A New Approach to Providing an Agricultural Safety Net

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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

Year
bu/ac

Season-Average Wheat Prices in North Dakota

bu/ac

Price Safety
Net

Year

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

- **Revenue Assurance**
- **Crop Revenue Coverage**
- **Yield Insurance**

<table>
<thead>
<tr>
<th>Coverage Level</th>
<th>Acres</th>
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<tbody>
<tr>
<td>&lt; 65%</td>
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<tr>
<td>65%</td>
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<tr>
<td>70%</td>
<td></td>
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<tr>
<td>75%</td>
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<tr>
<td>&gt; 75%</td>
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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

- County revenue
- Olympic 3-year average of county revenue


$/acre: 0, 20, 40, 60, 80, 100, 120, 140, 160, 180, 200
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

Average payment = $4.00/acre
Green Box Support Would Arrive when Steele County Wheat Farmers Need It

![Graph showing the average payment and average county income for Steele County wheat farmers from 1985 to 2004. The x-axis represents the years from 1985 to 2004, and the y-axis represents the average payment and average county income in dollars per acre.]
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 \times \text{Expected County Yield}

Z% of Effective Target Price \times \text{Expected County Yield}

70\% \text{ of Effective Target Price} \times \text{Expected County Yield}

\text{Guarantee} = 70\% \text{ of past 5-year average of crop-specific income}
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

$/acre

Year


No Safety Net
Effect on Steele County Wheat Revenue from New Amber and Blue Box Proposals

![Graph showing the effect on Steele County Wheat Revenue from New Amber and Blue Box Proposals.](image-url)
Effect on Steele County Wheat Revenue from New Amber and Blue Box Proposals

- No Safety Net
- with Amber
- with Amber and Blue

Year
$/acre

0 20 40 60 80 100 120 140 160 180 200

Legend:
- No Safety Net
- with Amber
- with Amber and Blue
County Revenue Under Current Programs and New Amber and Blue Box Proposals

Year
$/acre
with Amber and Blue
with Current Programs
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