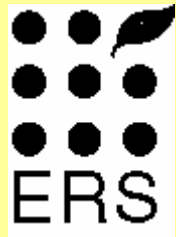


What (if anything) do Counter-Cyclical Payments do?

David Skully



Counter-Cyclical Payments

**Wagner's music is better
than it sounds.**

-- Mark Twain

Counter-Cyclical Payments (CCP)

How do CCPs work?

USMYAP digression

What's a CCP worth (ex ante)?

CCP = put-option spread

How “counter-cyclical” is a CCP (ex ante)?

Hedge Efficiency

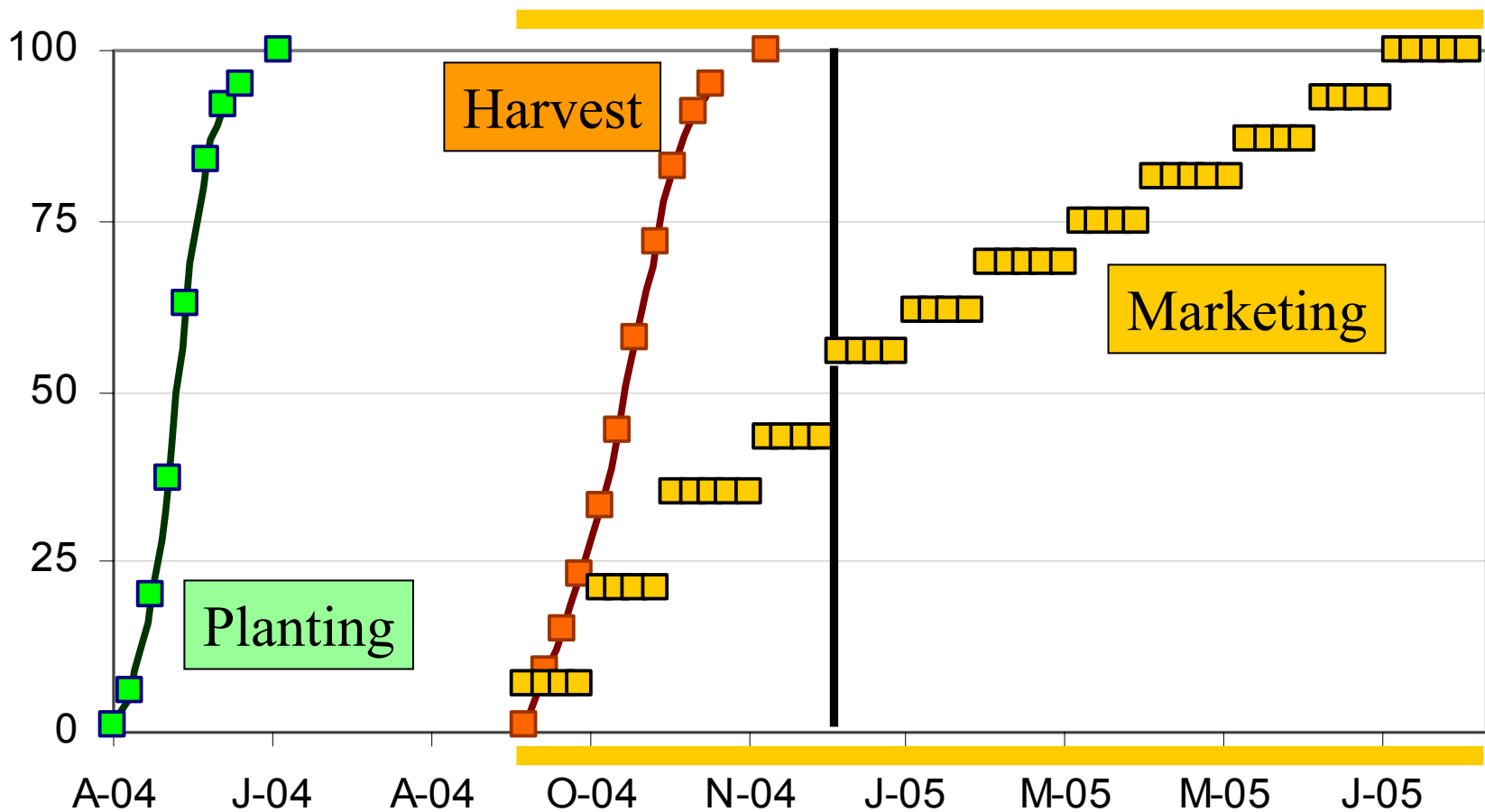
Applications

\$ / bu	Target Price - [Corn]	\$2.63
Direct Payment		<u>- \$0.28</u>
	Effective Target Price	\$2.35
Counter-Cyclical Payment	Zero	
	USMYAP	
	Loan Rate	\$1.95
		\$0.40

USMYAP:
U.S. Marketing Year Average Price
 (received by producers
 as calculated by NASS)

What is Corn USMYAP?

percent



1 Sept - 31 August

What is Corn USMYAP?

$$USMYAP = \sum_s \sum_m w_{sm} P_{sm}$$

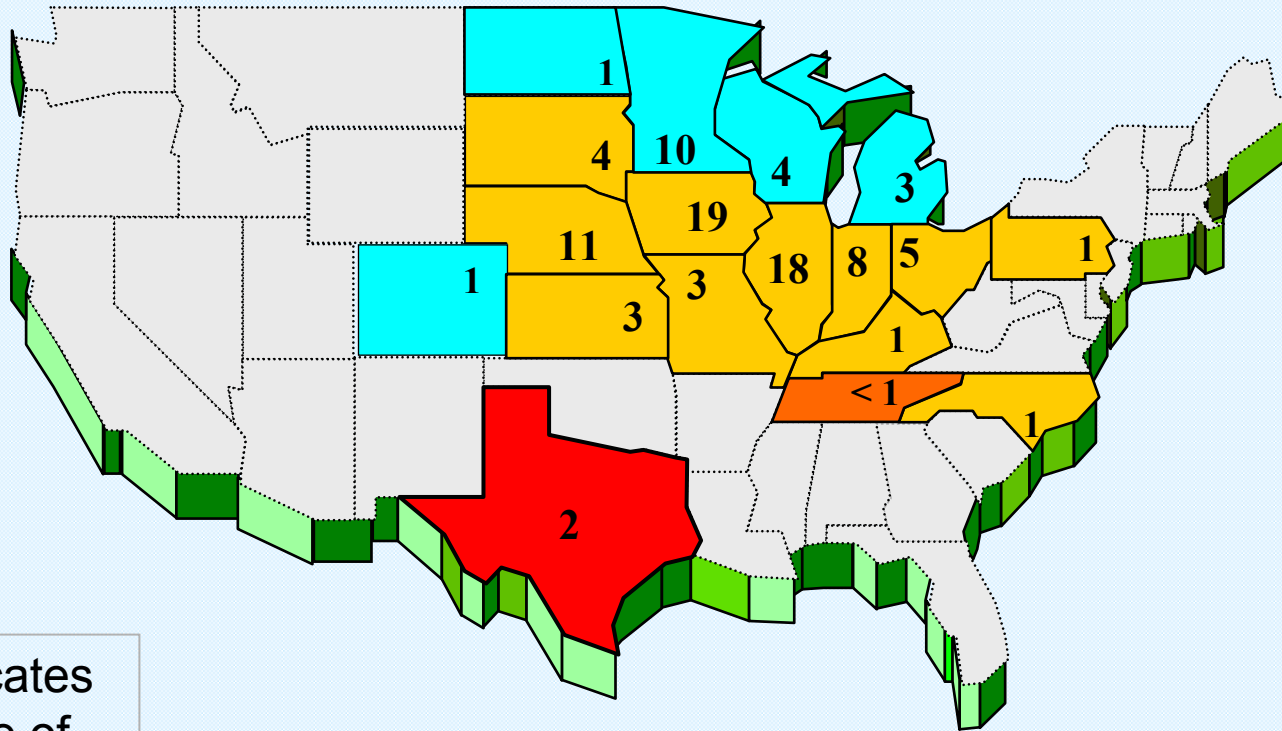
State-specific
marketing
years:

Oct

Sept

August

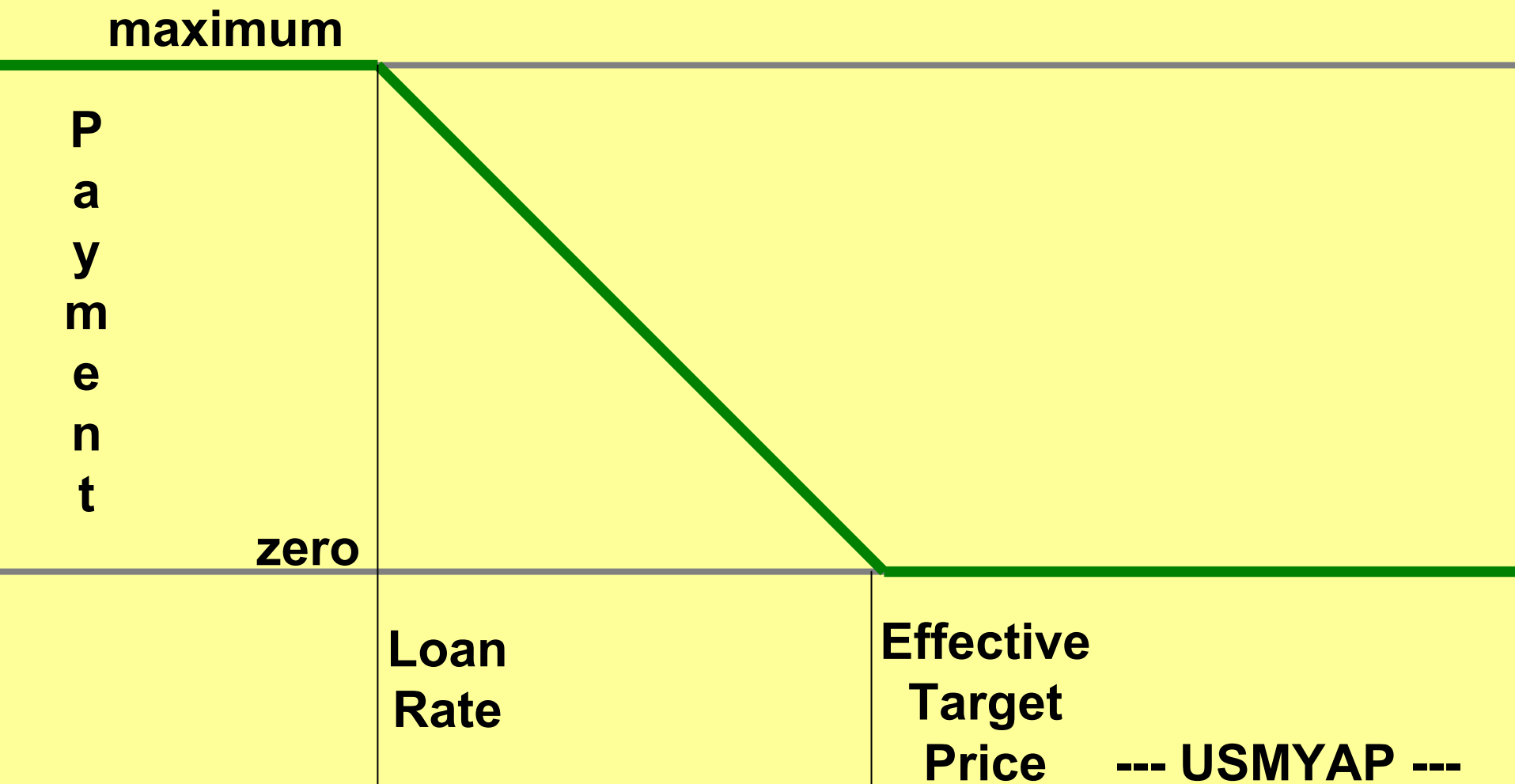
July



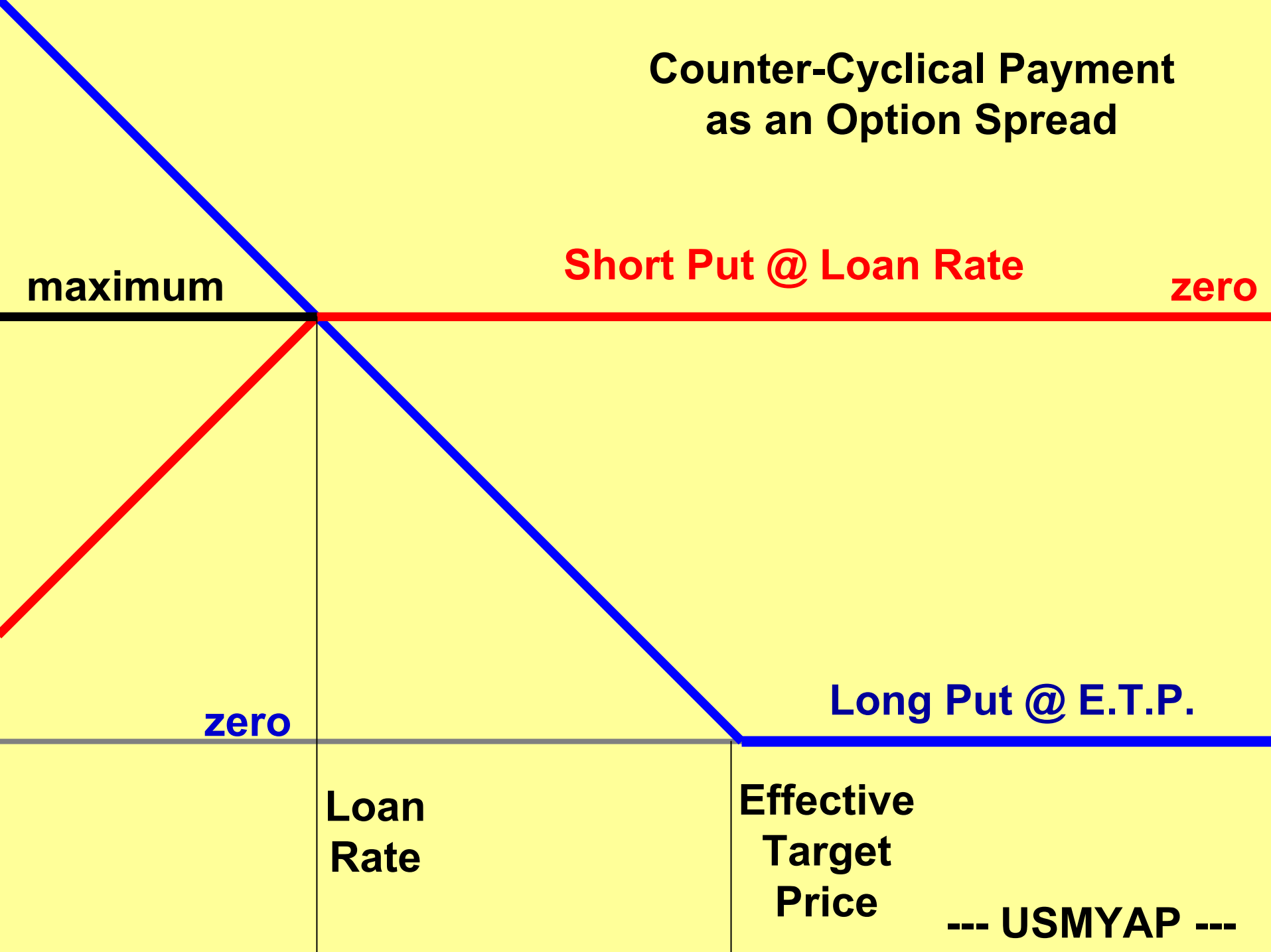
Number indicates
state's share of
corn marketed

1 Sept - 31 August

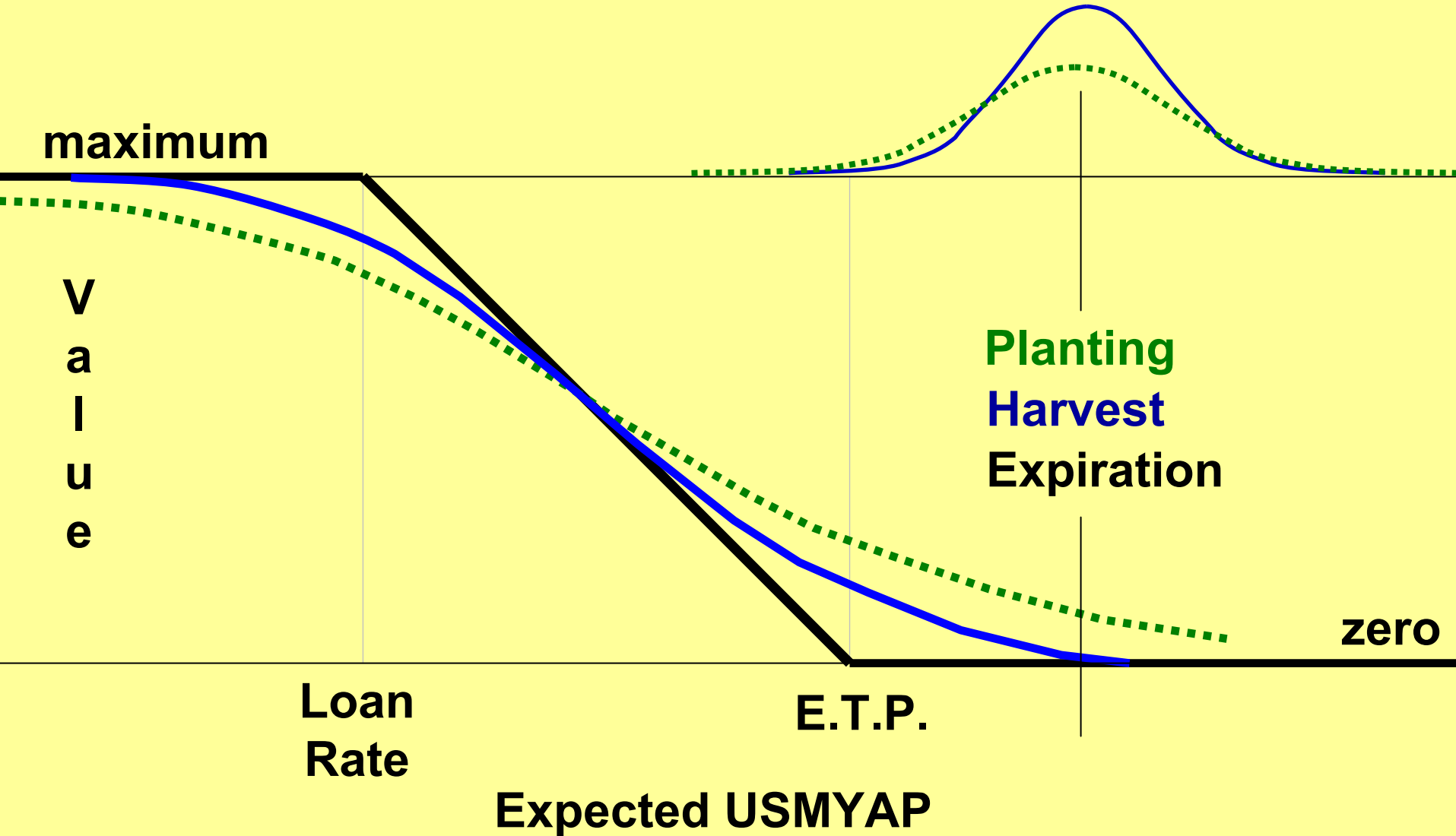
Counter-Cyclical Payment



Counter-Cyclical Payment as an Option Spread



Counter-Cyclical Payment Option Value and Time to Expiration



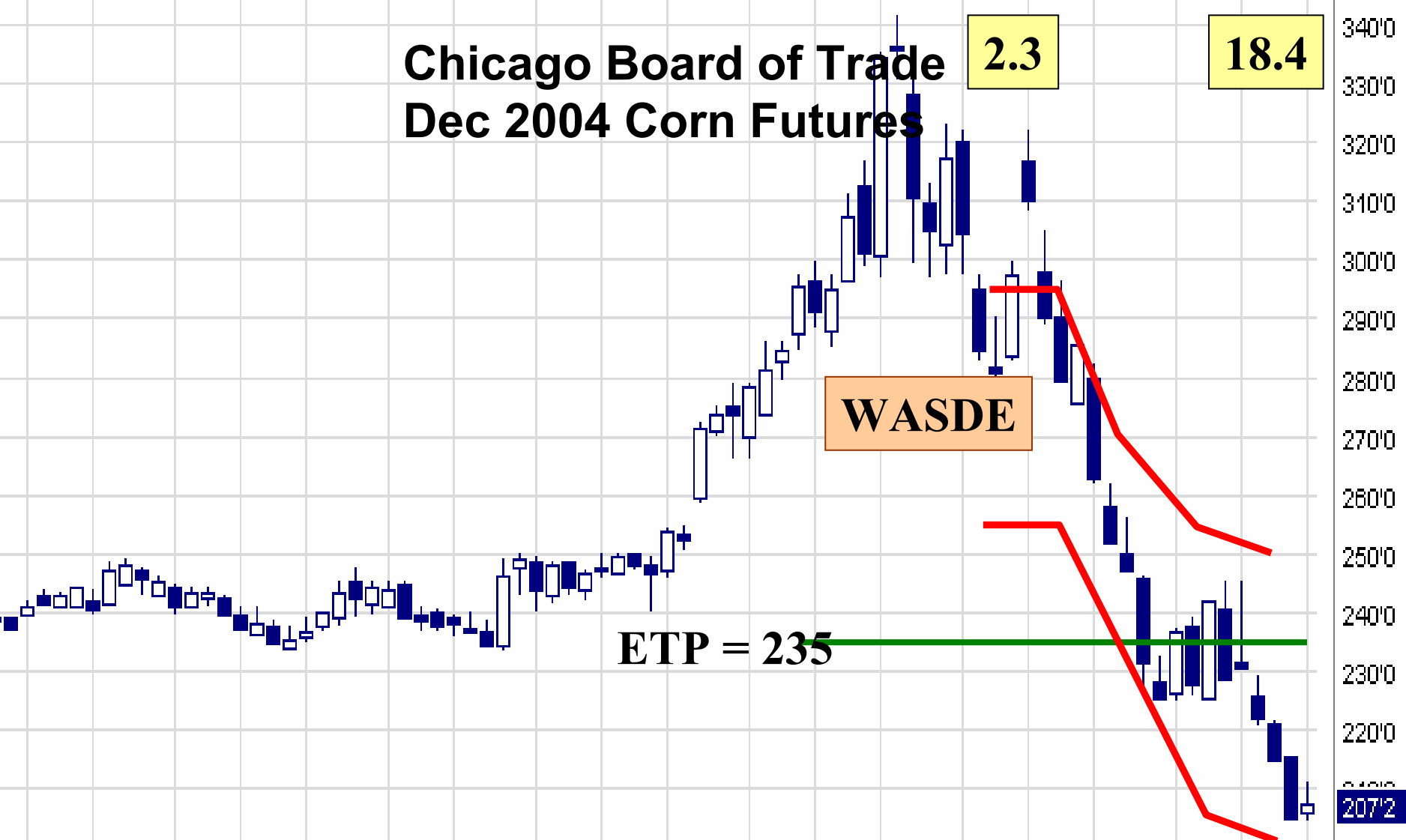
Chicago Board of Trade Dec 2004 Corn Futures

2.3

18.4

WASDE

ETP = 235



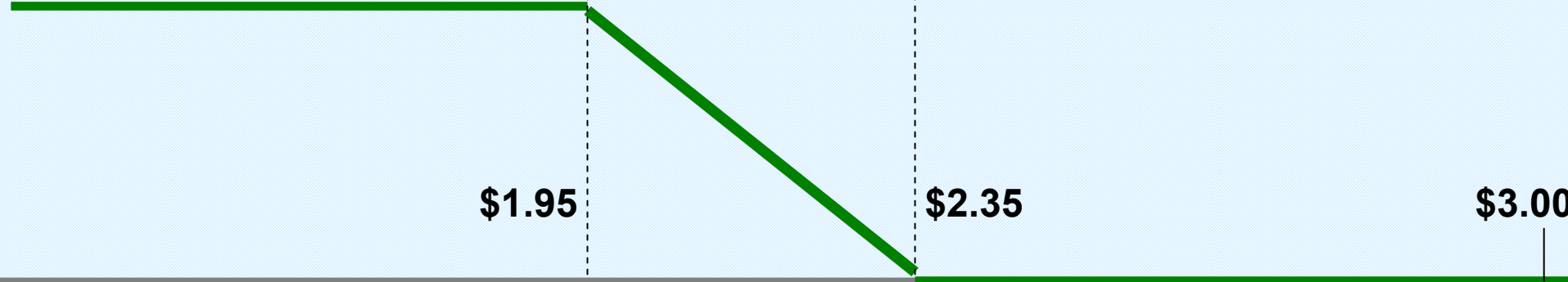
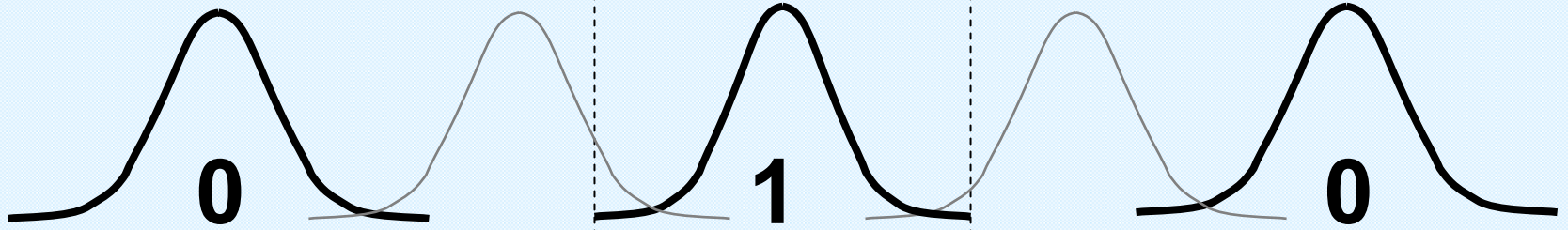
How Counter-cyclical is it?

Hedge Analysis

$$\text{Hedge Efficiency} = \left[1 - \frac{\text{Var (Hedged)}}{\text{Var (Unhedged)}} \right]$$

$$E(\text{CCP}|\text{USMYAP}) = \left[1 - \frac{\text{Var (USMYAP + CCP)}}{\text{Var (USMYAP)}} \right]$$

Hedge Efficiency
1:1 hedge
zero basis risk



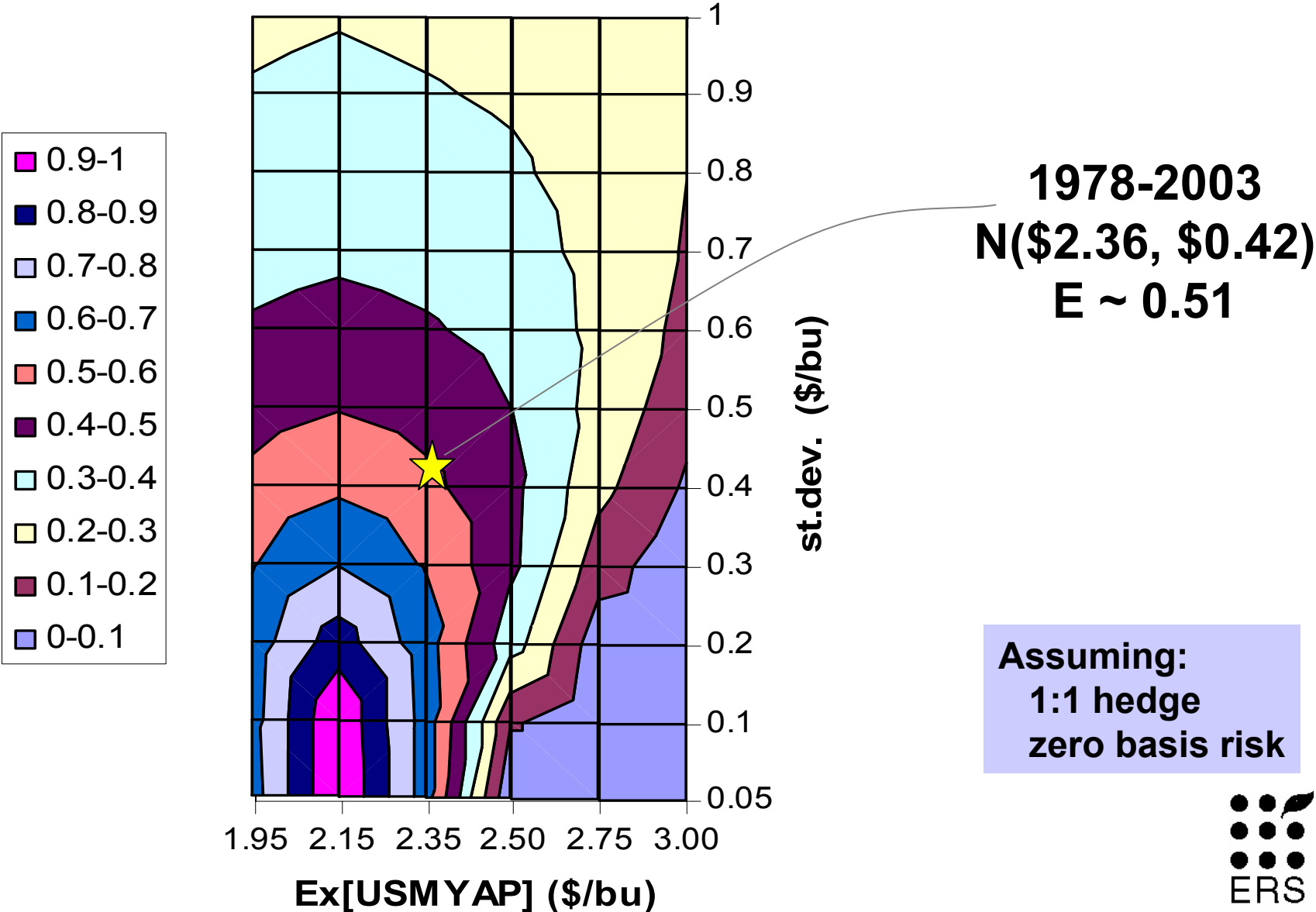
Loan
Rate

\$2.15

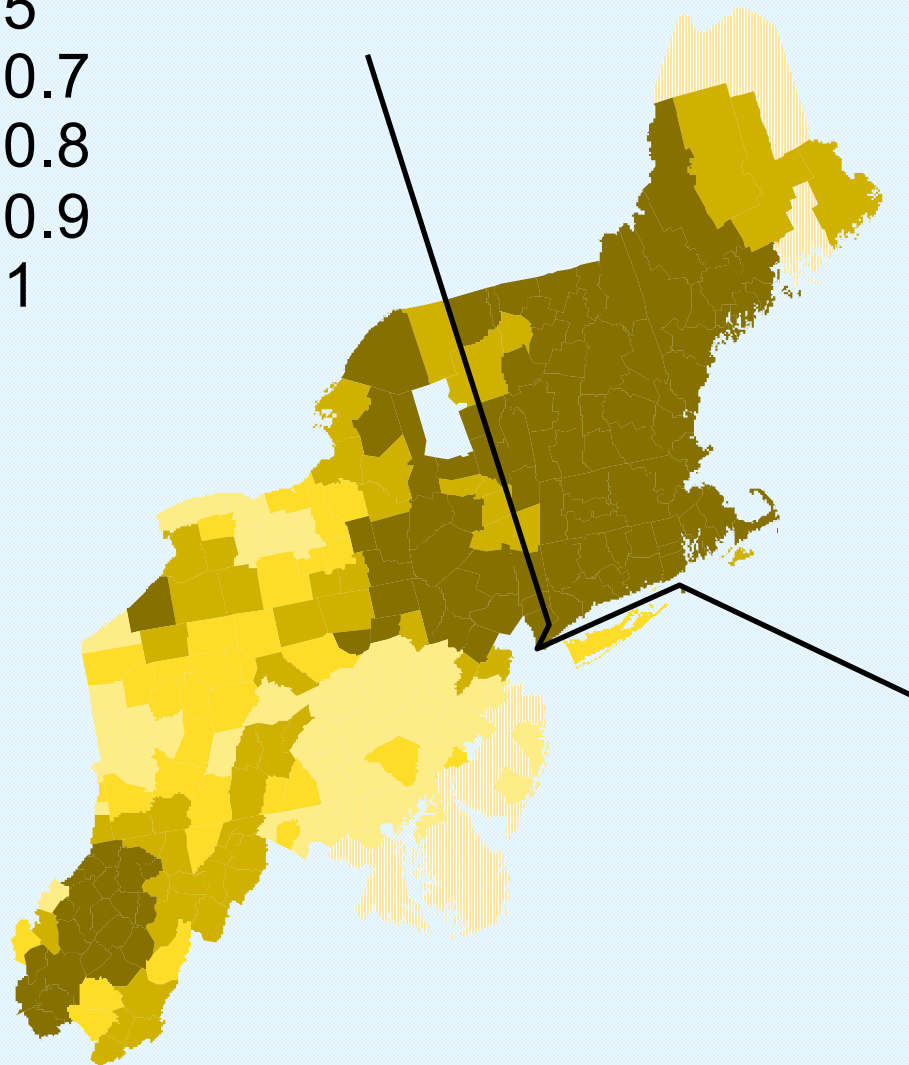
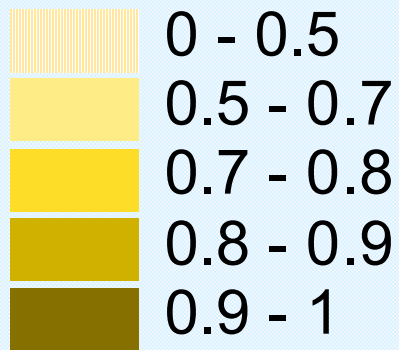
Effective
Target
Price



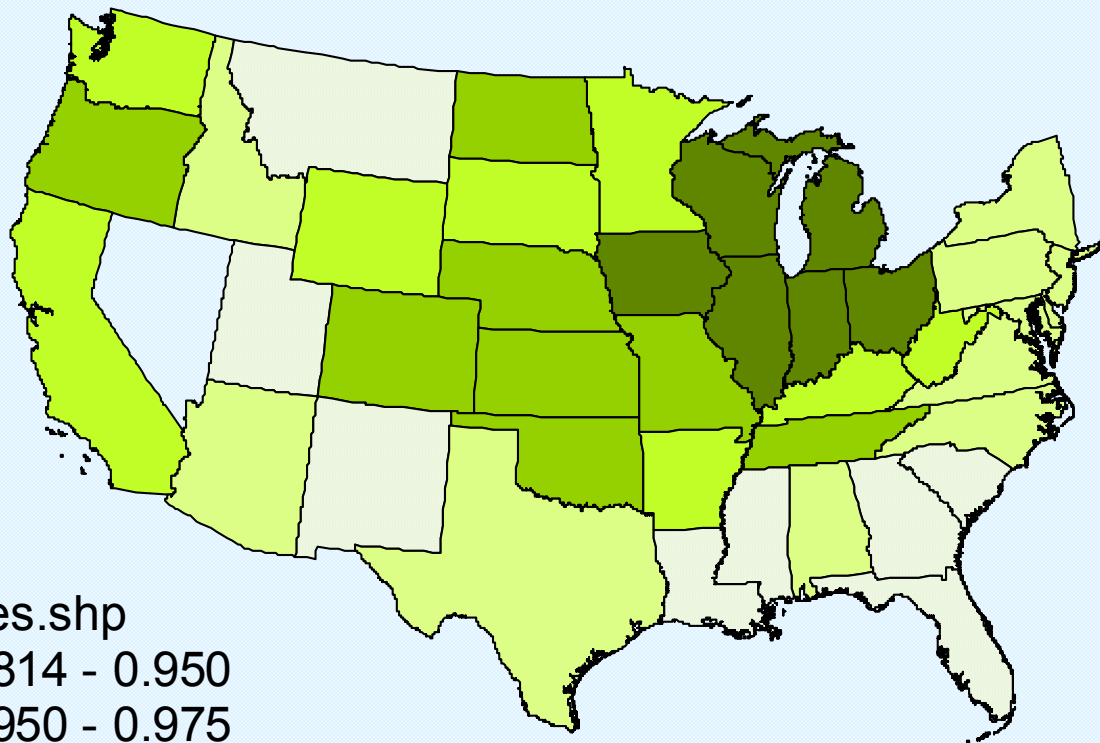
Corn CCP Hedge Efficiency



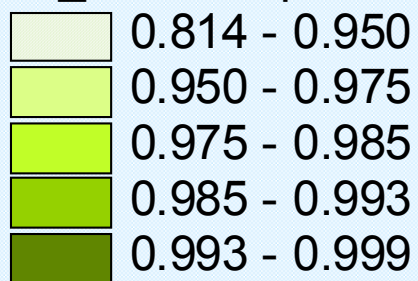
Corn Payment Acres / Total Payment Acres



Correlation between State and National USMYAP Corn, 1994-2002 [NASS]



50_states.shp

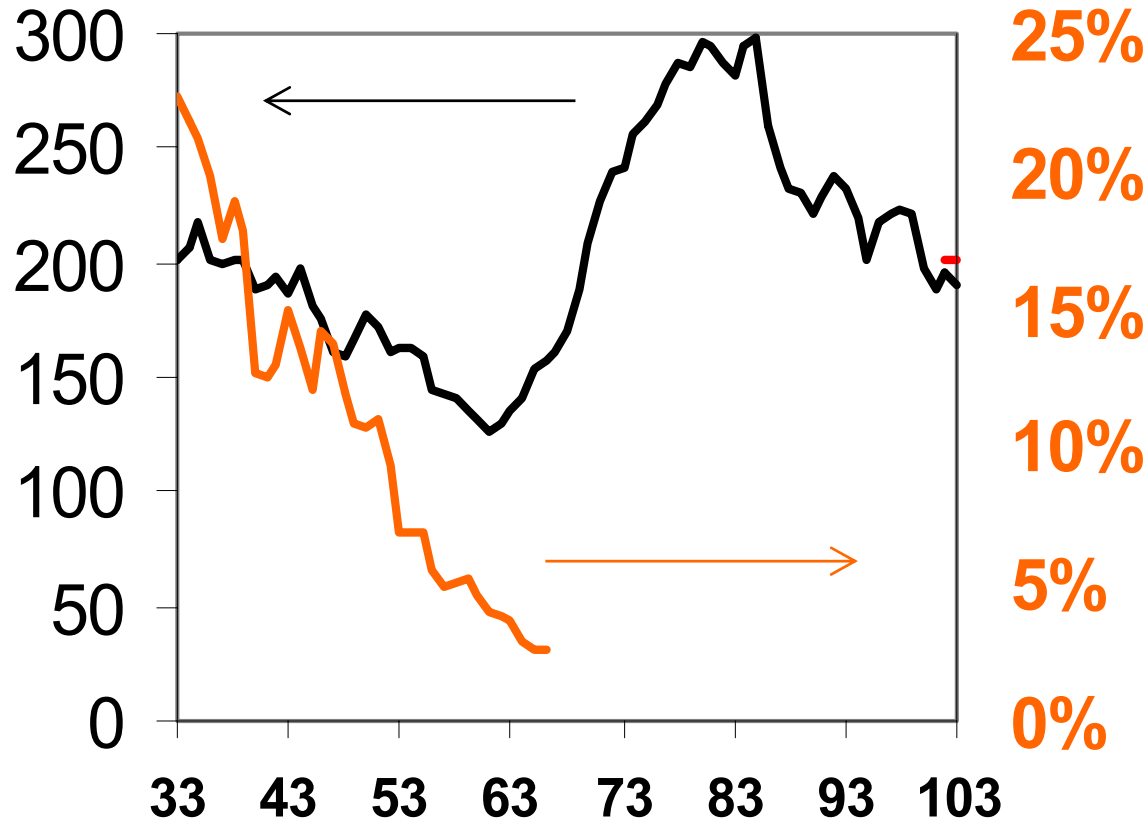


NASS does not report USMYAP for
NV, AK, HI or New England.

1000 acres
planted

New England Corn

Harvested
for Grain



New England has 206,493 corn base acres

Corn Silage v. Corn USMYAP Analysis

State or Region	Corn acreage planted, % cut for silage	Pearson's <i>r</i>	H0: rho = 0 p(t-dist) 2-tailed
CT	94	-0.32	0.76
ME	89	-0.13	0.90
MA	86	-0.16	0.88
NH	93	-0.45	0.67
RI	100	0.04	0.97
VT	94	0.02	0.98
New England	93	-0.13	0.90
NY	56	0.22	0.83
PA	39	0.26	0.80
[NY & PA]	46		
DE	6	State Corn Silage MYAP not Reported	
MD	16		
NJ	20		
WV	38		
4-southern	15		

Hedge Analysis of Vermont as one big dairy farm

Physical	Vermont Physical	Vermont CCP	Payment
Dairy herd (1,000 cows)	149	92,812.3	Corn Base acres
Feedgrain bu/cow/yr	50	x 0.85	
Feedgrain purchase (bu.mil)	7.45	78,898.8	Corn Payment acres
		x 103.6137	Avg. CCP yield (bu.)
Corn production (bu.mil)	0	8.175	Corn CCP (bu.mil)
Net Feedgrain position (bu.mil)	-7.45		
Hedge ratio		- 1.10	
Correlation with USMYAP		0.964	
Adjustment factor		-1.06	
E(CCP Vermont Dairy)		-0.475	

$$E = -0.536$$

2004-07
CCP

2002,03
CCP

