

## ILLINOIS FARM INCOME SITUATION FOR 2002

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### Executive Summary

Estimates of 2002 financial performance for 993 Illinois grain farms are compared to actual financial performance in 1999, 2000 and 2001. Comparisons indicate that:

- X The average net farm income for these farms in 2002 is projected at \$17,499. This is the second lowest income for any year in the last six years. The average net farm income for the same farms was \$31,248 in 1999, \$53,567 in 2000 and \$29,686 in 2001. Incomes for 2002 as compared to previous years are much more variable across the state due to wider variations in crop yields.
- X Approximately 19 percent of the farms will have negative net farm incomes during 2002 while 24 percent of the farms are projected to have net incomes greater than \$50,000. Approximately 35 percent of the farms will have net incomes between \$20,000 and \$50,000.
- X Projected net farm income levels for 2002 are the highest in the west and central regions of Illinois. Projected incomes are lowest in the southern regions. Projected incomes for 2002 as compared to 2001 are slightly lower in northern Illinois, higher in western and central Illinois and significantly lower in southern Illinois.
- X Total government farm program payments will be significantly less in 2002 than in 2001 due to the new farm program, higher grain prices and no additional market loss assistance payments paid in 2002. Total farm program payments are estimated to be about \$15,000 in 2002 compared to over \$50,000 in 2001. Net farm income would only be slightly positive in 2002 without government farm program payments.
- X Projected 2002 net income levels do not lead to an overall strengthening or weakening of the financial position of Illinois grain farms. Some farms, however, will face severe financial stress.
- X About 10 percent of the farms are projected to have net worth declines of over 10 percent while only 5 percent of the farms are projected to increase their net worth by more than 10 percent between 2001 and 2002.
- X Actual net farm income and net worth changes on individual farms will depend on a number of factors, including actual grain yields, the efficiency and equity position of the farm, land ownership and lease arrangements, actual valuation changes in machinery and land, and strategies used in marketing the 2001 and 2002 crops.



# Illinois Farm Income Situation for 2002

by Dale Lattz,  
Paul Ellinger and  
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<http://www.farmdoc.uiuc.edu/>

# Objectives

- Evaluate the financial condition of Illinois grain farms.
- Examine the impact of the 2002 Farm Bill.

# Approach

- Use a sample of Illinois FBFM grain farms with historical financial records.
- Use projections of NASS yields and prices to determine revenue for each farm.
- Adjust historical expenses and financial data for each farm.
- Project net farm income and net worth change for each farm in the sample.

# Last Year's Results

Last year's projection

\$29,686 actual income

\$30,771 projection on  
Nov 1

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\$ 1,085 difference

⊕ Expenses were projected on the mark

⊕ Missed revenue

# What About 2002???

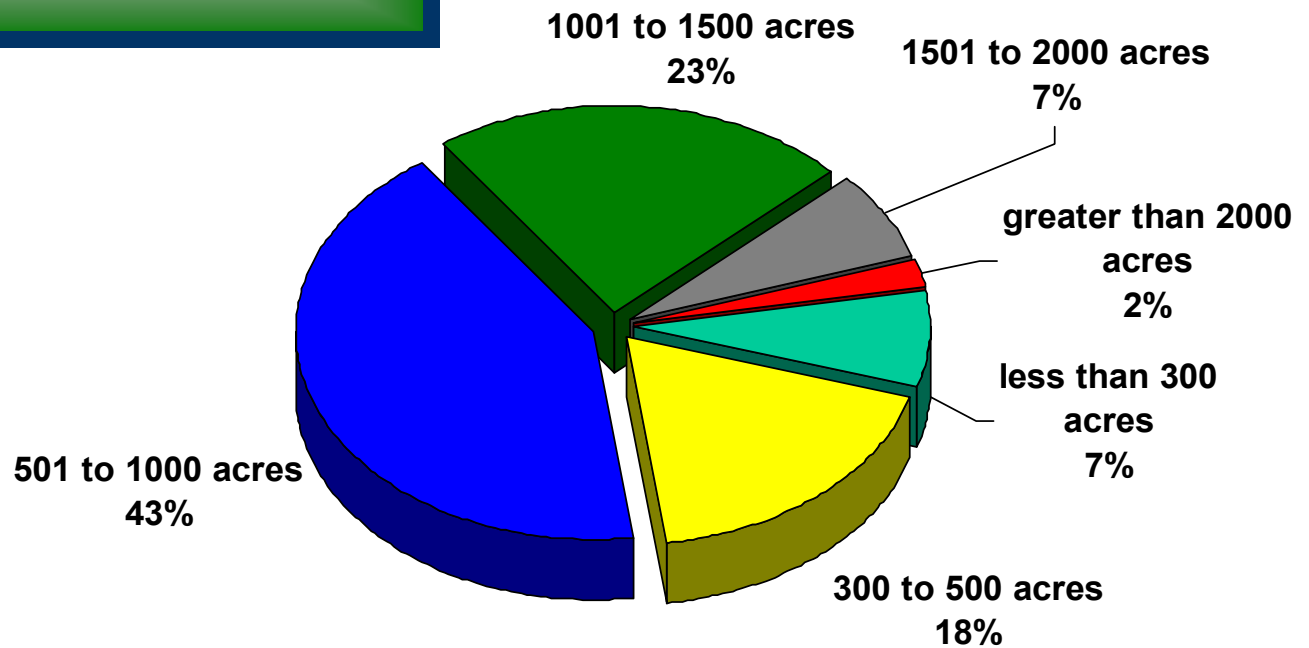
# Sample Farms by Size

993 grain farms

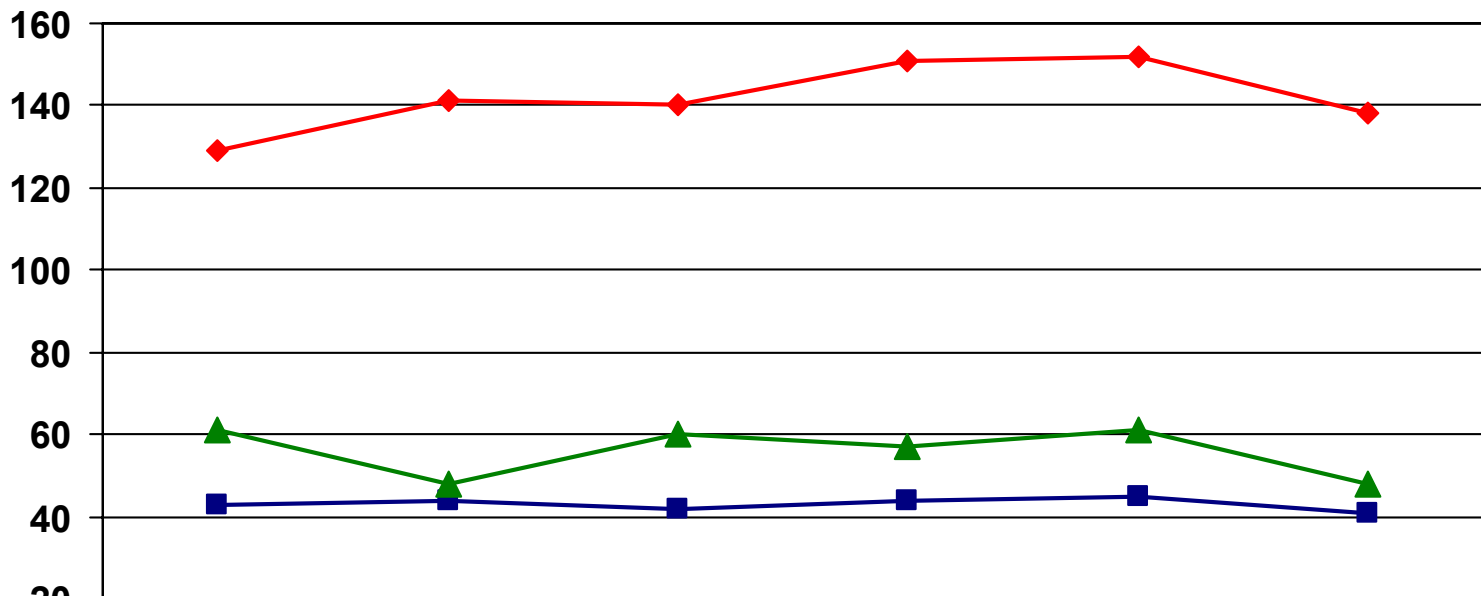
Average farm:

855 total acres

635 operator acres



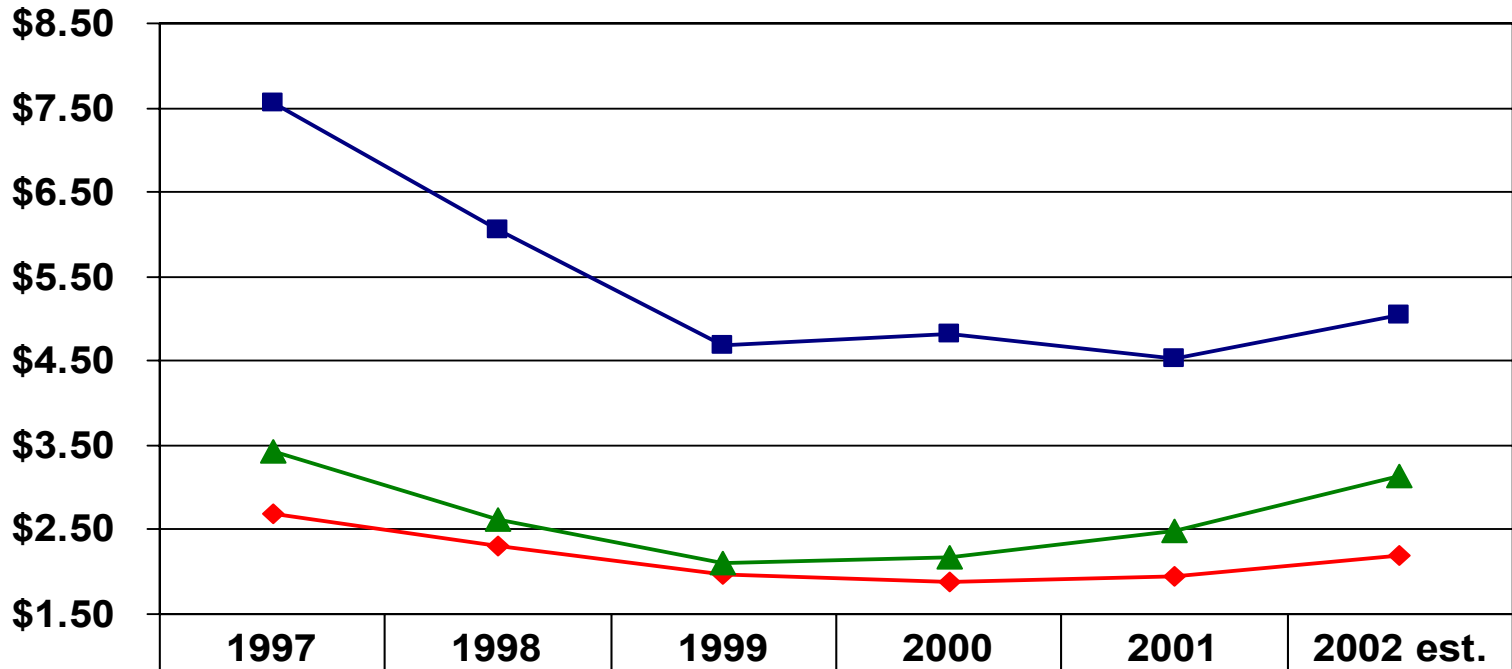
# Below Average Yields in 2002



	1997	1998	1999	2000	2001	2002 est.
<b>◆ Corn</b>	129	141	140	151	152	138
<b>■ Soybeans</b>	43	44	42	44	45	41
<b>▲ Wheat</b>	61	48	60	57	61	48



# Increasing Grain Prices



◆ Corn	\$2.70	\$2.30	\$1.97	\$1.89	\$1.94	2.20
■ Soybeans	\$7.55	\$6.05	\$4.68	\$4.82	\$4.53	5.05
▲ Wheat	\$3.43	\$2.63	\$2.11	\$2.18	\$2.49	3.13

\*Calendar year average

# Key Assumptions

- Estimated prices received / year end inventory price
  - Corn: \$2.40 / bu.
  - Soybeans: \$5.60 / bu.
  - Wheat: \$3.20 / bu.
- No estimated LDP's included
- Estimated crop insurance proceeds for the first time

# Key Assumptions – cont.

- Marketing margins on old crop
  - Corn: none (basically sold at inventory price)
  - Soybeans: Gain of \$0.20/ bu. – 60% of crop
- Pricing opportunities on new crop
  - Corn – none included
  - Soybeans – none included
- Use NASS November report of district projections of yields

# Estimated Yields



FBFM Adjusted Yields Crop Reporting District	Soybean Yield		Corn Yield	
	2001	2002	2001	2002
Northwest	50	49	151	153
Northeast	48	44	149	142
West	50	50	159	162
Central	48	50	157	161
East	47	49	146	147
West Southwest	49	48	164	150
East Southeast	47	38	156	122
Southwest	40	33	137	85
Southeast	43	31	138	87
<b>NASS Weighted Average</b>	<b>48</b>	<b>46</b>	<b>153</b>	<b>145</b>

November 2002 NASS projections.  
Yields adjusted to represent differences  
between NASS and FBFM

# Other Key Assumptions

- Average increase in farm size 3.0%
- Operating expenses adjustments from 2001
  - Crop expenses - - 3% decrease (nitrogen cost)
  - Fuel and oil - - no change
  - All other expenses - - no change
- Market value machinery and machinery depreciation – no change from 2001
- Average increase in land values 3.0%
- Interest expense **decrease** 1% from 2001  
(overall interest expense not rates)

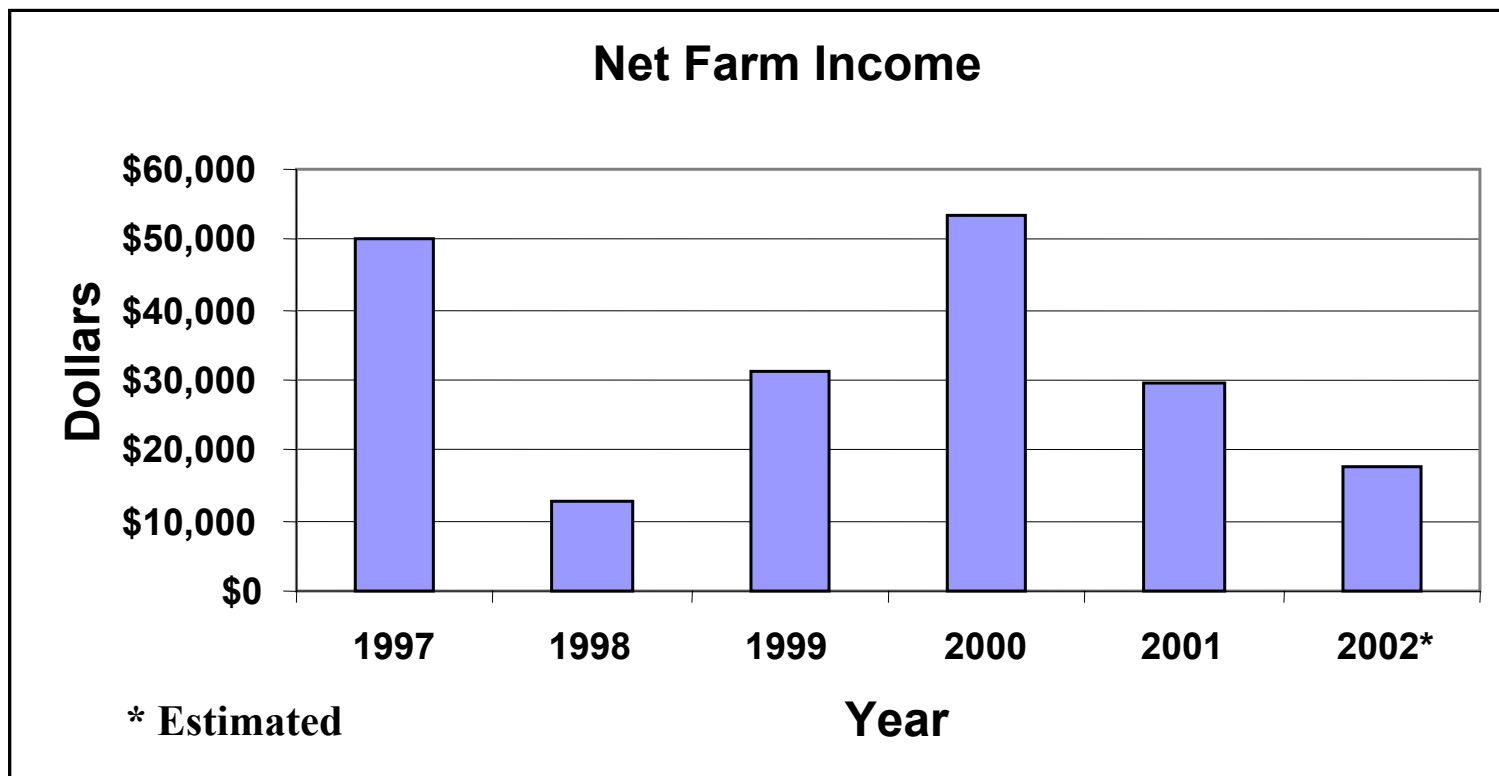
# Net Farm Income

1999	\$31,248	}	Actual
2000	53,567		
2001	29,686		
<b>2002</b>	<b>17,499</b>		<b>Estimate</b>

Net farm income does not include:

- Payments for operator labor/family withdrawals
- Nonfarm income
- Income taxes

# Net Farm Income 1997 - 2002

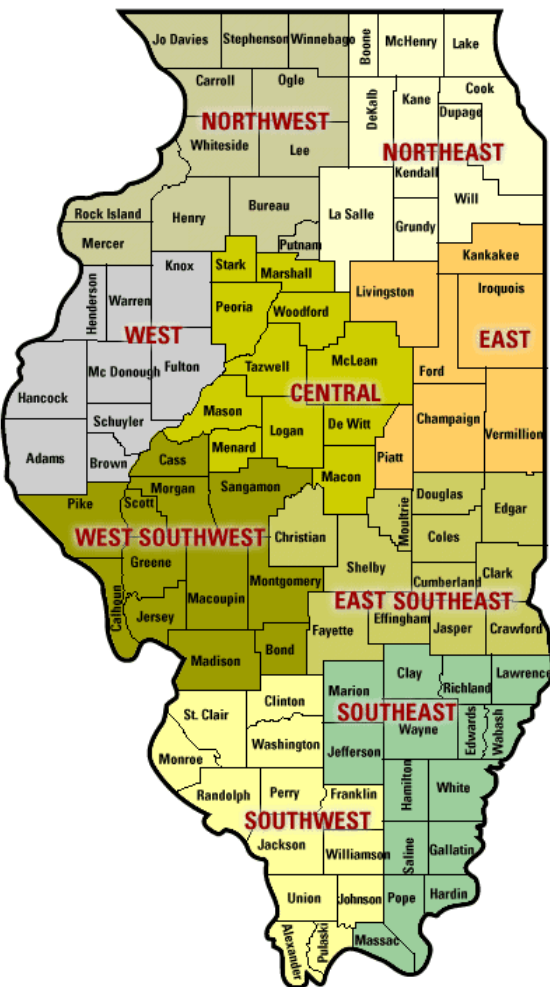


# Sensitivity of Estimate

	<u>Change in Average Income</u>
One bushel change in	
Corn yields	\$ 751
Soybean yields	1,754
Change in effective price	
Corn price - \$.05	\$ 2,304
Soybean price - \$.10	1,398



# Net Farm Income by Region

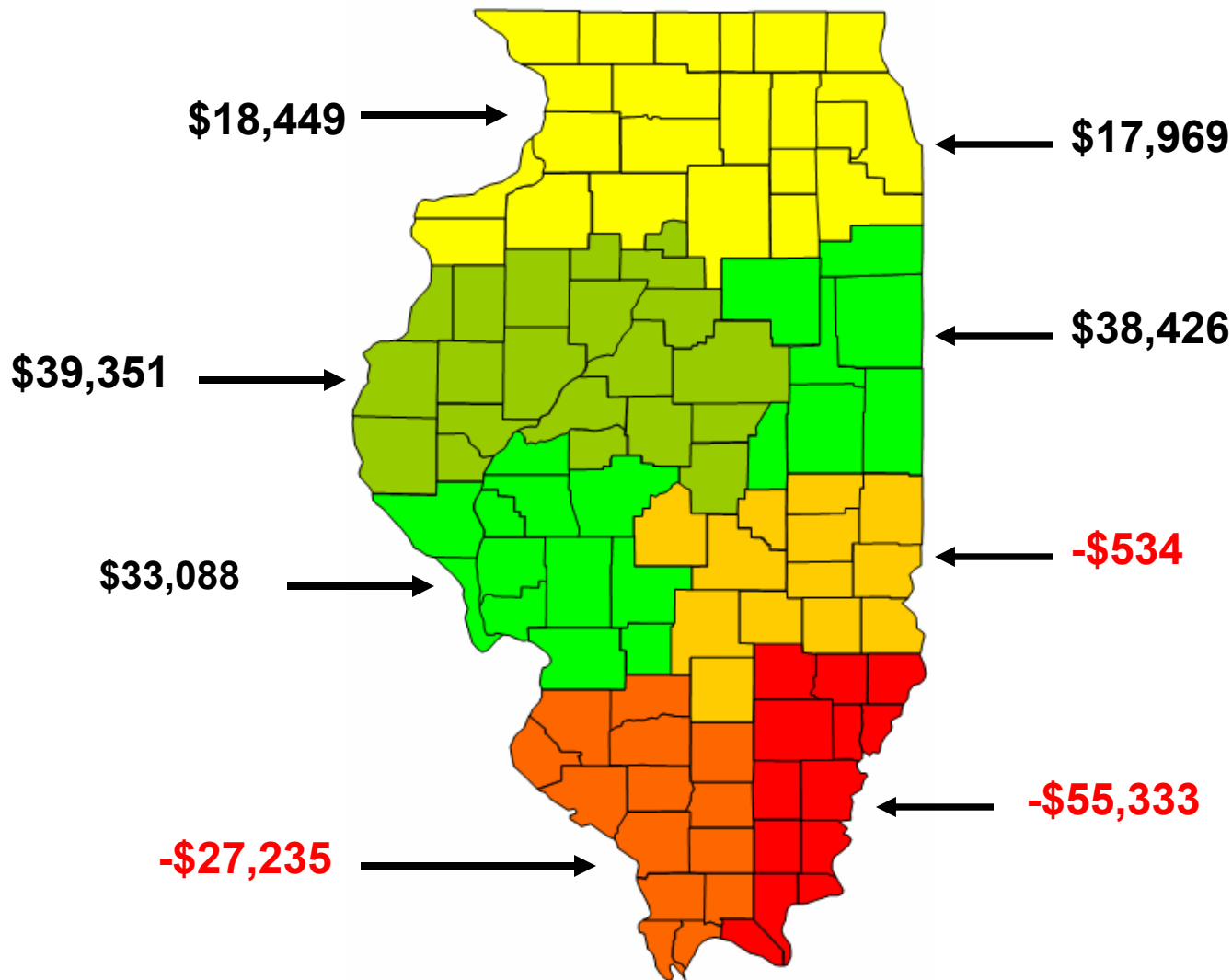


Actual

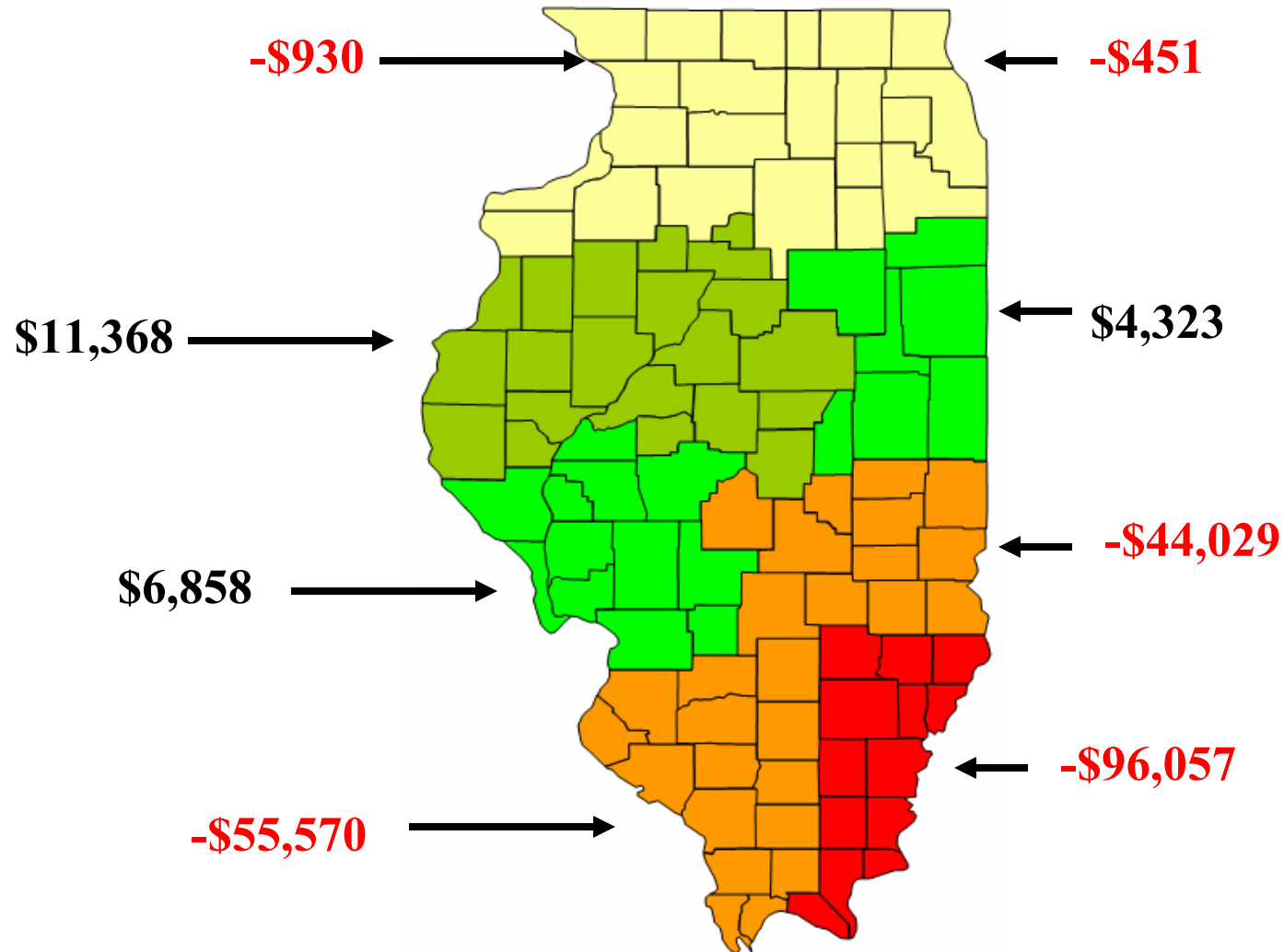
Projected

Crop Reporting District	1998	1999	2000	2001	2002
Northwest	18,714	34,037	39,638	19,379	18,449
Northeast	25,342	23,892	39,226	18,420	17,969
Central & West	16,912	33,879	50,502	27,983	39,351
East	13,427	38,088	44,405	34,103	38,426
West Southwest	22,138	36,694	64,681	26,230	33,088
East Southeast	6,984	29,578	59,328	43,495	(534)
Southwest	1,970	15,432	51,207	28,335	(27,235)
Southeast	(20,807)	14,751	78,224	40,724	(55,333)
<b>NASS Weighted Average</b>	<b>12,621</b>	<b>31,248</b>	<b>53,567</b>	<b>29,686</b>	<b>17,499</b>

# 2002 Net Farm Income by Region

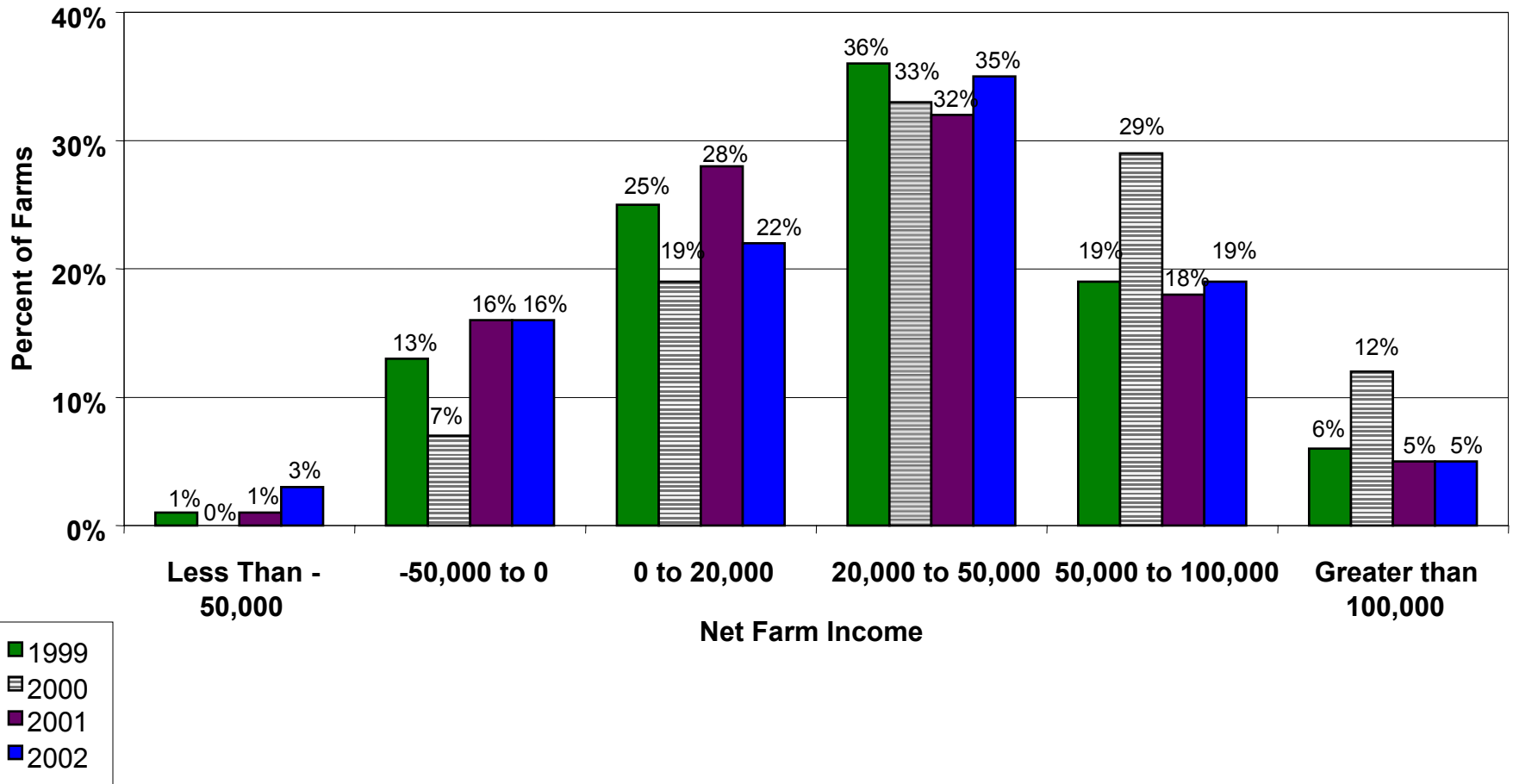


# Change in Net Farm Income 2001 to 2002



# Distribution of Net Farm Income

Distribution of Net Farm Incomes of 993 Illinois Grain Farms, 1999 - 2002



# Effect of 2002 Farm Bill

- Direct payments – guaranteed, based on base acres and program yields for each program crop. Replace AMTA payments.
- Counter Cyclical payments – not guaranteed, based on 12 month national average price, and base acres and program yields. Institutionalize market loss assistance payments.
- LDP's, marketing loans– same as in the past, although we have different county loan rates. Available when PCP below loan rate.

# Calculation of Direct Payments

	<b>Corn</b>	<b>Beans</b>	<b>Wheat</b>
Per bu. rate	\$.28	\$.44	\$.52
x Program yield (bu.)	115	34	45
x Base acres	1	1	1
x .85	.85	.85	.85
=	<b>\$27.37</b>	<b>\$12.72</b>	<b>\$19.89</b>

# Benefit of Proving SB Yield for Direct Payments

	<b>Proven yield</b>	<b>Plugged yield</b>
Per bu. rate	\$.44	\$.44
x Program yield (bu.)	34	26
x Base acres	1	1
x .85	.85	.85
=	<b>\$12.72</b>	<b>\$ 9.72</b>

# Maximum Counter-Cyclical Payment Rate

	Corn	Soybeans	Wheat
	-----\$ per bu. -----		
Target price	\$2.60	\$5.80	\$3.86
Direct payment rate	0.28	0.44	0.52
Trigger price <sup>1</sup>	2.32	5.36	3.34
Loan rate	1.98	5.00	2.80
Max. counter-cyclical payment <sup>2</sup>	0.34	0.36	0.54

<sup>1</sup> Trigger price equals target price less direct payment rate.

<sup>2</sup> Equals trigger price minus loan rate.

Higher of loan rate or season average price used in rate calculation



# Counter Cyclical Payments

	<b>Corn</b>	<b>Beans</b>	<b>Wheat</b>
Per bu. rate ( <b>max</b> )	\$ .34	\$ .36	\$ .54
x Program yield (bu.)	137	41	52
x Base acres	1	1	1
x .85	.85	.85	.85
<b>=</b>	<b>\$39.59</b>	<b>\$12.55</b>	<b>\$23.87</b>

**Remember CC payments are not guaranteed!!**  
**Program yields equals 1998-01 state avg. x .935**

# Outlook for 2002 CC Payments

	<u>Corn</u>	<u>Soybeans</u>	<u>Wheat</u>
Trigger price	\$2.32	\$5.36	\$3.34
12 month est. price for 2002*	\$2.40	\$5.40	\$3.80
<b>2002 CC Payments??</b>	<b>0</b>	<b>0</b>	<b>0</b>

\* Midpoint of Nov. 11 USDA Supply and Demand Report

# Cash Flow/Income Considerations

			<u>2001</u>		<u>2002</u>	
			<u>Per bu.</u>	<u>Per acre</u>	<u>Per bu.</u>	<u>Per acre</u>
Jan.	PFC	Corn	\$ 0.269	\$ 16.42	\$ 0.261	\$ 15.93
Aug.	MLA	Corn	0.307	18.74	XX	XX
	Oilseed	SB	0.121	2.78	XX	XX
Nov. ??	LDP	Corn	0.17	15.42	0	0
		SB	1.25	28.75	0	0
Nov. ??	CCP	Corn	XX	XX	0	0
		SB	XX	XX	0	0
Nov. ??	DP	Corn	XX	XX	0.019	1.16
		SB	XX	XX	0.44	6.71
Per acre totals			<u>\$ 82.11</u>		<u>\$ 23.80</u>	

**Note: 2003 direct payment advance of 50% available in December, 2002.  
 2002 CCP payment not determined until October, 2003.  
 2000 Oilseed payment also received in Feb. 2001.**

# Direct and Counter Cyclical Payment Schedule

Program Crop	Fall 2002	Dec. 2002	Feb. 2003	July 2003	Oct. 2003	Dec. 2003
Corn Soybeans Sorghum	2002 CC 1st Adv.		2002 CC 2nd Adv.		2002 CC Final	
					2003 CC 1st. Adv.	
	2002 Direct Final	2003 Direct Adv.			2003 Direct Final	2004 Direct Adv.
Wheat Barley Oats	2002 CC 1st Adv.		2002 CC 2nd Adv.	2002 CC Final		
					2003 CC 1st. Adv.	
	2002 Direct Final	2003 Direct Adv.			2003 Direct Final	2004 Direct Adv.

CC = Counter-cyclical

Adv. = Advance

Advance payments (Direct) - At the option of the producer, up to 50% of the direct payment will be paid in advance.

Advance payments (Counter-cyclical) - The first advance payment may be up to 35% of the projected total CC payments. The total of the first two advance payments may not exceed 70% of the projected total CC payments.

# Cash Flow/Income Considerations

- Looking at significantly less total government payments this year. And no more payments until operators/landlords sign up for the program!!
- Will be a “hole” in the cash flow.
- Producers may need to consider more fall grain sales. Especially commercially stored grain. Save on storage costs.
- Likely more price variability, marketing needs attention again!!
- Income tax planning important, especially this year.

# Significance of Government Payments

	Average	
Net Farm Income	\$ 17,499	
Government Payments	14,952	→
Direct payments		14,952
Counter cyclical payments		0
Loan deficiency payments		0

## LDP Assumptions

Corn	0.00
Soybeans	0.00
Wheat	0.00

# LDP and Market Loan Gains

<b>Crop Year</b>	<b>LDP Payments</b>	<b>Market Loan Gain</b>	<b>% Bu. Receive LDP or Gain</b>	<b>Effective Bu. Rate</b>
<b>Corn</b>				
1999	\$304,111,280	\$42,256,320	88.6%	\$0.23
2000	\$406,686,160	\$23,794,260	93.3%	\$0.26
2001	\$219,648,600	\$10,770,390	90.1%	\$0.14
<b>Soybeans</b>				
1999	\$365,455,130	\$25,874,100	98.4%	\$0.88
2000	\$398,287,340	\$32,709,100	99.5%	\$0.94
2001	\$551,277,100	\$28,560,970	98.2%	\$1.21

<http://www.fsa.usda.gov/dafp/psd/reports.htm>

# Changes to Net Worth

Net Income	\$17,499
- Family Living	49,429
+ Nonfarm Income	23,881
- Income Taxes	11,771
-/+ Valuation Change	<u>12,528</u>
 Total Change in Net Worth 2001 to 2002	 -\$7,292

## Assumptions:

- 3.0% increase in land values
- no change in machinery values



# Change in Net Worth

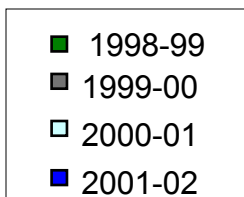
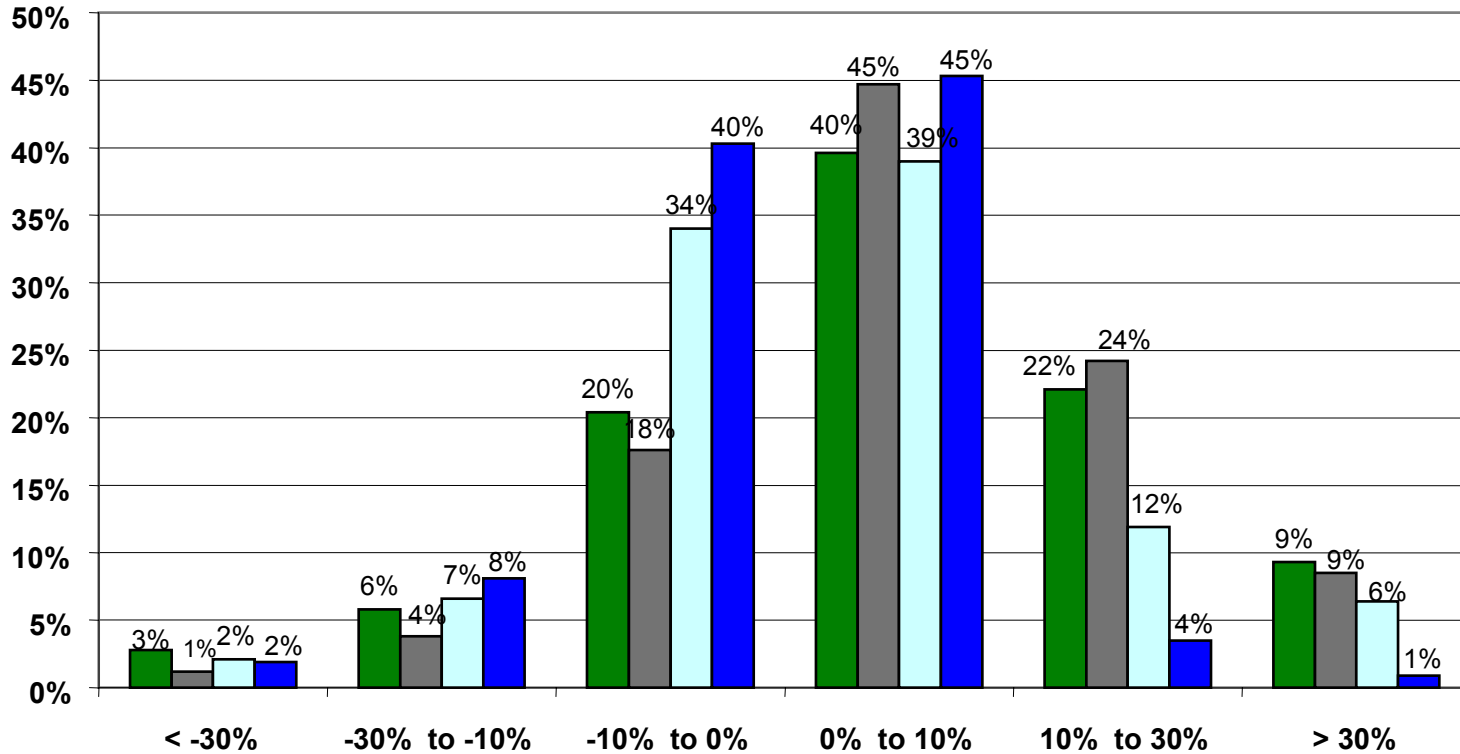
<u>Annual Change</u>	<u>Median</u>
1998-99	4.43%
1999-00	5.25%
2000-01	1.16%
2001-02	-0.18%

## Assumptions:

- 3.0% increase in land values
- no change in machinery values

# Distribution of Net Worth Change

Distribution of Net Worth Change for Illinois Grain Farms



# Simple Risk Rating Model

## Positive Working Capital (Current Ratio greater than 1)

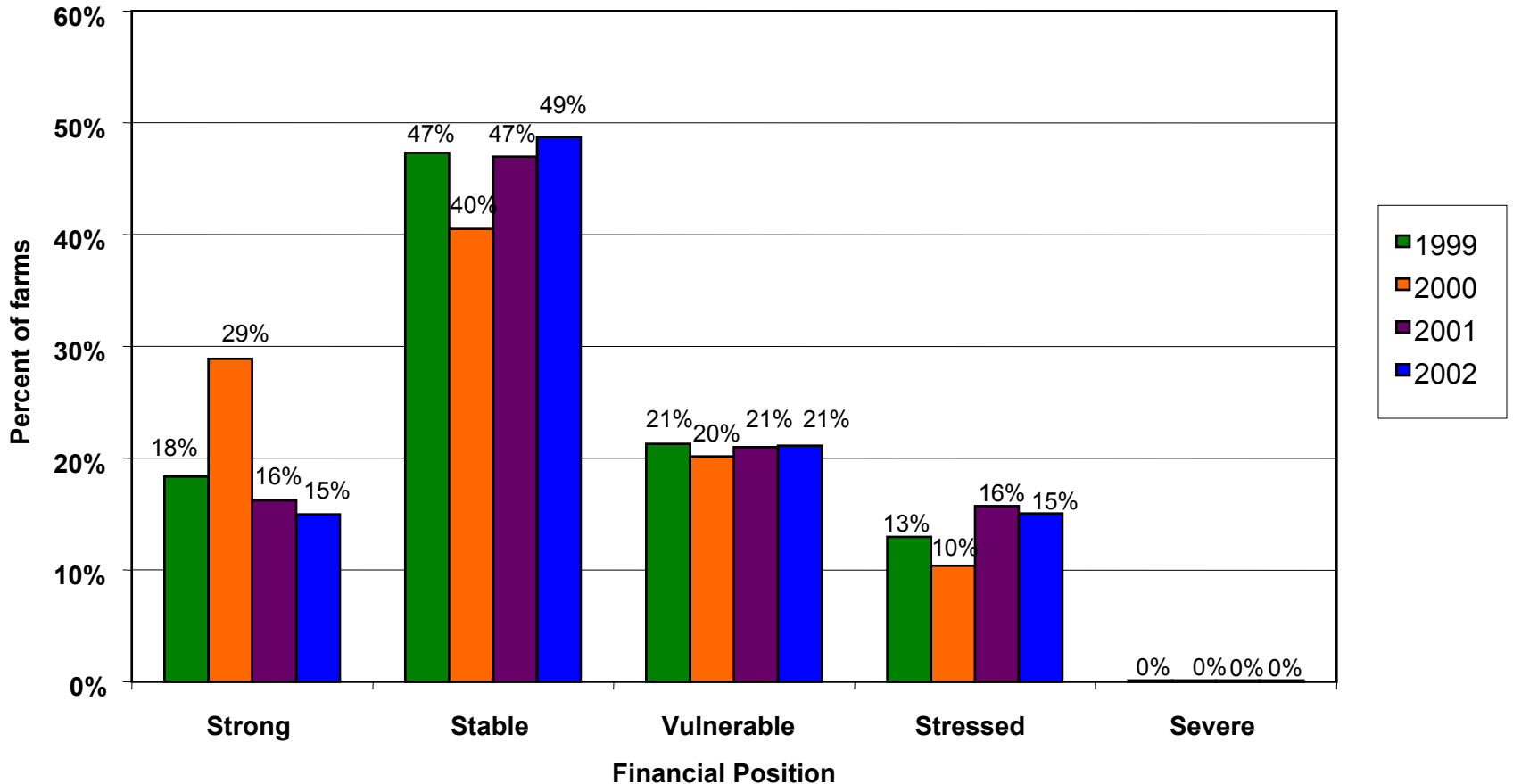
Debt to Asset Ratio	Rate of Return on Equity (before depreciation)				
	Less Than				Greater Than
	-20%	-20% to -5%	-5% to 5%	5% to 20%	20%
0 to 10%	Vulnerable	Vulnerable	Stable	Strong	Strong
10% to 40%	Vulnerable	Vulnerable	Stable	Strong	Strong
40% to 70%	Vulnerable	Vulnerable	Vulnerable	Stable	Stable
70% to 100%	Vulnerable	Vulnerable	Vulnerable	Vulnerable	Vulnerable
Greater than 100%	<b>Severe</b>	<b>Severe</b>	<b>Severe</b>	<b>Severe</b>	<b>Severe</b>

## Negative Working Capital (Current Ratio less than 1)

Debt to Asset Ratio	Rate of Return on Equity (before depreciation)				
	Less Than				Greater Than
	-20%	-20% to -5%	-5% to 5%	5% to 20%	20%
0 to 10%	Stressed	Stressed	Vulnerable	Stable	Stable
10% to 40%	Stressed	Stressed	Vulnerable	Stable	Stable
40% to 70%	Stressed	Stressed	Stressed	Vulnerable	Vulnerable
70% to 100%	Stressed	Stressed	Stressed	Stressed	Stressed
Greater than 100%	<b>Severe</b>	<b>Severe</b>	<b>Severe</b>	<b>Severe</b>	<b>Severe</b>

# Financial Position

Distribution of Illinois Grain Farms by Financial Position Category, 1999-2002



## What commodity price levels are needed if government payments are eliminated?

- To achieve Net Farm Income of \$21,046 with 2002 estimated yields  
Commodity prices would need to increase to
  - Corn \$2.69
  - Soybeans \$5.92
  - Wheat \$3.45
- To achieve Net Farm Income of \$50,000 with 2002 estimated yields  
Commodity prices would need to increase to
  - Corn \$3.06
  - Soybeans \$6.74
  - Wheat \$3.92

# Conclusions and Limitations

- Many assumptions made in study
- Sensitivity of projections to prices
- Grain farms only, no livestock returns
- 2002 incomes projected lower than 2001
- **Much more variability in income around the state, southern Illinois hurt the most**
- Government program payments have less of an impact on income as compared to the last few years
- In general, financial health remaining stable