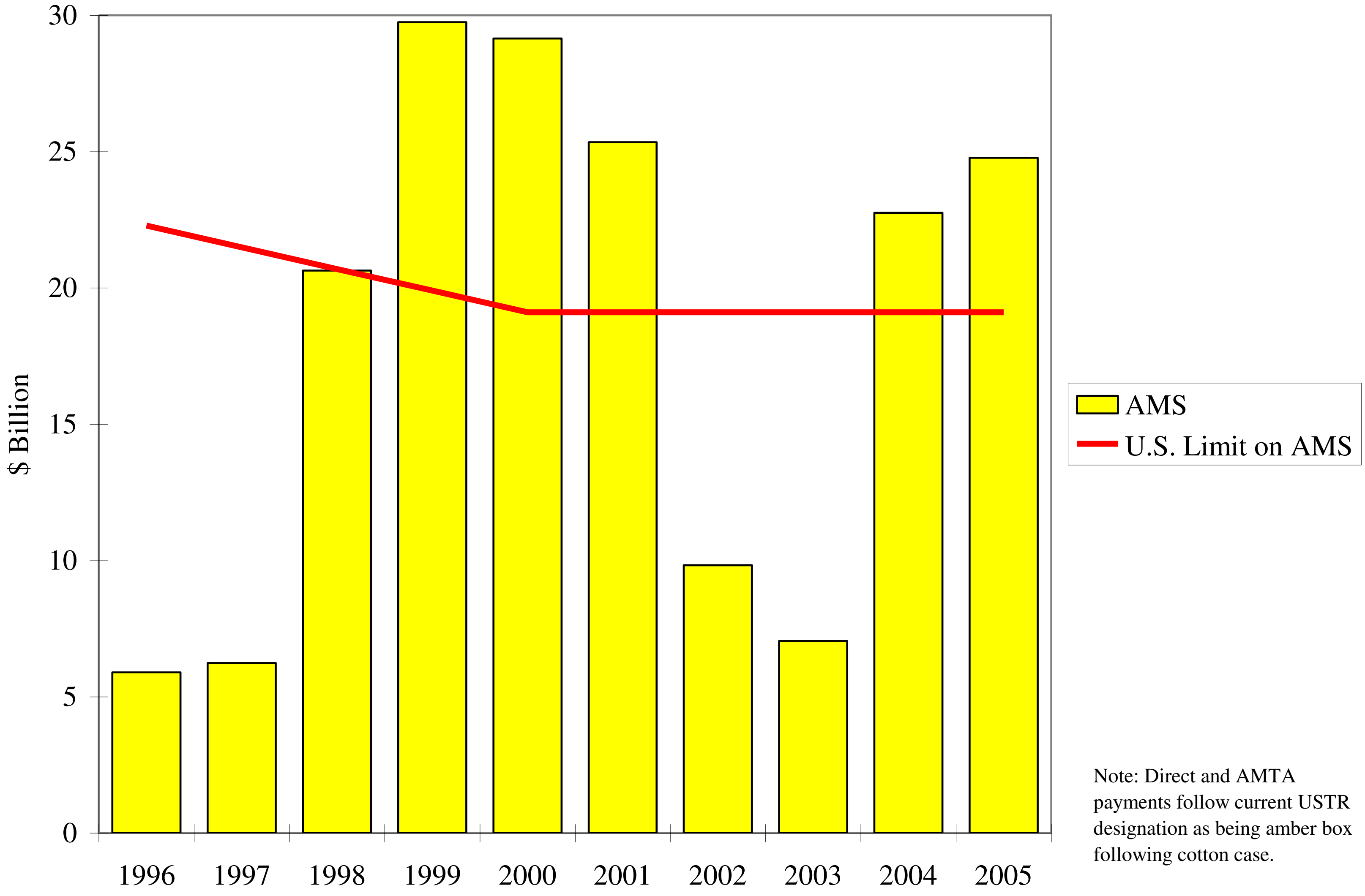
A New Approach to Providing an Agricultural Safety Net

Bruce A. Babcock
Center for Agricultural and Rural Development,
Iowa State University

Presented at 21st Century Farm Policy: Challenges and Opportunities, Fargo, North Dakota October 30-31, 2005

Expenditures on Current Safety Net

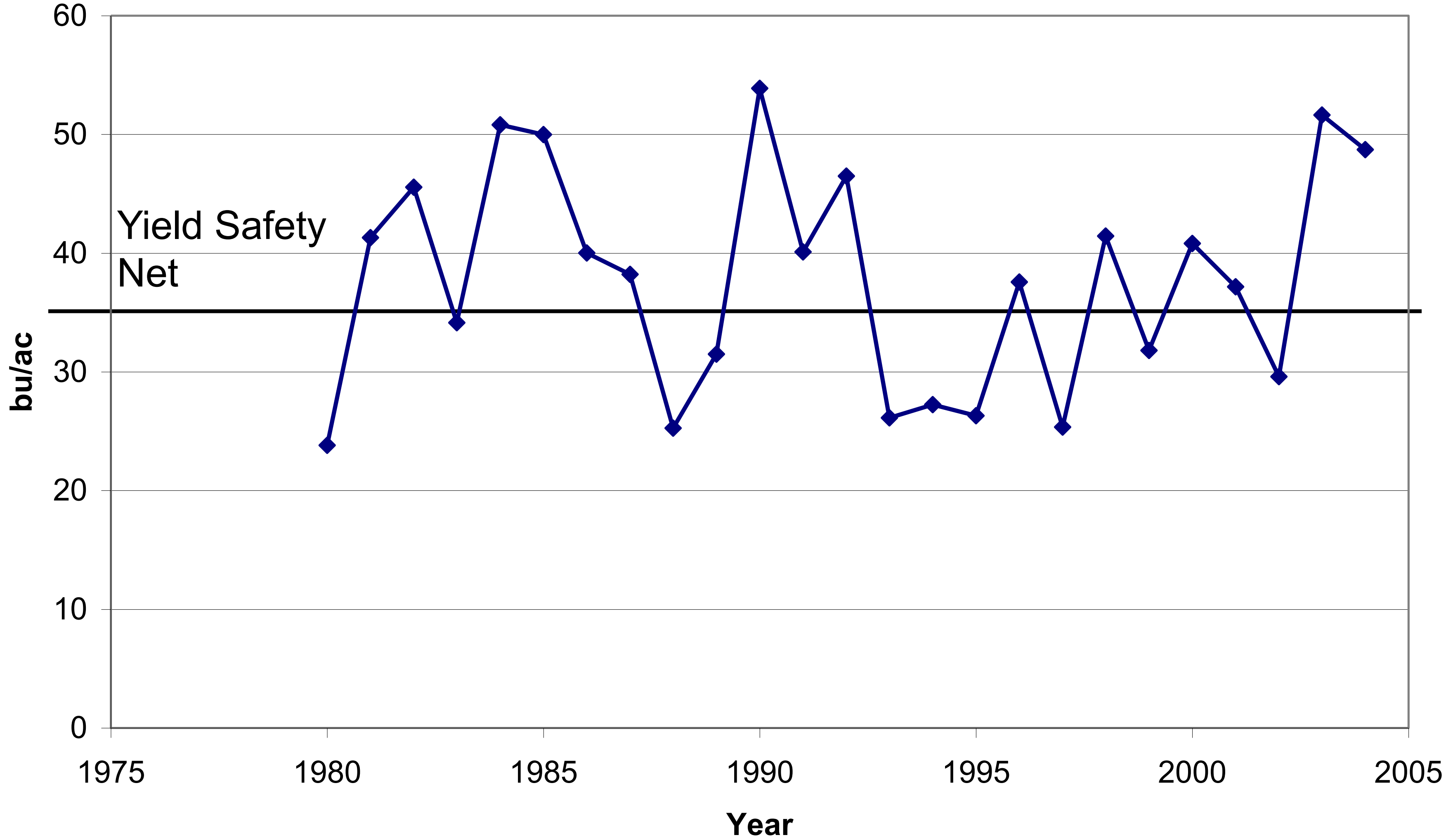


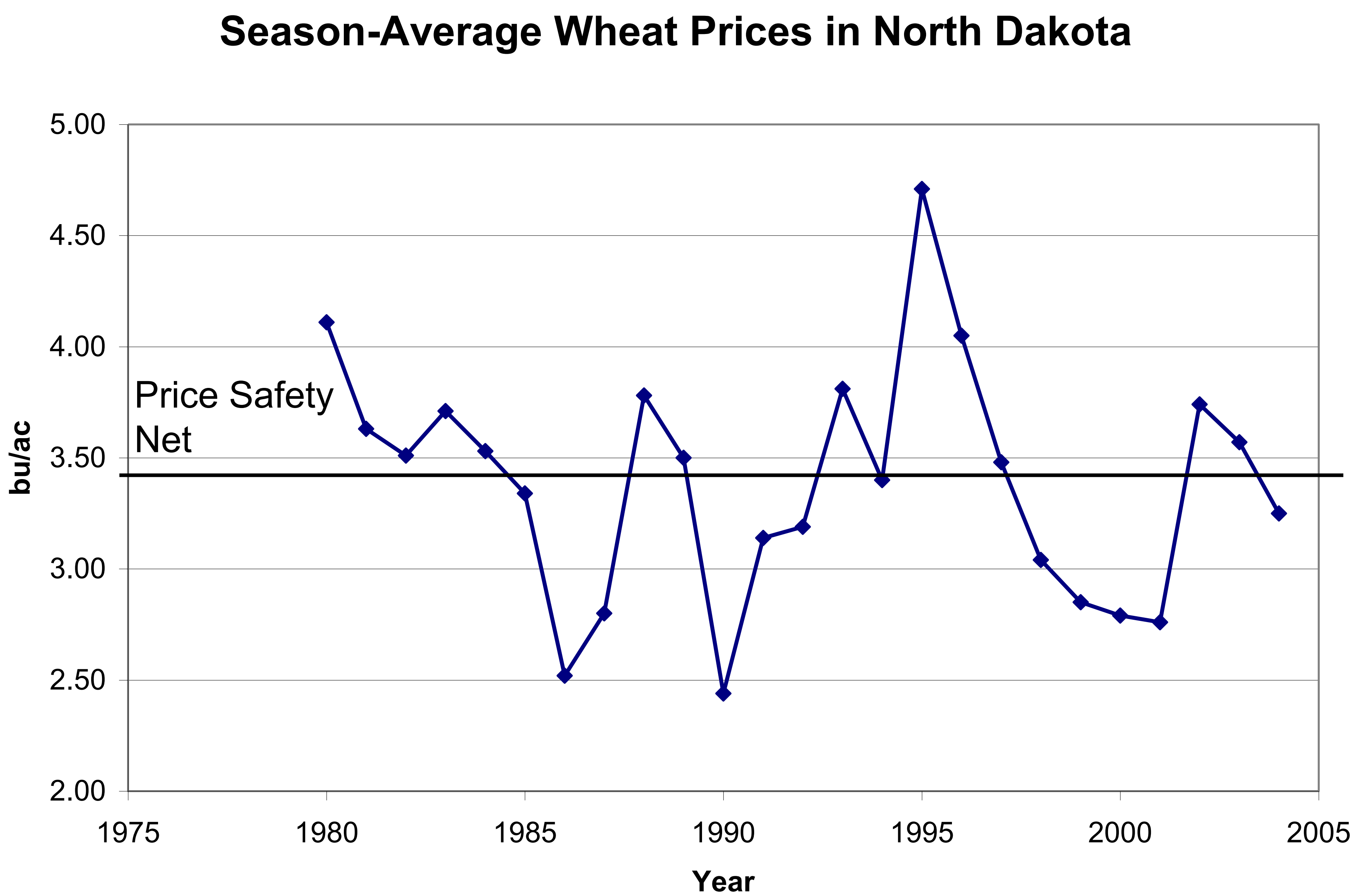
Note: Direct and AMTA payments follow current USTR designation as being amber box following cotton case.

US WTO Proposal Would Require Spending Cuts

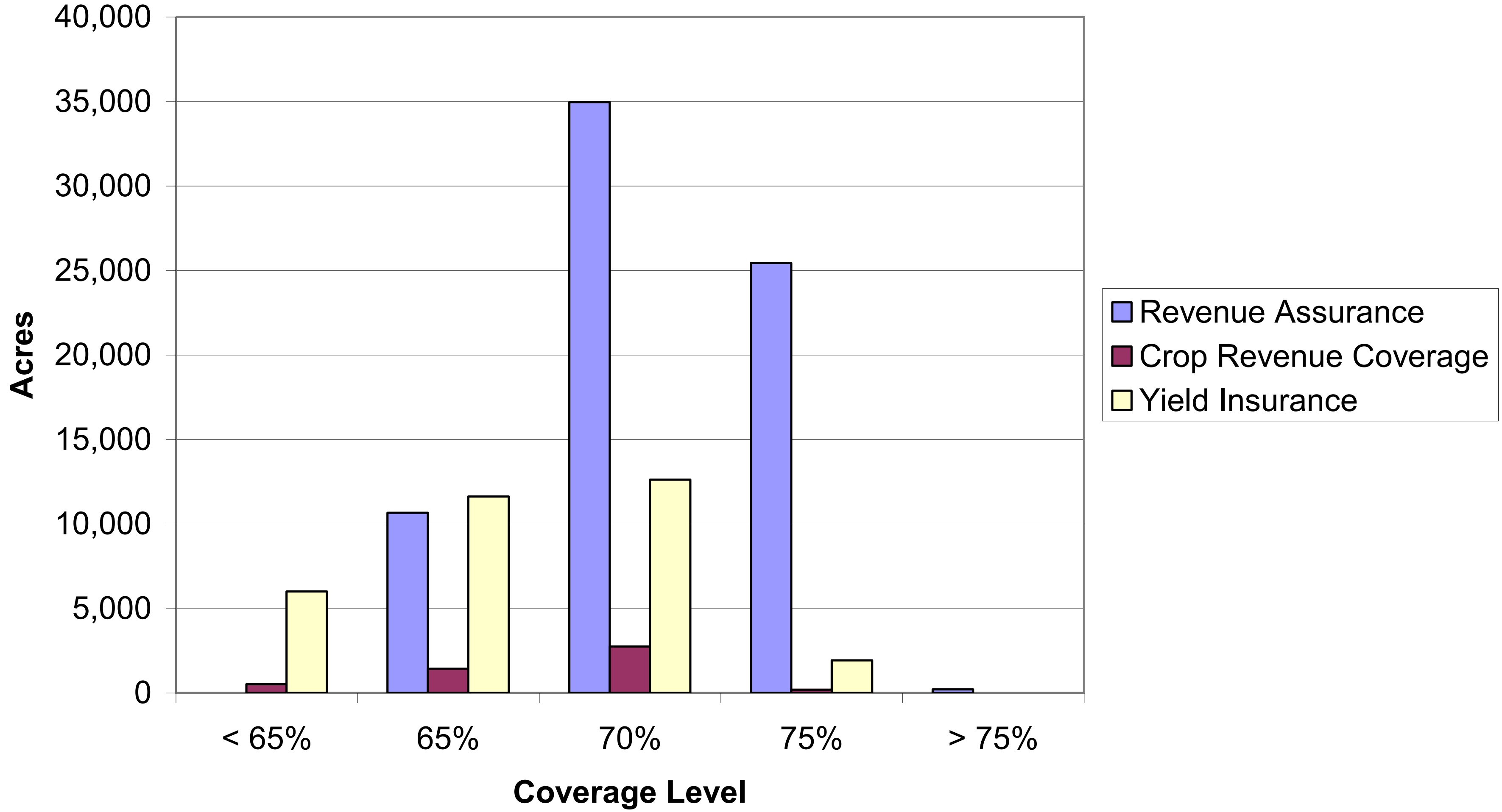
- Should cuts be made in existing programs?
  - Lower loan rates, effective target prices, proportions of production eligible for support
- Should we redesign the US safety net to
  - meet WTO and budget objectives
  - improve the effectiveness of existing program

De-Trended Wheat Yields in Steele County

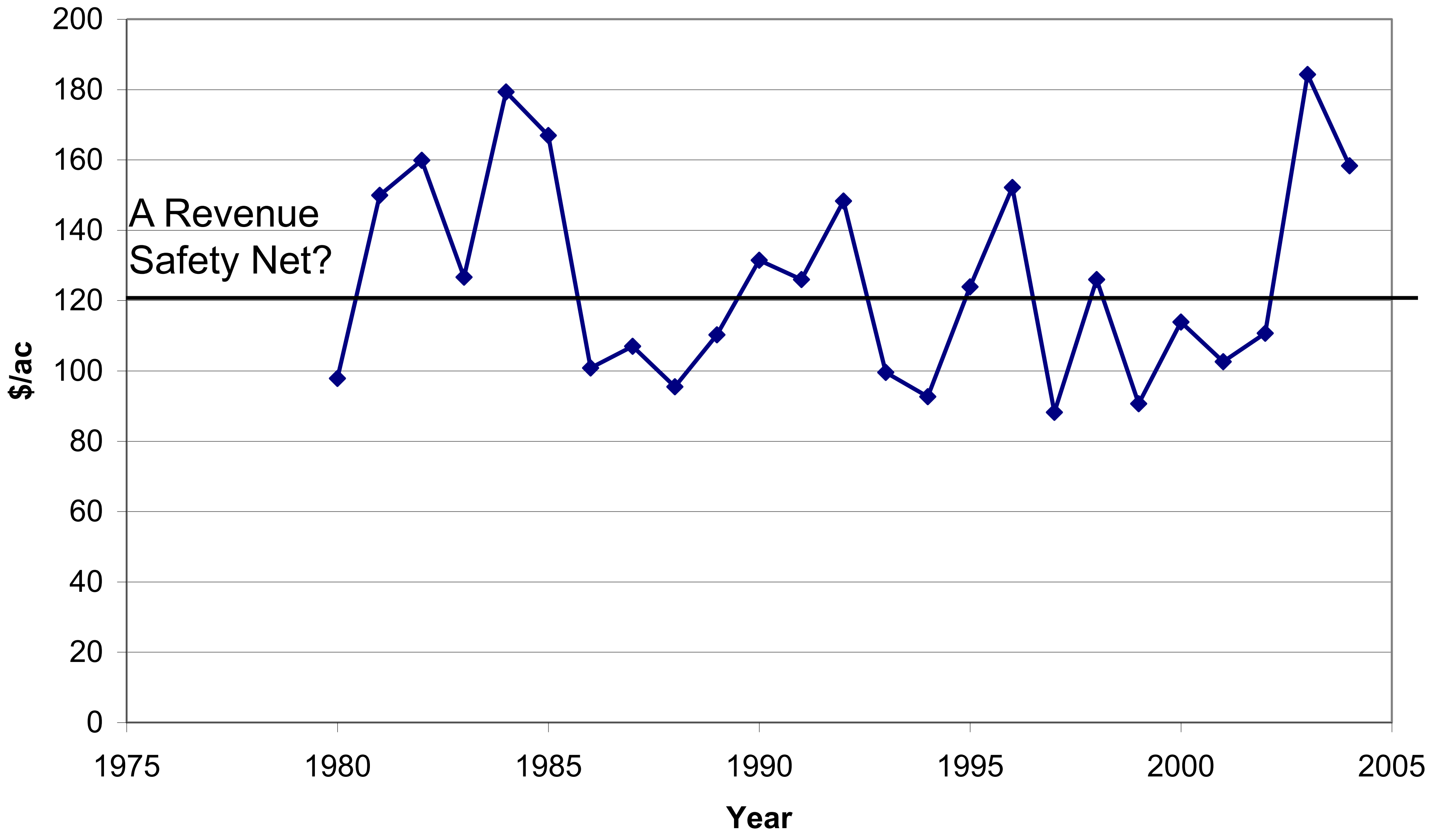



Season-Average Wheat Prices in North Dakota
5.00
4.50
4.00
3.50
3.00
2.50
2.00
bu/ac
Price Safety
Net
1975
1980
1985
1990
1995
2000
2005
Year

What Safety Net Did Steele County Wheat Producers Choose in 2005?



Average Per-Acre Revenue in Steele County



Does a Yield Safety Net Make Sense?

- **High yield, low price**: No payment but cash receipts likely to be down
- **Low yield, high price**: Payment received, but it will be excessive because of high market price
- **High yield, high price**: No payment needed and no payment received *******
- **Low yield, low price**: Payment received, but no compensation for low price

Does a Price Safety Net Make Sense?

- **High yield, low price**: Payment received, but payment will be excessive
- **Low yield, high price**: No payment received, but cash receipts will likely be down for some farmers
- **High yield, high price**: No payment needed and no payment received *******
- **Low yield, low price**: Payment received, but no compensation for low yields

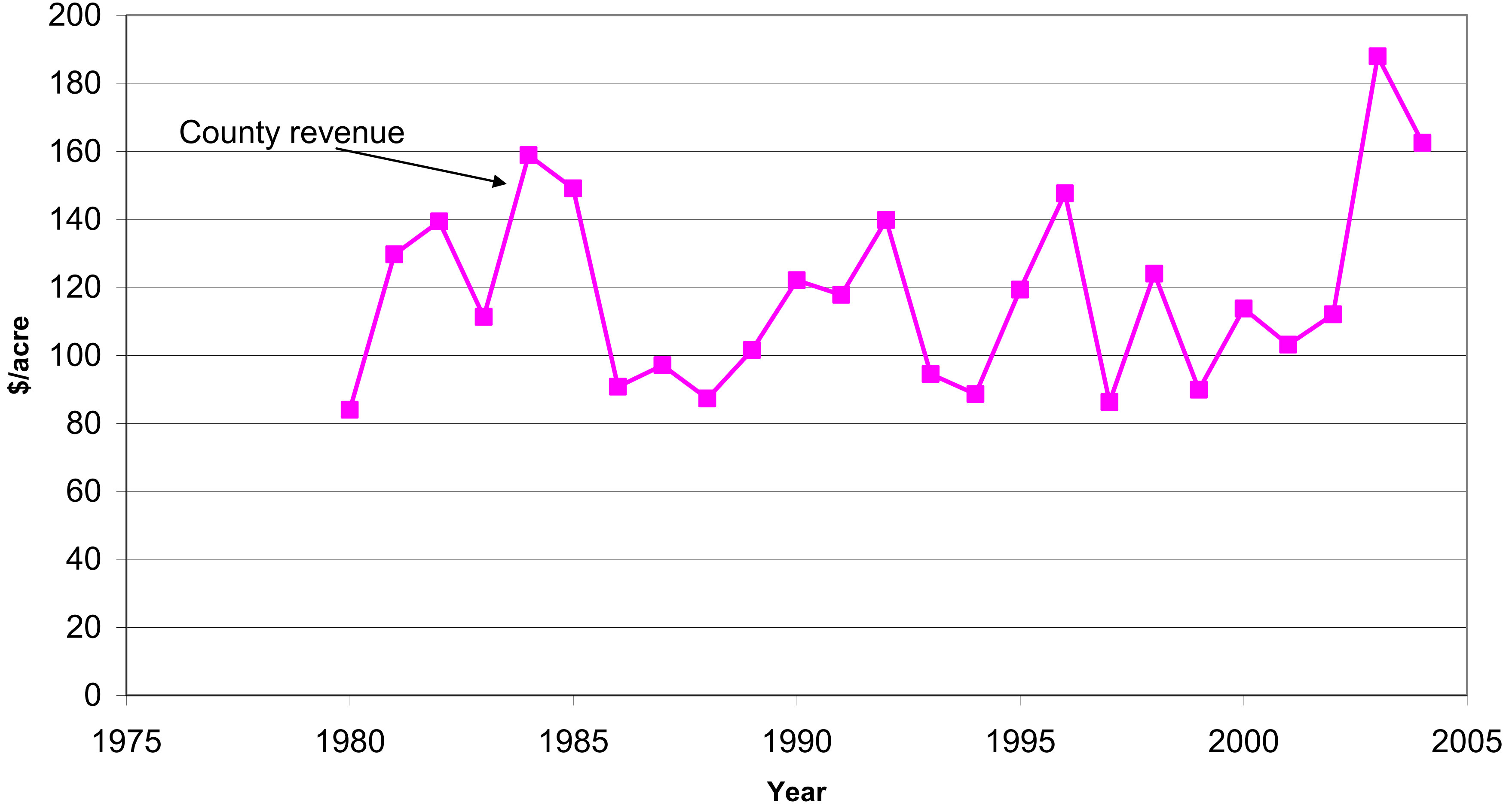
Does a Revenue Safety Net Make Sense?

- **High yield, low price**: Payment received if revenue is below target revenue *******
- **Low yield, high price**: Payment received if revenue is below target revenue *******
- **High yield, high price**: No payment needed and no payment received *******
- **Low yield, low price**: Payment received, full compensation to target revenue *******

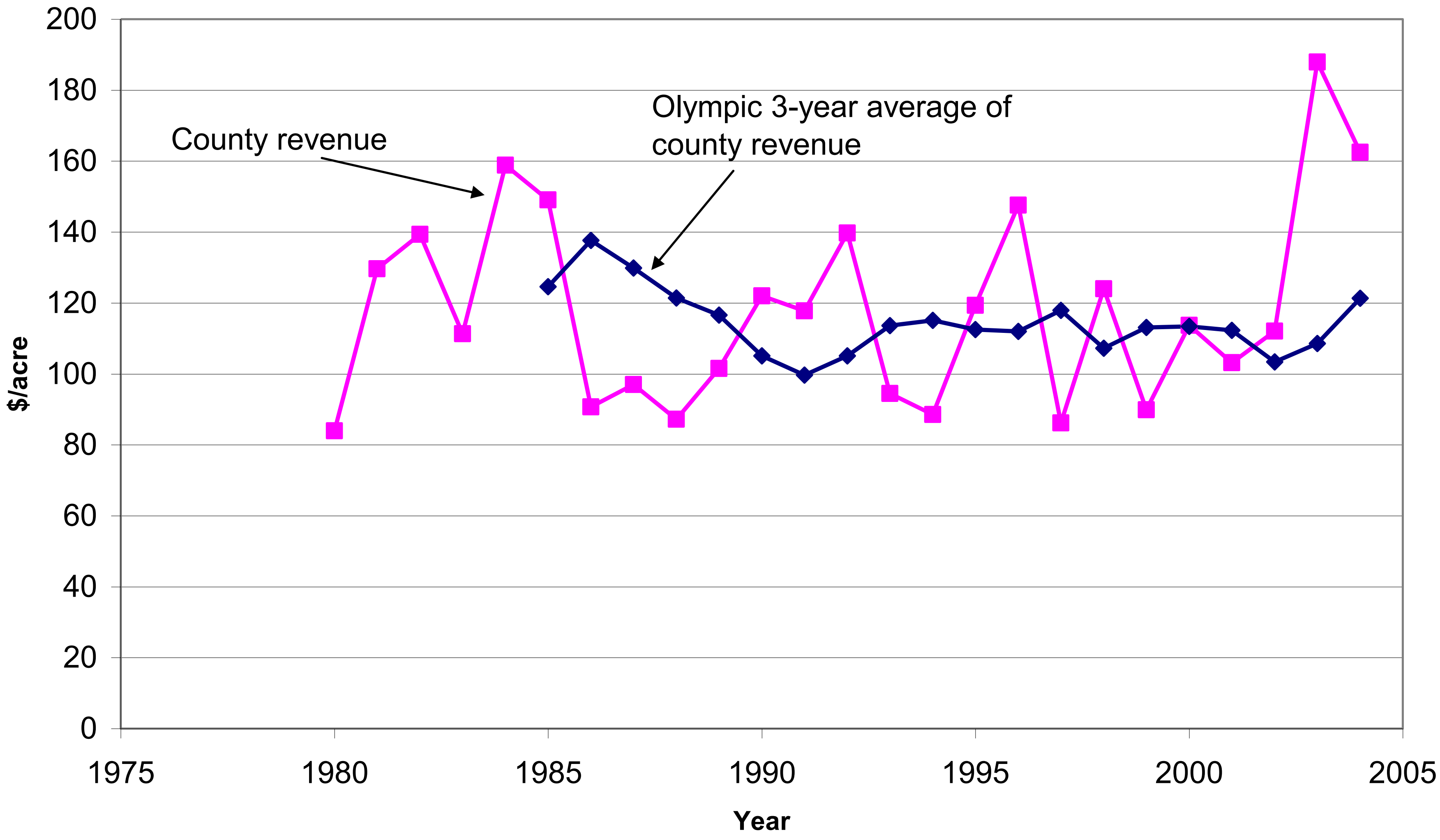
What About a Cost Safety Net?

- Most production costs are under control of the producer
- A safety net that compensates a producer for controllable actions would induce behavior oriented towards increasing payoff
- Same reason why we need a significant deductible in crop insurance

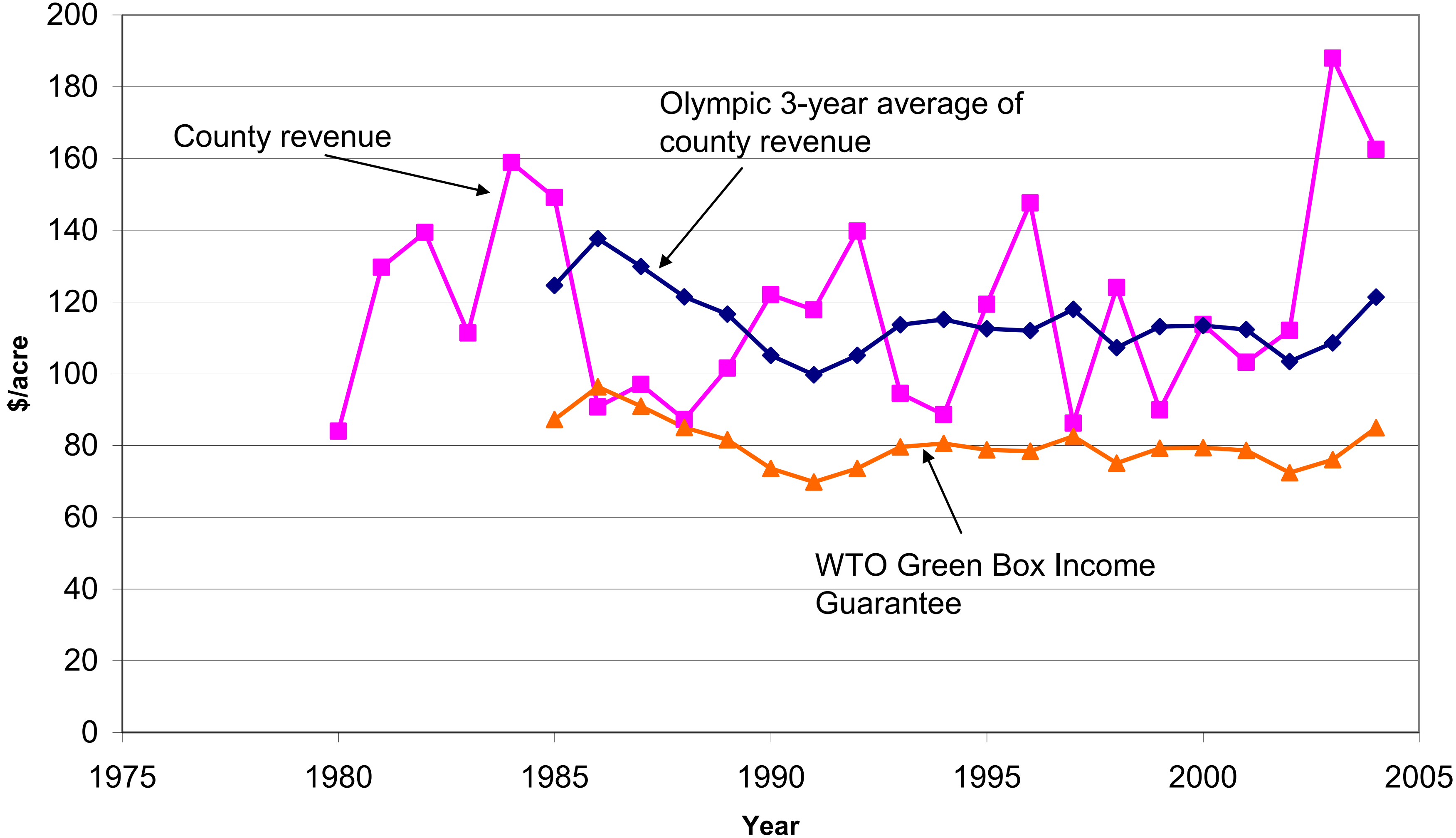
Design of a "Green Box" Income Support Program for Steele County Wheat Producers



Design of a "Green Box" Income Support Program



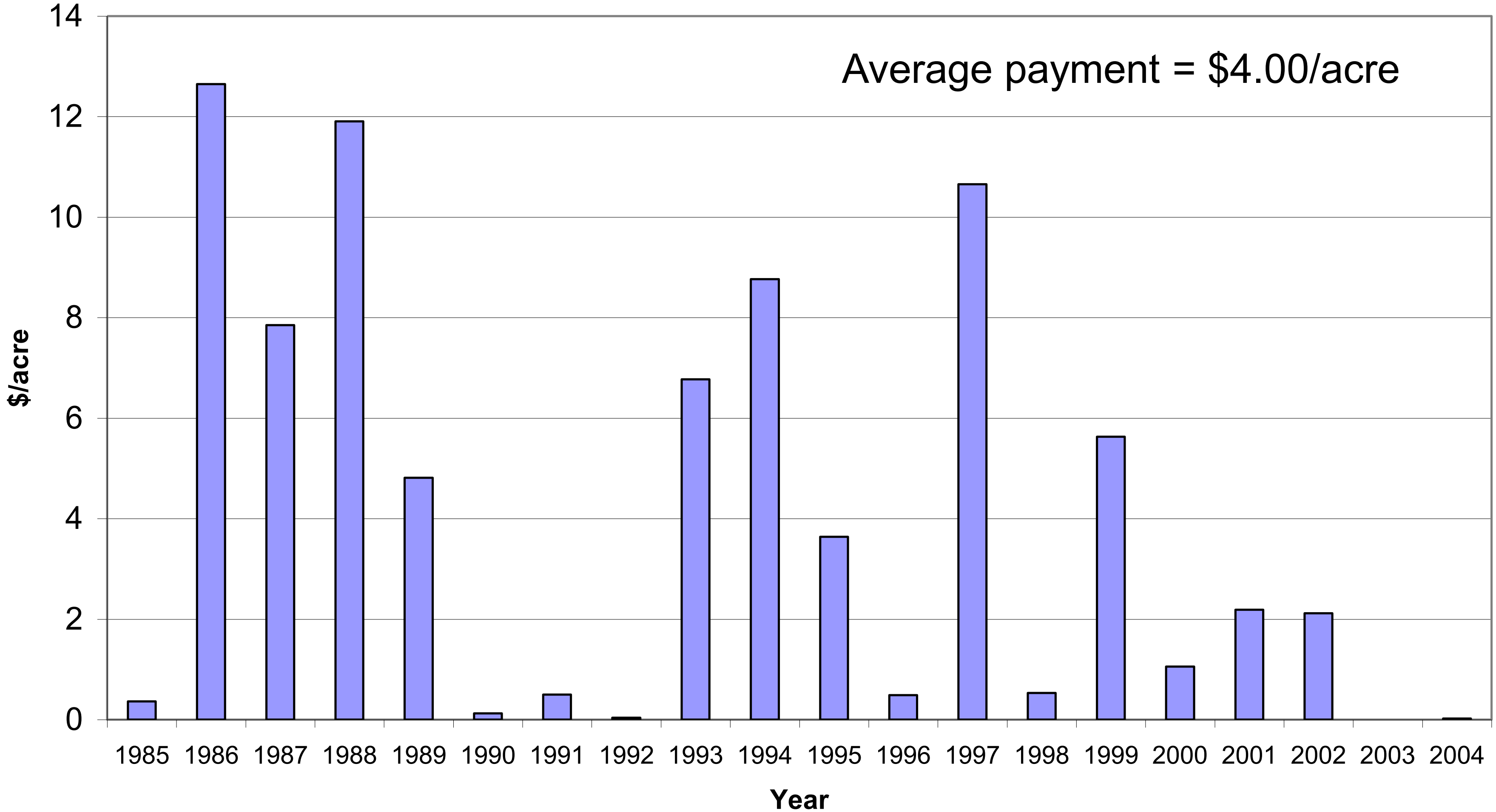
Design of a "Green Box" Income Support Program



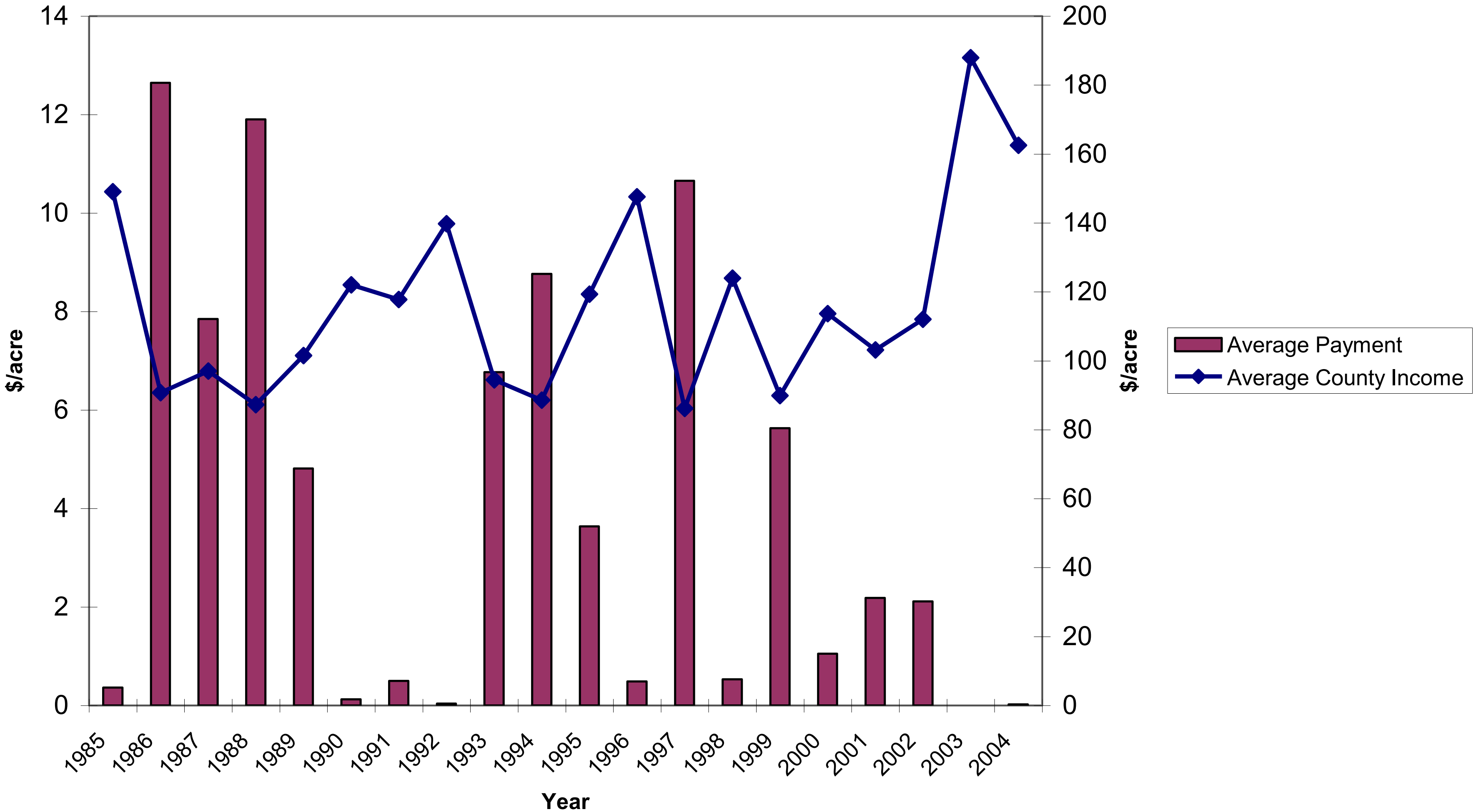
What Value is a 70% Guarantee?

- Just like an APH yield, the guarantee will be set at the farm level using season-average prices.
- Value of a 70% guarantee much greater at the farm level than at the county level.
- Individual guarantee at the 70% level provides about equivalent loan collateral to what producers are obtaining now with crop insurance.

Average Payment to Steele County Wheat Producers under a "Green Box" Income Insurance Program



Green Box Support Would Arrive when Steele County Wheat Farmers Need It

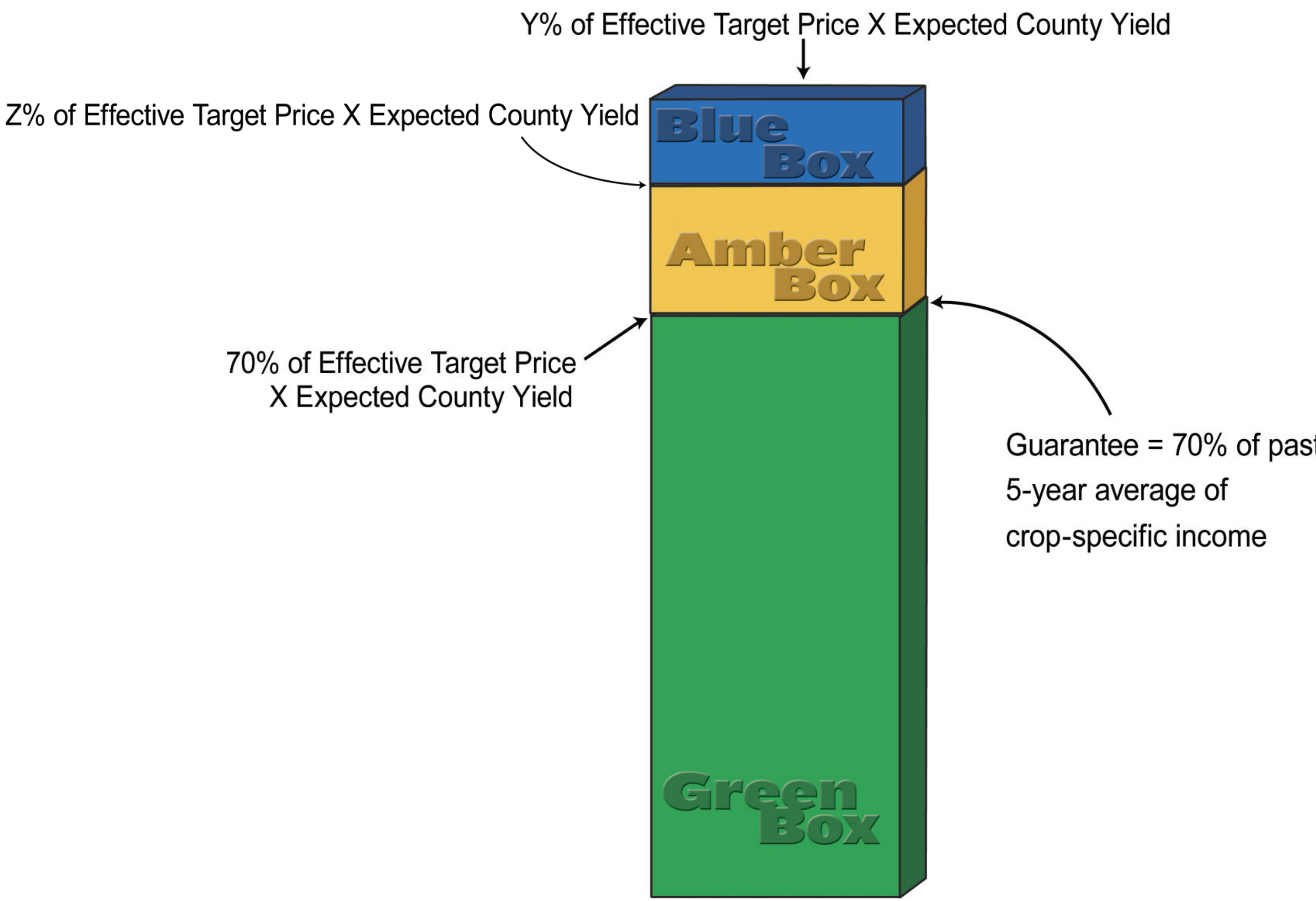


New Amber and Blue Box Programs

- Amber Box
  - Define target county revenue as the product of expected county yield and a target price
  - Define actual county revenue as the product of county average yield and national season-average price
  - Payments flow when actual county revenue is less than amber coverage level times target county revenue guarantee
  - Maximum payments reached when actual county revenue falls below 70% of target county revenue
  - Payments made on actual farmer-planted acreage

New Amber and Blue Box Programs

- Blue Box
  - Payments flow when actual county revenue is less than blue coverage level times target county revenue
  - Maximum payments reached when actual county revenue falls below the target county revenue times the amber coverage level
  - Payments made on fixed base acreage


Y% of Effective Target Price X Expected County Yield
Z% of Effective Target Price X Expected County Yield
Blue Box
Amber Box
70% of Effective Target Price X Expected County Yield
Guarantee = 70% of past 5-year average of crop-specific income
Green Box

How Much Safety Under U.S. Proposal?

- Problem: Maximize sum of amber and blue coverage subject to spending limits on amber and blue box under the U.S. proposal
  - Use 1980 – 2004 data
- Amber box limit of $7.64 billion
- Blue Box limit of $5.75 billion
- Dairy gets $750 million of amber box and $500 million of blue box
- Sugar gets $300 million of amber box and $250 million of blue box
- Account for crop specific amber box limits

What Prices to Use?

- Effective Target Prices for 2002 Farm Bill

Wheat - $3.40/bu

Soy - $5.36/bu

Peanuts - $0.2295/lb

Cotton - $0.6573/lb

Grain sorghum - $2.22/bu

Corn - $2.35/bu

Oats - $1.416/bu

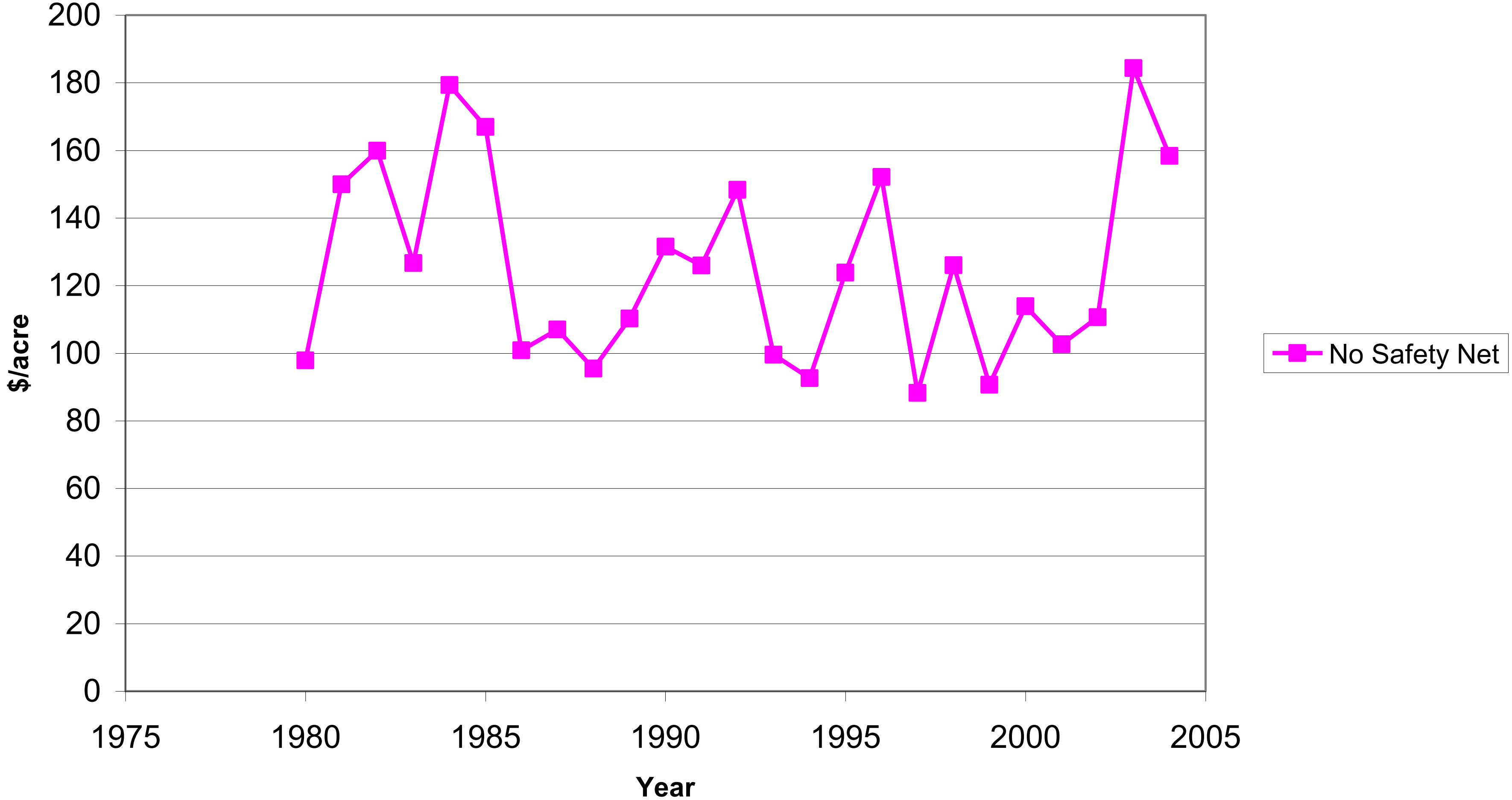
Barley - $2.00/bu

Rice - $8.15

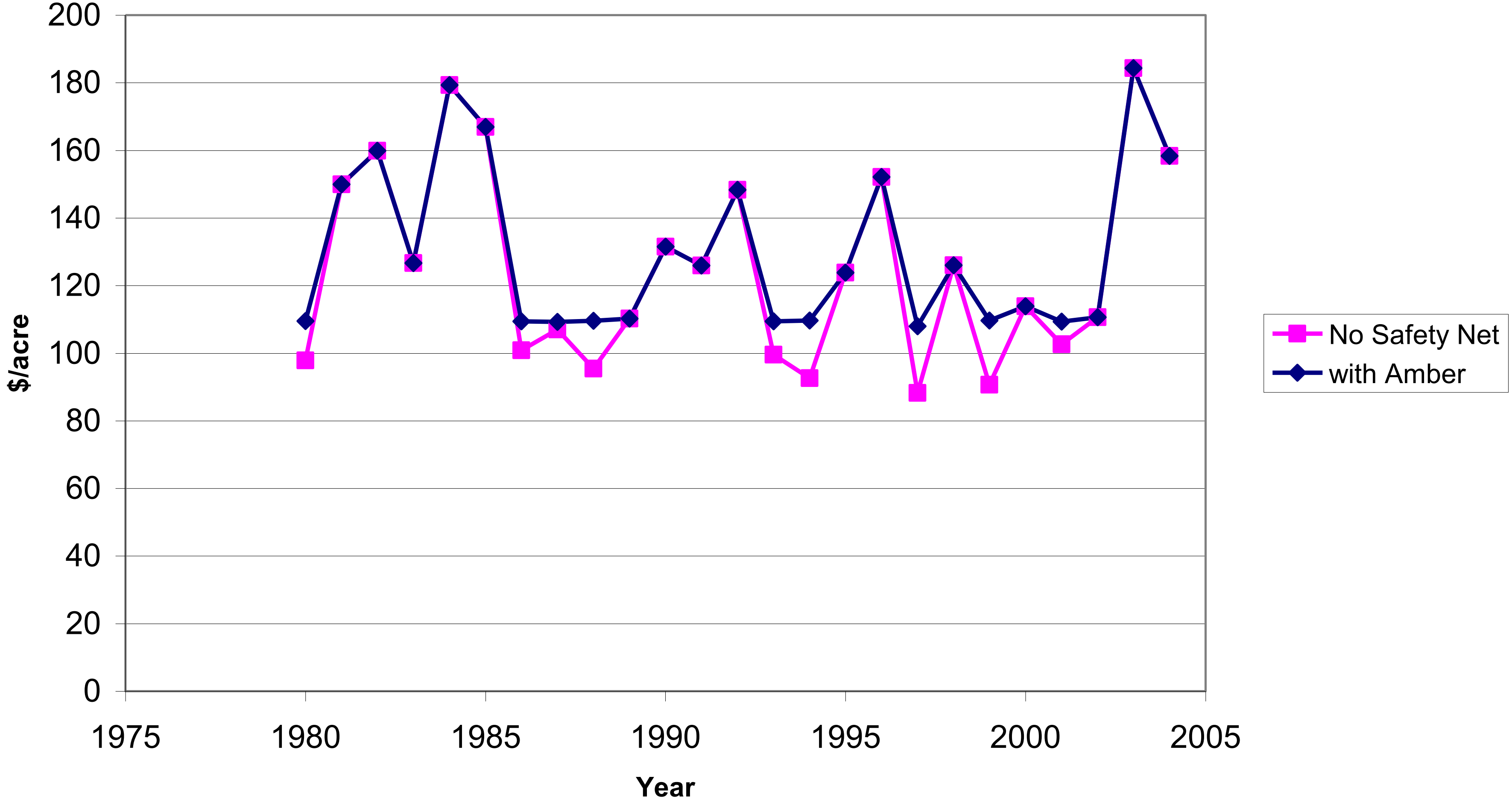
Maximum Safety Levels

- 85% amber box coverage level for all crops and counties
  - crop specific limits start binding
- 95% blue box coverage level
  - aggregate limit begins to bind

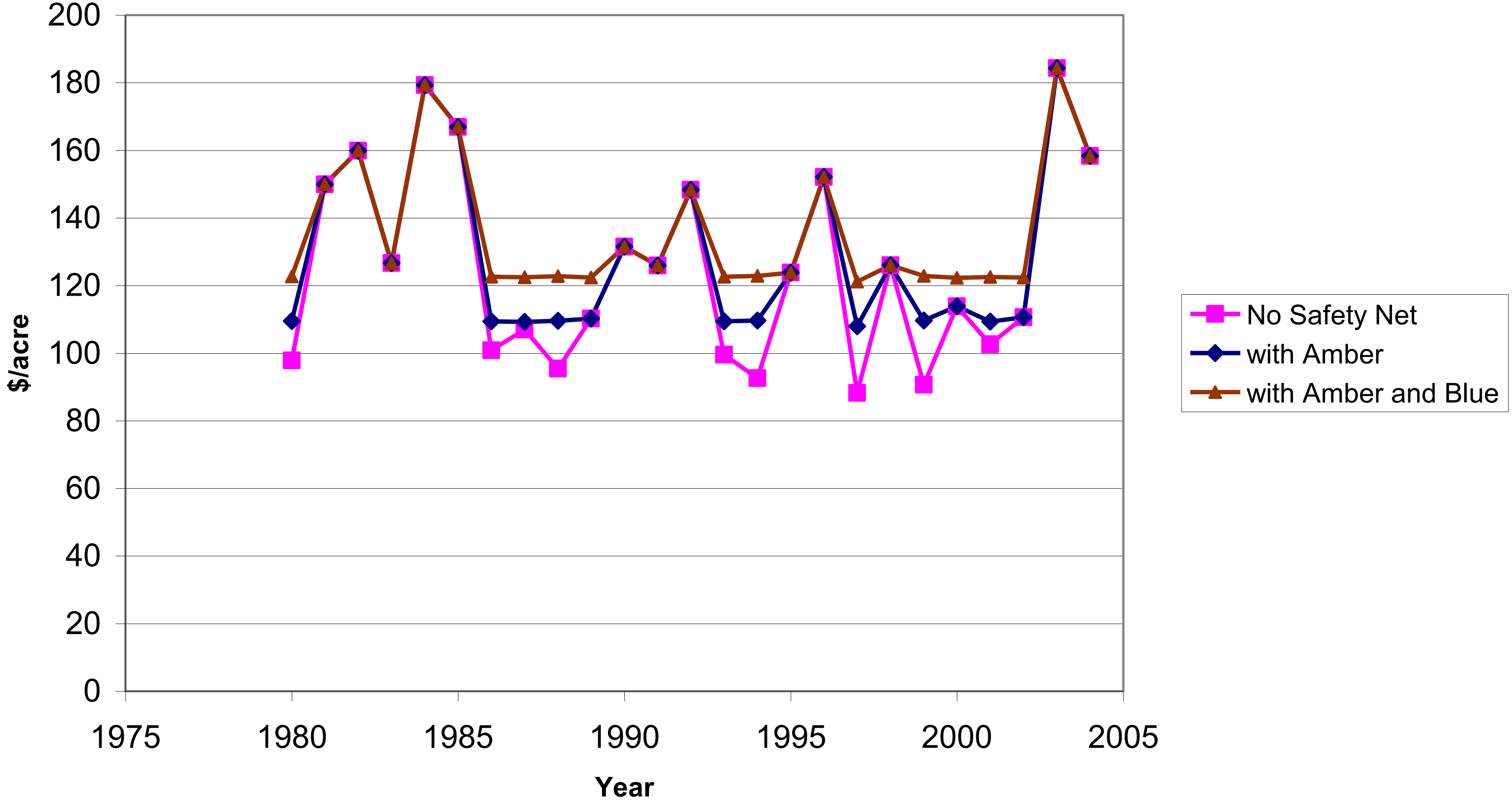
Effect on Steele County Wheat Revenue from New Amber and Blue Box Proposals



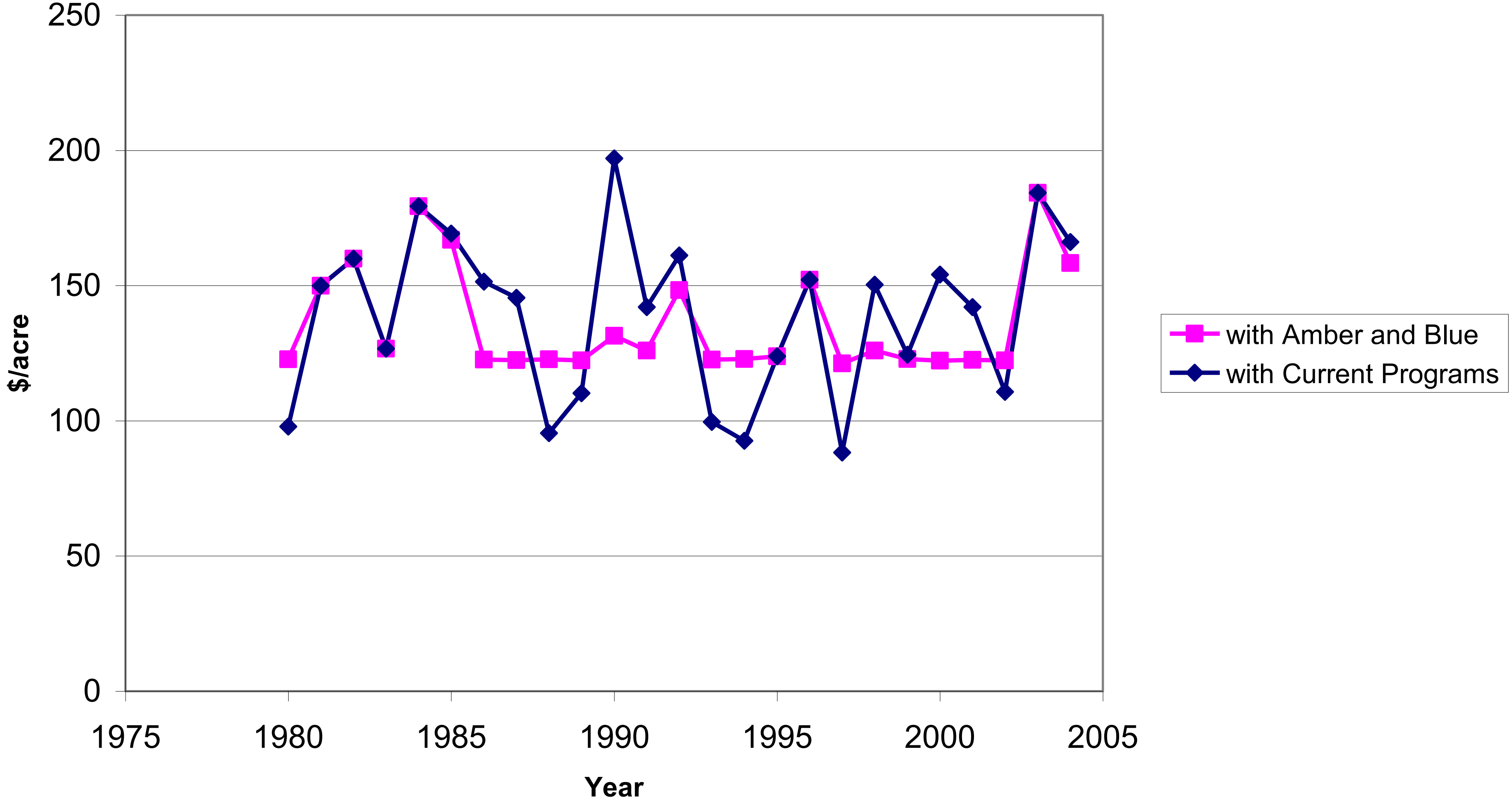
Effect on Steele County Wheat Revenue from New Amber and Blue Box Proposals



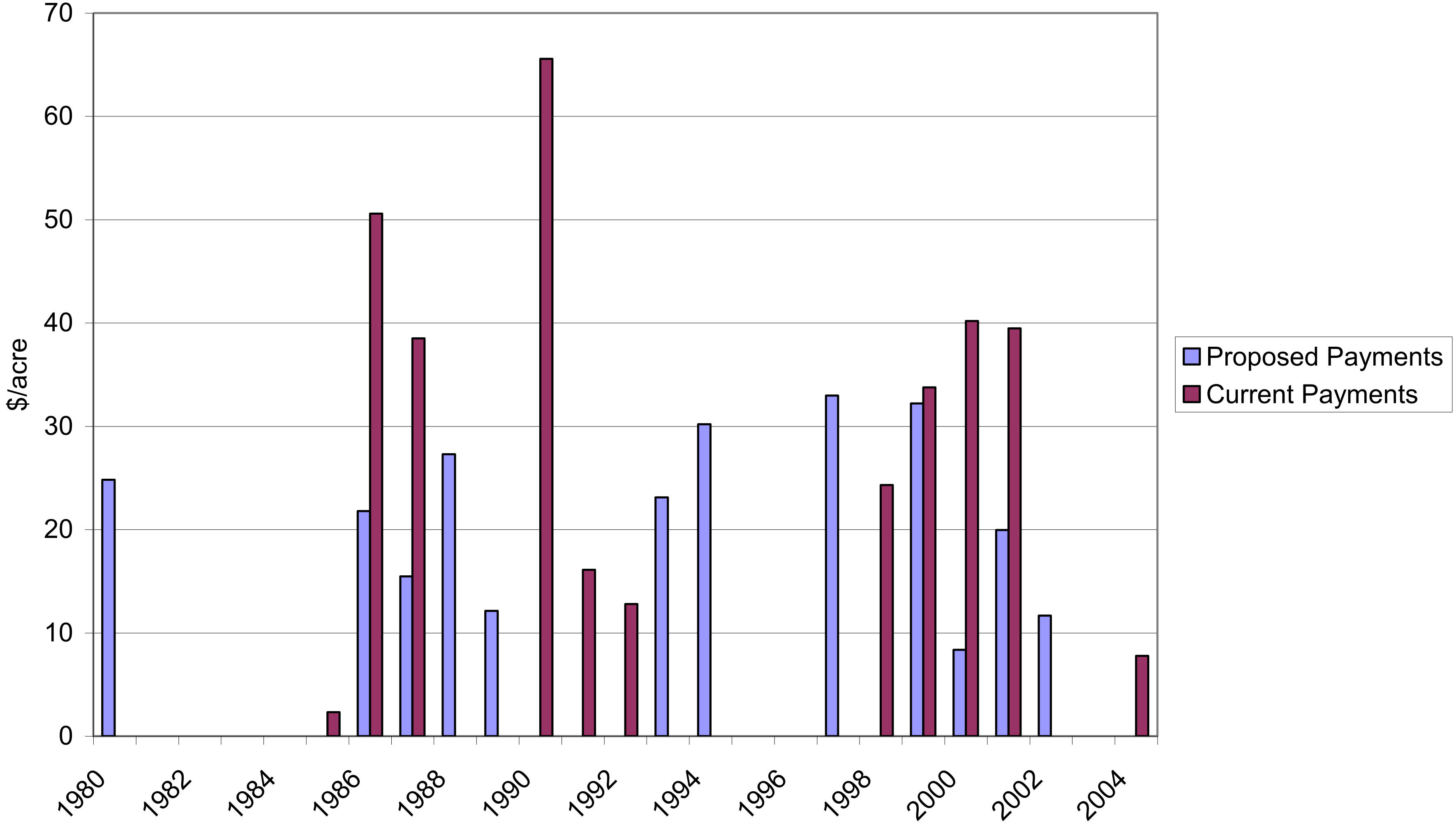
Effect on Steele County Wheat Revenue from New Amber and Blue Box Proposals



County Revenue Under Current Programs and New Amber and Blue Box Proposals



A Comparison of the Timing of Payments



Are these Programs Trade Distorting?

- Most distorting program is the Green Box program because it pays off on farm-level production.
  - But there is a 30% deductible
- Next most distorting program is the Amber Box coverage because it pays off on actual planted acreage
  - But farmer cannot influence per-acre payments because county average yields are used to determine payment
- High coverage level of Blue Box may induce planting
  - But payments based on fixed acreage and county-average yields
- Money is saved because season-average price is used
  - Could adopt a recourse loan program for harvest cash flow reasons

Impact of Proposed Programs

- Provides effective safety net within WTO limits as proposed by the U.S.
- Consolidates crop insurance, commodity programs, and disaster aid
- Adopts the target (revenue) that farmers prefer
- Would be a departure from 70 years of supporting prices