

STRATEGIES AND CONSIDERATIONS WITH MARGIN PROTECTION PROGRAM (MPP-DAIRY)

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Presentation Materials

Visit the 'Outreach' page at farmdoc.illinois.edu/newton

PDF of slides available today

Dashboard available today: www.farmdocdaily.illinois.edu

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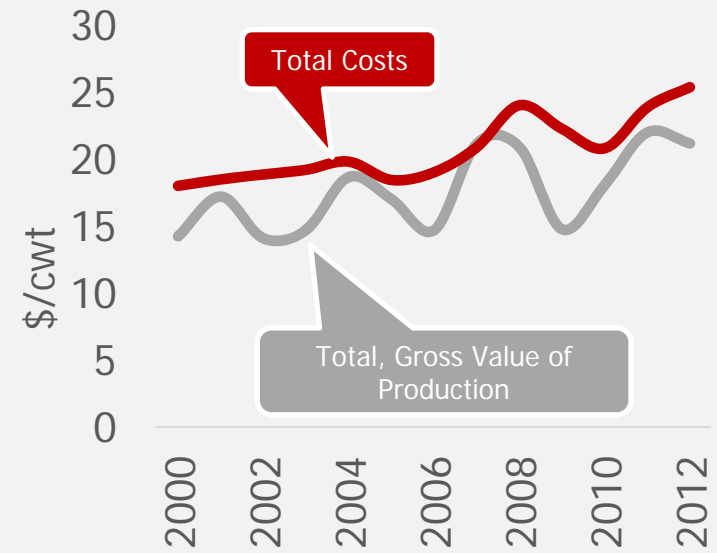


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Disclaimer

- **Content based on my interpretations of the 2014 Dairy Title and may vary from final rules published by USDA Farm Service Agency (FSA)**
- **Charts, and dashboards are for educational and illustration purposes only**
- **FSA Regulations on the 2014 Dairy Title are expected on or before September 1, 2014**

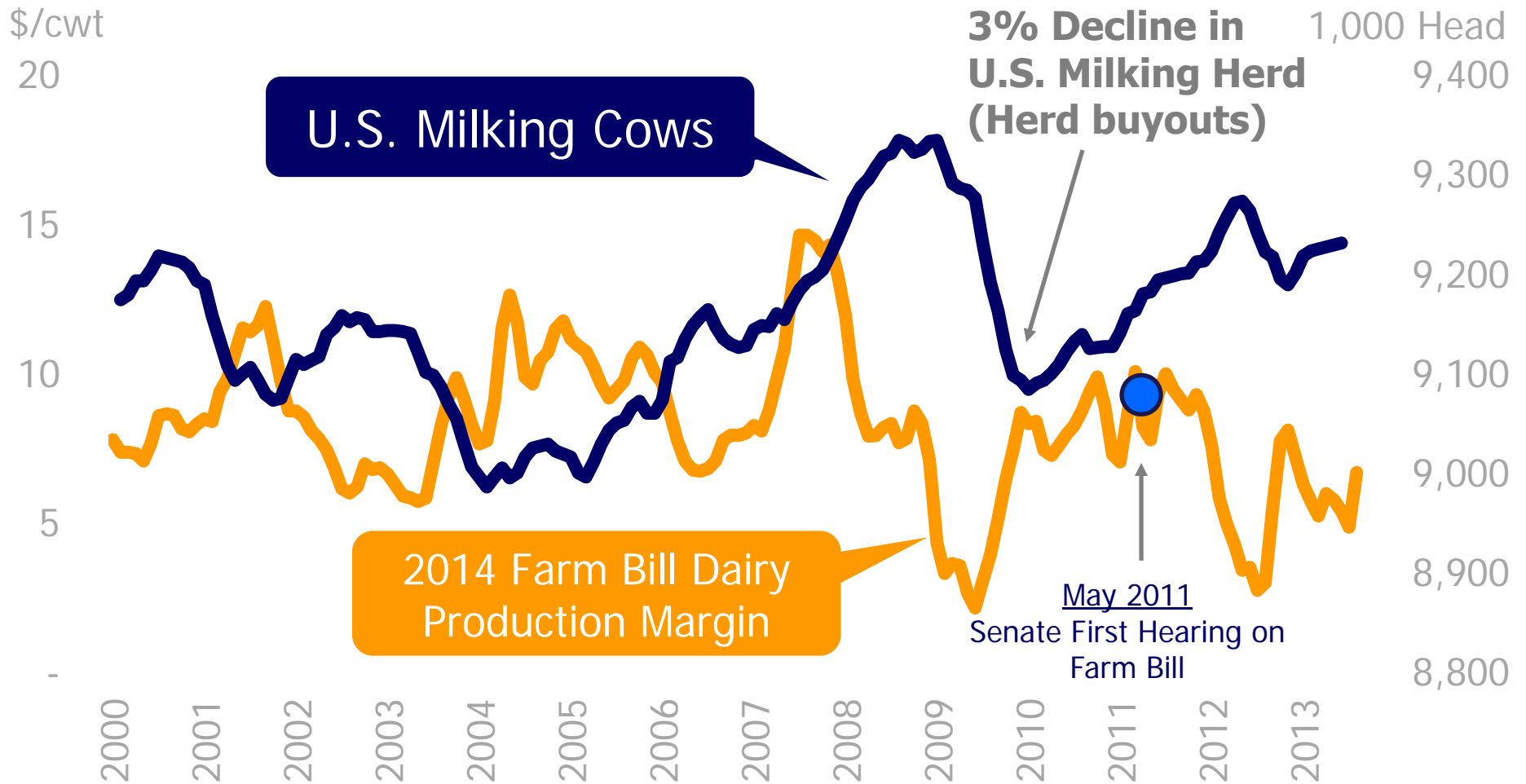
USDA Dairy Costs of Production



Total costs include operating costs and overhead costs such as labor, taxes, and insurance.

Based on USDA survey data the costs of producing milk have outstripped the milk price received.

Consequences of Margin Variability



Source: USDA National Agricultural Statistics Service and Agricultural Marketing Service

What is Margin Protection Program (MPP-Dairy)?

- **Enacted with 2014 Farm Bill (Feb 2014)**
- **Voluntary program based on income-over-feed-cost margins**
- **Designed to protect dairymen from single- or multi-year downturns in the production margin**
 - Pays indemnity when the average difference between the USDA national All-Milk price and a feed ration index falls below a user selected coverage level
- **Consecutive 2-month average margins determine indemnity: Jan/Feb, ..., Nov/Dec**
- **No eligibility constraints or payment limitations**

MPP-Dairy Does

- **Provide free coverage at \$4 per cwt (\$100 annual fee)**
- **Provide a voluntary framework to protect production margins up to \$8 per cwt**

MPP-Dairy Does Not

- **Guarantee a profit or minimum income for dairy farmers**
- **Include milk production quotas or prevent dairy operations from expanding**

Margin Protection Elements

$$\text{IOFC Margin} = \text{U.S. All-Milk Price} - \left[\text{NASS Corn Price} \times 1.0728 + \text{AMS SBM} \times 0.00735 + \text{NASS Alfalfa} \times 0.0137 \right]$$

Feed Ration

- **Dairy Production Margin**
 - All-milk price minus feed ration value
 - National average formula, cannot be customized
- **Production History (“PH”)**
 - Max calendar year production 2011, 2012, 2013
 - Revised annually by USDA based on U.S. growth in milk production
 - Payment made on production history – not based on actual/current milk production (i.e. base acres for dairy)

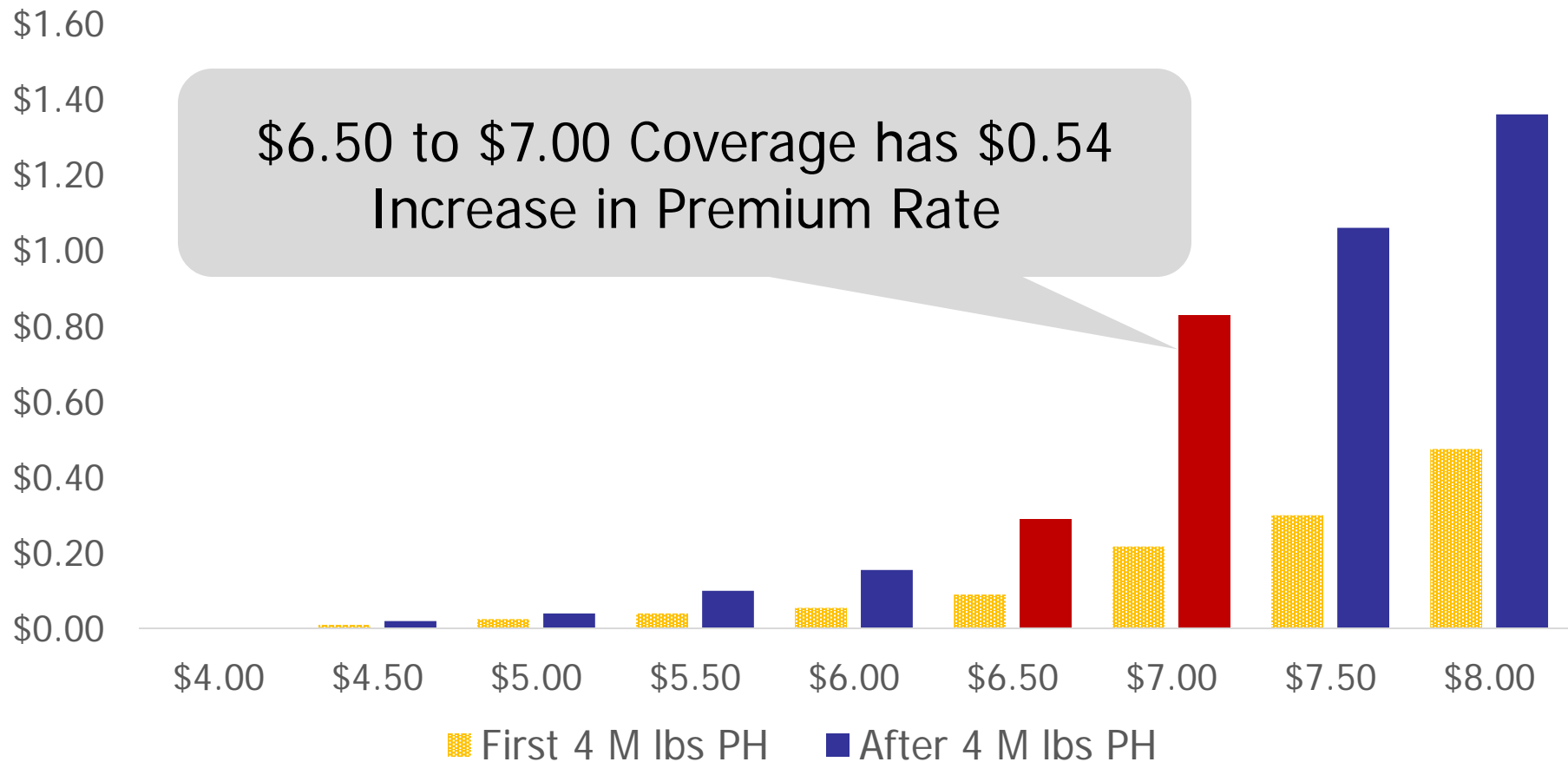
Premium Rates Are Fixed for 5-Year Life of Farm Bill

Coverage Level	≤ 4 Mil Lbs	≤ 4 Mil Lbs (Discount)*	> 4 Mil Lbs
\$/cwt			
\$4.00	Free	Free	Free
\$4.50	\$0.010	\$0.008	\$0.020
\$5.00	\$0.025	\$0.019	\$0.040
\$5.50	\$0.040	\$0.030	\$0.100
\$6.00	\$0.055	\$0.041	\$0.155
\$6.50	\$0.090	\$0.070	\$0.290
\$7.00	\$0.217	\$0.163	\$0.830
\$7.50	\$0.300	\$0.225	\$1.060
\$8.00	\$0.475	\$0.475	\$1.360

* Premium discount of 25% for 2014 and 2015 calendar year protection

Premium Rates May Alter Participation Incentives

Premium Rates

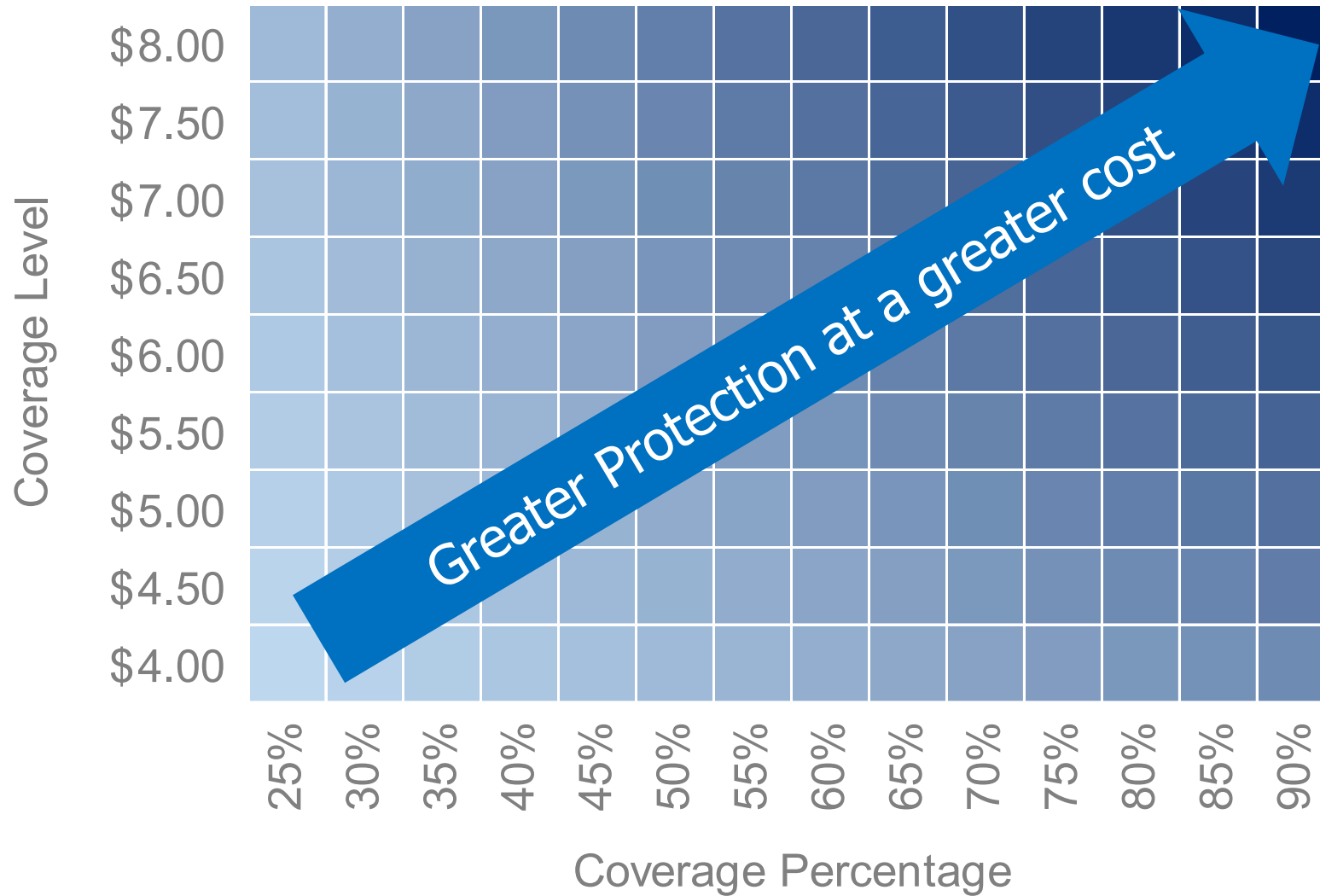


Key Farmer Decisions

Each year a farm must choose:

- **Coverage Percentage**
 - 25% to 90% of production history in 5% increments
 - Insurable pounds = (Cov %) x (PH)
- **Coverage Level**
 - \$4 to \$8 per hundredweight in \$0.50 increments
- **126 coverage choice combinations**

Coverage Options*



***126 Possible Coverage Choice Combinations**

Potential MPP-Dairy Strategies

1) Passive MPP-Dairy strategy

- Keep the coverage options fixed for life of farm bill

2) Dynamic MPP-Dairy decision

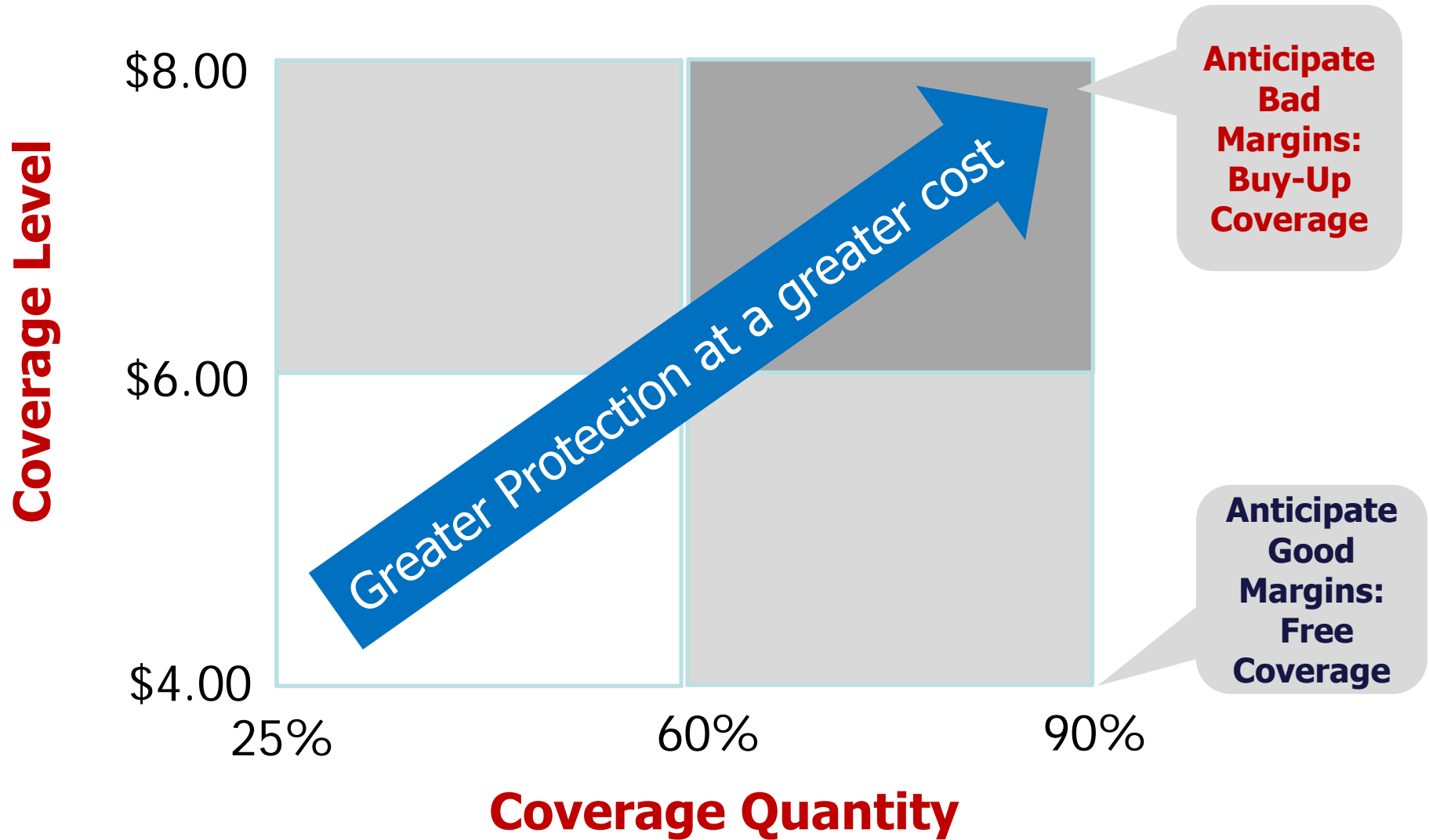
- Change coverage levels annually based on anticipated risk in milk and feed markets

3) Integrate MPP-Dairy into existing risk management activities

“Passive” Observations

- **No “sweet spot” rule for passive coverage**
 - Passive coverage may not work the same for all operations
- **For large dairies “passive” strategy may be net IOFC reducing**
 - Due to significantly higher premium rates
 - Strategy more important due to participation costs
 - “Dynamic” Strategy or
 - “Anchored Flexibility” –Bozic 2014

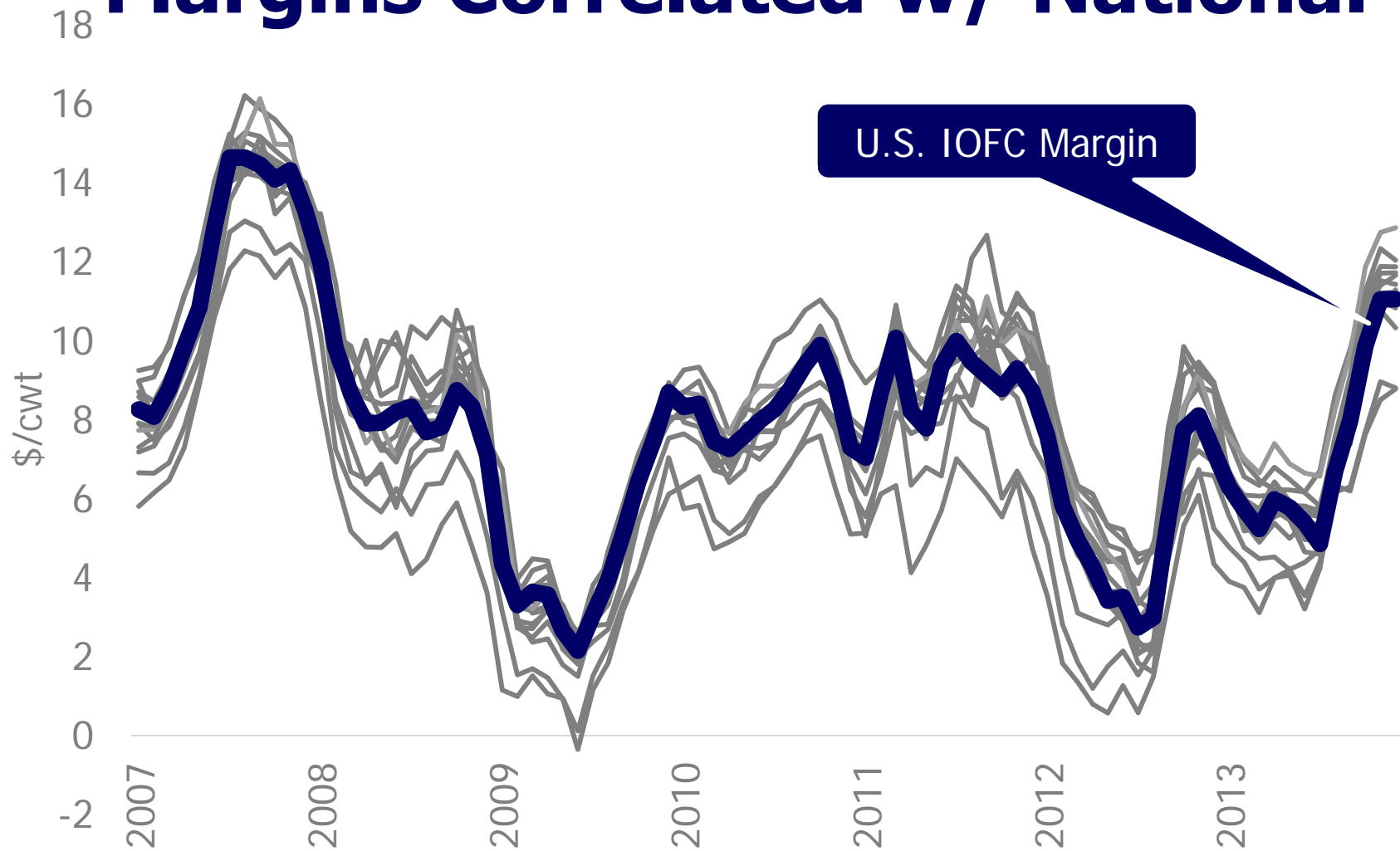
"Dynamic" Observations



Integrating MPP-Dairy at Farm-Level

- **MPP-Dairy can provide revenue support during margin declines**
- **How well does MPP-Dairy relate to farm level margins?**
 - Jan/Feb payment is April (final prices)
 - No cross 2-month triggers (Dec/Jan)
 - Timing of benefits relative to local margin levels
 - Regional and component basis

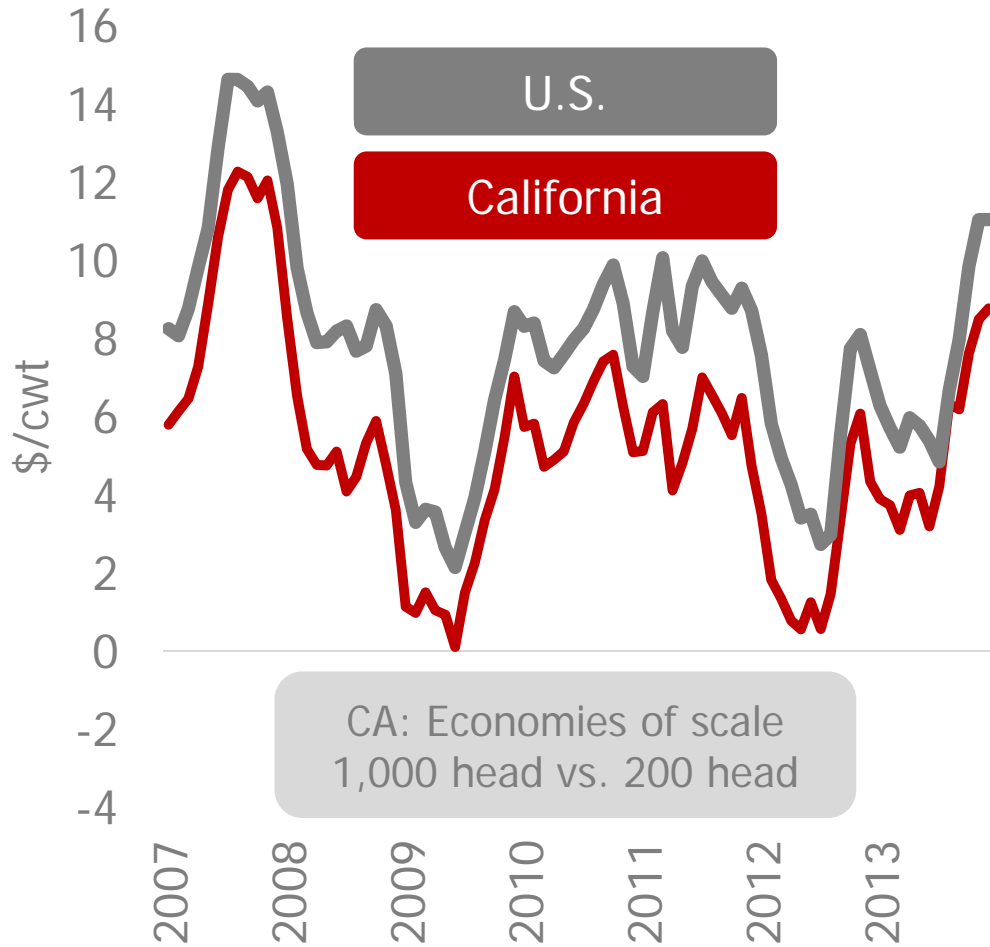
State-Level "Representative" Margins Correlated w/ National



Includes: **CA**, IL, IN, IA, KY, **MI**, MN, **MO**, NY, OH, **PA**, TX & WI

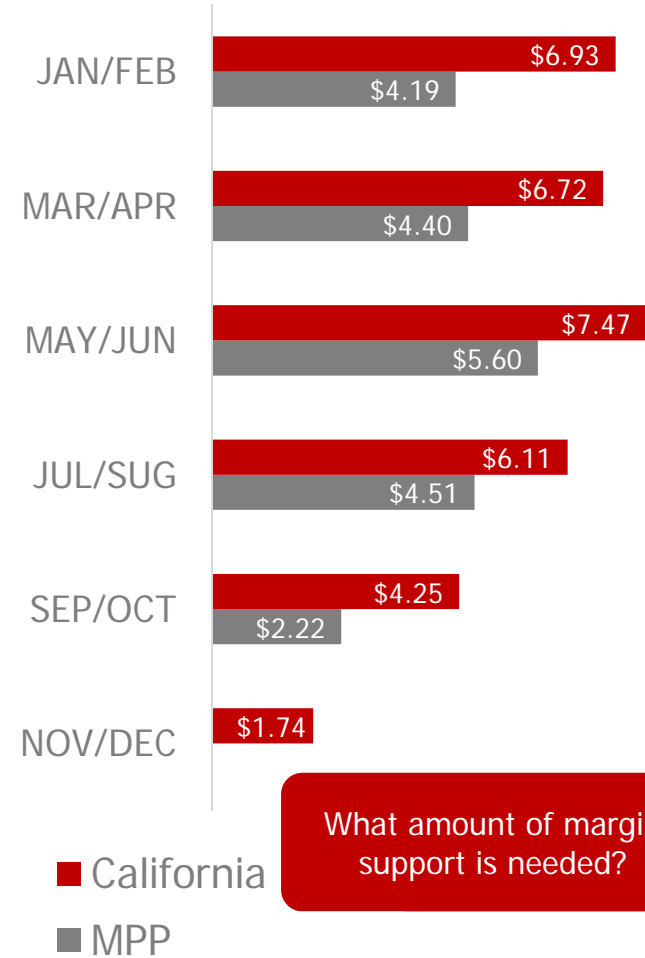
"Representative" California Margin

IOFC Margin Estimate



Pays on national index, not farm-level margins

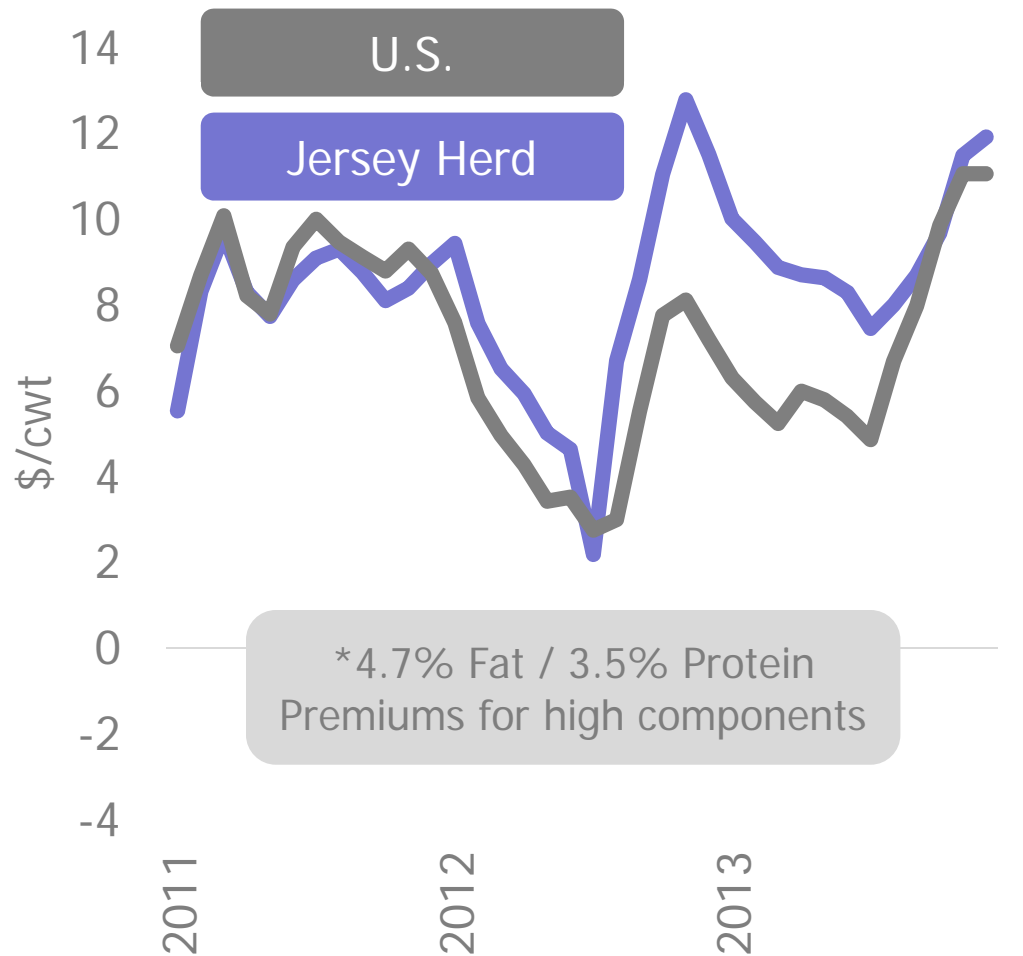
2009 2-Month Indemnity



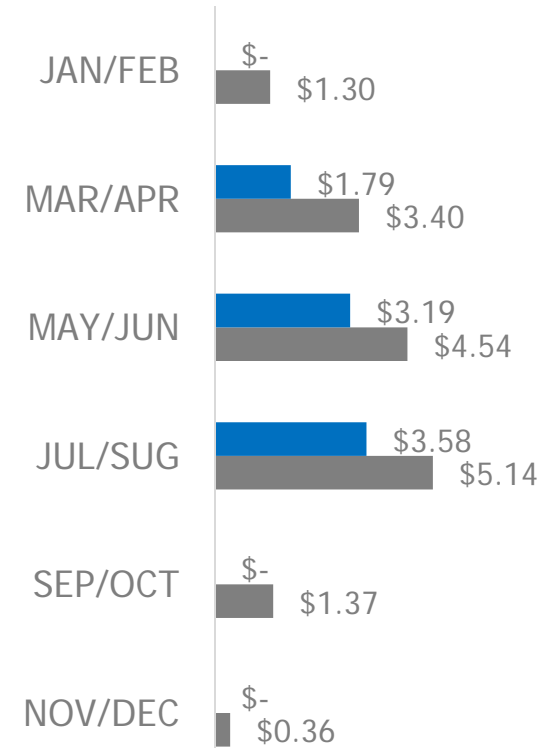
What amount of margin support is needed?

"Representative" Jersey Herd Margin*

IOFC Margin Estimate



2012 2-Month Indemnity



What amount of margin support is needed?

■ Jersey
■ MPP

Pays on national index, not farm-level margins

Integrating MPP-Dairy at Farm-Level

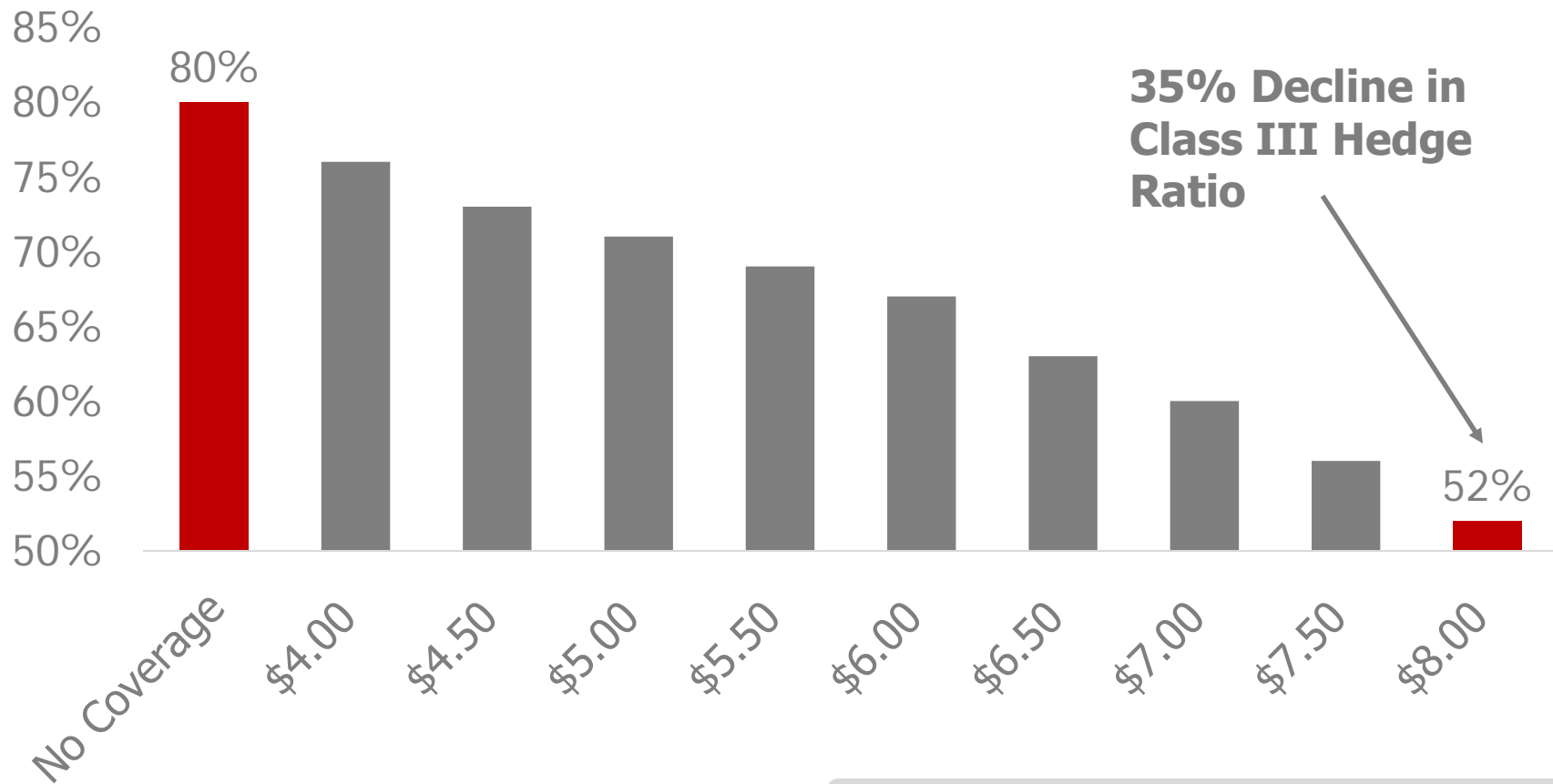
- **Margins across U.S. are correlated**
 - Correlation is not slope: CA IOFC \neq ρ_{CORREL} \times U.S. IOFC
 - Does not tell you how much MPP-Dairy to use
- **When will MPP-Dairy payments occur relative to farm-level margin requirements?**
 - Determine farm-level margin requirements first
- **Farm Level Margins & MPP-Dairy Index**
 - Futures/forward contract customization
 - Balance MPP-Dairy lag with use of futures and forwards which pay immediately upon liquidation/settlement

Example of Hedging With MPP-Dairy

- **Hedge ratio with and without MPP-Dairy estimated for Wisconsin**
 - Modeled Class III futures only
 - Six-month hedging horizon
 - MPP-Dairy at 90%
- **Illustrative Purposes Only**
 - Historical futures and cash market prices may have been different with MPP-Dairy

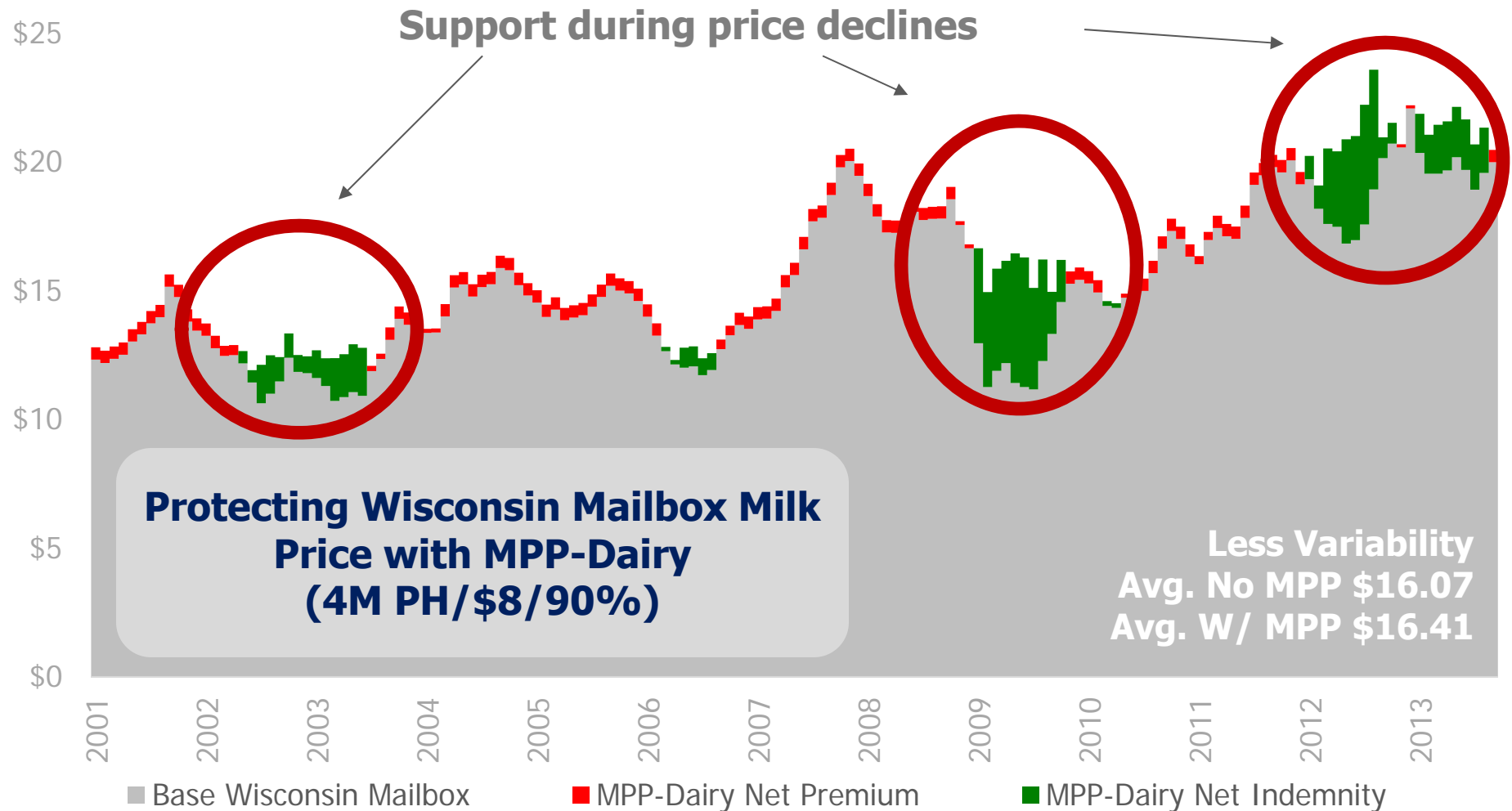
Wisconsin Mailbox Milk Price Hedge Ratio With Class III Futures

Optimal Hedge Ratio (Hedge 6-Months Out)

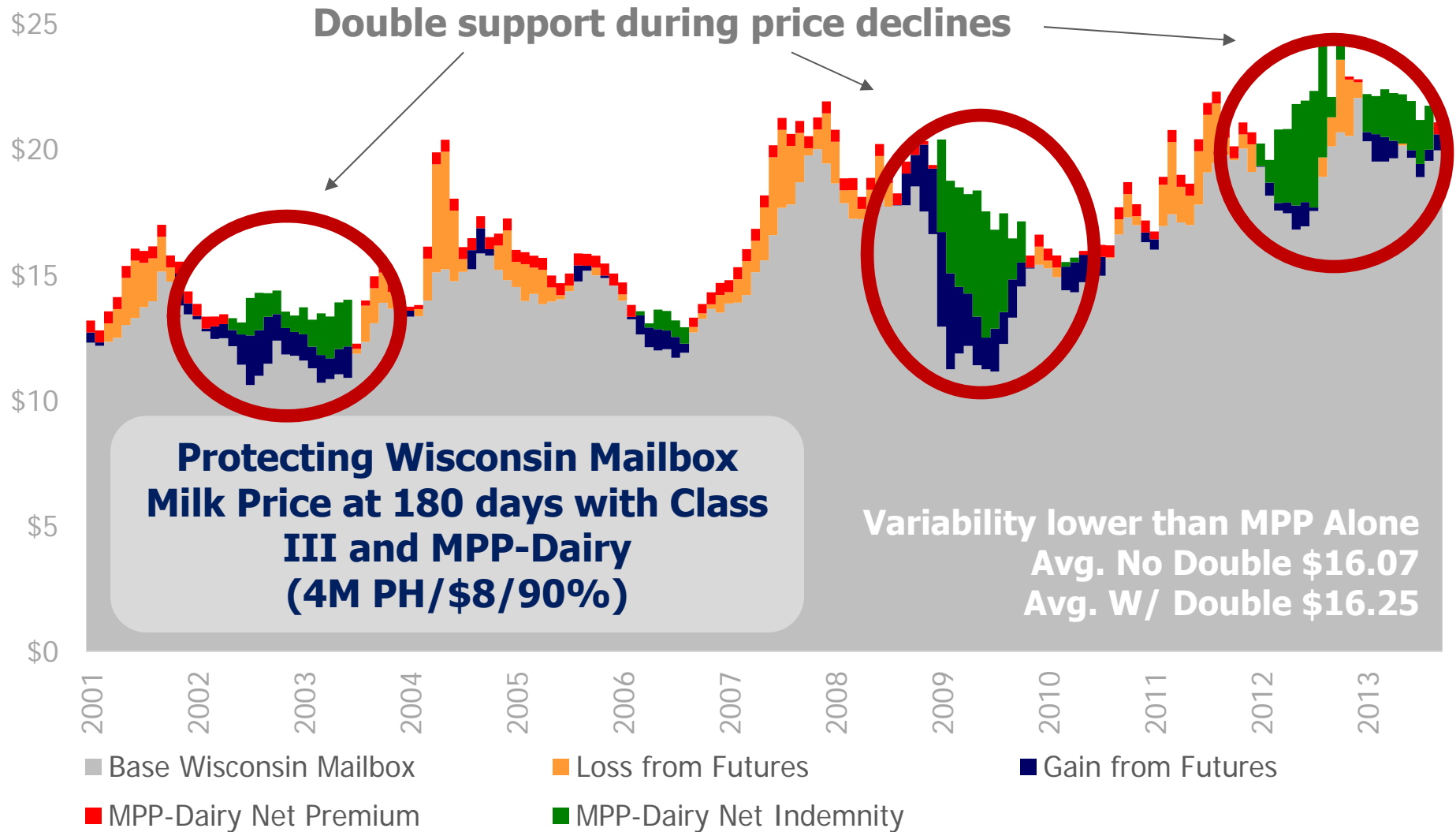


Estimated using 2001-2013 data

Protecting With MPP-Dairy (2001-2013)



Using Both Futures and MPP-Dairy (2001-2013)



Farm-Level Integration

- **MPP-Dairy may be a substitute to futures and forward contracts**
 - Observed reduction in hedge ratio
 - What about impact on feed risk management?
- **Farmers may “double dip” when combining MPP-Dairy and forward/futures**
 - Observed overlap in indemnity & positive futures return
 - Costly if Texas hedged ($HR > 100\%$)
 - Consider alternating among risk management tools

Alternating Among MPP-Dairy and Futures/Forward

When anticipated margins are above MPP-Dairy strike prices

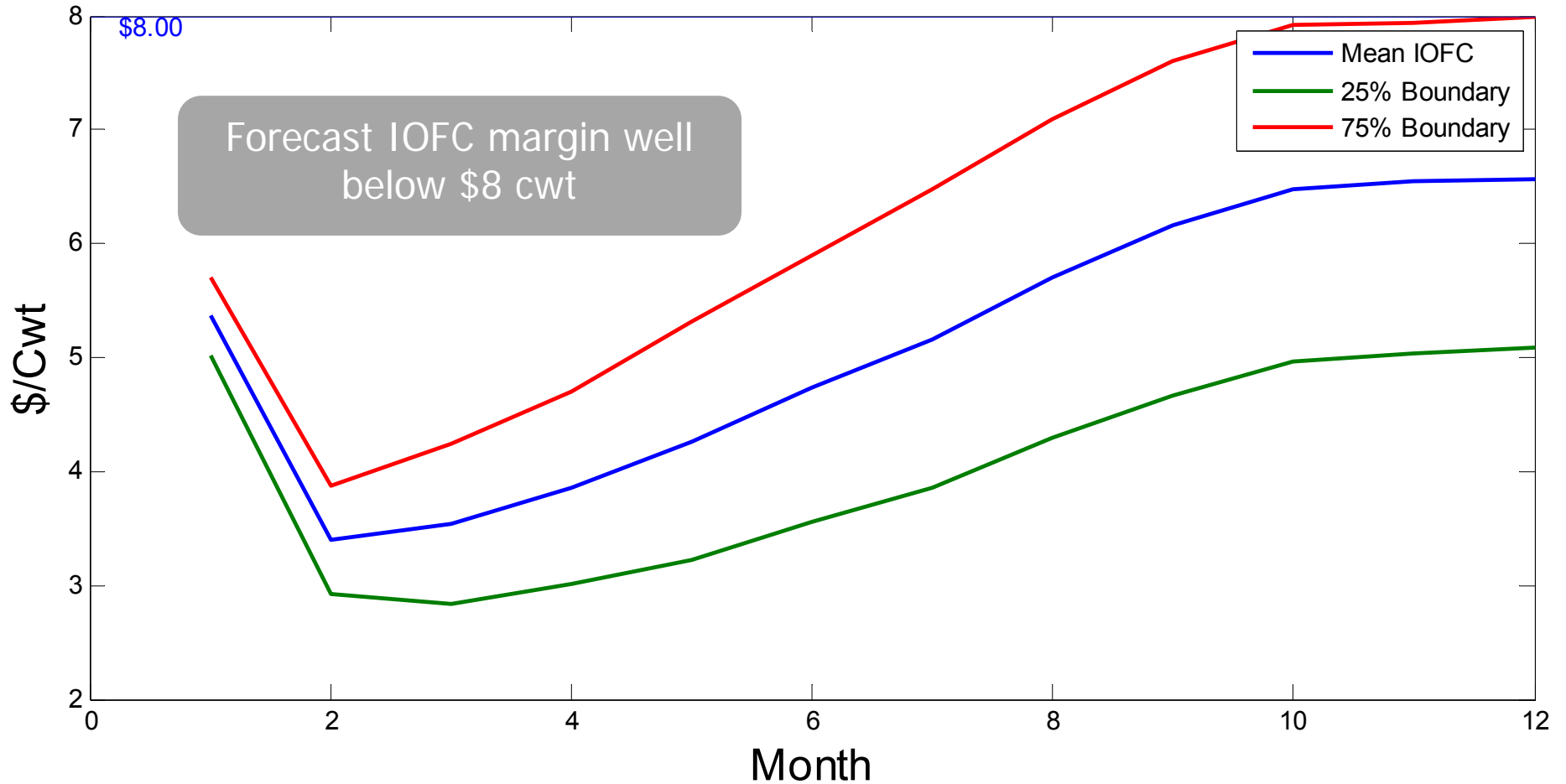
- Buy less MPP-Dairy
- Increase use of CME futures/options/forwards or LGM-D if allowed

When anticipated margins are below MPP-Dairy strike prices

- Buy more MPP-Dairy
- Roll back use of CME futures/options and forwards

Anticipate Low Margin

Estimated IOFC

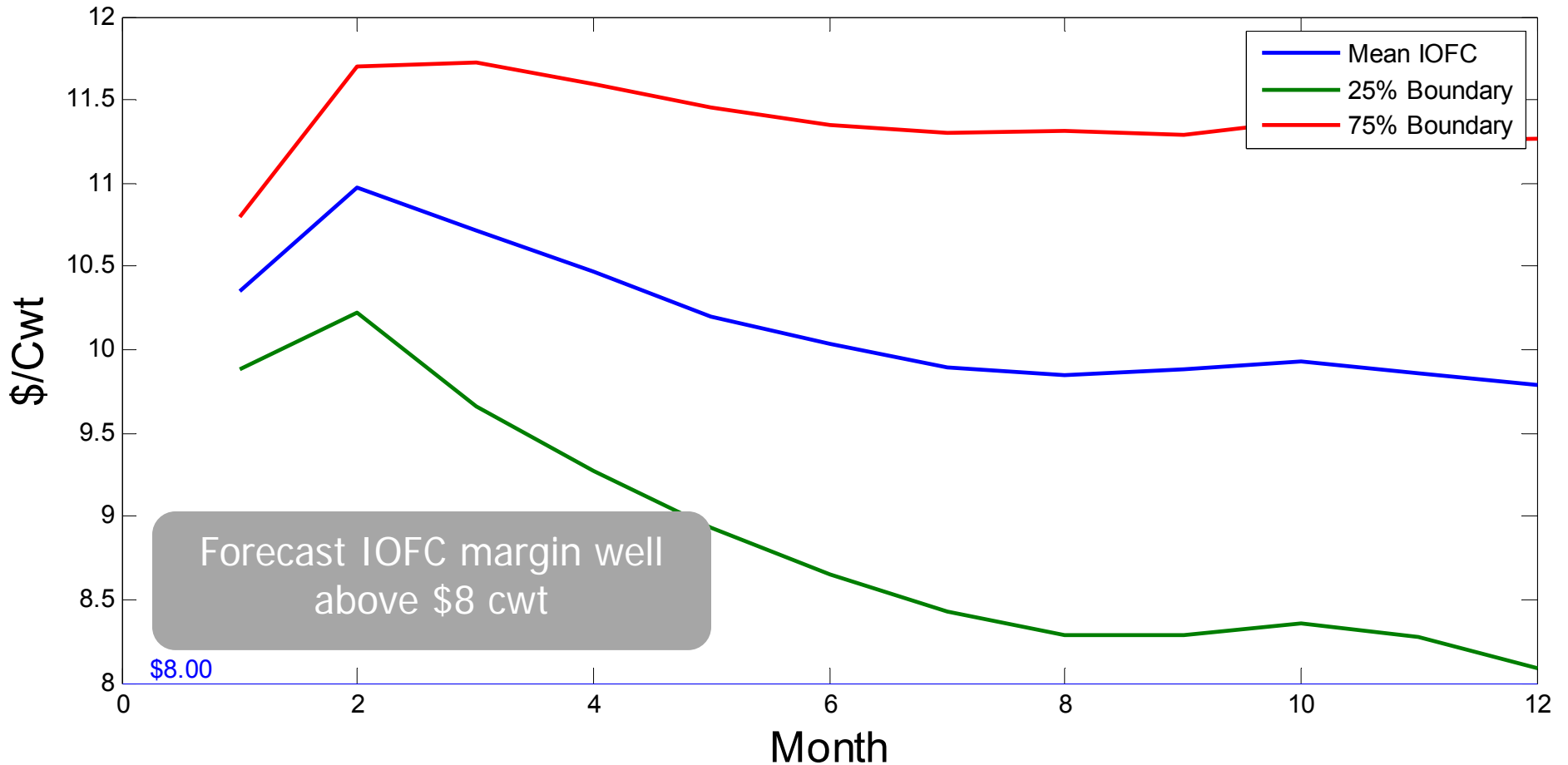


Forecast IOFC margin well below \$8 cwt

**Possible Strategy:
MPP-Dairy / Pick \$8 Coverage**

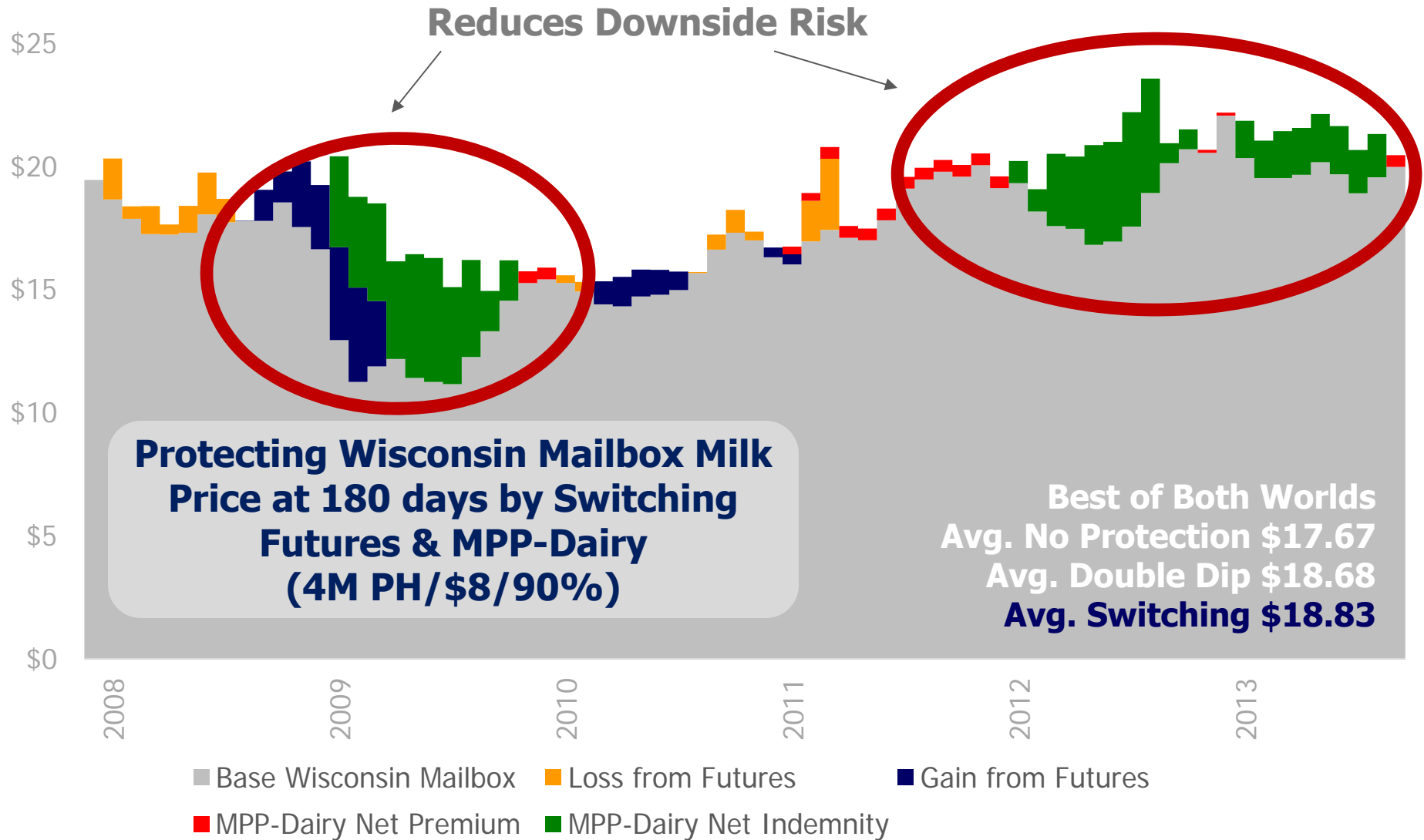
Anticipate High Margin

Estimated IOFC



**Possible Strategy:
Use Futures/Forward & \$4 MPP**

Risk Management "Switching" (2008-2013)



Summary: “Skin in the Game”

- **MPP-Dairy can provide revenue support during single- or multi-year losses in farm equity**
 - Passive strategy may not work for all dairymen
 - Dynamic strategies can be creative (may involve alternating coverage choices annually)
- **Can be integrated with futures/options and forward to improve risk management at farm**
 - What level of integration is best?
- **Goal to shift dairymen into new era (“Skin in the Game”)**
 - Not actuarially fair as premiums do not reflect risk in milk and feed market prices
 - Potential to revise/improve in next farm bill

Some Unanswered Questions

- **Sign-up deadline compared to coverage start date**
 - Report 3/25/2014 of 90-120 day gap
 - http://farmdocdaily.illinois.edu/authors/john_newton/
- **Five year or annual participation**
- **How will premiums be calculated?**
- **How will premiums be paid (annually, bi-monthly, ..., at end of year)**
- **Treatment of new operations versus expansion of existing dairy**

FSA Regulations Will Provide Additional Clarity

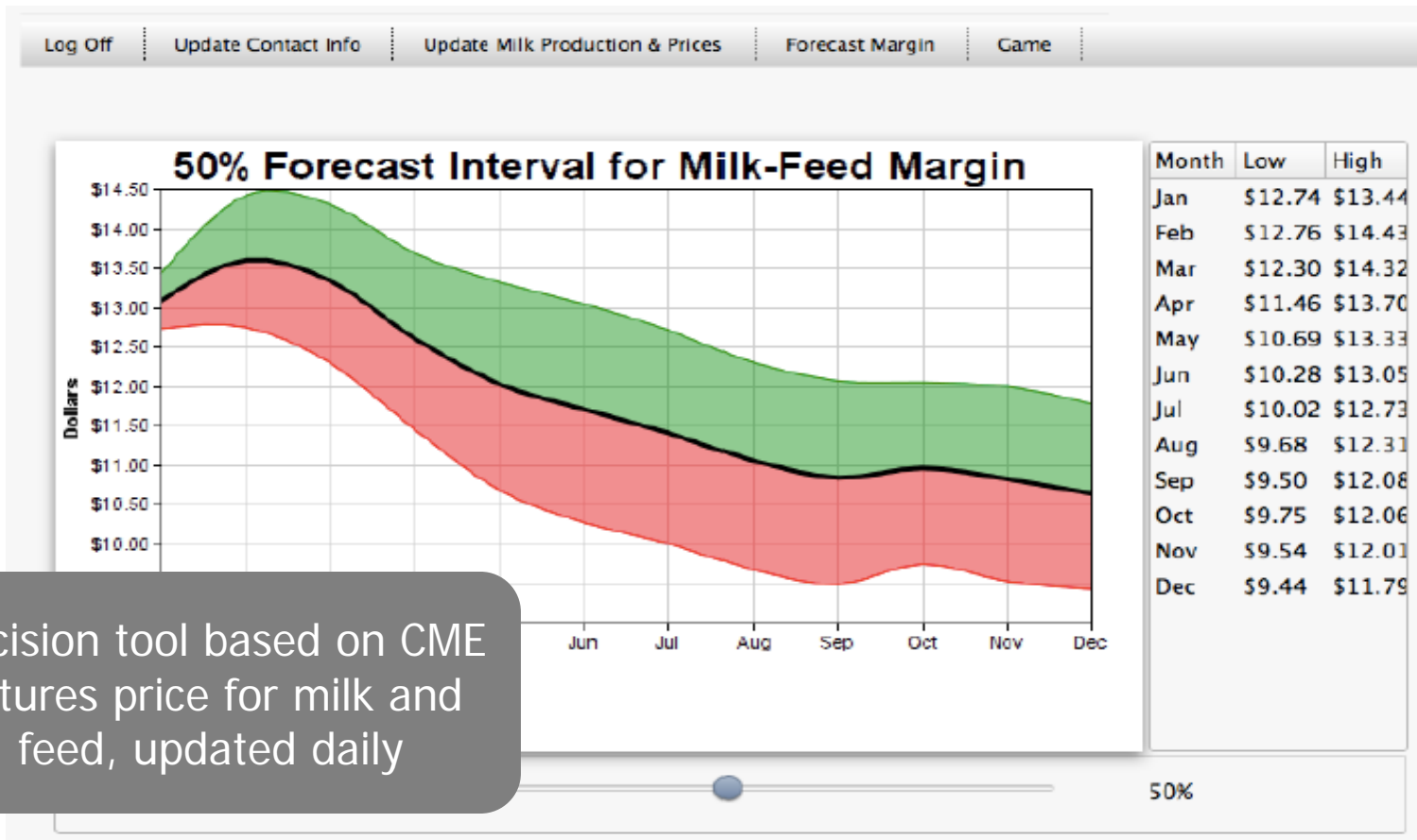
September 1, 2014 Deadline

D-MaP Ongoing Research Projects

- **Final development stages of MPP-Dairy decision tool**
 - Will utilize real time market information to help farmers make annual coverage decisions
- **Improved LGM-D decision aid**
 - Dr. Gould's "Dairy Risk Analyzer"
- **Will MPP-Dairy interfere with private risk management?**
 - Dr. Bozic research project with USDA ERS examining VaR Hedge Ratios/ "Crowding Out"
 - Drs. Stephenson, Bozic and Wolf recent survey of interaction of MPP-Dairy and futures market
- **Crowd Sourcing as a forecasting technique**
 - Drs. Novakovic and Newton investigating if crowd sourcing may outperform futures as a forecasting tool

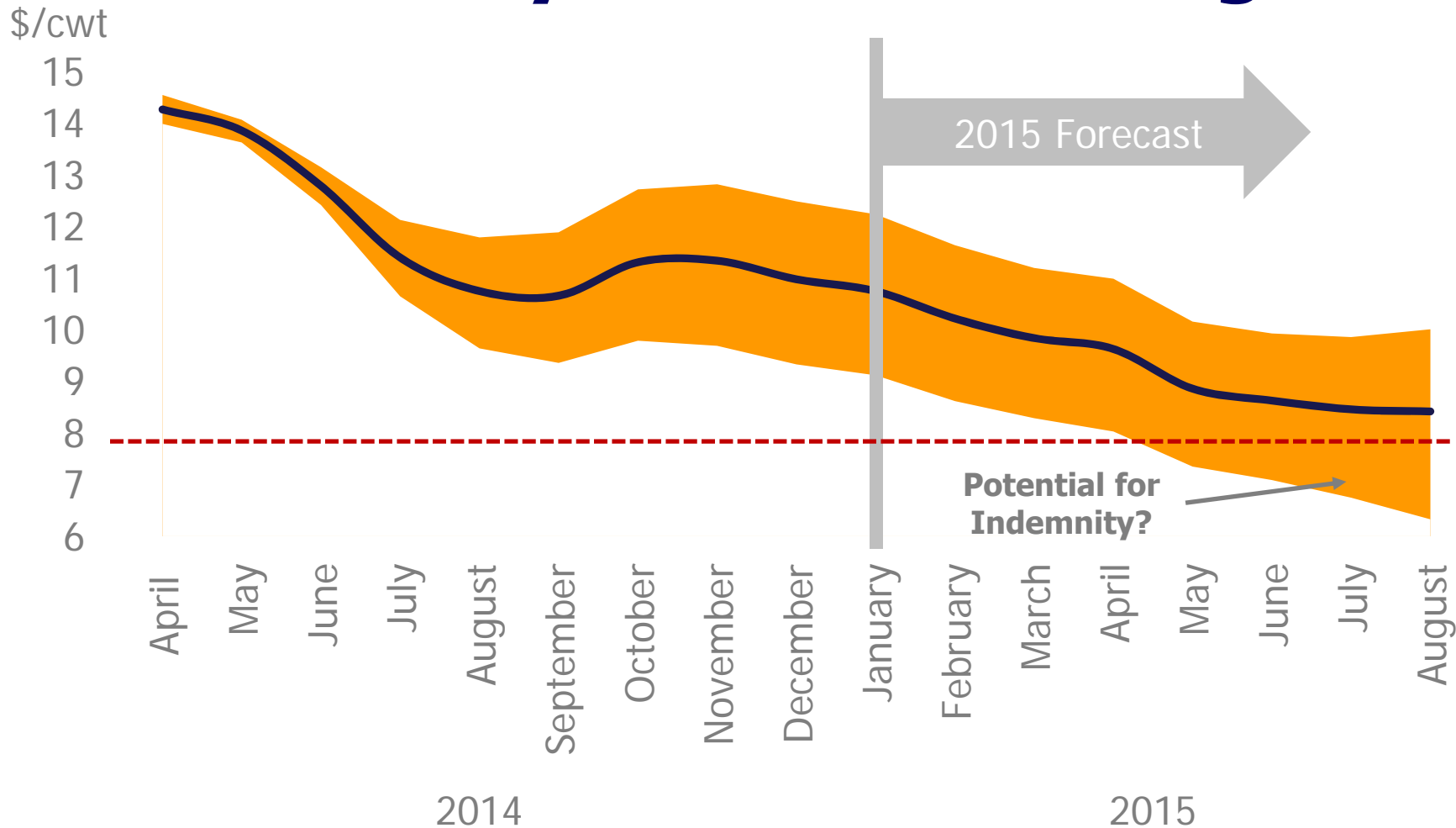
www.dairymarkets.org

Coming Soon: Web-Based Decision Tool



www.dairymarkets.org

Decision Tool Forecast 17 Month U.S. Dairy Production Margin





farmdocDAILY



Department of Agricultural and Consumer Economics, University of Illinois Urbana-Champaign

**Interactive Dashboard from Presentation
Released Online at www.farmdocdaily.illinois.edu**

Questions?

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THANK YOU

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