



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

## **The Potential Budgetary Costs and WTO Implications of the New Farm Bill**

**Joseph Glauber and Pat Westhoff**

*Selected Paper prepared for presentation at the International Agricultural Trade Research Consortium's (IATRC's) 2014 Annual Meeting: Food, Resources and Conflict, December 7-9, 2014, San Diego, CA.*

*Copyright 2014 by Joseph Glauber and Pat Westhoff. All rights reserved. Readers may make verbatim copies of this document for non-commercial purposes by any means, provided that this copyright notice appears on all such copies.*

# The Potential Budgetary Costs and WTO Implications of the New Farm Bill

Joseph Glauber, USDA Office of the Chief Economist  
([Jglauber@oce.usda.gov](mailto:Jglauber@oce.usda.gov))

Pat Westhoff, FAPRI-University of Missouri ([westhoffp@missouri.edu](mailto:westhoffp@missouri.edu))

IATRC Annual Meeting, San Diego

December 8, 2014

# Agenda

- Background
  - New farm bill
  - Budget outlays
  - WTO reporting
- How we did the analysis
- Results
  - Budget outlays
  - WTO internal support reporting under URAA or proposed Doha rules

# Some 2014 farm bill changes

- Eliminates direct and countercyclical payments (DCP), average crop revenue election (ACRE) program, dairy price supports
- Creates new programs tied to market outcomes
  - Price loss coverage (PLC): payments when program crop prices fall below a trigger
  - Agriculture risk coverage (ARC): payments when program crop revenues (national price times county or farm yield) fall below a trigger
  - New area-based crop insurance programs (STAX and SCO)
  - Margin protection program (MPP): payments when margin between milk and feed prices falls below a trigger

# Prices triggering payments

	2008 farm bill target prices (CCPs if farm price < target price - DP rate)	2014 farm bill reference prices (PLCs if farm price < reference price)	Price triggering ARC–CO payments in 2014 under 2014 farm bill*
Corn (\$/bu)	\$2.63	\$3.70	\$4.55
Soybeans (\$/bu)	\$6.00	\$8.40	\$10.55
Wheat (\$/bu)	\$4.17	\$5.50	\$5.68
Upland cotton (cents/lb.)	71.3	n.a.	n.a.
Long-grain rice (\$/cwt)	\$10.50	\$14.00	\$11.70
Sorghum (\$/bu.)	\$2.63	\$3.95	\$4.38
Peanuts (\$/ton)	\$495	\$535	\$444

\*The price triggering ARC-CO payments will vary across counties and years. These estimates assume the 2014 county yield = Olympic average of county yields for 2009-2013. If a county's 2014 yield is higher than the Olympic average yield, the price triggering payments will be lower. For example, there are Missouri counties where high 2014 yields may mean corn prices would have to drop below \$3.20 for 2014 ARC-CO payments.

# Some key things to note about the new crop policies

- Payments for ARC and PLC are (mostly) tied to fixed acreage bases
  - Producers generally cannot increase payments by planting more or getting higher yields on their farms (and can still get payments if they plant nothing)
  - Exception 1: plantings on generic (former cotton) base do affect payments
  - Exception 2: an individual version of ARC makes payments tied to current production on a farm
- Payments are uncertain, but do have upper limits
  - ARC cannot exceed 10% of benchmark on 85% of base (65% if individual version of ARC)
  - PLC cannot exceed gap between reference price and loan rate on 85% of base, and is tied to program yields fixed for the next five years
  - Overall payment limitation of \$125,000 per producer

# Budget outlays under the new farm bill

- Crop and dairy payments are uncertain because of uncertain
  - Prices
  - Yields
  - Participation rates (producers make 1-time choice of ARC or PLC)
- For example
  - Suppose all corn farmers choose PLC (they won't, but it makes the math easy)
  - USDA's November WASDE: 2014/15 price range is \$3.20-\$3.80 per bushel
  - Means PLC payments could be 0 or as much as \$0.50/bu.
  - $\sim 90 \text{ million base acres} * \sim 125 \text{ bu. program yield} * \$0.50 * 0.85 = \sim \$4.8 \text{ bil.}$
  - In other words, for one crop in one year that is already 3 months completed, the possible PLC payments are somewhere between zero and \$4.8 billion. Probably.



# WTO internal support rules: URAA

- Under URAA, countries agree to limit certain “amber” box subsidies (current aggregate measure of support)
  - Includes payments and other subsidies with a link to prices and/or production
  - And value of price support programs for sugar (and formerly dairy)
  - But excludes product specific *de minimis* support (<5% of production value for the product in question)
  - And non-product support if the total is *de minimis* (<5% of value of all agricultural production)

# WTO internal support rules: Doha modalities

- Under a 2008 Doha Round proposal
  - U.S. allowed total current AMS limit reduced to \$7.6 bil. (from \$19.1)
  - New “blue” box (for programs like former CCPs) limited to \$4.8 bil.
  - *De minimis* exemption reduced to 2.5% of the value of production
  - Product-specific limits both for product-specific amber support and for blue box support
  - Cap on overall trade-distorting support (OTDS) of \$14.5 billion

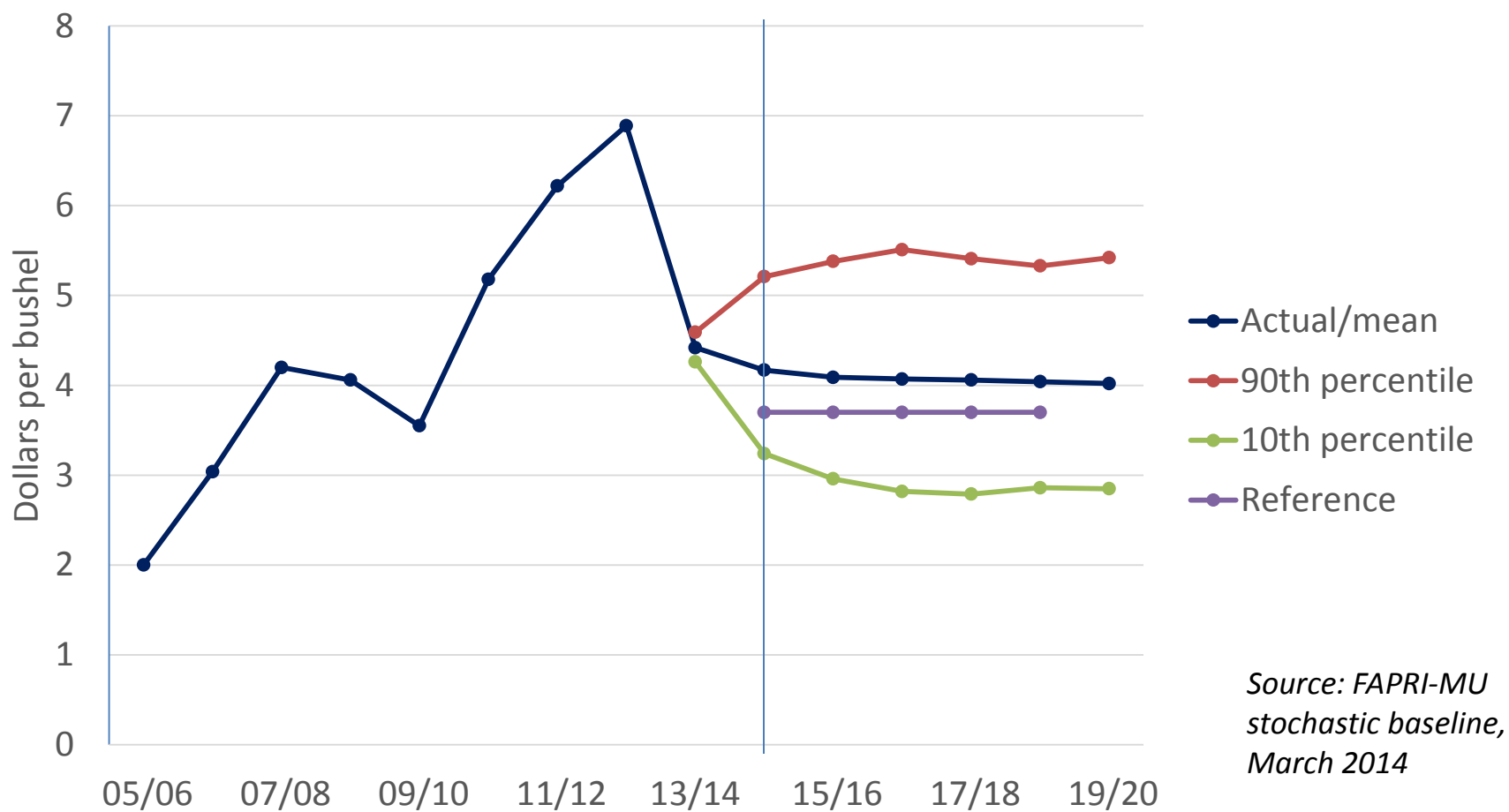
# Assumed WTO classifications of 2014 farm bill programs

	URAA	Doha
Marketing loan benefits	Product specific amber	Product specific amber
Agriculture risk coverage (ARC)	Non-product specific amber	Blue
Price loss coverage (PLC)	Non-product specific amber	Blue
Crop insurance premium subsidies (includes SCO)	Non-product specific amber	Non-product specific amber
Cotton STAX insurance subsidies	Product specific amber	Product specific amber
Sugar price support program imputed value	Product specific amber	Product specific amber
Dairy margin protection program (MPP) net payments	Product specific amber	Product specific amber

# How we did the analysis

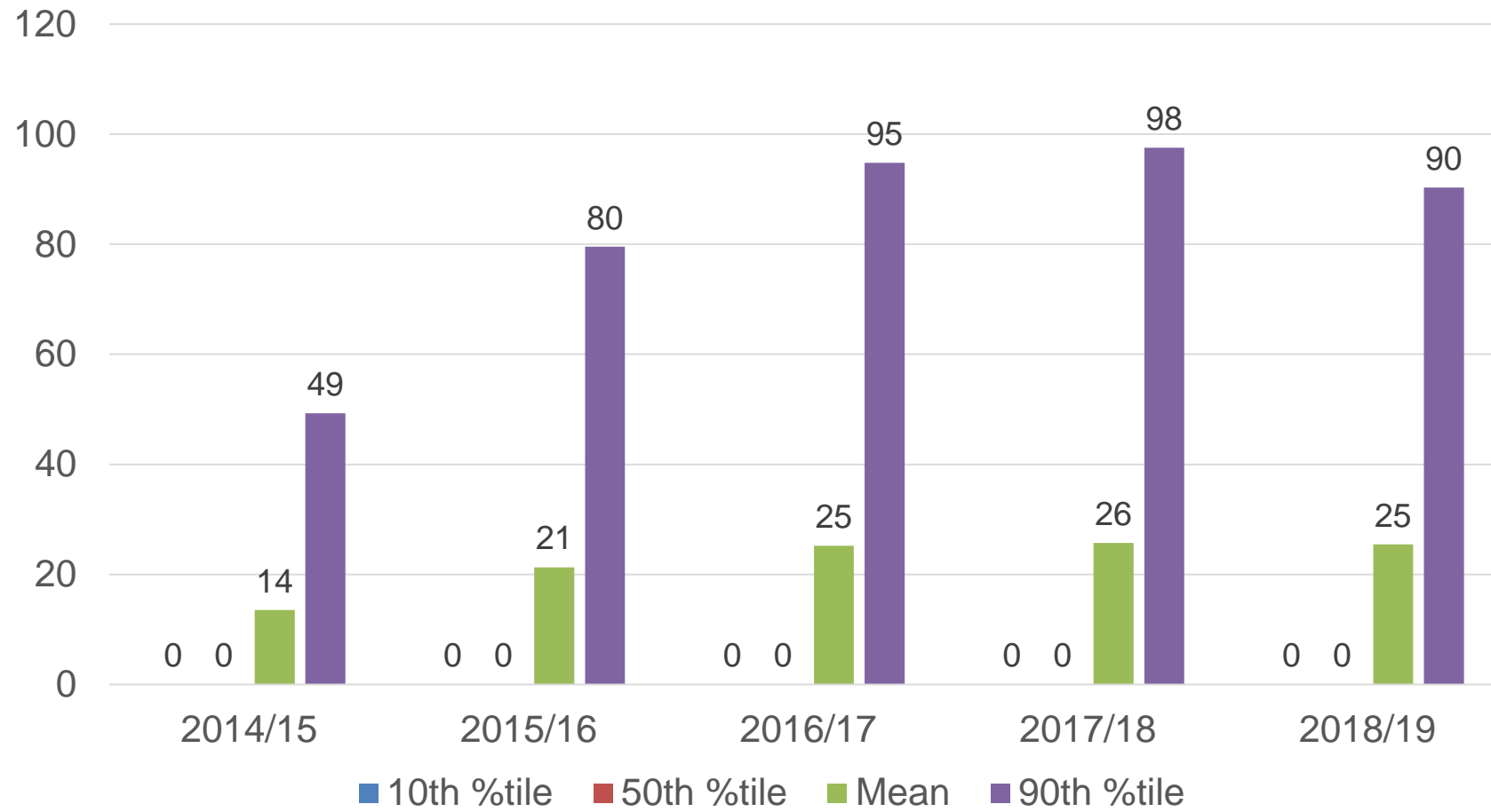
- Starting point: FAPRI-MU March 2014 stochastic baseline
  - Includes 2014 farm bill provisions
  - 500 10-year projections for 2000+ variables
  - Based on integrated models for crops, livestock, farm income, government outlays, consumer food costs
  - And correlated draws on exogenous variables (error terms from yield and demand equations, energy prices, production costs, etc.)
- Augmented with WTO accounting equations
  - Translate other model output into estimates of AMS, blue box support, etc.
  - For each year, can generate support measure distributions
  - And calculate share of outcomes exceeding various commitments

# U.S. farm prices for corn



# Corn PLC payments

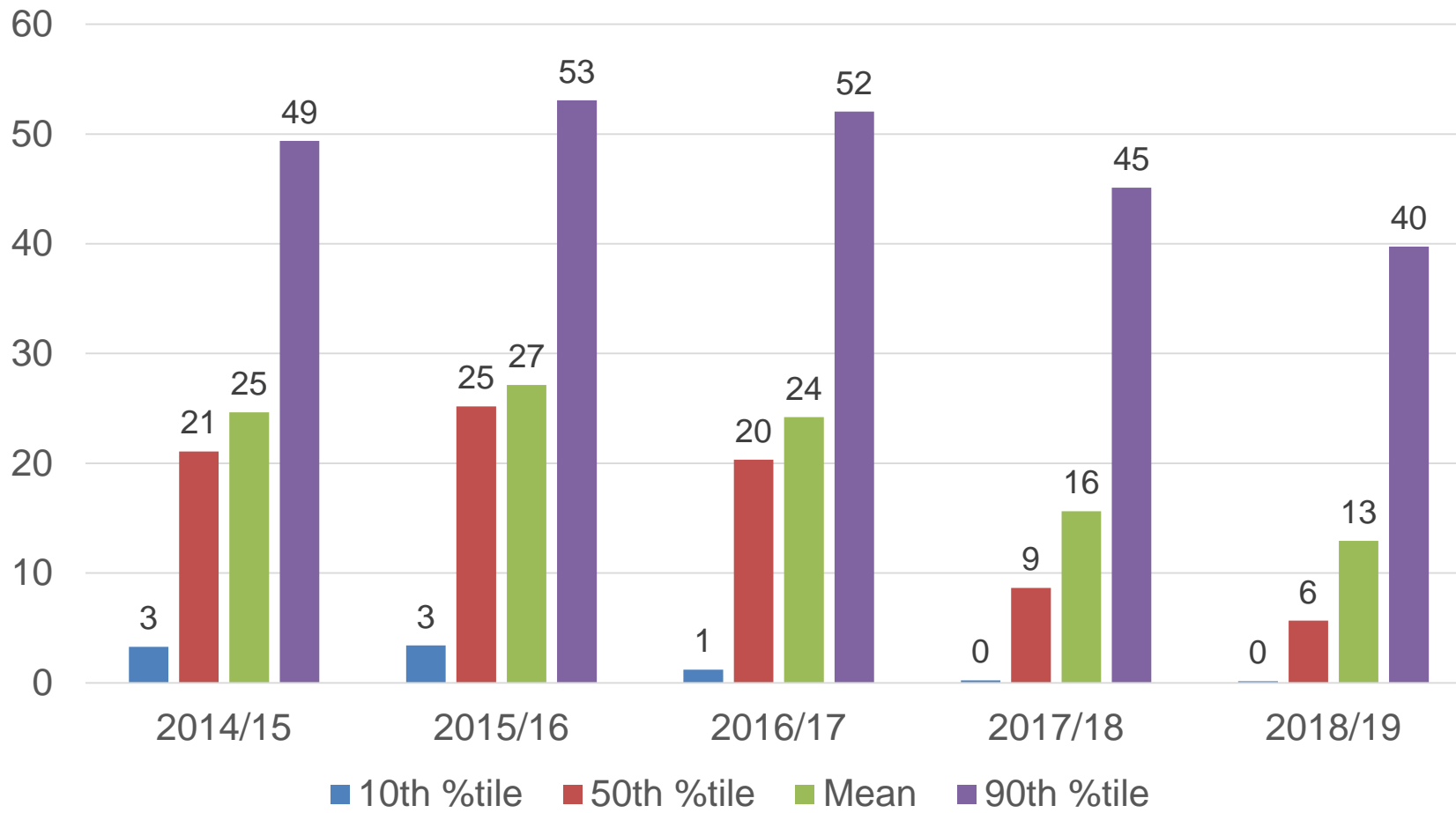
(Dollars per base acre for participating producers)



Source: FAPRI-MU March 2014 stochastic baseline

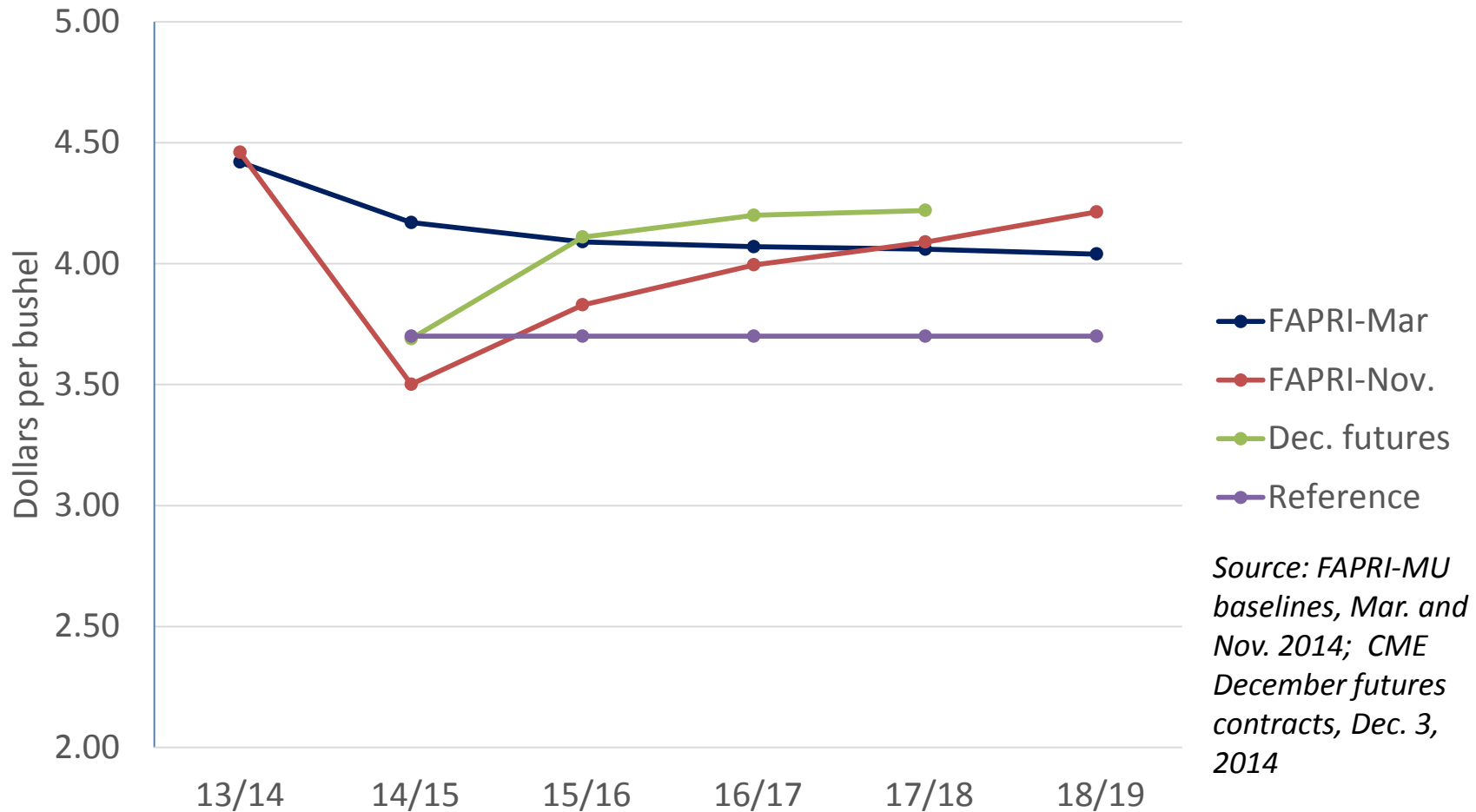
# Corn ARC payments

(Dollars per base acre for participating producers)



Source: FAPRI-MU March 2014 stochastic baseline

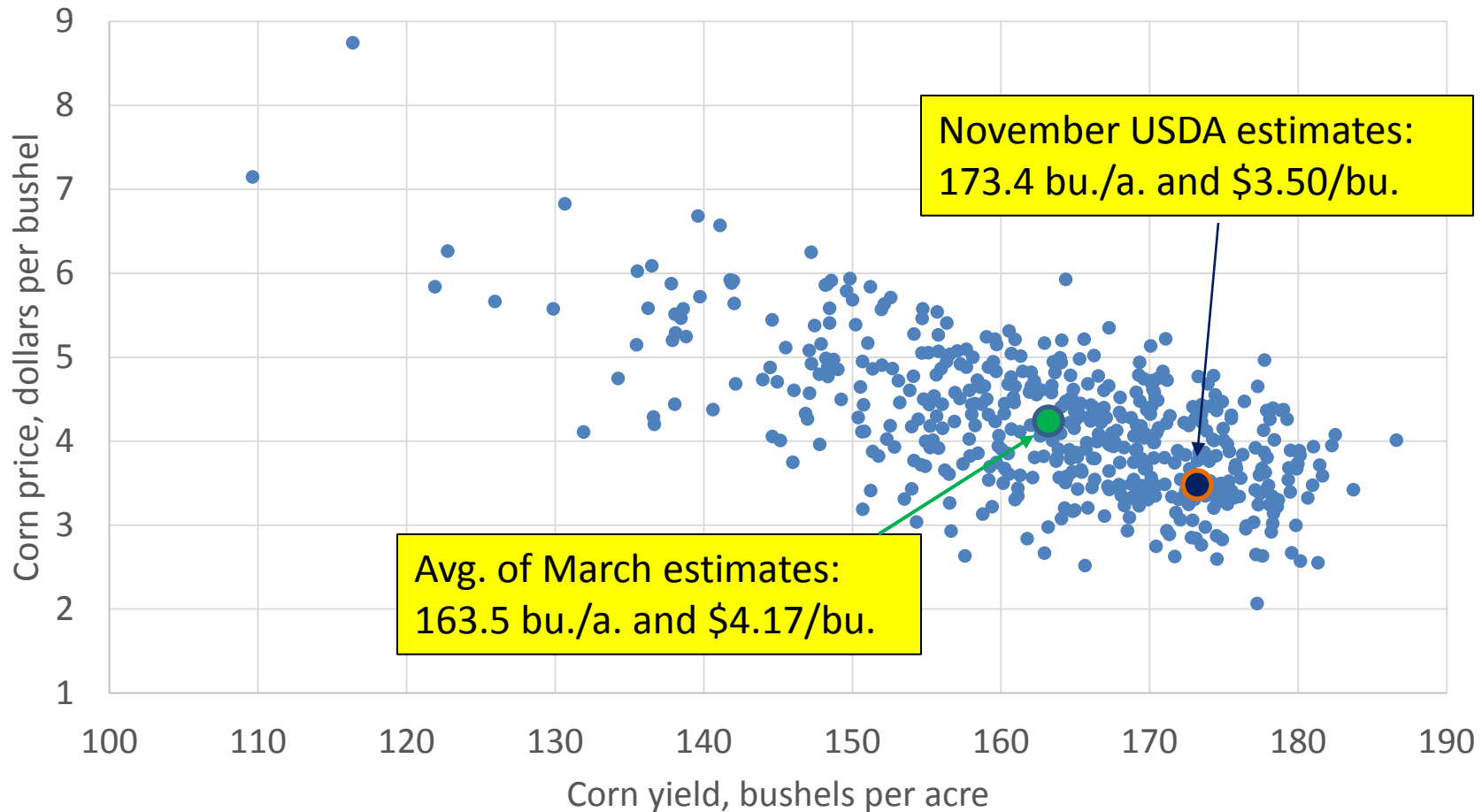
# U.S. farm and futures prices for corn





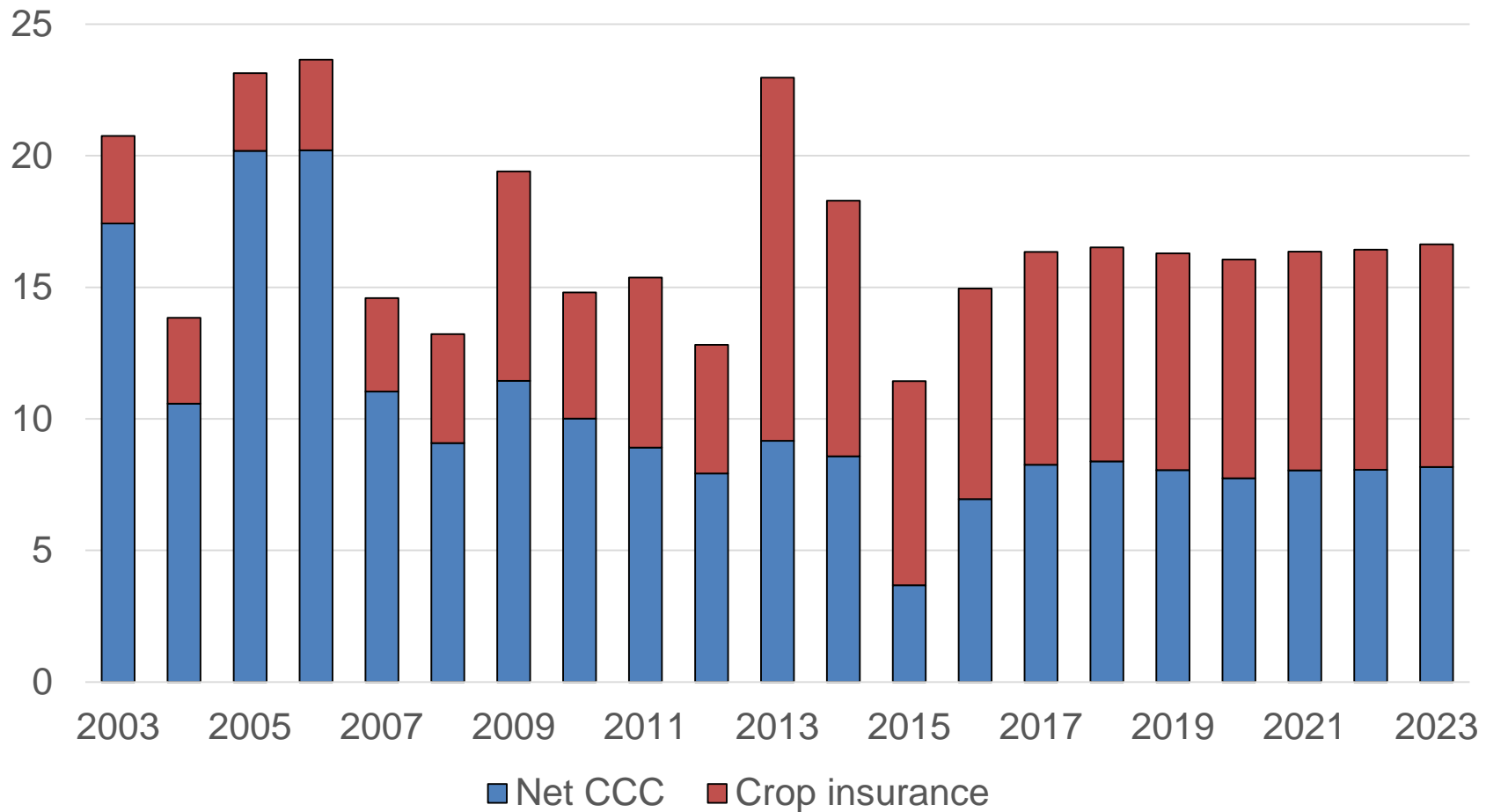
# 2014/15 corn yields and prices

## FAPRI-MU stochastic baseline, March 2014



# Farm program outlays

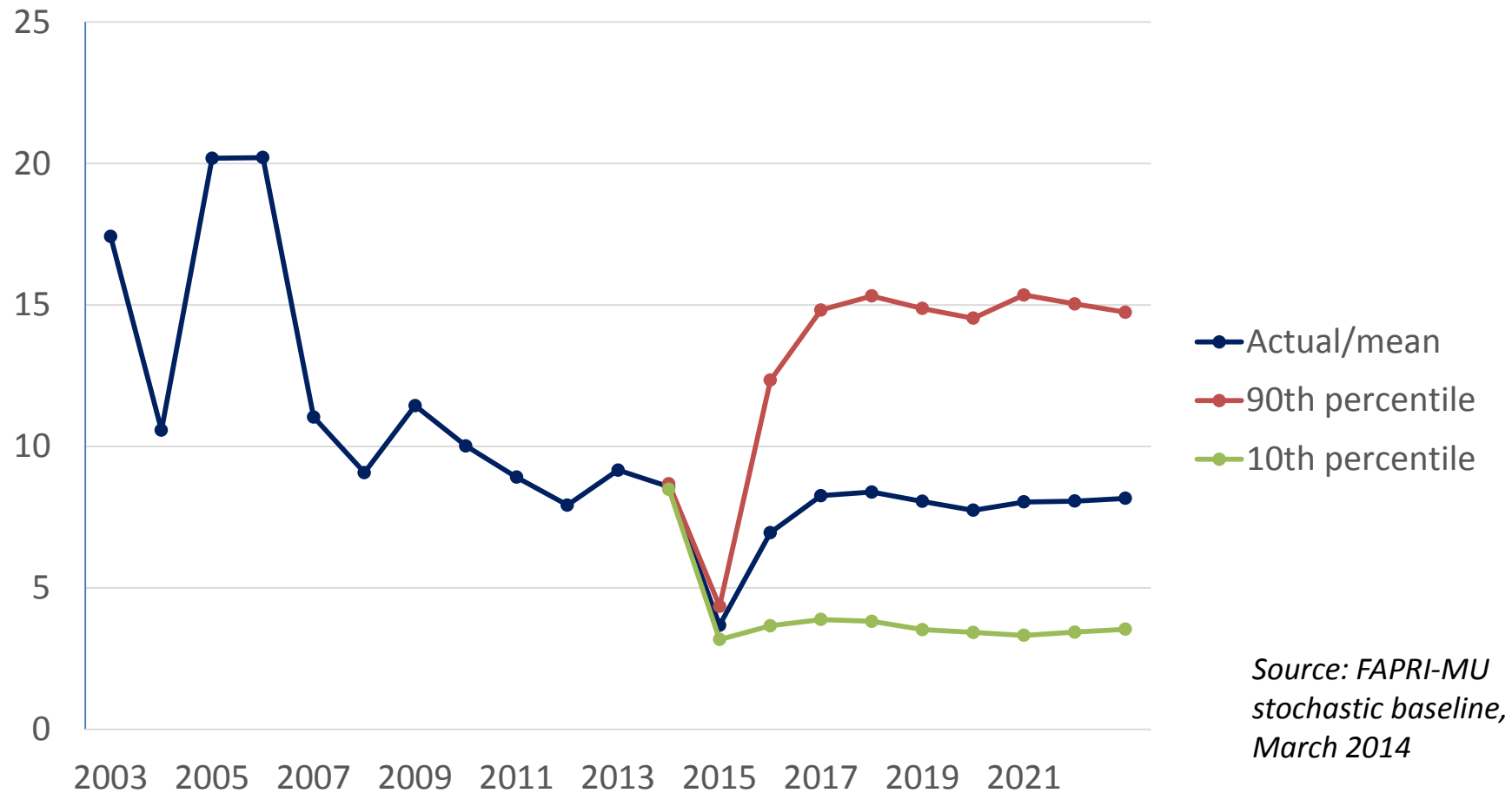
(billion dollars, fiscal year basis, mean values for 2014-23)



Source: FAPRI-MU March 2014 stochastic baseline

# Net CCC outlays

(billion dollars, fiscal year basis)



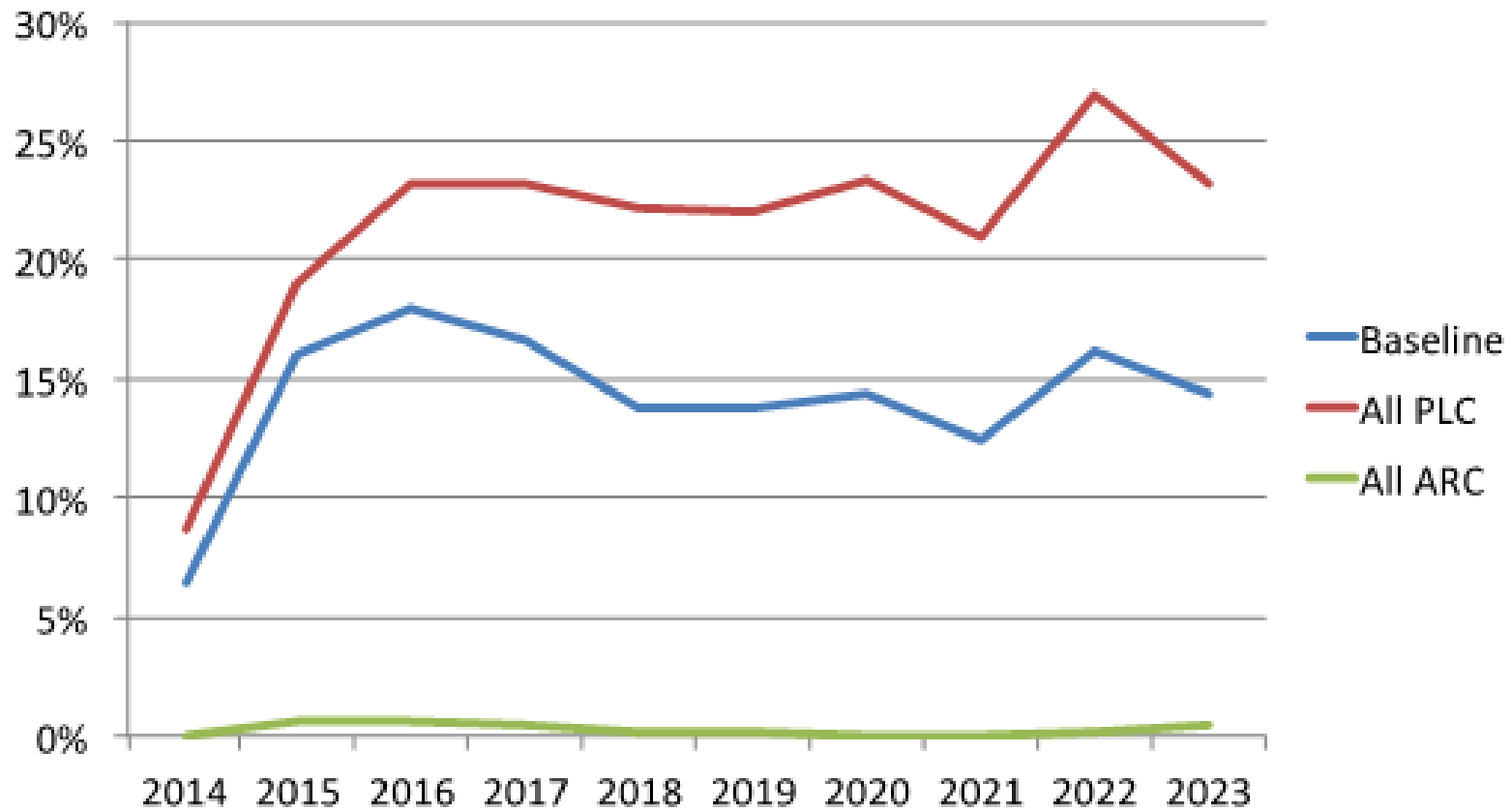
**Table 3— Mean of 2014 baseline outcomes compared to 2008-11 historical levels**

<b>Category</b>	<b>2008-11</b>	<b>2014-18</b>	<b>2019-23</b>
<i>Million dollars</i>			
<b>Product specific amber</b>			
Dairy	3,267	700	217
Sugar	1,270	1,447	1,523
Other	809	781	984
Total ps amber	5,346	2,928	2,724
Included in AMS	4,824	2,812	2,519
De minimis	522	115	205
<b>Non-product specific amber</b>			
Crop insurance	5,822	6,755	7,070
CCP	364	na	na
ARC	na	1,700	1,114
PLC	na	3,056	3,814
SURE	1,200	na	na
Other	256	500	500
Total nps amber	7,643	12,011	12,498
Included in AMS	0	2,920	3,035
De minimis	7,643	9,090	9,463
<b>Total reported AMS</b>	<b>4,824</b>	<b>5,733</b>	<b>5,554</b>
Total de minimis	8,165	9,206	9,669
<b>Total Support</b>	<b>12,989</b>	<b>14,938</b>	<b>15,222</b>

Item	Average AMS (Million dollars)		Proportion of outcomes exceeding URAA limit at least once over period (%)	
	2014-18	2014-23	2014-18	2014-23
<b>Base</b>	5,733	5,643	51.6	72.6
<b>100% PLC</b>	7,188	7,712	62.0	84.4
<b>100% ARC</b>	2,891	2,715	1.8	2.6

Figure 1

Proportion of outcomes exceeding URAA commitments



**Table 5—Proportion of Outcomes Exceeding Proposed Doha Limits**

Support	Average 2014-23 Mil dollars	Proposed limit Mil dollars	Proportion of outcomes exceeding limit at least once over 2014-23
AMS	3,063	7,641	34.0
Blue box	4,842	4,773	98.6
OTDS	15,080	14,467	99.8

**Table 5—Proportion of Outcomes Exceeding Proposed Doha Limits**

Support	Average 2014-23 Mil dollars	Proposed limit Mil dollars	Proportion of outcomes exceeding limit at least once over 2014-23
Product specific			
Amber box			
Barley	2	29	20.8
Corn	48	1,142	10.8
Upland cotton	587	1,113	69.4
Dairy	526	4,4671	3.4
Oats	0	10	0.8
Peanuts	30	249	33.8
Rice	0	311	0.0
Sorghum	1	44	8.8
Soybeans	37	1,162	7.6
Sugar	1,485	1,100	100.0
Wheat	27	271	19.2

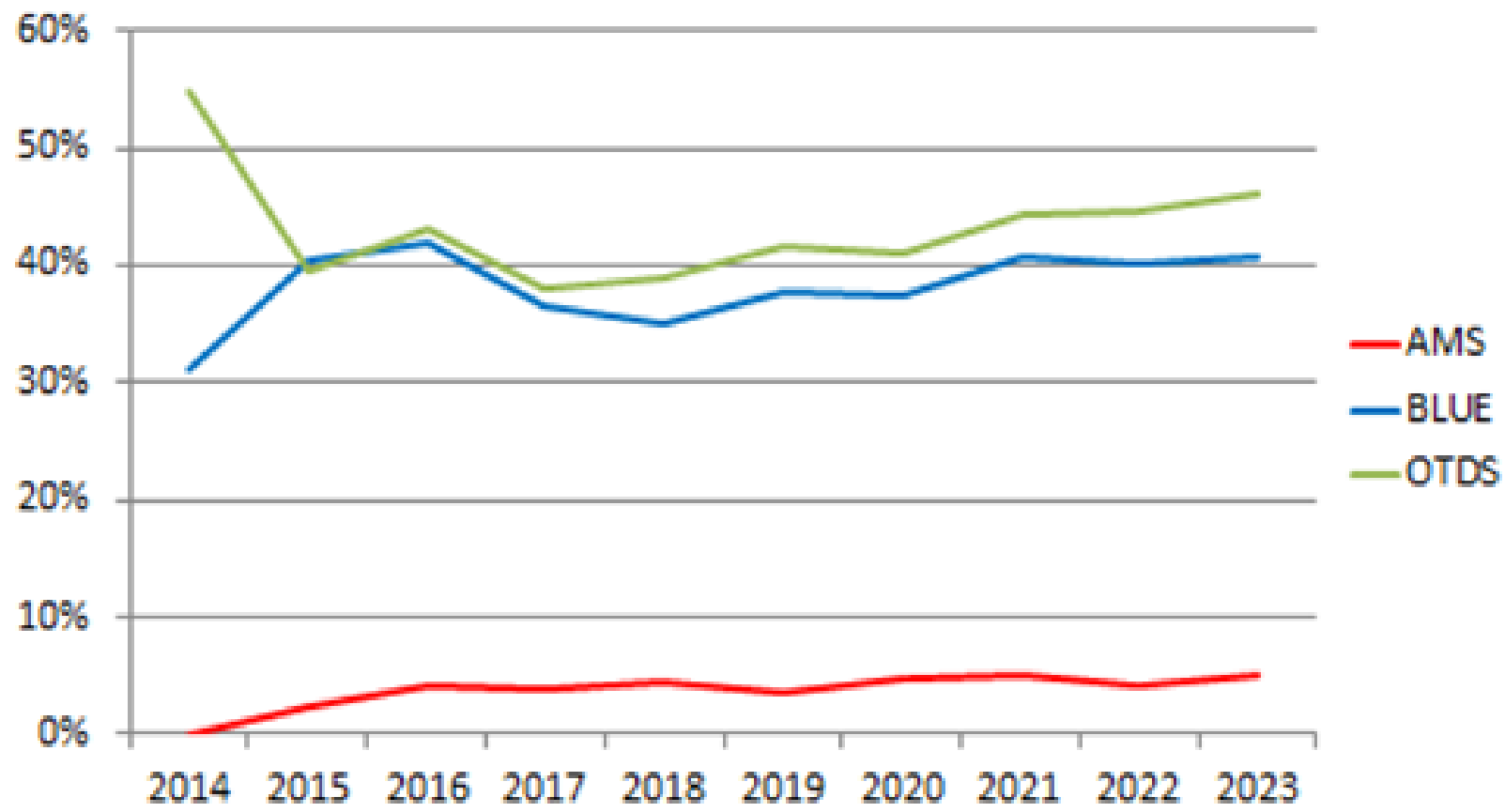


**Table 5—Proportion of Outcomes Exceeding Proposed Doha Limits**

Support	Average 2014-23 Mil dollars	Proposed limit Mil dollars	Proportion of outcomes exceeding limit at least once over 2014-23
Blue box caps			
Barley	531	32	100.0
Corn	1,931	2,360	98.6
Upland cotton	na	1,009	na
Oats	5	5	97.8
Peanuts	100	150	99.4
Rice	143	235	94.4
Sorghum	227	107	100.0
Soybeans	678	200	100.0
Wheat	1,150	1,041	98.8

Figure 2

Proportion of outcomes exceeding Doha commitments



# Caveats

- Estimates are baseline dependent
  - Mean prices, yields, etc.
  - Distributions and correlations
- Approach is a partial stochastic approach
  - Not all sources of uncertainty considered
  - But model is calibrated to generate distributions judged “reasonable”
- Assumptions matter
  - Participation in various programs
  - How programs will be notified

# Concluding comments

- New farm bill creates programs where outlays are uncertain
- Strong possibility that support under the new bill could exceed U.S. internal support commitments, given assumptions used here
- Ironically, this happens in part because the final bill made new programs less coupled than originally proposed
  - Linking ARC and PLC to base rather than planted acreage may shift support from product specific to non-product specific amber
  - Under analysis assumptions, this makes it more likely that *de minimis* level of non-product specific amber support will be exceeded
  - When *de minimis* is triggered, so is the AMS cap

# Concluding comments

- Under a proposed Doha rules and assumptions of the analysis, the new bill
  - Is likely to at least occasionally exceed blue box and OTDS caps
  - Is very likely to exceed product-specific blue box caps
  - But the lower proposed AMS cap is actually less likely to be exceeded
- U.S. has just shifted reporting
  - For 2012, U.S. just notified crop insurance as product specific
  - This reduces likelihood of exceeding URAA limits on total current AMS
  - But under Doha modalities, does not help with blue box or OTDS issues