

Analysis of Farm Policy Options: National Level Results

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Policy Impact Matrix

	1996 FBILL		Supply Management		Green	Stock Management	
	Pure	Actual	Voluntary	Paid	Payments	FOR	Strategic
Farmers							
Returns							
Risk							
Government Costs							
Consumers							
Resource Values							
Environment							
Agribusiness							
Input							
Output							
Finance							

Alternatives Analyzed

- **Baseline**
 - Continuation of 1996 Farm Bill with AMTA payments at 2002 levels and No MLA payments
- **FOR**
 - A farmer-owned reserve program where release price is 175 percent of the loan rate
- **PLD**
 - A paid land diversion where bids are determined by region to give a 10 percent land diversion with 50 percent slippage
- **Counter- Cyclical**
 - Baseline plus additional payments when aggregate farm income drops below \$41.3 billion.

POLYSYS Commodities

Corn Sorghum Barley Oats



Cotton

Rice

Wheat



Soybeans

Beef

Pork



Turkeys

Broilers

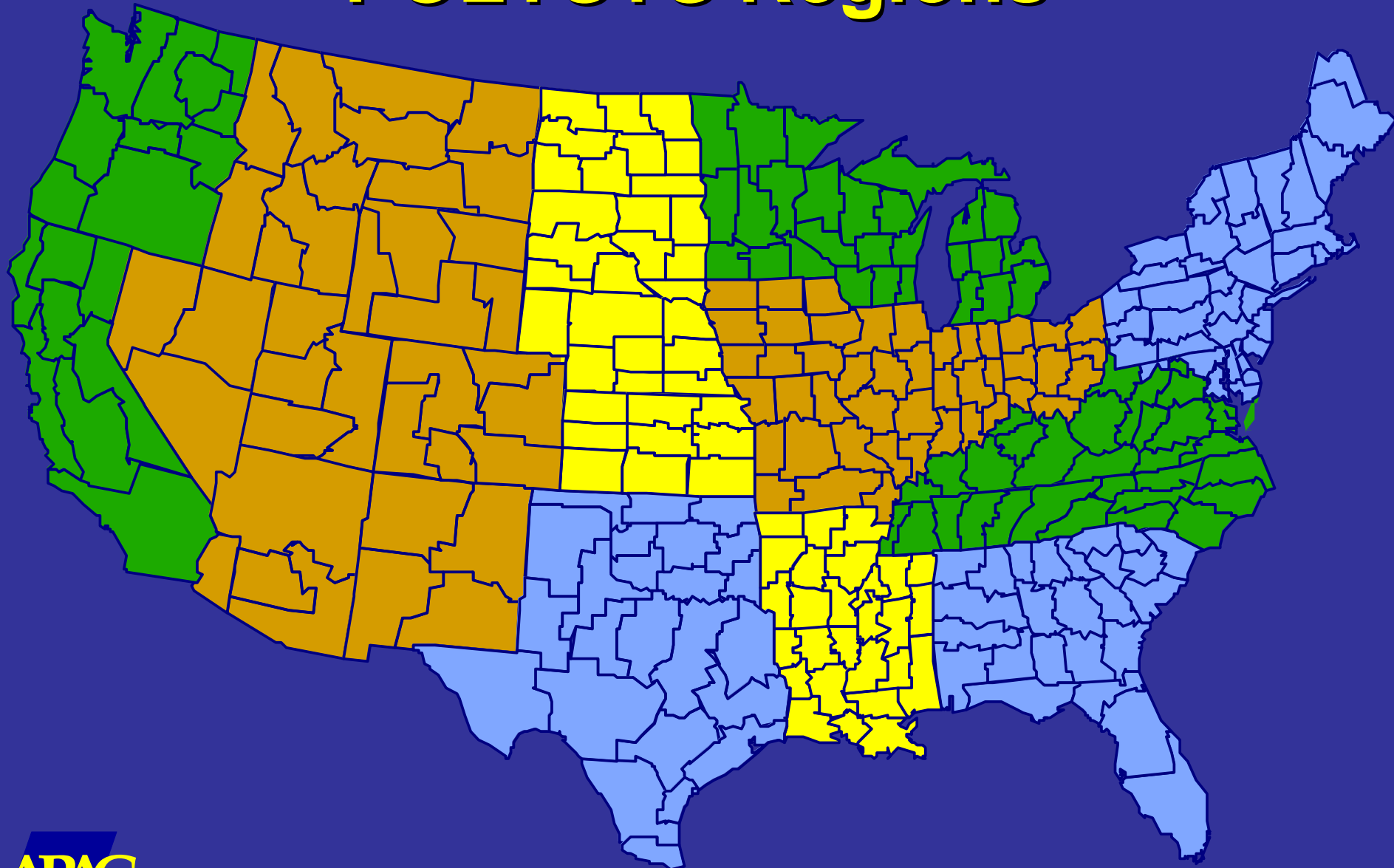
Eggs

Lamb & Mutton

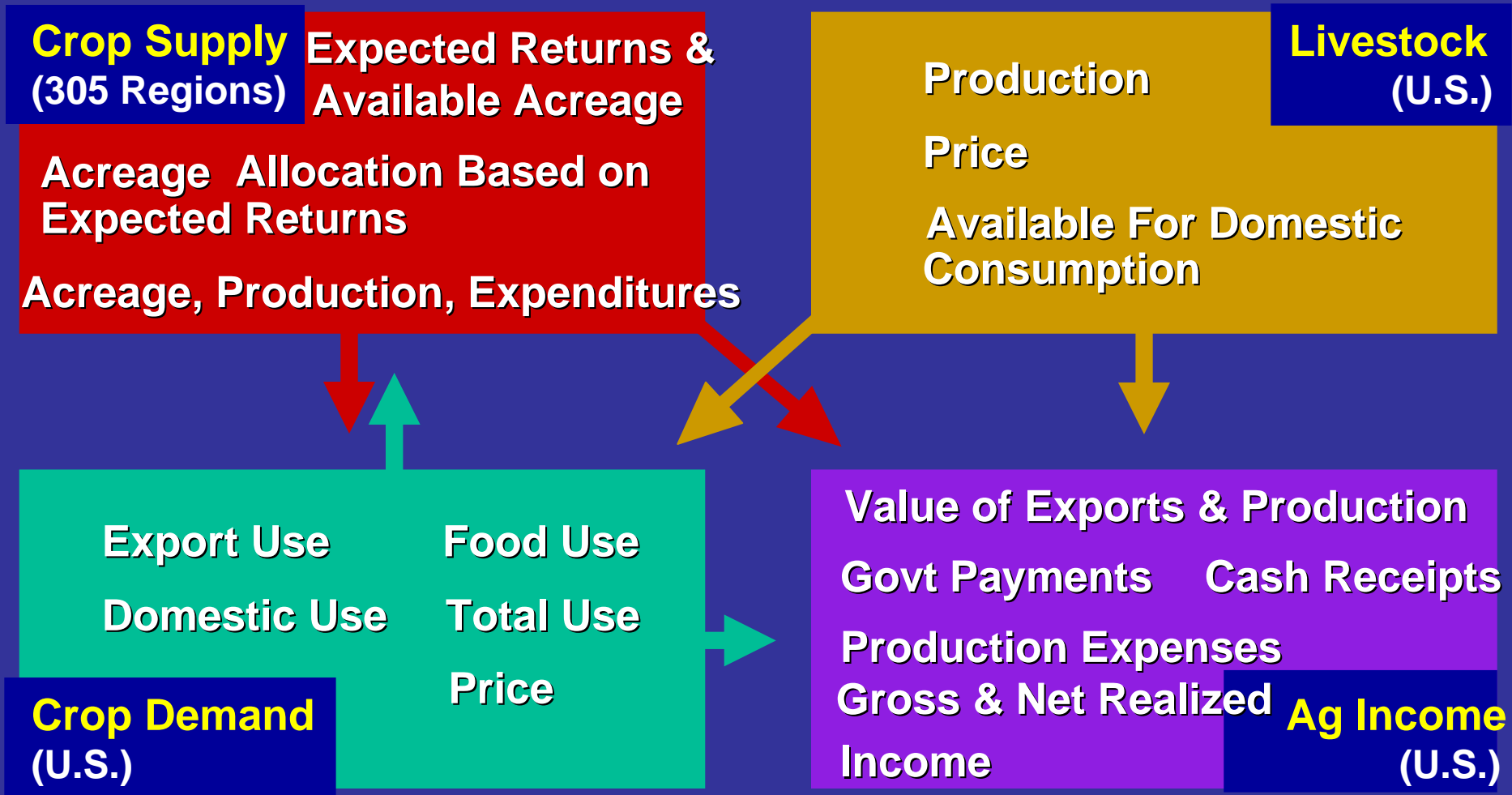


Dairy

POLYSYS Regions



Functions & Interactions



Stochastic POLYSYS

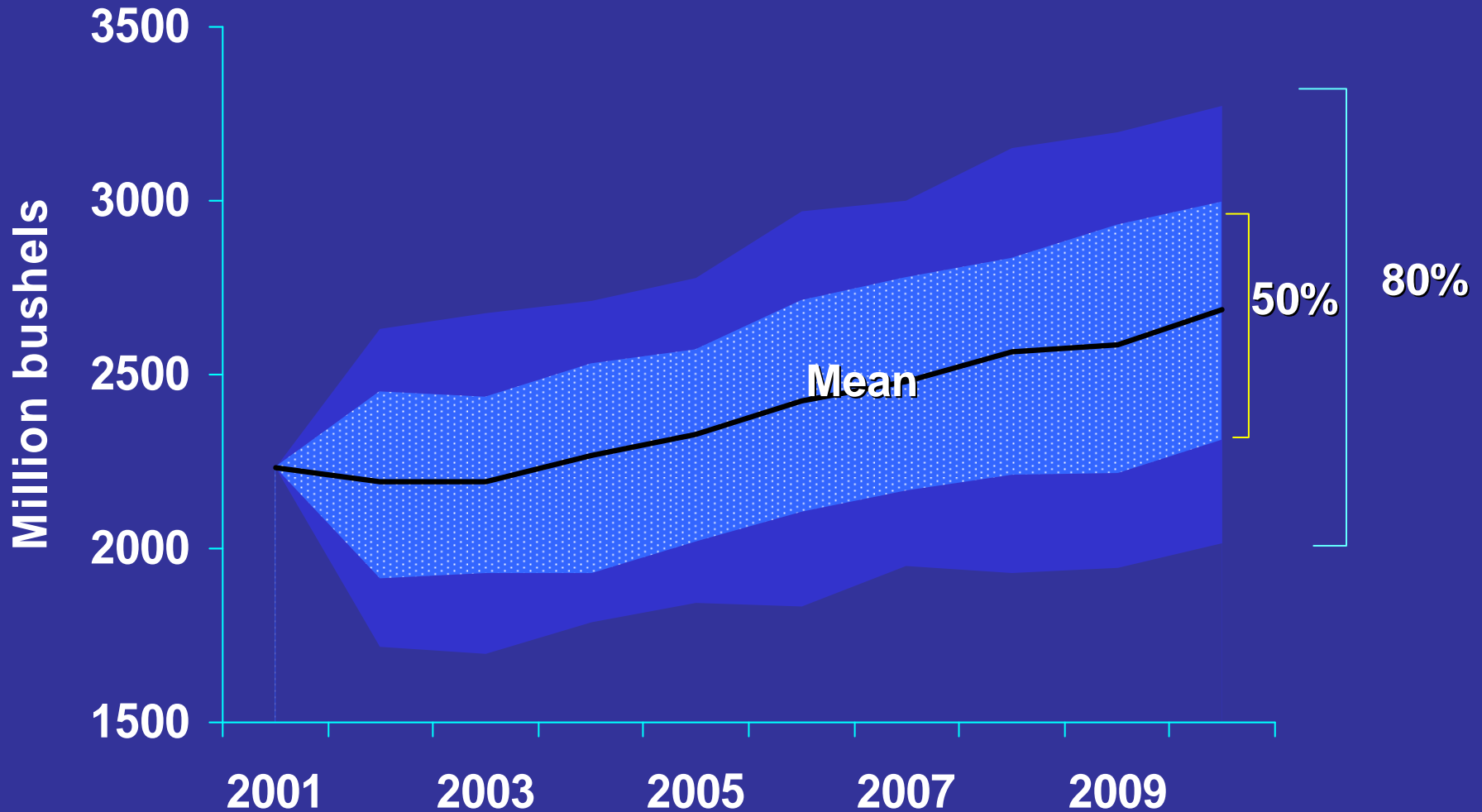
- A Stochastic Version of POLYSYS Was Developed to Incorporate Variability
- Has Been Used to Analyze
 - USDA, FAPRI, and CBO Baselines since 1997
 - Effects of El Niño on U.S. Agriculture

Methodology

- February 2001 USDA Baseline
- Variability Introduced in:
 - Crop Exports (Deviations From 1982-99 Regression)
 - Regional Yields (Deviations From 1972-99 Regression)
 - MVE Distribution -- Not Necessarily Normal
- 10-Year Simulation Starts With Random Yield And Export Shocks; Process Followed For 100 Iterations

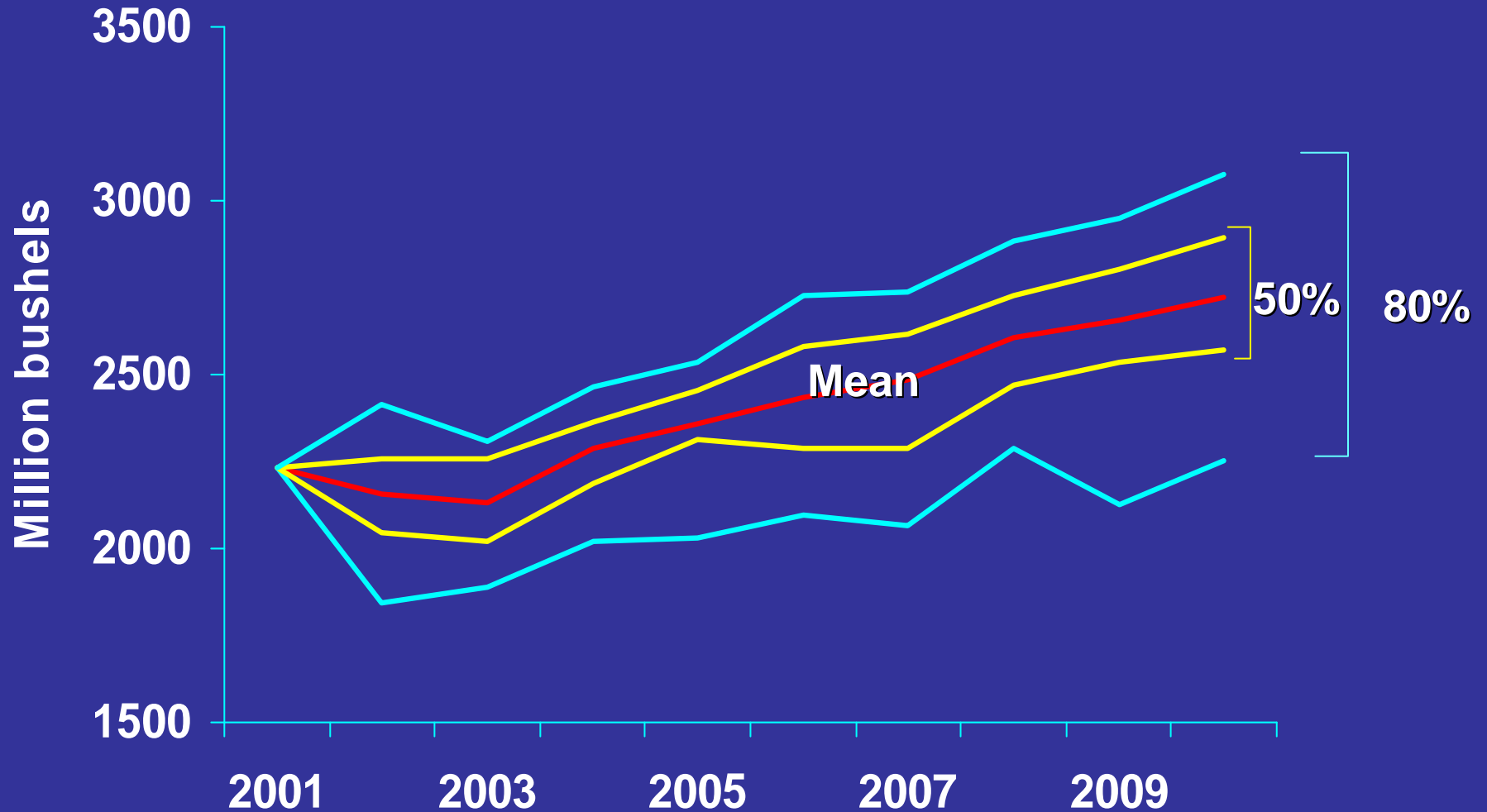
Stochastic

Representation of the Baseline

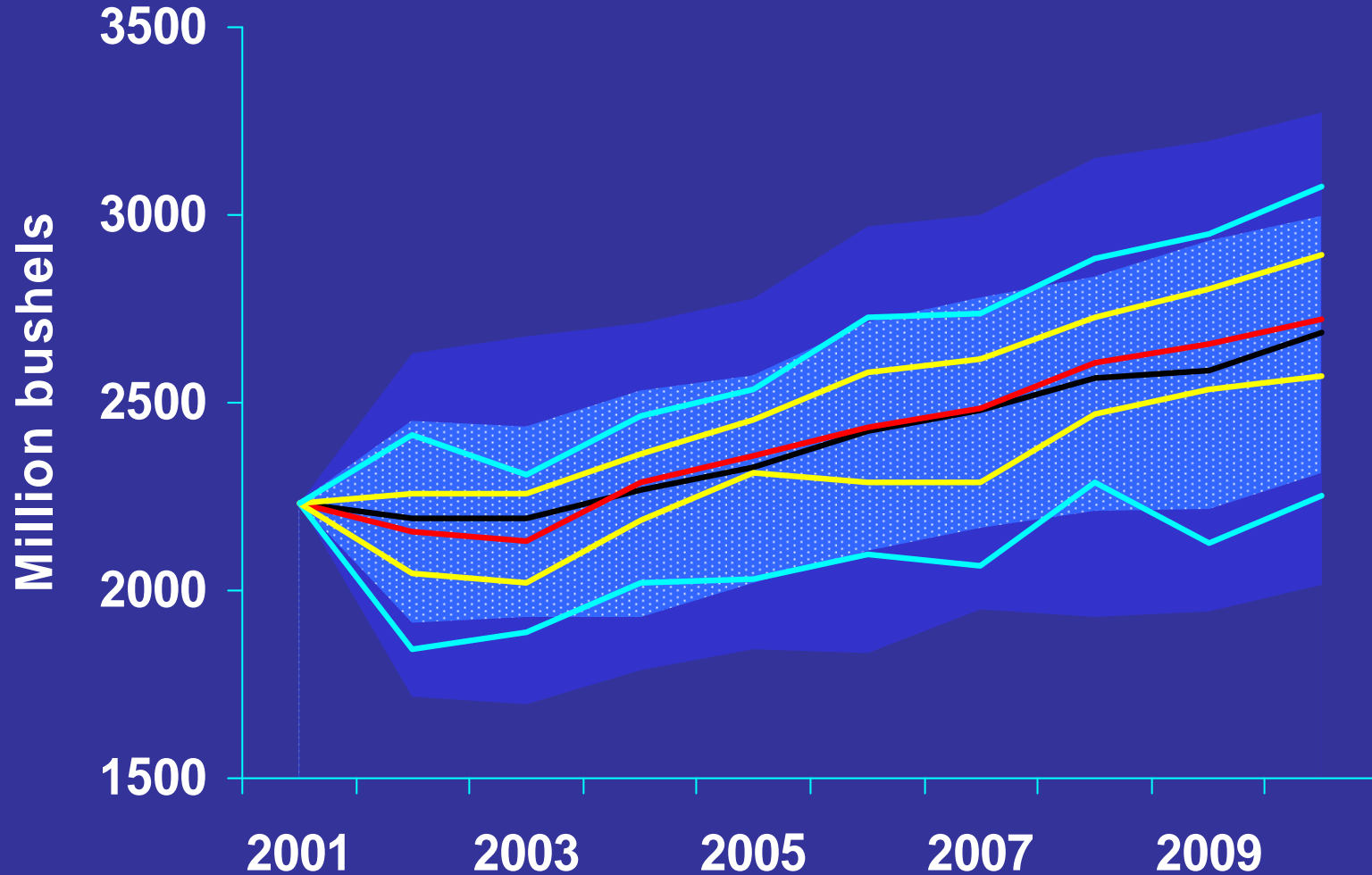


Stochastic

Representation of the Simulation



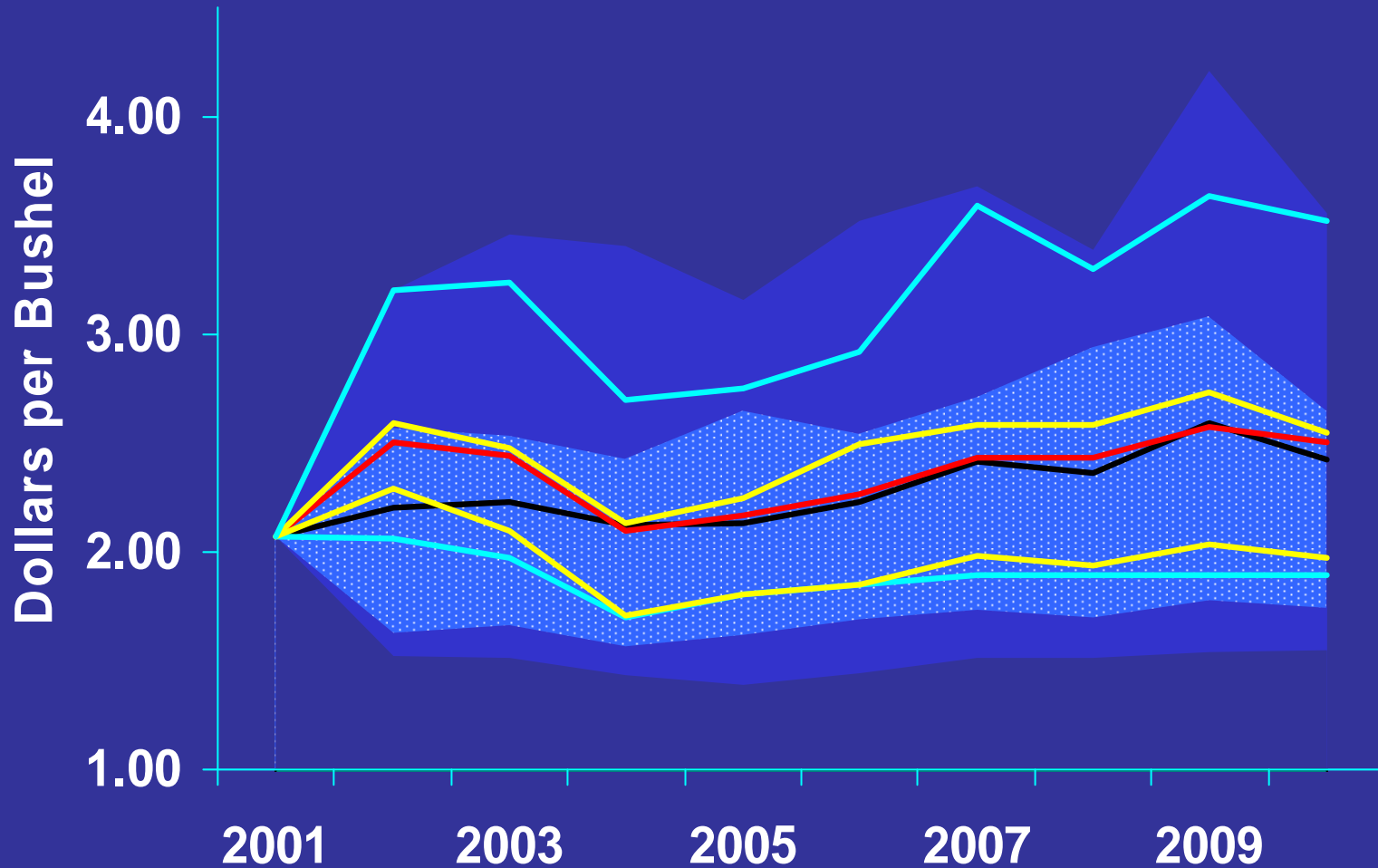
Baseline vs. Simulation



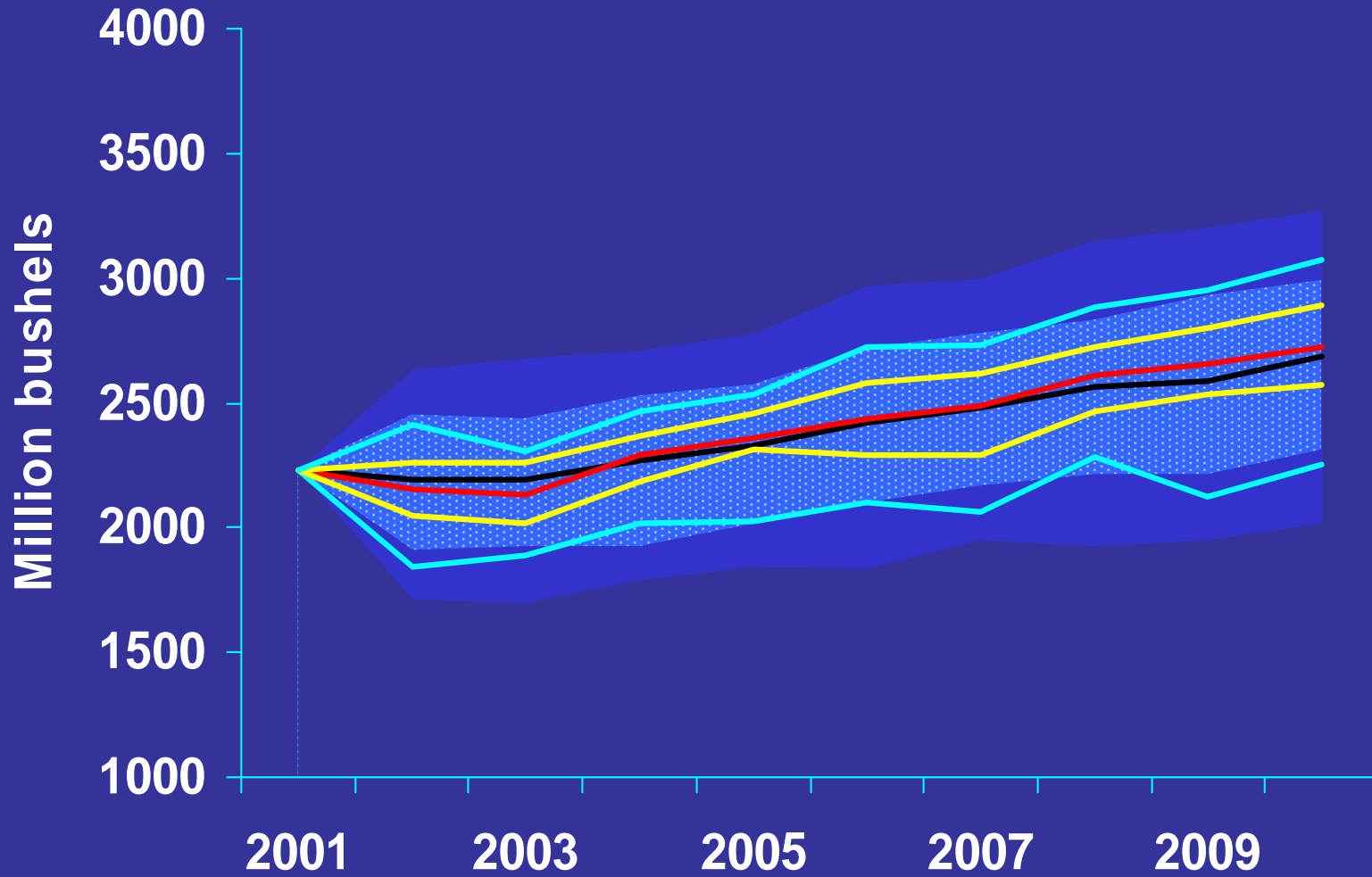
FOR Assumptions

	unit	Loan Rate \$ x unit	Level of Support	Release Price	Max. Storage
Corn	bu.	1.64 – 1.89	100 %	175 %	1800
Wheat	bu.	2.24 – 2.58	100 %	175 %	450
Soybeans	bu.	4.92 – 5.07	100 %	175 %	600
Cotton	bales	0.52	100 %	175 %	3.5
Rice	cwt.	6.50	100 %	175 %	40.0

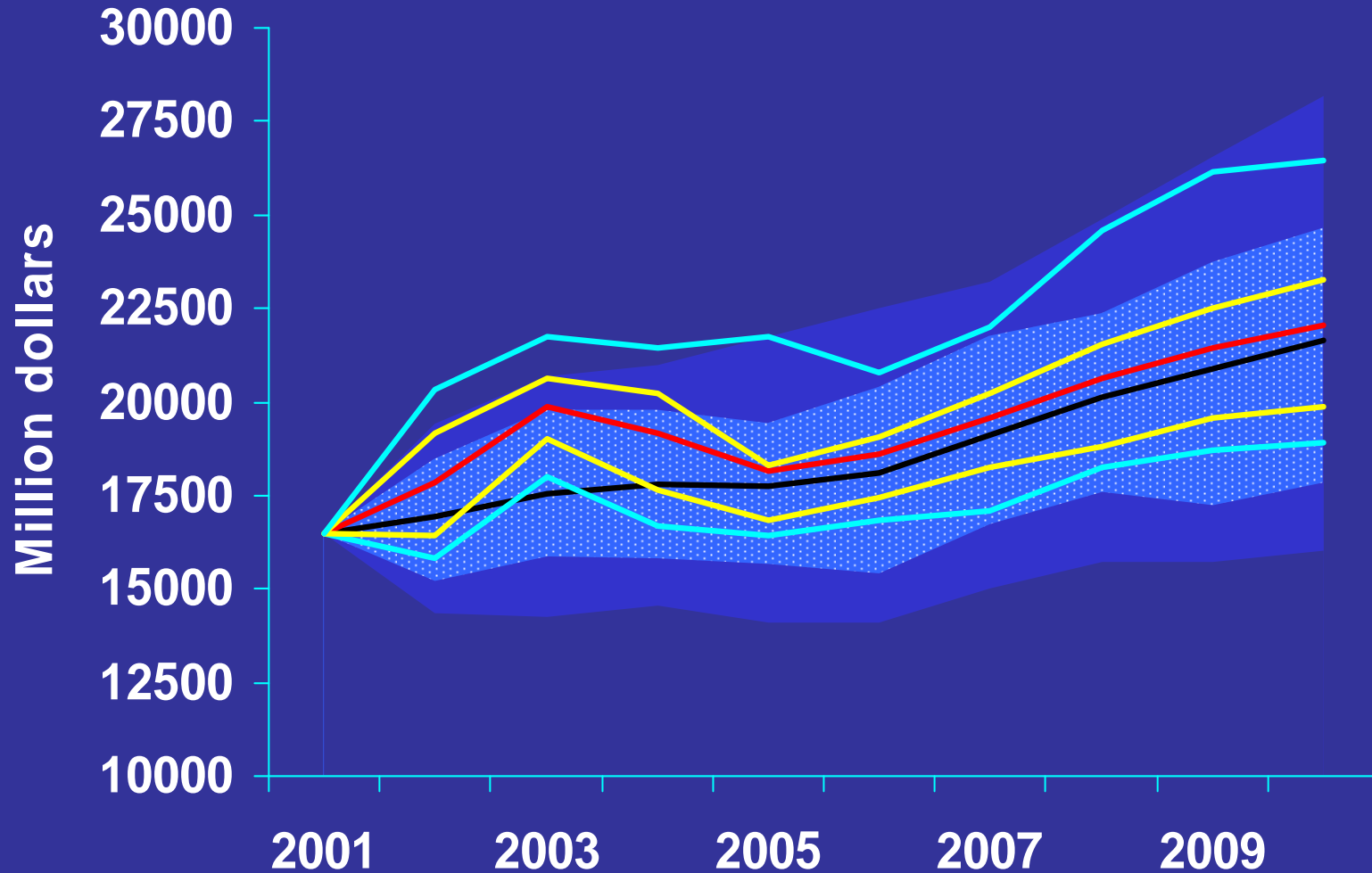
Average Price



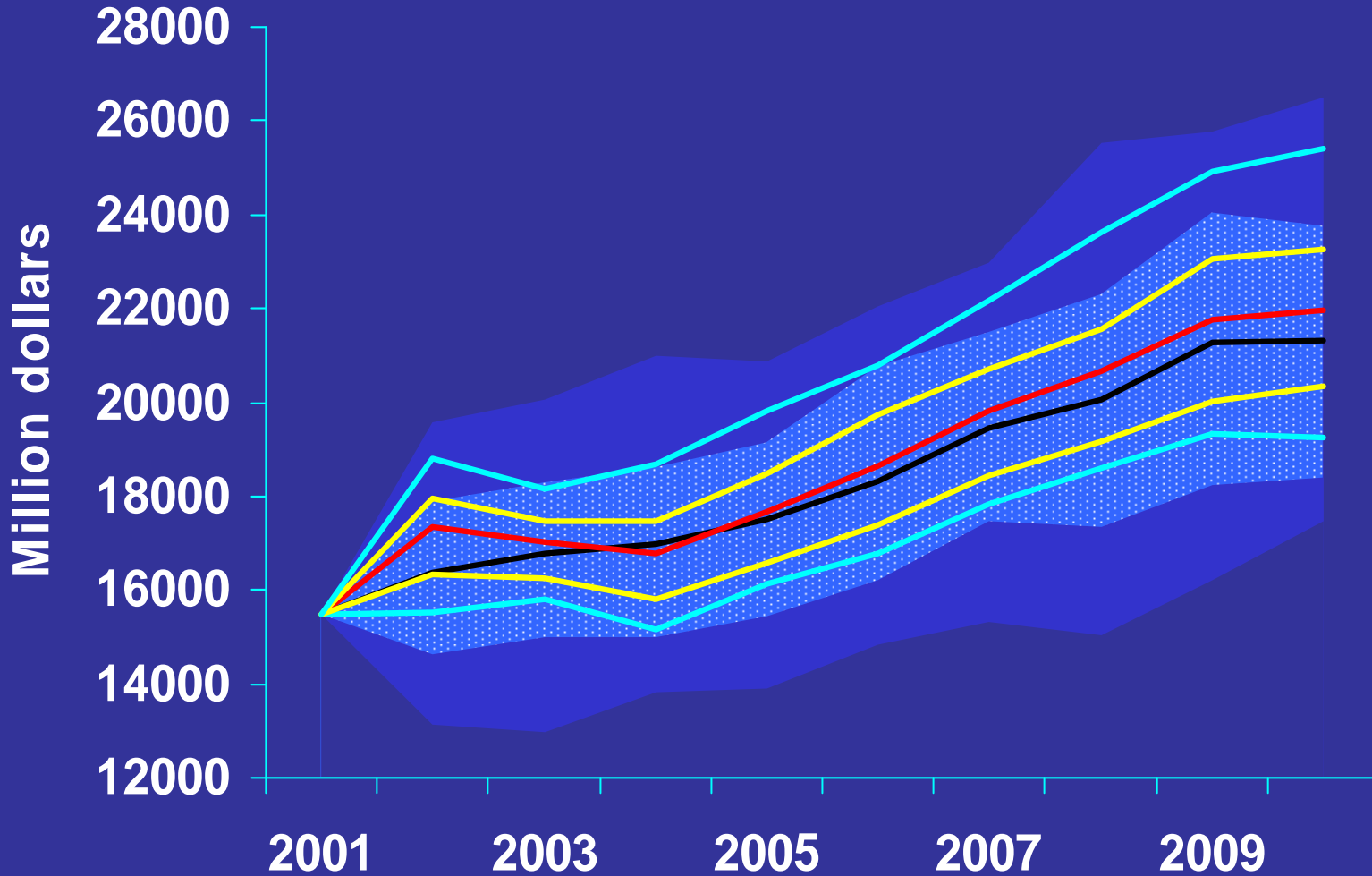
Exports



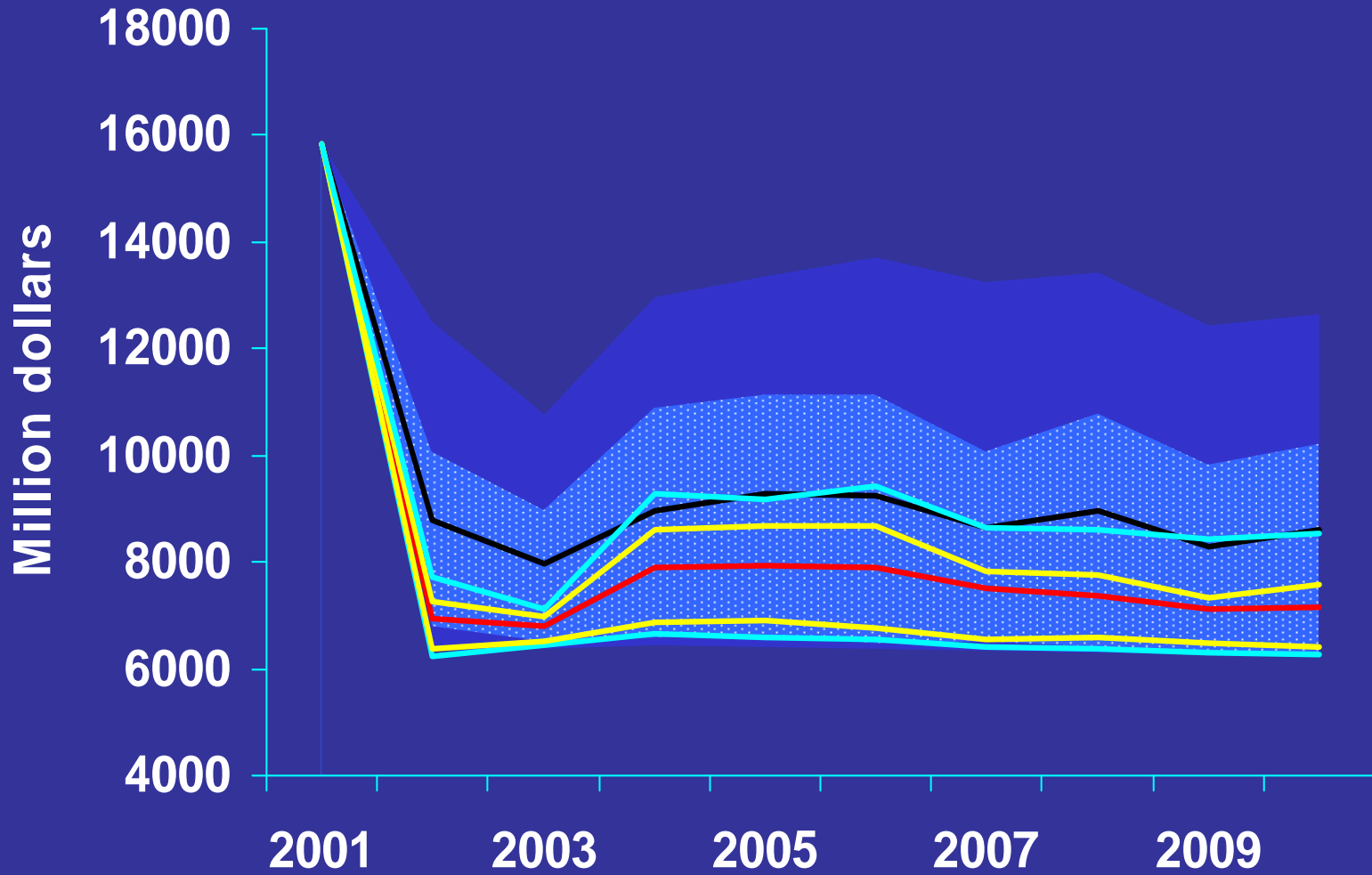
Cash Receipts



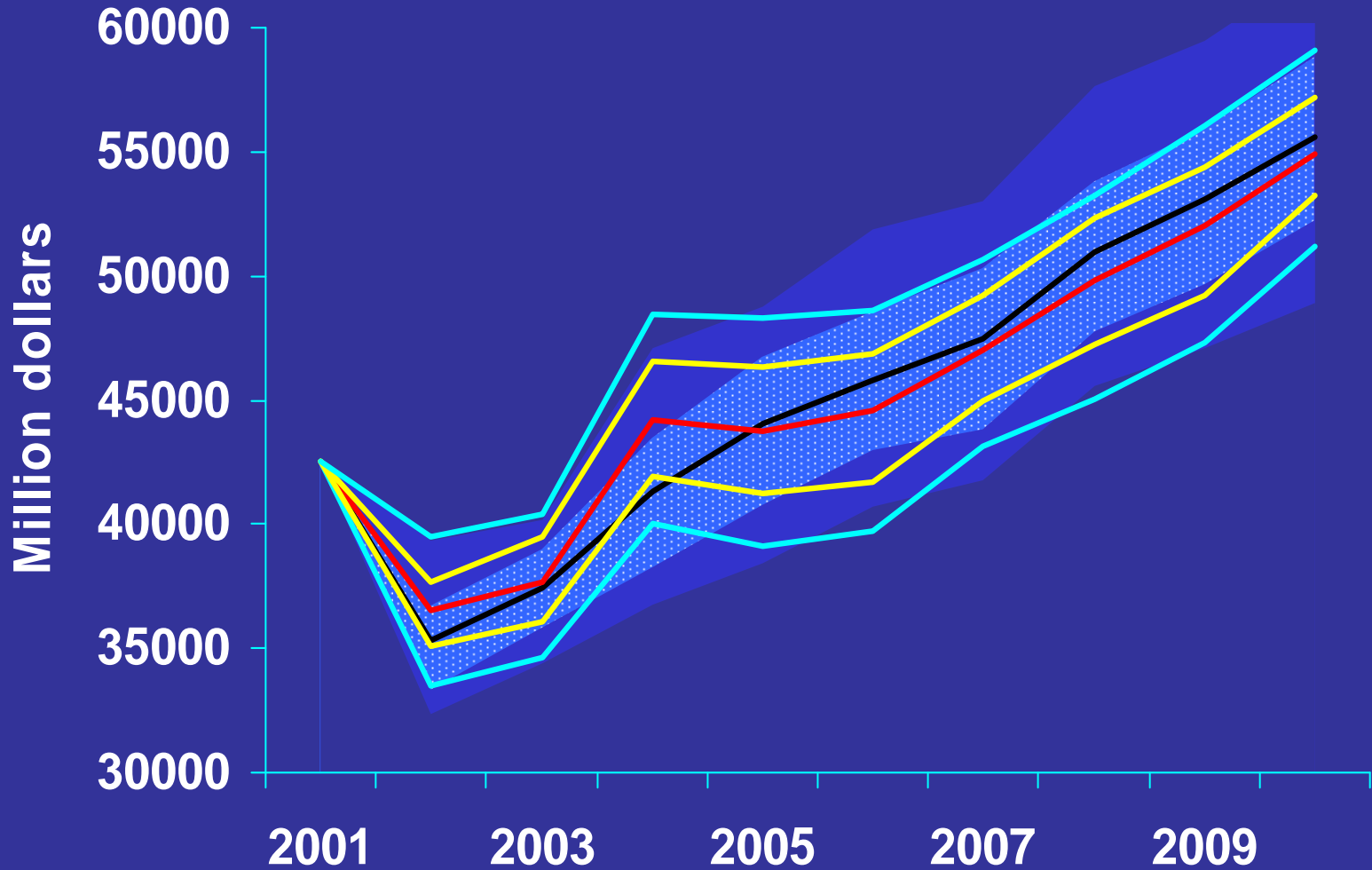
Value of Exports



Government Payments



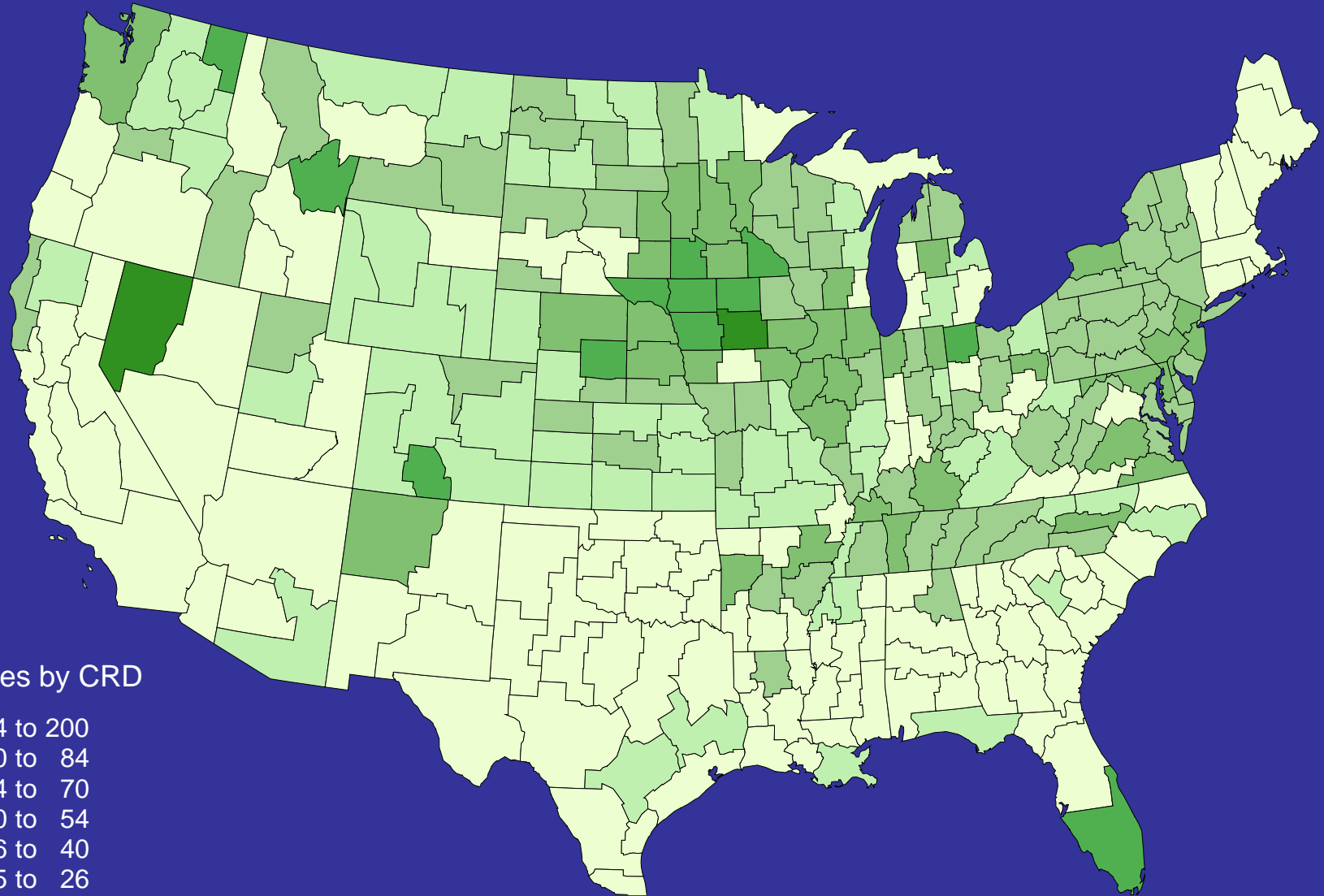
Realized Net Income



Paid Land Diversion

- Short term land diversion program.
- Bids are determined so each region *gives-up* or diverts 10 % of cropland in major crops.
- It is assumed a 50 percent slippage.
- Rates are updated annually.

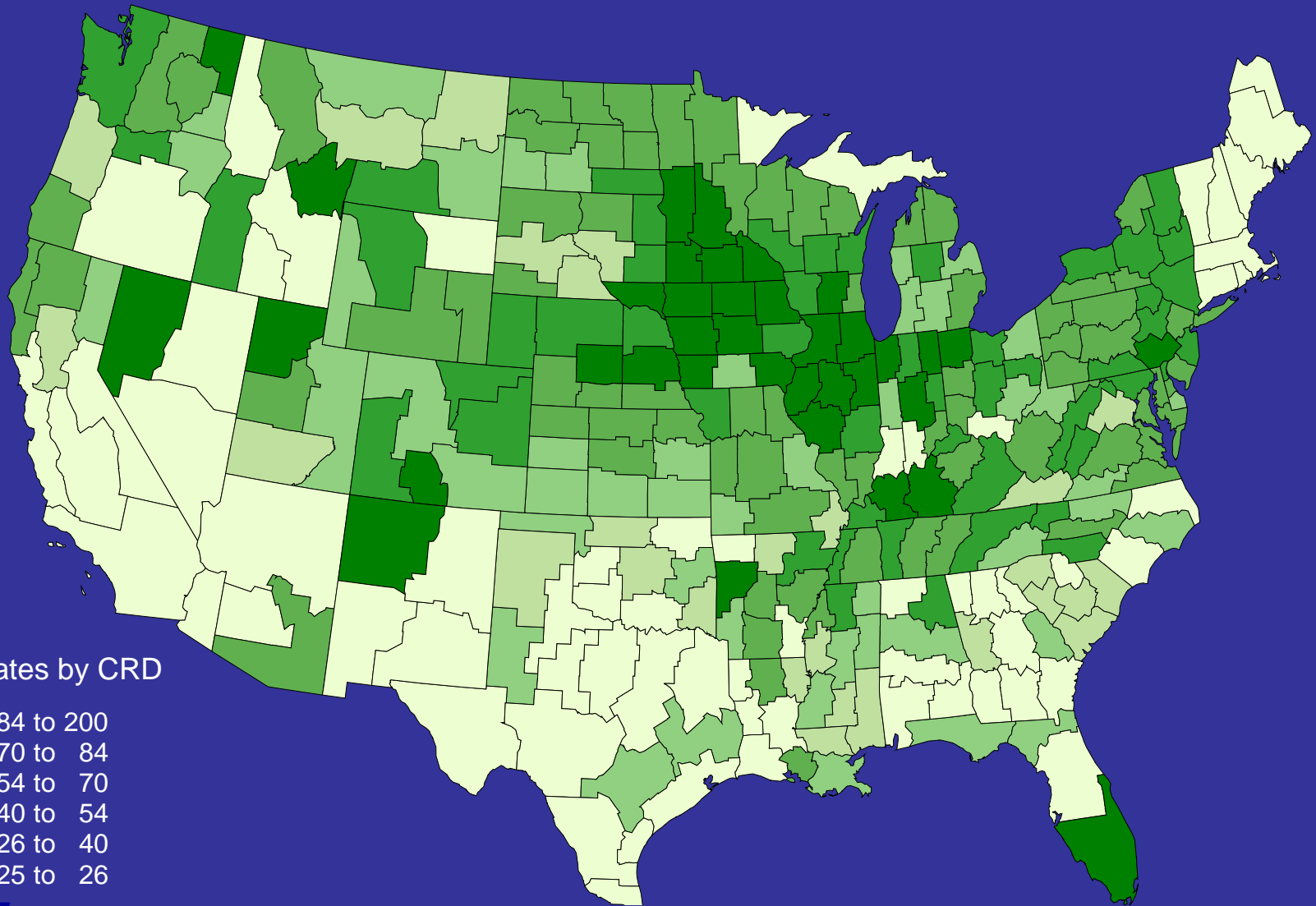
PLD \$/acre, 2002



PLD Rates by CRD

- 84 to 200
- 70 to 84
- 54 to 70
- 40 to 54
- 26 to 40
- 25 to 26

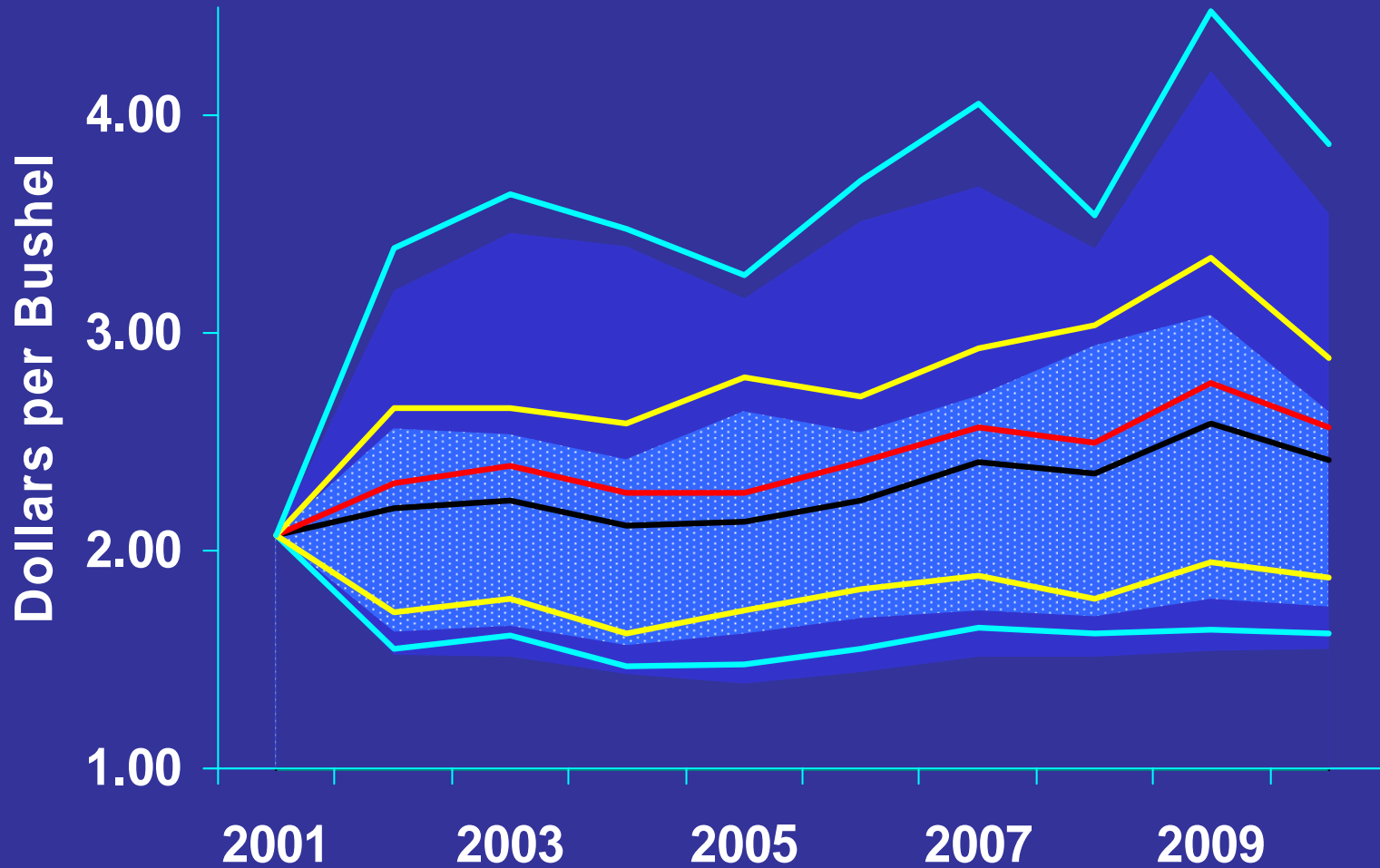
PLD \$/acre, 2010



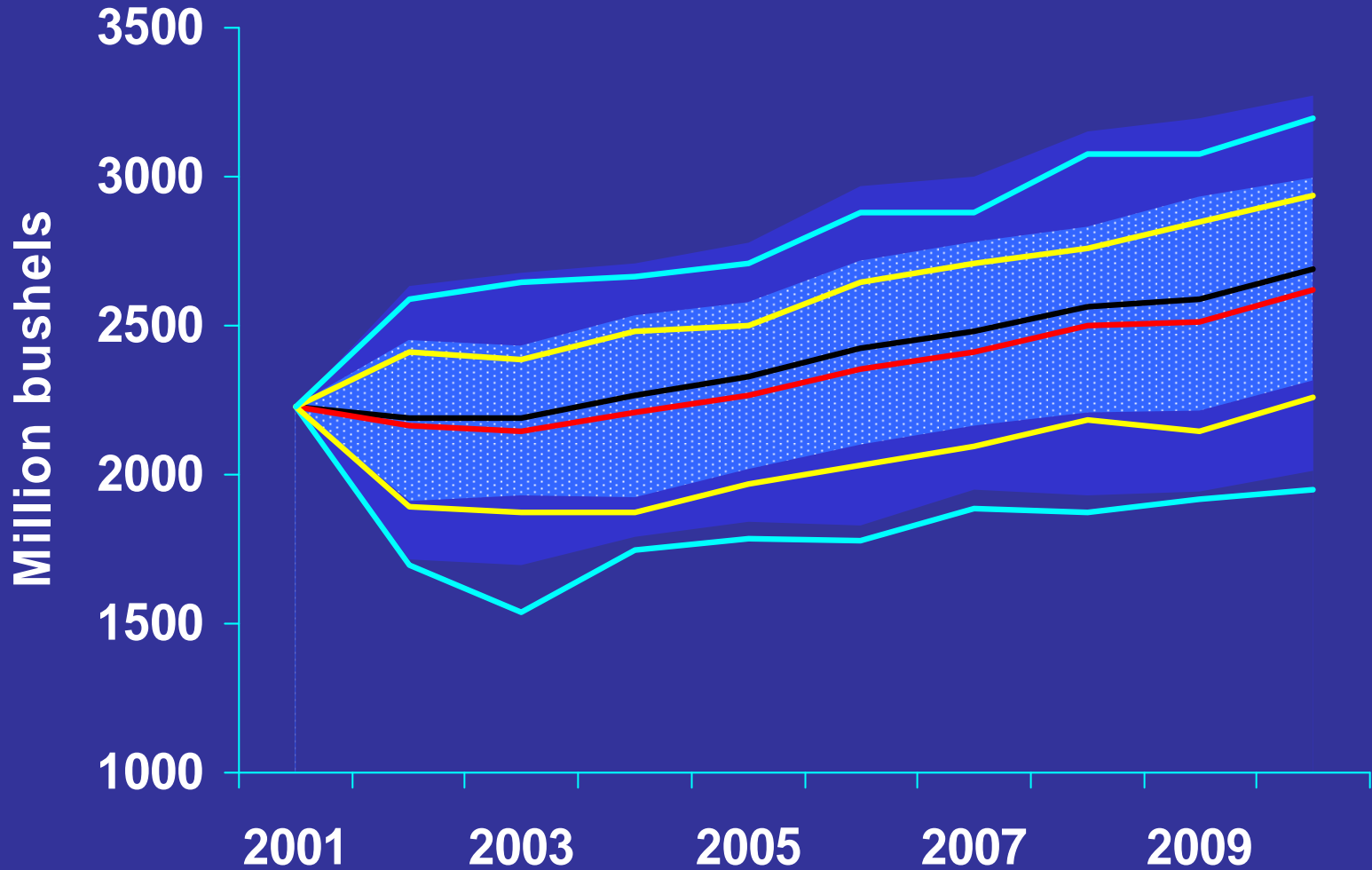
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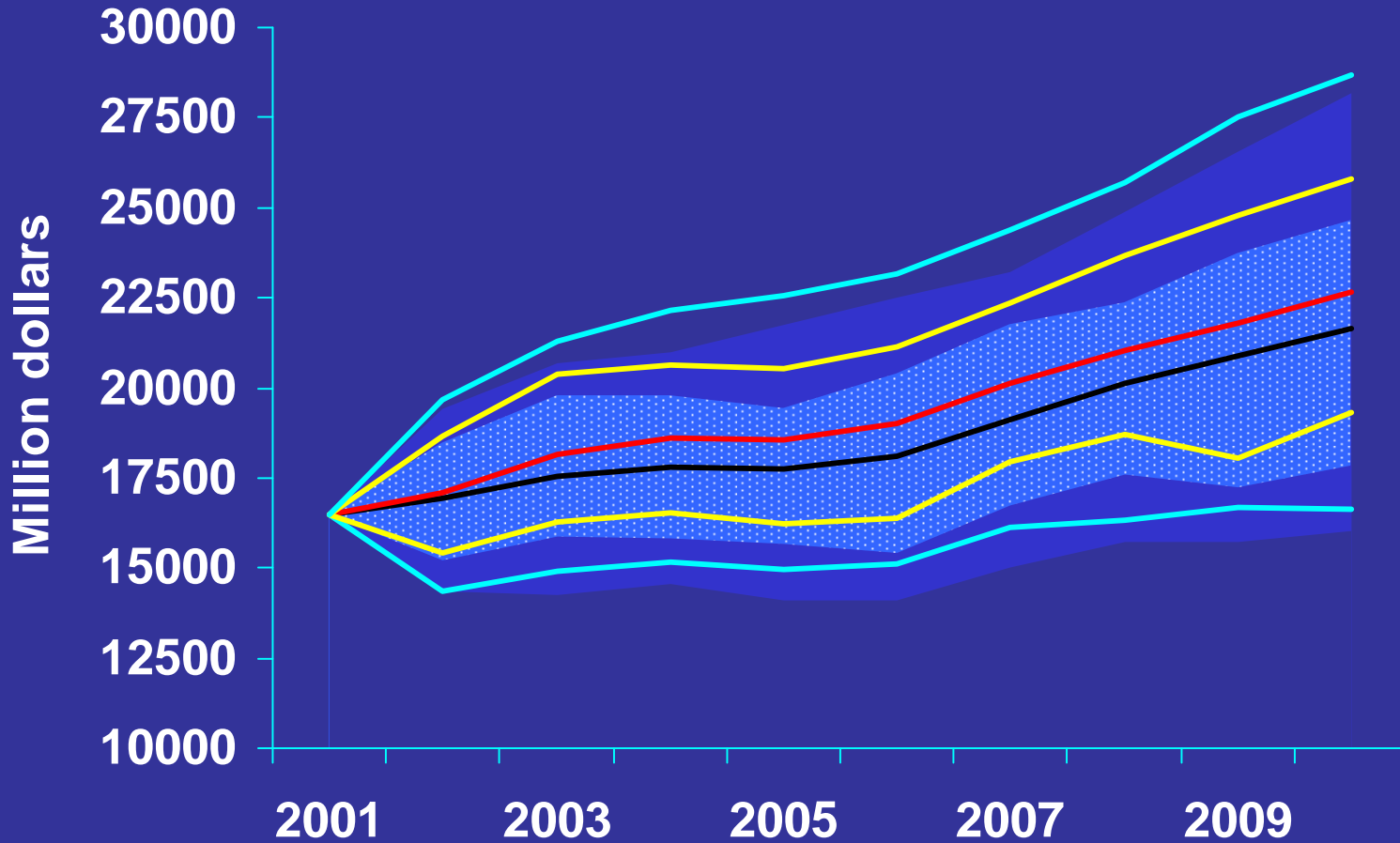
Average Price



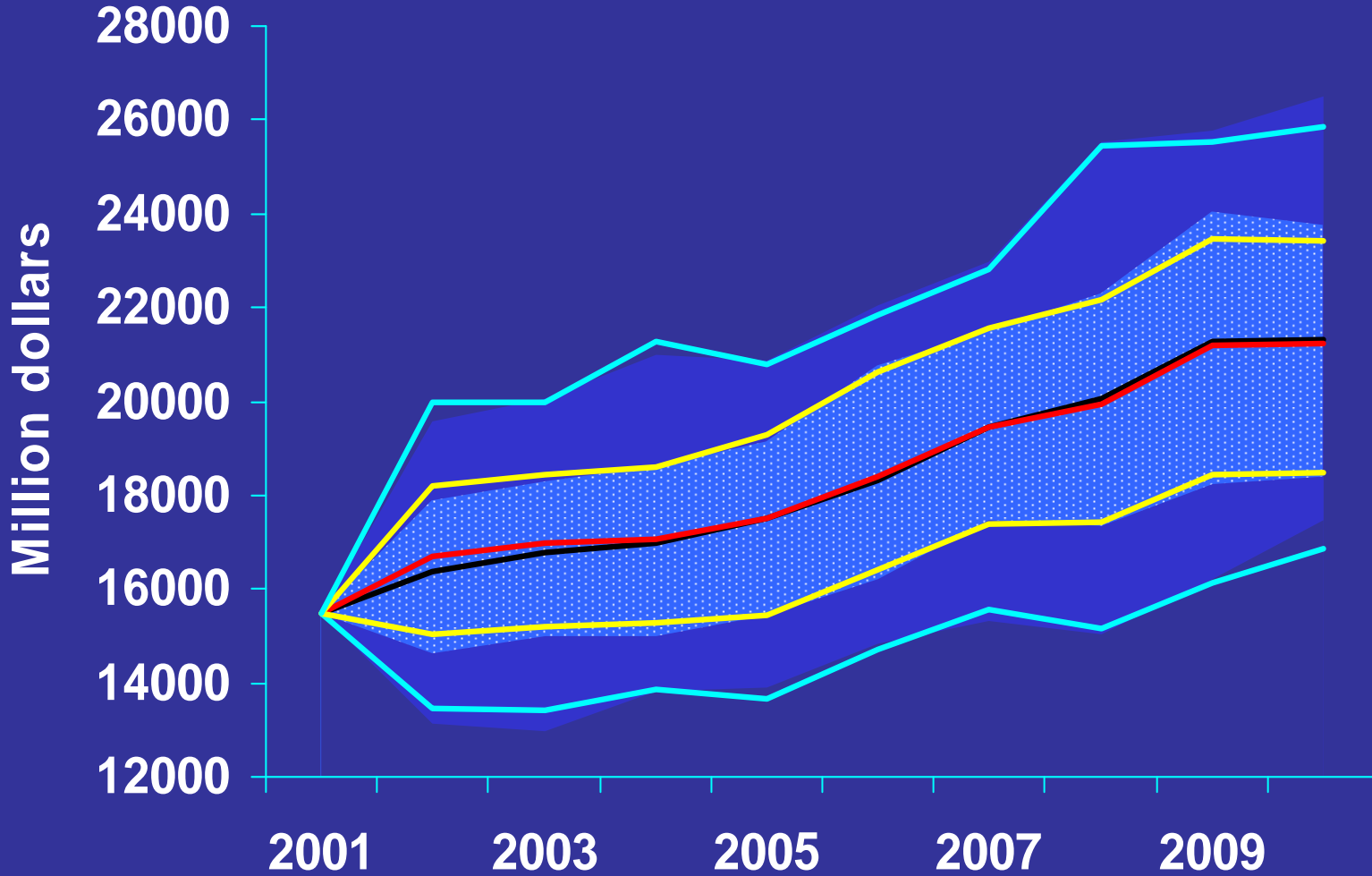
Exports



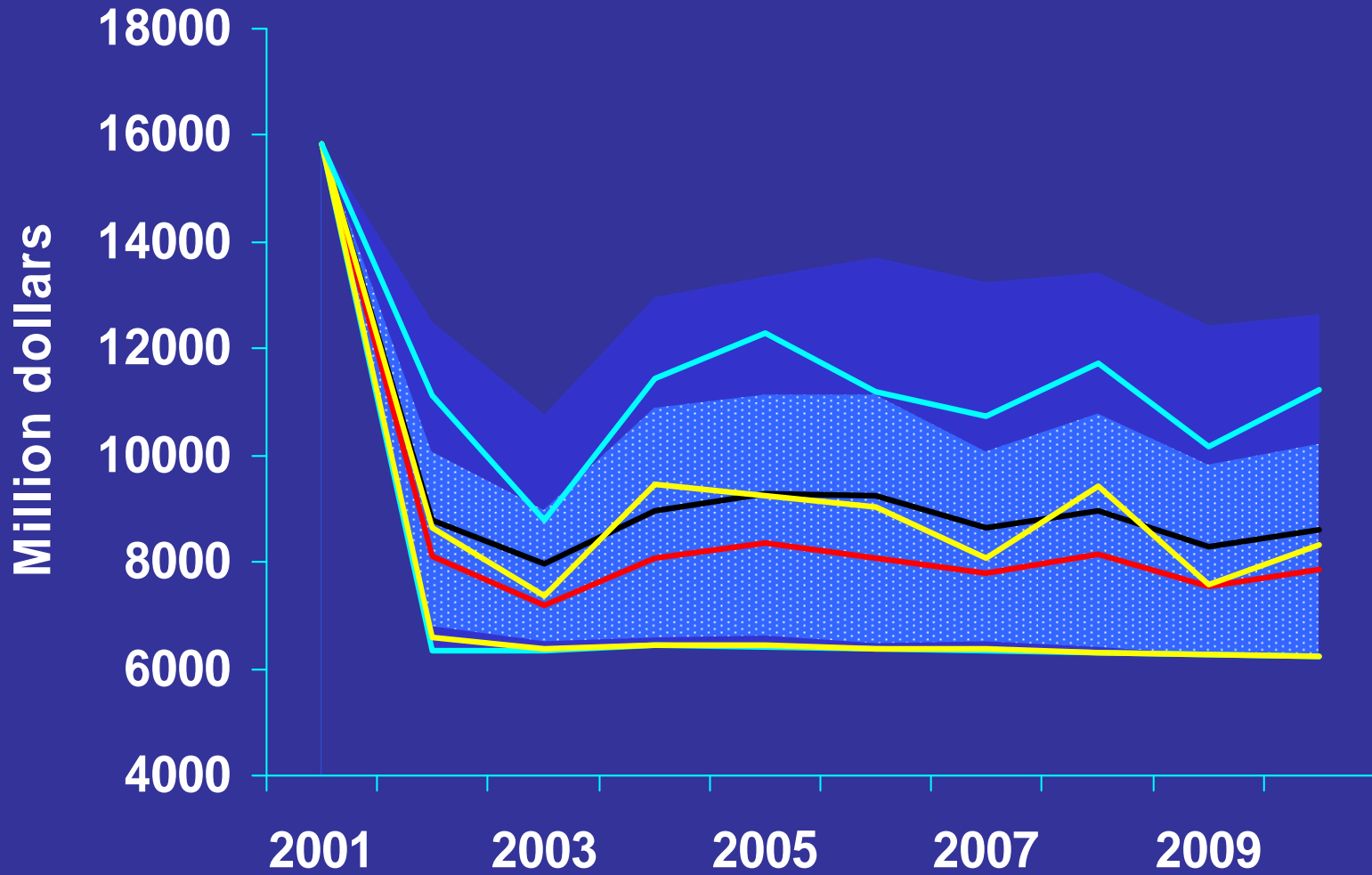
Cash Receipts



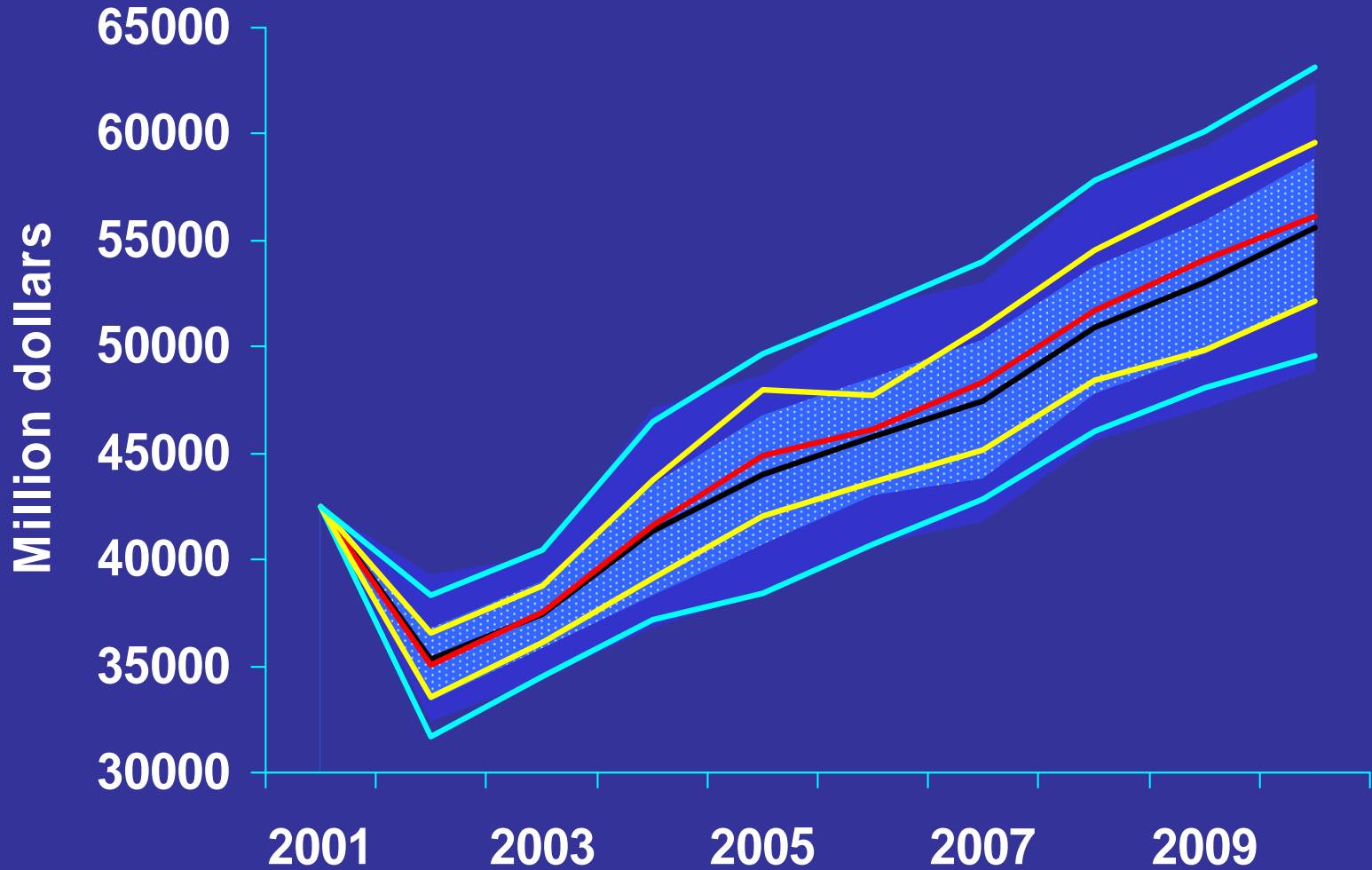
Value of Exports



Government Payments



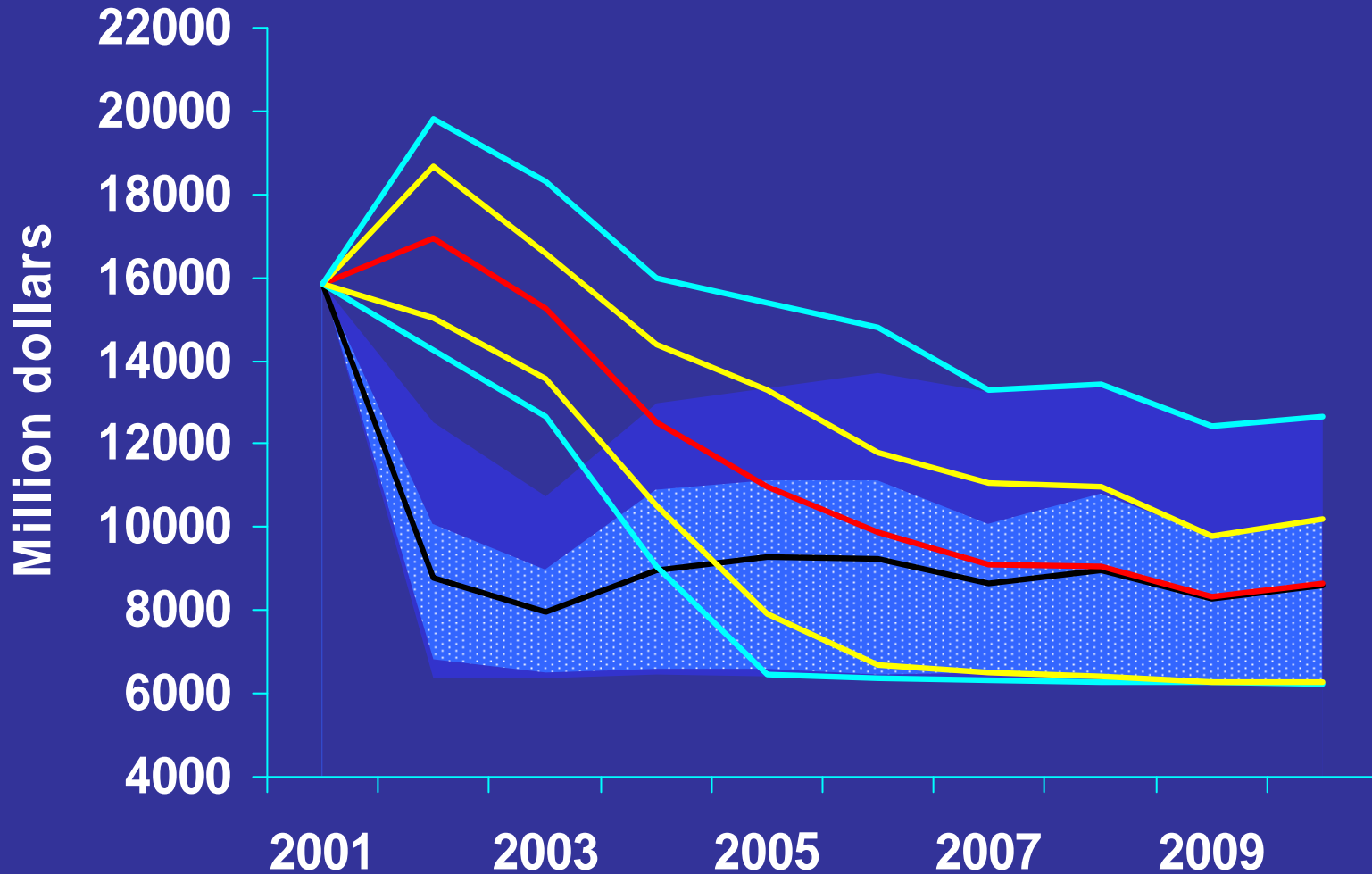
Realized Net Income



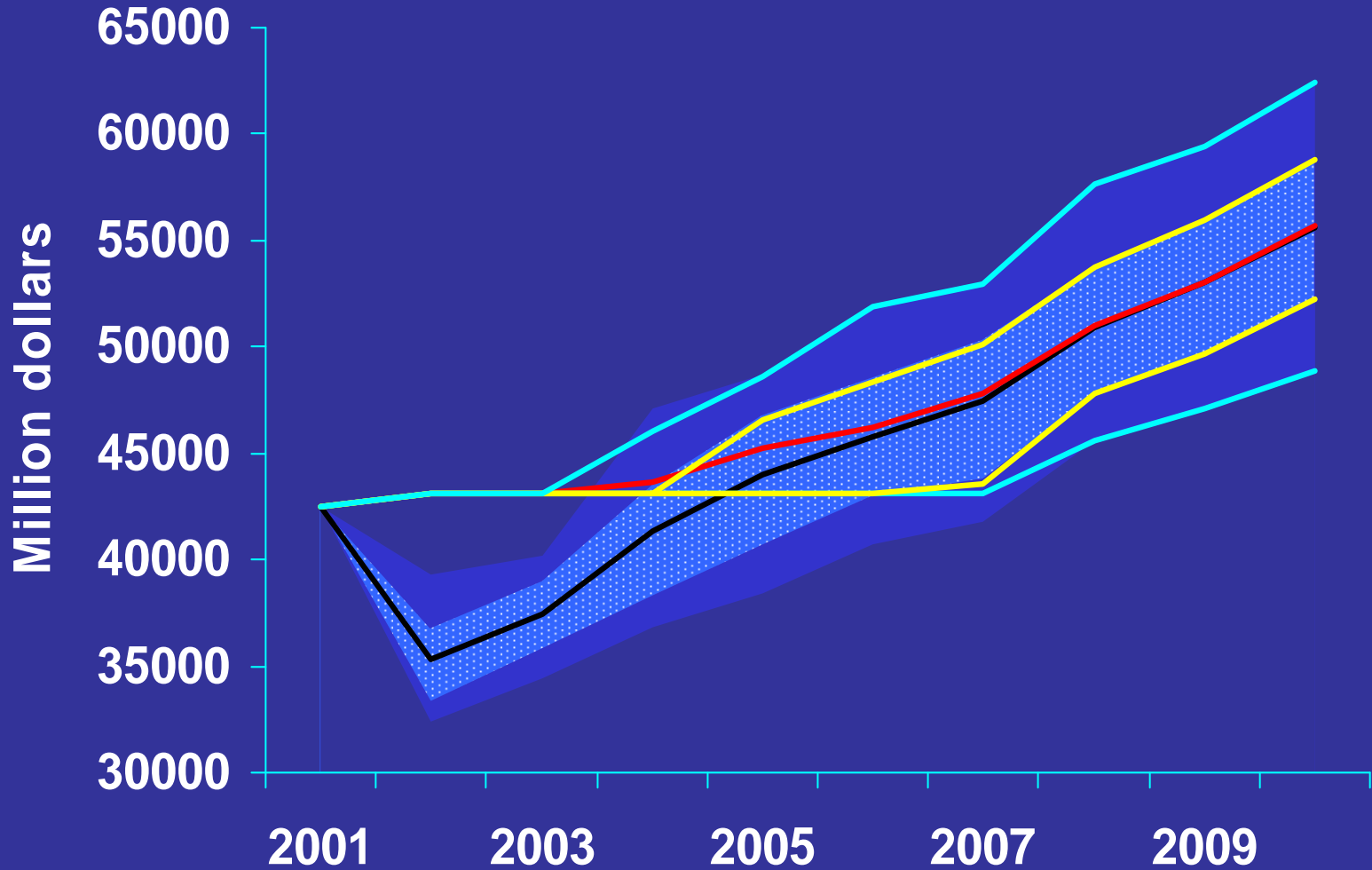
Counter Cyclical

- **Extension of 1996 Farm Bill.**
- **Market Loss Assistance (MLA) payments continue to be used as counter cyclical payments.**
- **MLA payments are triggered when aggregate net farm income drops below \$41.3 billion.**

Government Payments



Realized Net Income

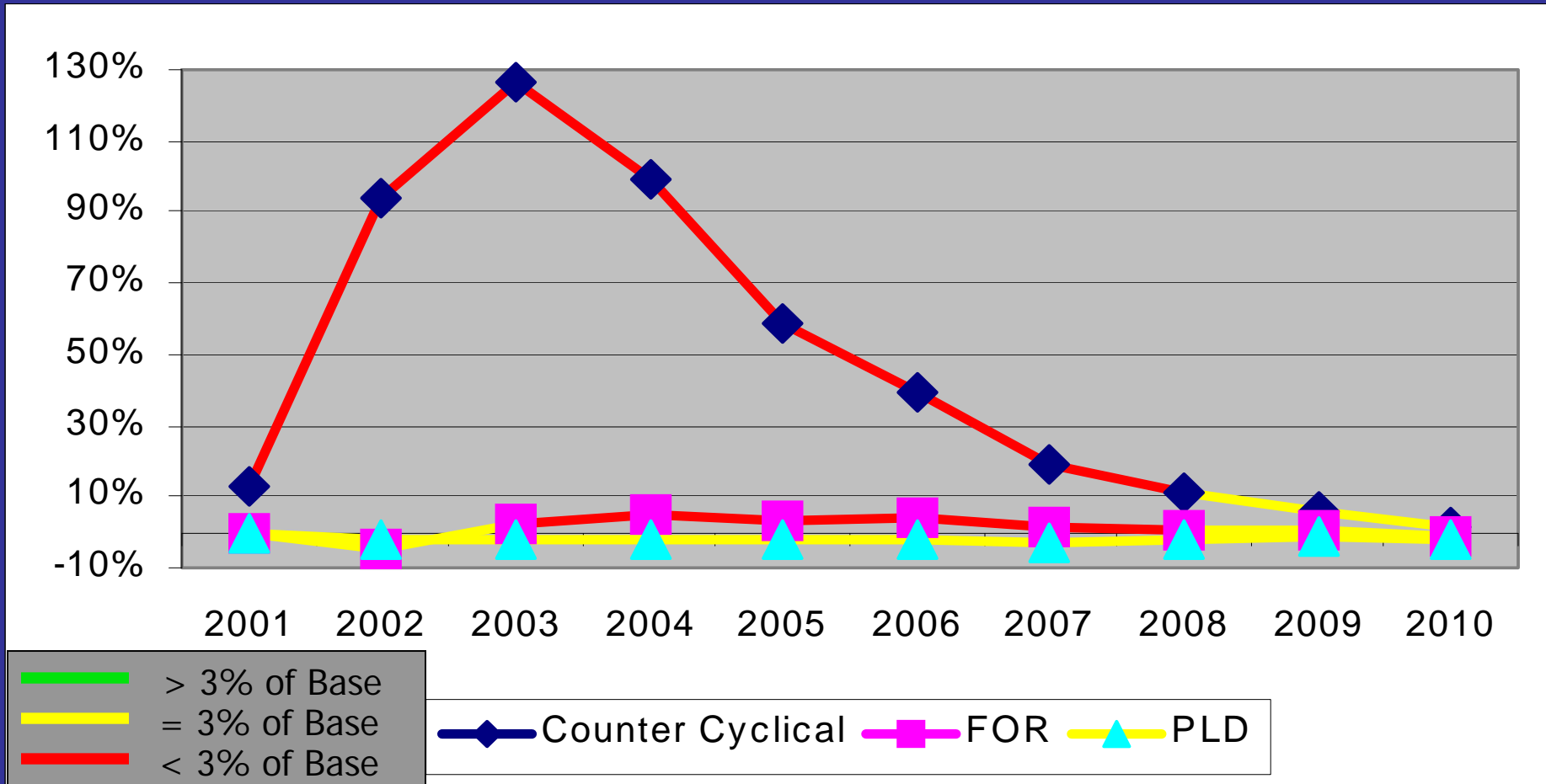


Color Coding

- **GREEN**
 - Indicates that the alternative performs more than 3% better than the baseline more often than not.
- **Yellow**
 - Indicates that the alternative is between + and – 3% of the baseline more often than not.
- **Red**
 - Indicates that the alternative performs more than 3% worse than the baseline more often than not.

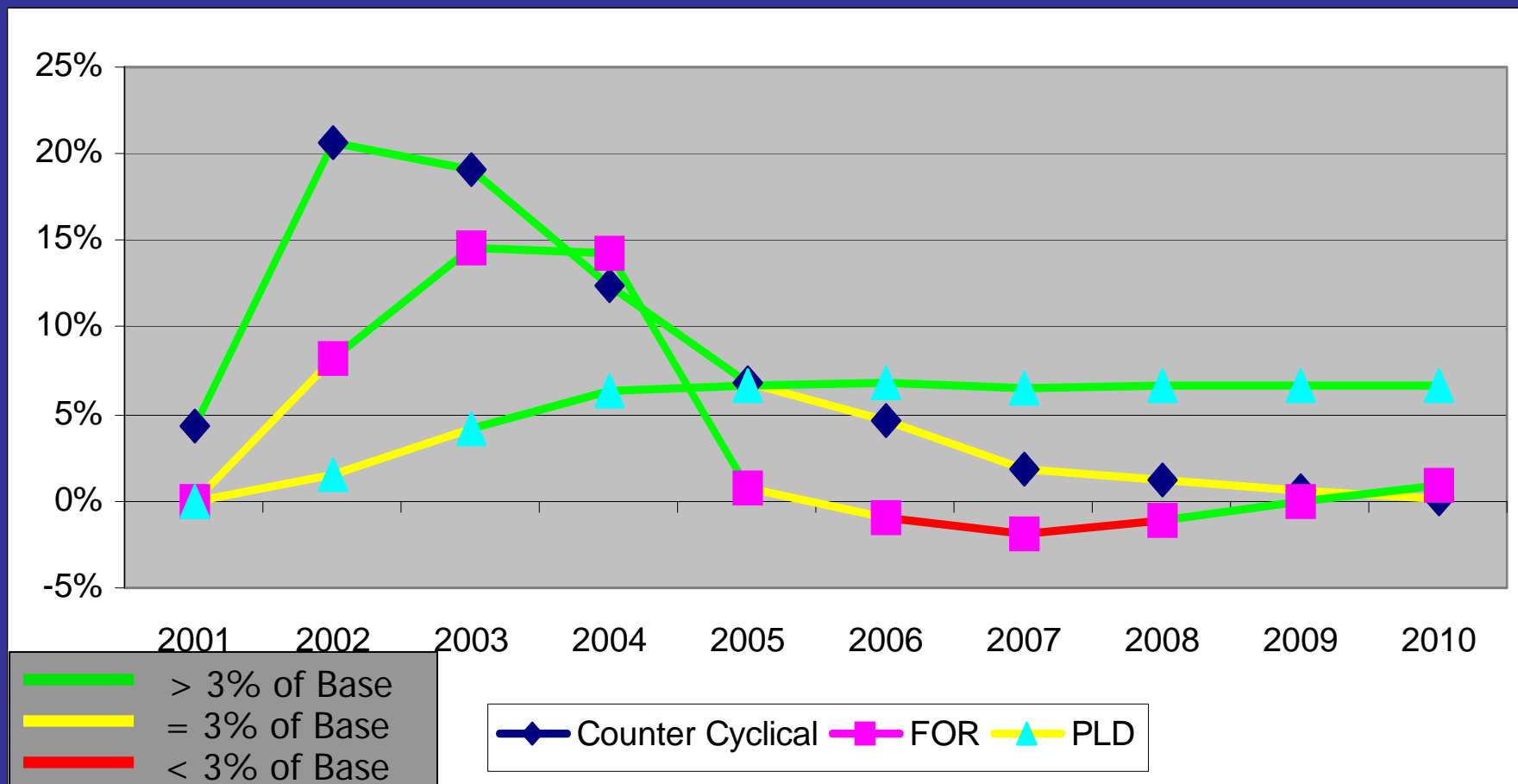
Summary

Percentage Change in Government Payments from the Base



Summary

Percentage Change in Aggregate Farm Income Relative to the Base



Summary

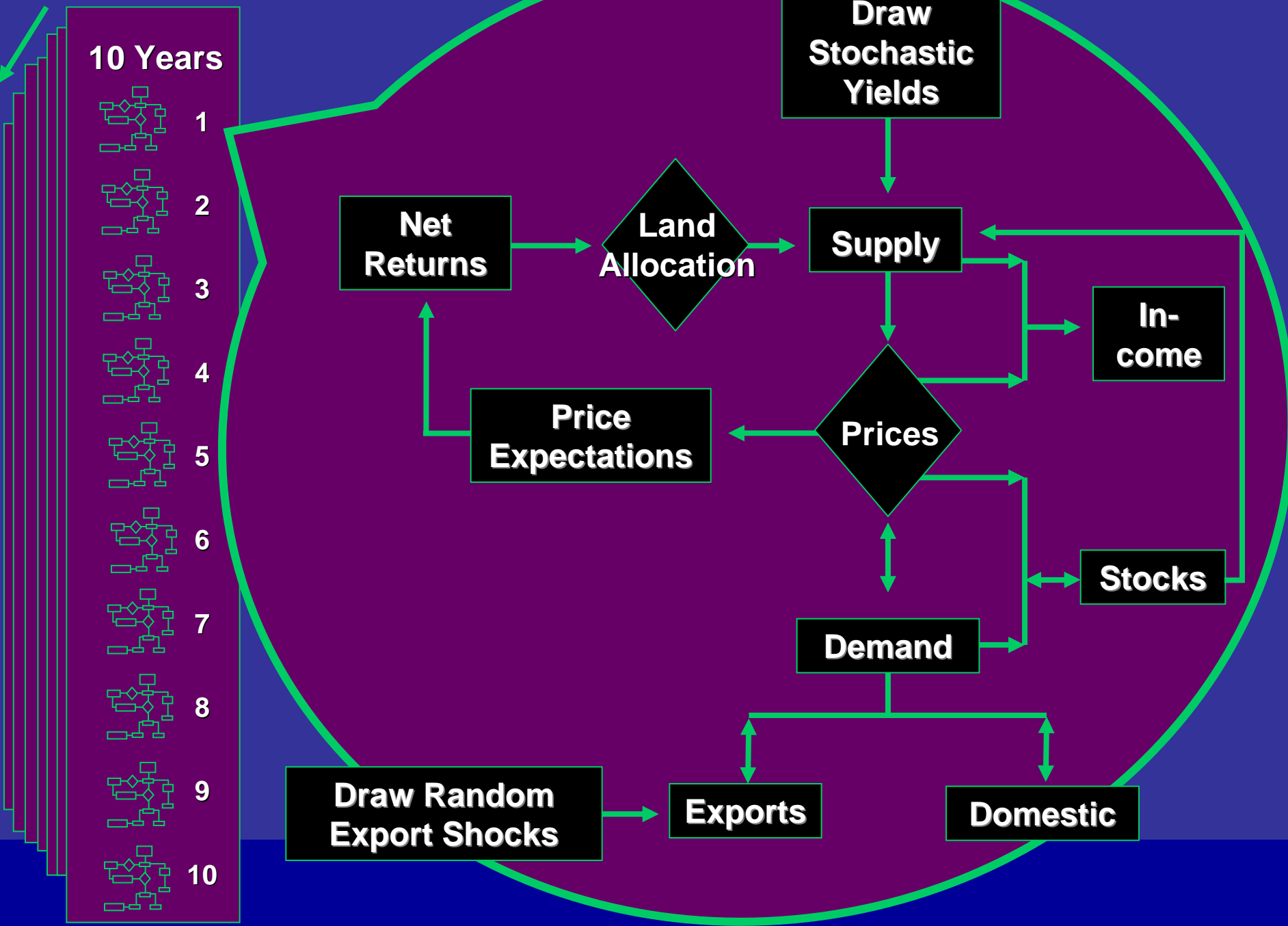
Policy Impact Matrix

	1996 Farm Bill	Counter Cyclical	Stock Management	Supply Management
	Pure	MLA Type	FOR	Paid
Farmers	43,758	46,517	45,029	46,103
Government Costs	7,630	11,064	7,651	7,474
Agribusiness				
Chemicals	3800			
Fertilizer	6142			
Seed	3497			

www.agppolicy.org

100 Iterations

10 Years



1

2

3

4

5

6

7

8

9

10

Net Returns

Land Allocation

Supply

Prices

In- come

Stocks

Demand

Exports

Domestic

Draw Random Export Shocks

FOR Stocks

