Differences Between Futures, Options, LGM, MILC and Margin Insurance

Invitational Meeting For Dairy Economists and Policy Analysts
May 5, 2011

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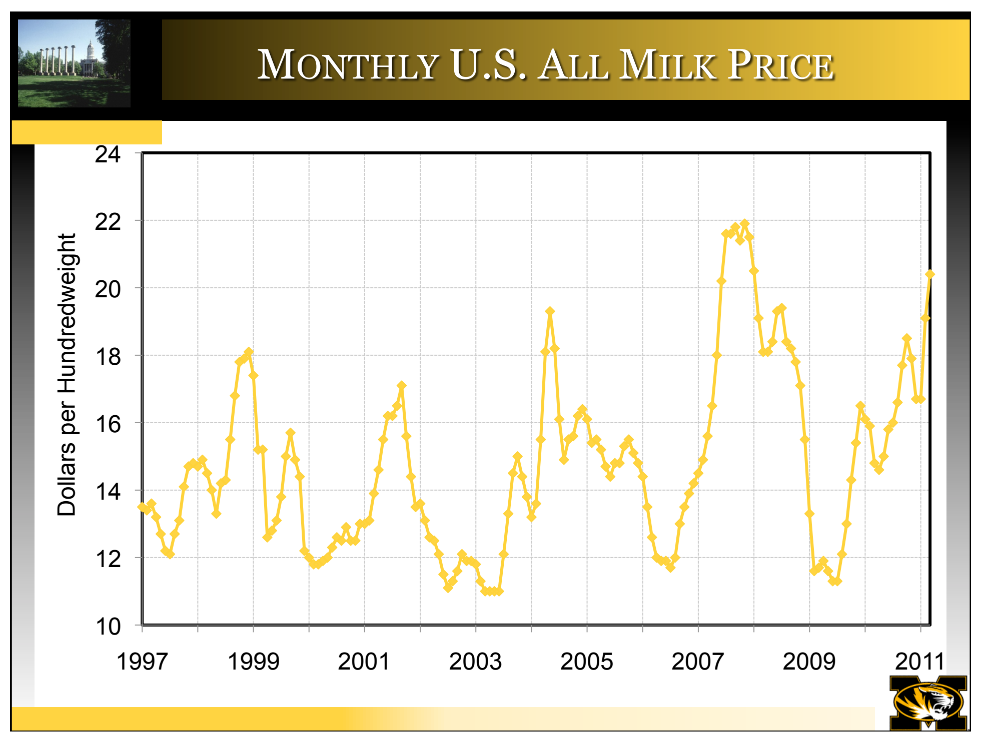
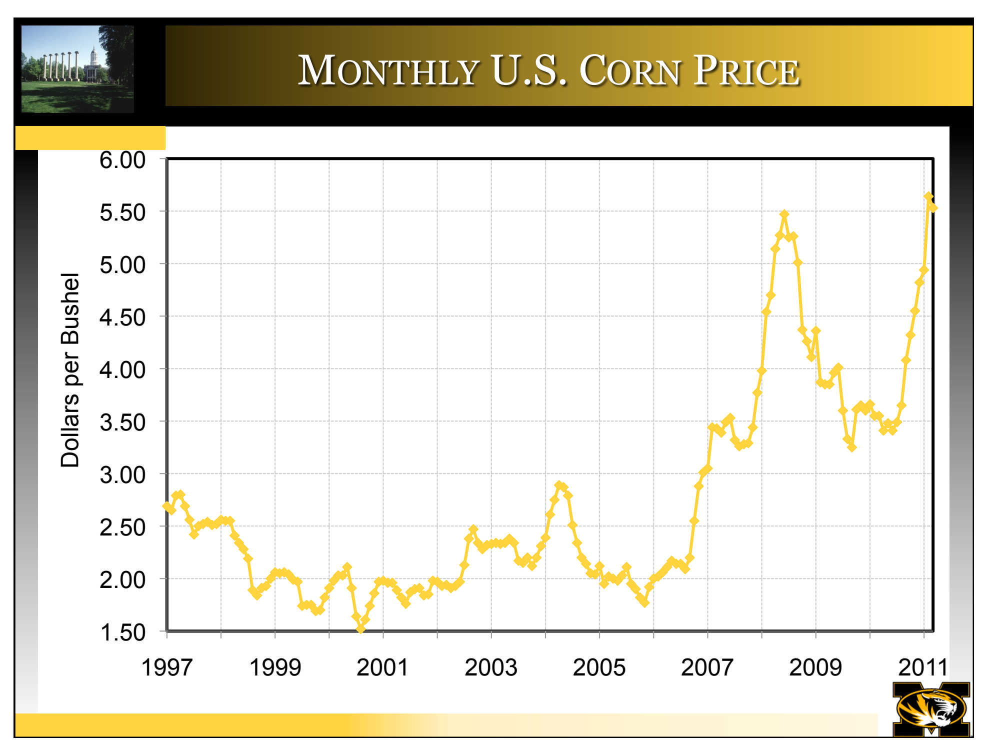
What We Will Look at Today

- Market Tools
  - Futures Markets
  - Options
  - LGM-Dairy
  - All market participants
- Government Policy Alternatives
  - Milk Income Loss Contract (MILC) Program
  - Foundation for the Future Margin Insurance (DPMPP)
  - Producer-focused alternatives
- No single program works in all circumstances
- Each of programs are tools available in the toolbox



MONTHLY U.S. ALL MILK PRICE
Dollars per Hundredweight
24
22
20
18
16
14
12
10
1997
1999
2001
2003
2005
2007
2009
2011

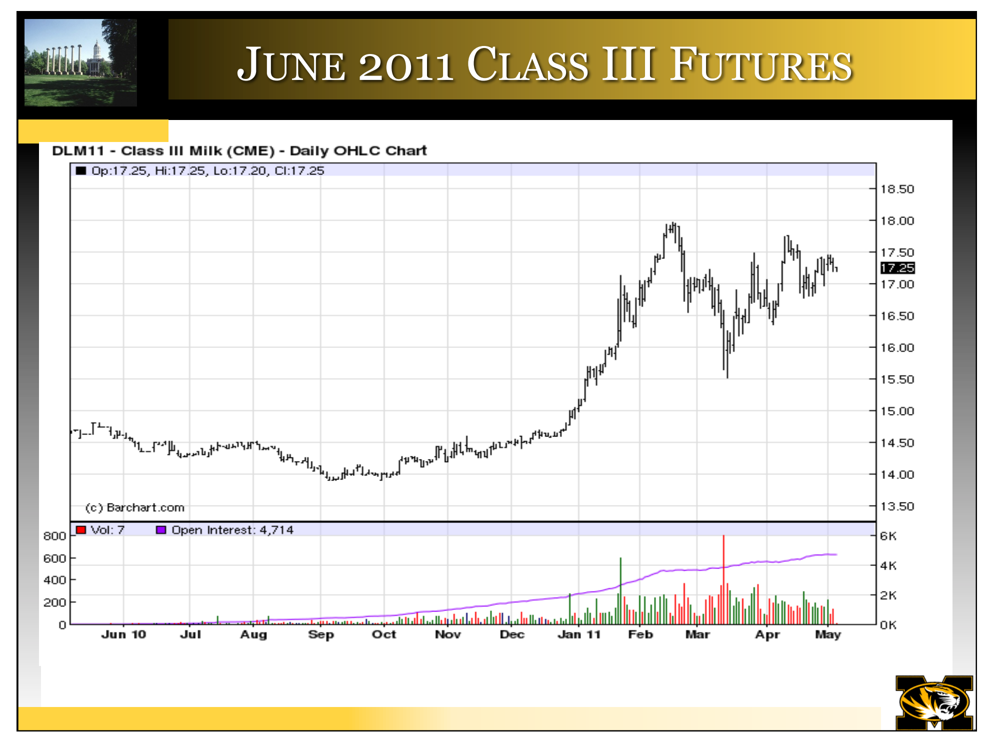


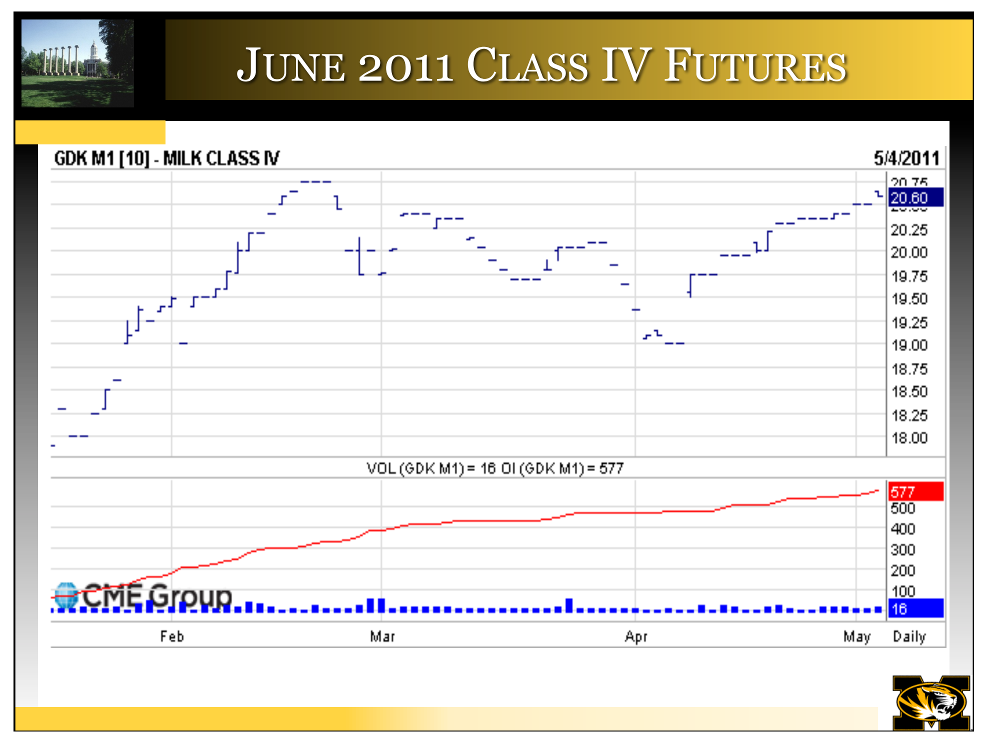
MONTHLY U.S. CORN PRICE
Dollars per Bushel
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1997
1999
2001
2003
2005
2007
2009
2011

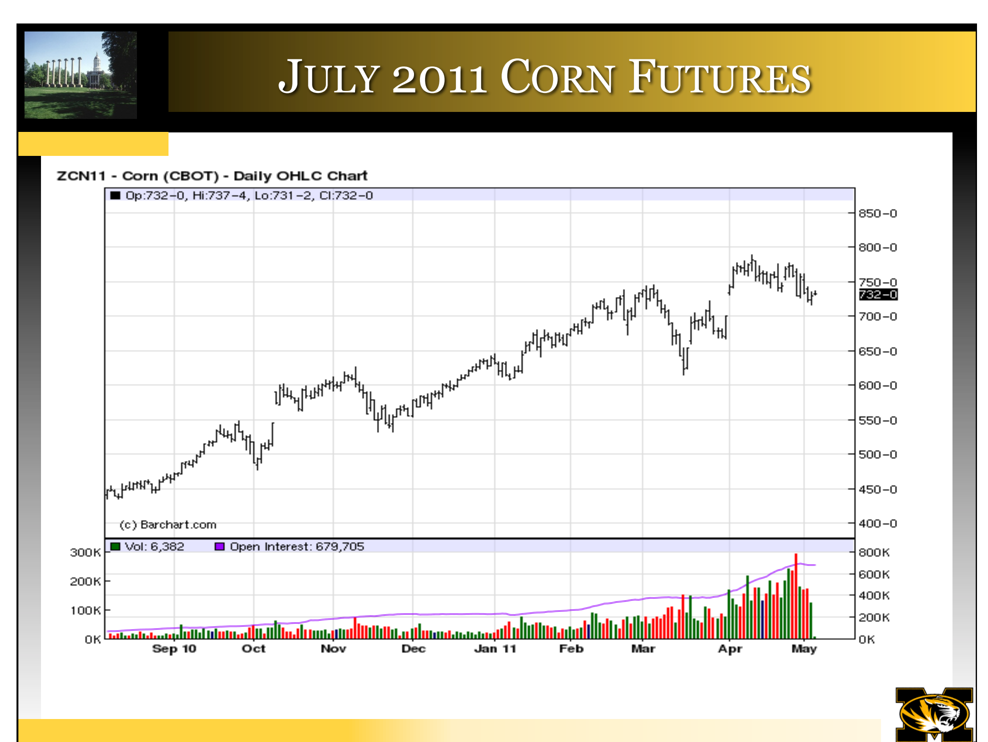
Futures Contracts

- Class III Milk Contract Specifications
  - 200,000 pounds of class III milk
  - Traded every calendar month
  - $0.75 per cwt relative to previous day
  - Cash settled
- Class IV Milk Contract Specifications
  - 200,000 pounds of class IV milk
  - Traded every calendar month
  - $0.75 per cwt relative to previous day
  - Cash settled

June 2011 Class III Futures




June 2011 Class IV Futures
GDK M1 [10] - MILK CLASS IV
5/4/2011
VOL (GDK M1) = 16 OI (GDK M1) = 577
CME Group
Feb
Mar
Apr
May
Daily


July 2011 Corn Futures
ZCN11 - Corn (CBOT) - Daily OHLC Chart
Op:732-0, Hi:737-4, Lo:731-2, Cl:732-0
(c) Barchart.com
Vol: 6,382
Open Interest: 679,705
Sep 10
Oct
Nov
Dec
Jan 11
Feb
Mar
Apr
May

Futures Markets

- Gives buyers and sellers a chance to reduce risk or hedge on their inputs and outputs
- Market participants could be subject to margin calls if markets move against their position
- Producers still subject to basis risk – their cash price less futures price
- Minimum contract sizes can be too large for small participants
- Volume of contracts can create challenges at times

Options Offer Another Risk Reducing Alternative

- An option is the right to buy or sell a futures contract at a specific price and expiration date.
- Put – The right to sell a futures contract – Protects against down markets
- Call – The right to buy a futures contract – Protects against rising prices
- Options require a premium to be paid up front but then there are no margin calls
- Option size – One futures contract
- Provides insurance against market moves

June 2011 Class III Options

Trade Date	Premium	Strike	Option Type
05/04/2011	$4.04	$13.25	Call
05/04/2011	$3.04	$14.25	Call
05/04/2011	$2.05	$15.25	Call
05/04/2011	$1.13	$16.25	Call
05/04/2011	$0.09	$16.25	Put
05/04/2011	$0.41	$17.25	Put
05/04/2011	$1.08	$18.25	Put
05/04/2011	$1.98	$19.25	Put

Livestock Gross Margin - Dairy

- Started in August 2008, revised December 2010
- Protects producer margins via Class III, corn and soybean meal futures
- Specific timing to purchase LGM-Dairy – last business Friday of the month through 8:00 PM the following day
- Offered 12 times a year over a 11 month rolling period

Livestock Gross Margin - Dairy

- Premium subsidy available for policies that insure multiple months – depends on the deductible level
  - $0 – 18% subsidy
  - $2 – 50% subsidy
  - Premium due at the end of the coverage period
- Feed quantities have bounds
  - Corn – 0.00364 to 0.0381 tons
  - Soybean meal – 0.000805 to 0.013 tons
  - Defaults, corn 0.014, meal 0.002
- No minimum number of hundredweights- maximum 24 million pounds per crop year

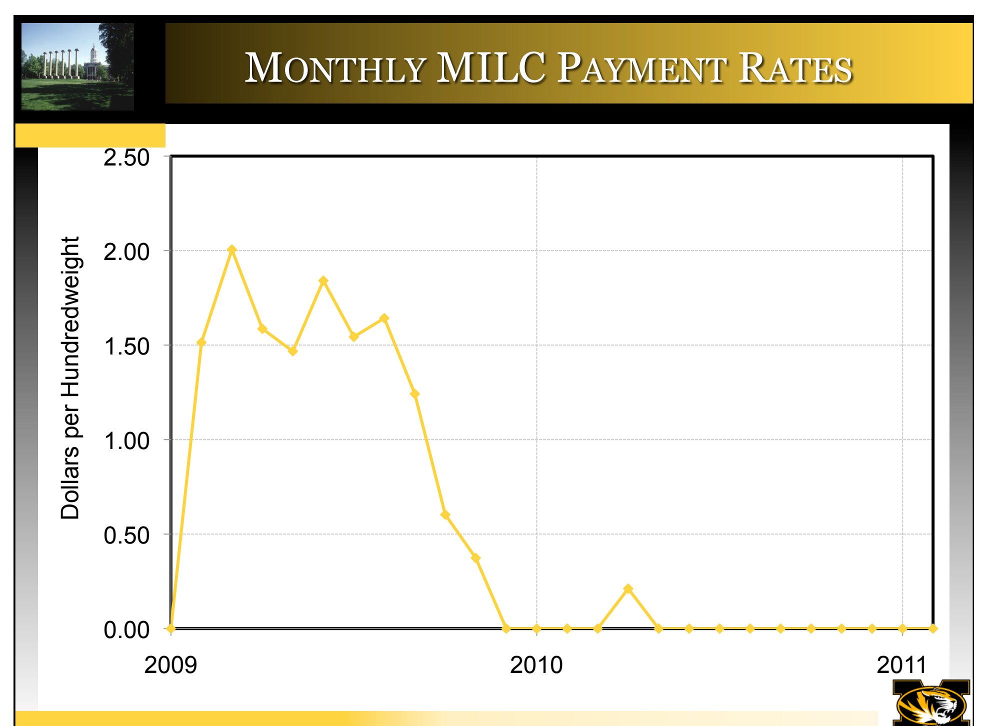
Livestock Gross Margin - Dairy

- How well does Class III, corn and soybean meal prices represent a producer's margin
- LGM-Dairy currently unavailable since only $20 million available for pilot programs in livestock
- 2011 Summary Data
  - 1,409 contracts
  - $10.7 million in premium subsidies

Milk Income Loss Contract (MILC) Program

- October 2008 through August 2012
  - 45% of the price difference
  - 2.985 million pound cap
- January 2008 through August 2012
  - Dairy feed ration cost adjustment $7.35
  - Calculate the trigger price as 45% of the percentage dairy feed ration exceeds $7.35
- Revert to pre-2008 farm bill levels after August 2012
  - 34% of the price difference
  - 2.4 million pound cap
  - Dairy feed ration cost adjustment increases to $9.50

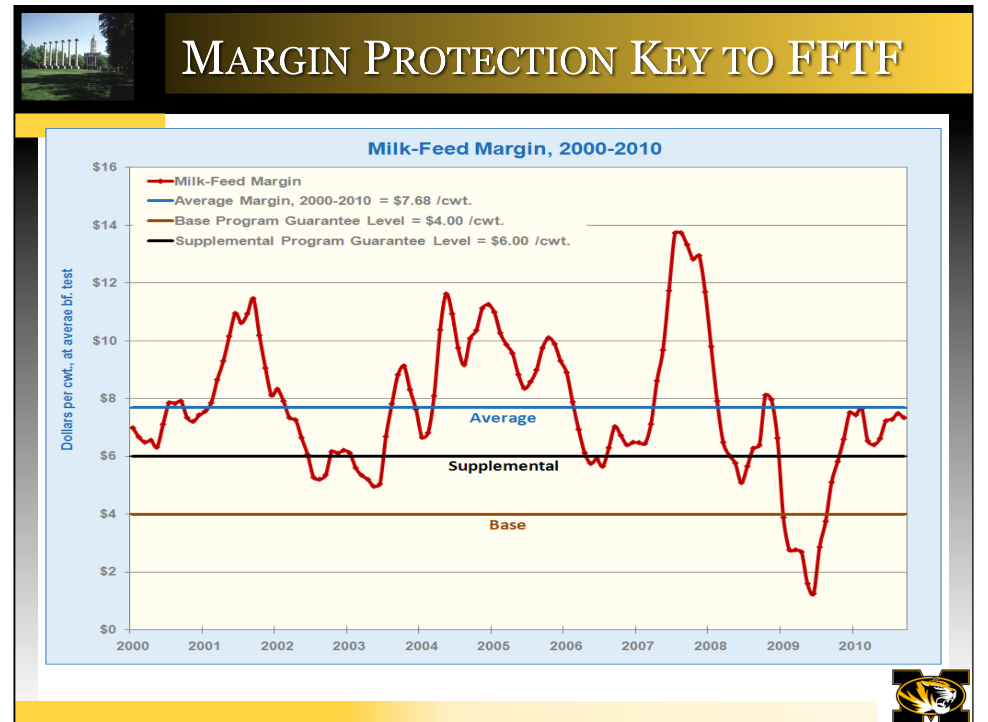
Monthly MILC Payment Rates



Foundation For the Future

- Margin Insurance Protection (DPMPP)
- U.S. All Milk Price less Feed Cost : [1.192 x price of corn/bu.] + [0.00817 x price of soybean meal/ton] + [0.0152 x price of alfalfa hay/ton]

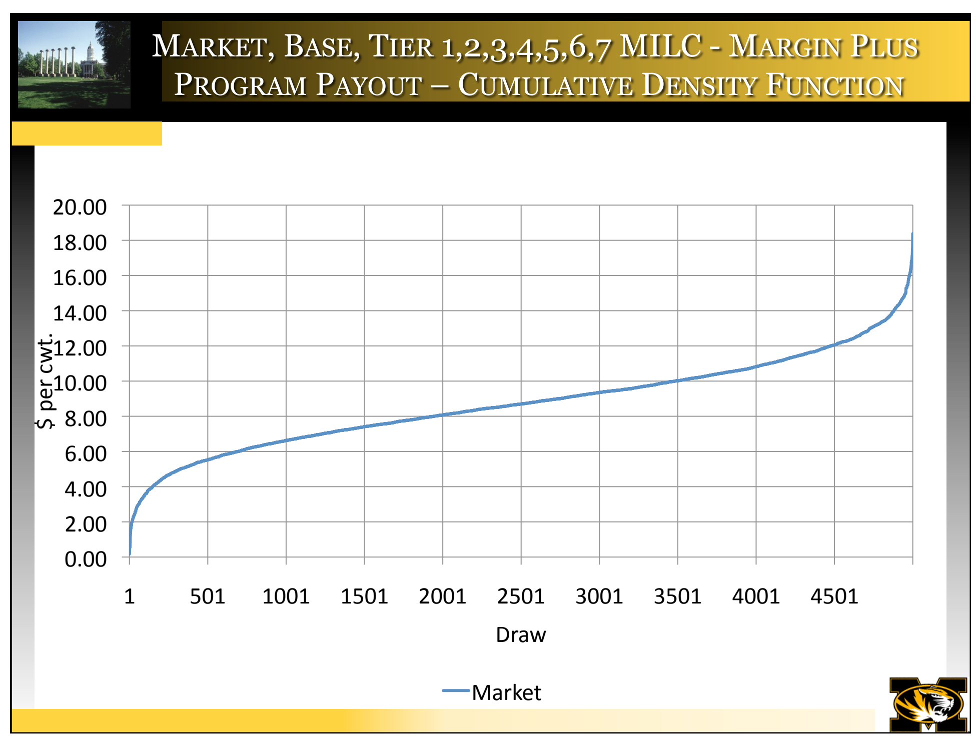
Margin Protection Key to FFTF

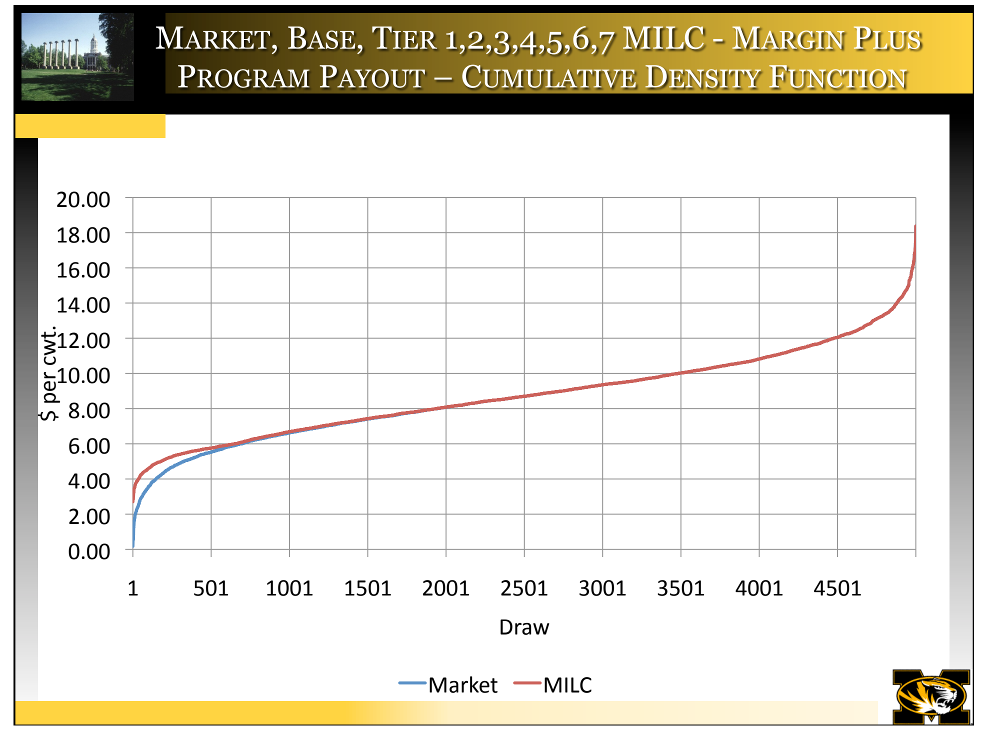


DPMPP Operation

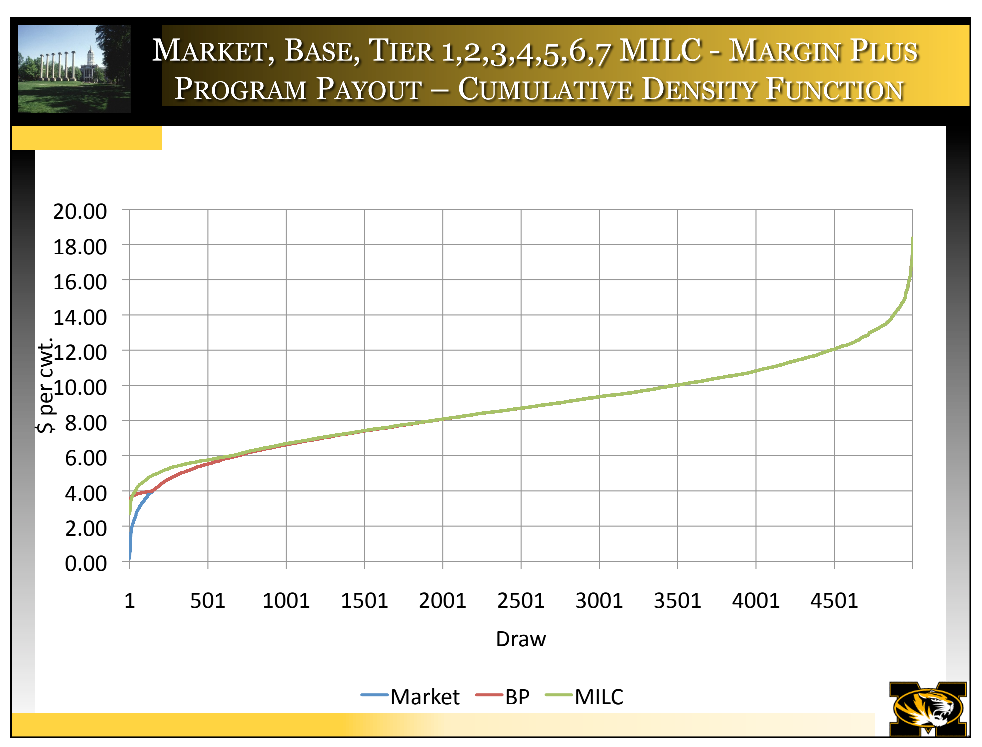
- Voluntary Program
- 2 levels of coverage:
  - Base Plan – program available to all producers at no cost
  - Supplemental Plan – program available to all producers seeking additional coverage
  - Coverage choices made for the life of the farm bill
- Margin guarantees are fixed for Farm Bill duration
- Will not cover new production beyond milk base, 90 % of historical base eligible

Market, Base, Tier 1,2,3,4,5,6,7 MILC - Margin Plus Program Payout – Cumulative Density Function

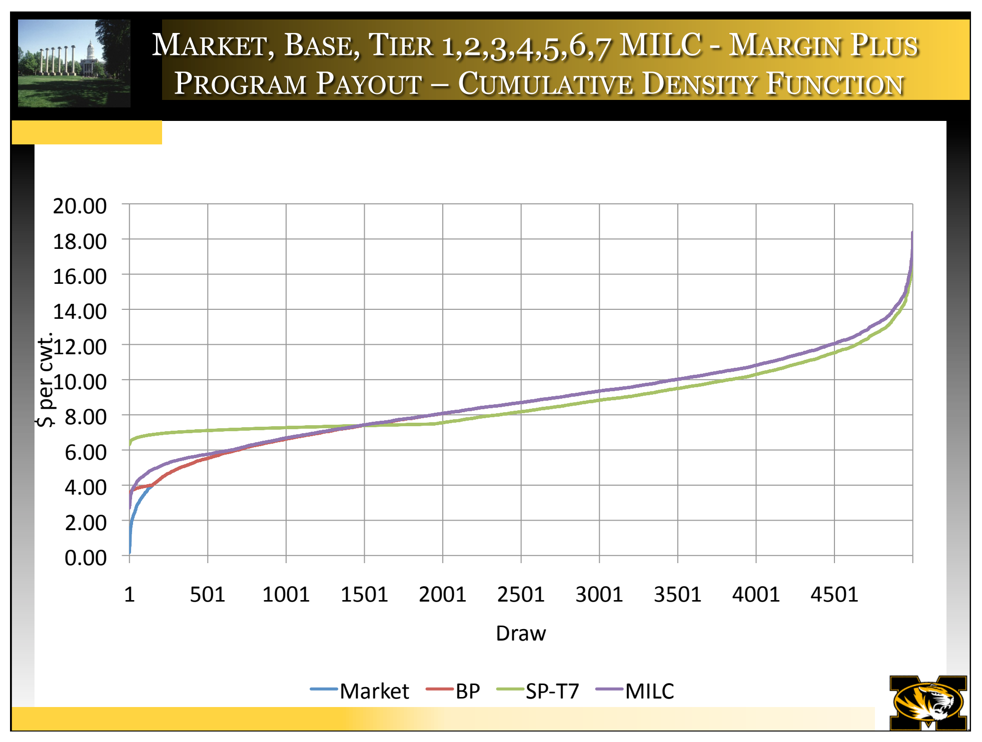




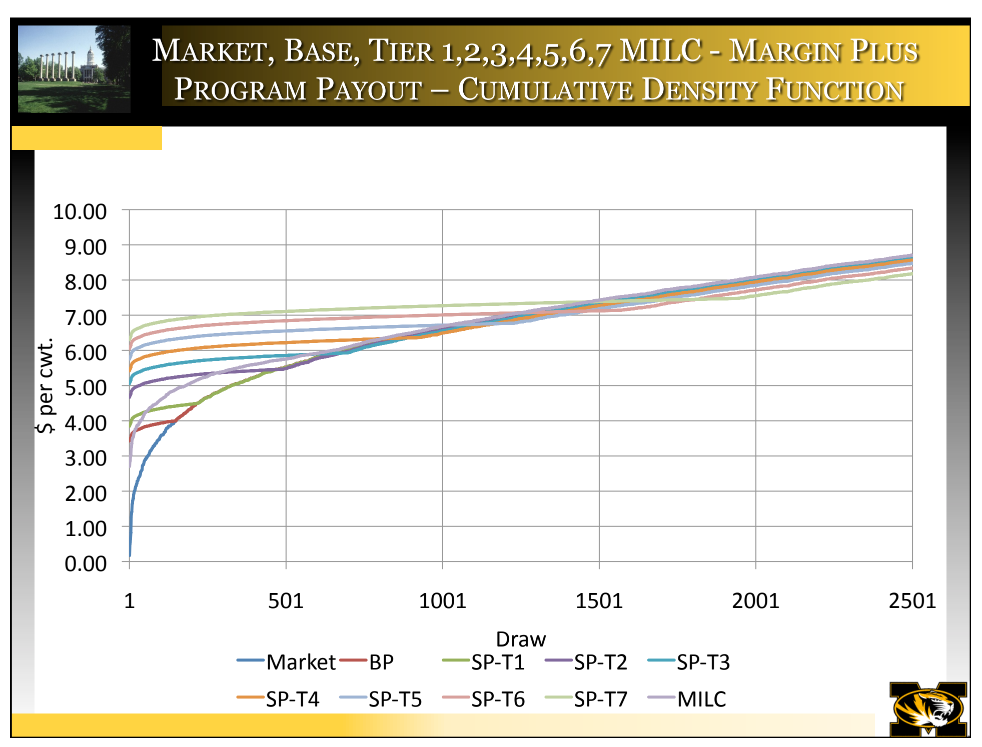
MARKET, BASE, TIER 1,2,3,4,5,6,7 MILC - MARGIN PLUS PROGRAM PAYOUT – CUMULATIVE DENSITY FUNCTION
$ per cwt.
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1
501
1001
1501
2001
2501
3001
3501
4001
4501
Draw
Market
MILC



MARKET, BASE, TIER 1,2,3,4,5,6,7 MILC - MARGIN PLUS PROGRAM PAYOUT – CUMULATIVE DENSITY FUNCTION
$ per cwt.
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1
501
1001
1501
2001
2501
3001
3501
4001
4501
Draw
Market
BP
MILC



MARKET, BASE, TIER 1,2,3,4,5,6,7 MILC - MARGIN PLUS PROGRAM PAYOUT – CUMULATIVE DENSITY FUNCTION
$ per cwt.
20.00
18.00
16.00
14.00
12.00
10.00
8.00
6.00
4.00
2.00
0.00
1
501
1001
1501
2001
2501
3001
3501
4001
4501
Draw
Market
BP
SP-T7
MILC



MARKET, BASE, TIER 1,2,3,4,5,6,7 MILC - MARGIN PLUS PROGRAM PAYOUT – CUMULATIVE DENSITY FUNCTION
$ per cwt.
10.00
9.00
8.00
7.00
6.00
5.00
4.00
3.00
2.00
1.00
0.00
1
501
1001
1501
2001
2501
Draw
Market
BP
SP-T1
SP-T2
SP-T3
SP-T4
SP-T5
SP-T6
SP-T7
MILC

Each Program Provides Alternative Risk Protection

- Important for participants to understand production costs
- MILC and margin insurance provide longer-run margin risk protection for producers
- Futures, options and LGM-Dairy provide shorter-run risk options
- All of these opportunities to reduce risk can be complementary
  - Growing operation
  - Government versus market risk reduction
- Producers can/should use all of these tools at the "right" time for them
- There is no single "right" answer
- Education on the use of these tools needs to continue

Questions

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