilitator

Mr. Jack Prince - President, Dairyman's Cooperative Creamery Assoc.

Panel Participants

Mr. Dave Rebeiro
Mr. Phillip Rebeiro
Mr. Bill Van Beek
Mr. Bob Wilbur

New Mexico

Facilitator

Dr. Robert Schwart - Professor and Extension Economist, Texas A&M University

Panel Participants

Mr. Brad Bouma
Mr. Mike McClosky
Mr. Joe Gonzalez
Mr. Von Hilburn
Mr. Tony Bos
Mr. Dean Harton
Mr. Mark Reischman

Washington

Facilitator

Mr. David C. Grusenmeyer - Professor and Extension Dairy Specialist, Washington State University

Panel Participants

Mrs. Star Hovander
Mr. Ron Bronsema
Mr. Keith Boon
Mr. Jim Heeringa
Mr. Rod DeJong
Mr. & Mrs. Pete DeJager
Mr. Dick Bengen
Mr. Greg McKay
Mr. Ed Pomeroy
Mr. Dave Buys

Idaho

Facilitator

Mr. Dean Falk - Extension Dairy Specialist, University of Idaho
Dr. Wilson Grey - Farm Management Specialist - University of Idaho

Panel Participants

Mr. & Mrs. Martin Lee
Mr. Harry Hogland
Mr. Michael Quesnell
Mr. Greg Ledbetter
Mr. Bill Stouder
Mr. Rick Thompson
Mr. John Beukers
Mr. Jack Van Beek
Mr. Adrian Boer
Mr. Reagon Hatch
Mr. Alan Gerratt
Mr. Hank Hafliger
Mr. Randy Tolman

Texas - Central

Facilitator

Mr. Joe Pope - Erath County Agricultural Extension Agent

Panel Participants

Mr. Lane Jones
Mr. Robert Ervin
Mr. Leonard Moncrief
Mr. Bob Strona
Mr. Jack Parks
Mr. Jake Van Vlie
Mr. Owen Sieperda
Mr. Brian Parish

DAIRY FARMS CONTINUED

Texas - Eastern

Facilitator

Mr. Dale Haygood - Zone Manager, Associated Milk Producers, Inc.

Panel Participants

Mr. George Tenberg
Mr. Greg Inman
Mr. Tim Spiva
Mr. Harold Bryant
Mr. Timothy Norris
Mr. Michael Mund
Mr. Hershel Kelsoe
Mr. Larry Ellison
Mr. W.D. Wafford

Missouri

Facilitator

Mr. Ron Young - Christian County Extension Dairy Specialist, Retired

Panel Participants

Mr. John Mallonee
Mr. & Mrs. Doug Owen
Mr. & Mrs. Freddie Martin
Mr. Wayne Whitehead
Mr. Larry Winfree
Mr. Allen Sulgrove
Mr. Dan Clemens
Mr. John Atkinson
Mr. Joe Peebles

Michigan

Facilitator

Mr. Mike McFadden - Extension Dairy Agent - Michigan State University
Dr. Craig Thomas - Extension Dairy Agent - Michigan State University Extension
Mr. Wes Lane - Director- Communications Division - Dairy Farmers of Ontario
Dr. Sherrill Nott - Farm Management Specialist - Michigan State University

Panel Participants

Mr. Tom Fox
Mr. Keith Moeggenberg
Mr. Bob Pasch
Mr. Jim Wilson
Mr. & Mrs. Don Hopper
Mr. Jason Shinn
Mr. Ron McDonald
Mr. Bryan Neyer
Mr. Jerry Varner
Mr. Mike Fagan
Mr. Jim Reid
Mr. Duane Stuever

Florida

Facilitators

Mr. Chris Vann - Lafayette County Agricultural Extension Agent
Mr. Art Darling - Dairy Farms, Inc.

Panel Participants

Mr. Keith Rucks
Mr. Louis Shiver
Mr. Bill Shaw
Mr. Edward Thomas
Mr. Glynn Rutledge
Mr. Rodney Land
Mr. Brad Hester
Mr. Kevin Jackson
Mr. Boyd Rucks
Mr. Everett Kerby
Mr. Tommy Rucks

Georgia

Facilitator

Mr. Bill Thomas - Professor and Extension Economist, University of Georgia

Panel Participants

Mr. Carlton McMichael
Mr. Mike Rainey
Mr. Ronny Parham
Mr. Bill Boyce
Mr. Bernard Sims
Mr. Lamar Anthony
Mr. Earnest Turk
Mr. Raymond Hunter
Mr. Tom Thompson
Mr. Henry Cabaniss

Mr. Terry Embry Mr. Tim Camp

DAIRY FARMS CONTINUED

Wisconsin

Facilitator

Mr. Jeff Key - Winnebago County Agricultural Extension Agent

Panel Participants

Mr. David Allen
Mr. Larry Engel
Mr. Ronald Miller
Mr. Pete Knigge
Mr. Edwin Davis
Mr. Dean Hughes
Mr. Jeff Bradley
Mr. Pat Brennand
Mr. Jeff Meulmans
Mr. Joe Bonlender
Mr. Glenn Armstrong
Mr. Doug Hodorff
Mr. Fred Kasten
Mr. Jerome Schmidt
Mr. Carl Theonis
Mr. Mike Bradley
Mr. Ben Hughes
Mr. Bob Staudinger

New York - Western

Facilitator

Mr. Jason Karszes - Cornell Cooperative Extension Service

Panel Participants

Mr. Gary Van Slyke
Mr. Willard DeGolyer
Mr. George Mueller
Mr. Peter Dueppengiesser
Mr. John Mueller
Mr. Dick Popp
Mr. Bill Fitch
Mr. John Emerling
Mr. Kent Miller

New York - Central

Facilitator

Dr. Wayne Knoblauch - Professor, Cornell University

Panel Participants

Mr. Gary Mutchler
Mr. Bill Head
Mr. David Shurtleff
Mr. & Mrs. Tom Brown
Mr. Ron Space, Jr.
Mr. Mike Learn
Mr. Dale Van Erden

Vermont

Facilitator

Dr. Rick Wackernagel - Professor, University of Vermont

Panel Participants

Mr. Steve Hurd
Mr. Hank Nop
Mr. Steve Ovellette
Mr. Ted Foster
Mr. Reg Chaput
Mr. Onan Whitcomb
Mr. Mark Rodgers
Mr. Kim Harvey
Mr. Everett Maynard
Mr. Stanley Scribner
Mr. Roger Rainville
Mr. Paul Gingue
Ms. Sally Goodrich

BEEF PRODUCERS

Montana

Facilitators

Mr. Olaf Sherwood - Custer County Agricultural Extension Agent
Dr. Alan Baquet - Farm Management Specialist, Montana State University

Panel Participants

Mr. Dee Murray
Mr. Donald Ochsner
Mr. Jean Robinson
Mr. Art Drange

Colorado

Facilitator

Mr. C.J. Mucklow - Routt County Agricultural Extension Agent

Panel Participants

Mr. Doug Carlson
Mr. Dean Rossi
Mr. Charlie Cammer
Mr. Wayne Shoemaker
Mr. Jay Fetcher
Mr. Larry Monger
Mr. Pud Stetson
Mr. Jim Rossi

Wyoming

Facilitators

Mr. Jim Gill, County Extension Agent, Washakie County
Dr. Larry Van Tassell - University of Wyoming

Panel Participants

Mr. Bill Greer
Mr. Gary Rice
Mr. Ray Rice
Mr. Jim Foreman

HOG FARMS

Illinois

Facilitator

Mr. Don Teel - Retired Knox County Agricultural Extension Agent

Panel Participants

Mr. David Hawkinson
Mr. Kevin Maine
Mr. Dale Carlson
Mr. David Bowman
Mr. Mike Hennenfent
Mr. John Gustafson
Mr. Sterling Saline
Mr. Steve Maine
Mr. Don Erickson
Mr. Lance Humphreys
Mr. Bob Hennenfent
Dr. Donald G. Reeder

Indiana

Facilitator

Mr. Steve Nichols - Carroll County Agricultural Extension Agent
Dr. Chril Hurt - Extension Farm Management Specialist - Purdue University

Panel Participants

Mr. Rick Brown
Mr. Larry Trapp
Mr. Sam Zook
Mr. Bill Pickart
Mr. Levi Huffman
Mr. Brad Burton
Mr. Trent Odell
Mr. Mark Martin

Missouri

Facilitator

Mr. Parman Green - Farm Management Specialist, University of Missouri - Columbia

Panel Participants

Mr. Larry Charles
Mr. Dale Miles
Mr. Vernon Thoeni
Mr. John Vogelsmeier
Mr. Herbert Kiehl
Mr. Paul Benedict
Mr. R. David Hemme
Mr. Gary L. Sanders
Mr. Robert S. Mayden
Mr. Matt Reichert
Mr. Richard Clemens

North Carolina

Facilitators

Mr. Mike Regans - Wayne County Agricultural Extension Agent
Dr. Kelly Zering - Associate Professor and Extension Specialist, North Carolina State University
Mr. Jeff Chandler - Wayne County Agricultural Extension Agent

Panel Participants

Mr. Ben Outlaw
Mr. David Harrell Overman
Mr. Charlie McClenny
Mr. Ronald Parks
Mr. David Sanderson
Mr. Frankie Warren
Mr. Jeff Hansen
Mr. John Dawson
Mr. R.H. Mohesky