Key Issues Driving Today’s Dairy Markets

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July 13, 2015

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What Are the Key Issues?

- **International markets**
  - Consumption by key countries
  - Production response by key countries
  - Future trade agreements

- **Producer return volatility**
  - Milk prices
  - Feed costs

- **Domestic markets**
  - Milk production expansion has been targeted
  - Fluid milk demand has been a tough road

- **Federal dairy policy**
Dairy Markets Are Inelastic

![Graph showing the relationship between supply, demand, and price]

- **Price**
- **Quantity**
- 2014 Supply
- 2015 Supply
- Demand

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Dairy Markets Are Inelastic

Price

Quantity

2014 Supply

2015 Supply

Demand

Price

Quantity

2014 Supply

2015 Supply

Demand

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Don’t Try and Teach Economics To Kansas Fans!!!!
My Biggest Risk Factor: Global Markets

- How quickly can US dairy exports recover?
- Predicting China’s demand for US dairy products challenging
- Global milk supplies
  - Oceania
  - Europe
- Stronger dollar hampering trade
China Dairy Demand a Key Factor
In 2014, USDA estimated 1 mmt of imports for 2014.
Value of U.S. Dairy Trade

[Graph showing the value of U.S. dairy trade from January 2004 to January 2014, with imports on the yellow line and exports on the brown line.]

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Value of U.S. Dairy Trade

<table>
<thead>
<tr>
<th>Year</th>
<th>CWT Assisted (mil pounds)</th>
<th>Imports</th>
<th>Exports</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012</td>
<td>Cheese: 125, Butter: 73, WMP: 0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>Cheese: 130, Butter: 101, WMP: 0.2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2014</td>
<td>Cheese: 103, Butter: 54, WMP: 35.0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Australia + New Zealand Milk Production

Source: USDA
Global Dairy Situation
Global Dairy Product Prices

Dollars per Metric Ton

- Butter
- Cheese
- Nonfat Dry Milk
Trans-Pacific Partnership (TPP)
2015 – Lower Returns Ahead

- Milk prices have moved significantly lower
  - Increased U.S. milk supplies
  - Decreased export demand for U.S. dairy products
- Conventional wisdom suggests the 2nd half of 2015 will be better
  - Requires export recovery
  - Another good crop this year
- We have not seen the last time of below $12 all milk prices
U.S. Milk Production: Growth in Progress
U.S. Milk Production Growth Tempered By California Drought

U.S. Drought Monitor
California

July 7, 2015
(Released Thursday, Jul. 9, 2015)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

<table>
<thead>
<tr>
<th></th>
<th>D0</th>
<th>D1</th>
<th>D2</th>
<th>D3</th>
<th>D4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Current</td>
<td>0.14</td>
<td>99.86</td>
<td>99.71</td>
<td>94.59</td>
<td>71.08</td>
</tr>
<tr>
<td>Last Week</td>
<td>0.14</td>
<td>99.86</td>
<td>99.71</td>
<td>94.59</td>
<td>71.08</td>
</tr>
<tr>
<td>3 Months Ago</td>
<td>0.15</td>
<td>99.85</td>
<td>99.11</td>
<td>93.44</td>
<td>86.60</td>
</tr>
<tr>
<td>Start of Calendar Year 2015</td>
<td>0.00</td>
<td>100.00</td>
<td>98.12</td>
<td>94.34</td>
<td>77.94</td>
</tr>
<tr>
<td>Start of Water Year 2014</td>
<td>0.00</td>
<td>100.00</td>
<td>100.00</td>
<td>95.04</td>
<td>81.92</td>
</tr>
<tr>
<td>One Year Ago</td>
<td>0.00</td>
<td>100.00</td>
<td>100.00</td>
<td>100.00</td>
<td>76.97</td>
</tr>
</tbody>
</table>

Intensity:
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
Brian Fuchs
National Drought Mitigation Center

http://droughtmonitor.unl.edu/
Change in Dairy Cow Inventory, Jan. 1, 2015 vs. 2007-09 average
Change in Dairy Cow Inventory, Jan. 1, 2015 vs. 1990-99 average

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Monthly U.S. Dairy Cows

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Monthly U.S. Milk Production

- 2015 Q1 vs. 2014 Q1: 1.8%
- May 15 vs. May 14: 1.4%

Billion Pounds

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Butter Prices

[Graph showing butter prices from Jan 02 to Jan 14 with data for U.S. and Oceania.]

- Imports 8/13 to 4/14: 4.8 TMT
- 8/14 to 4/15: 11.5 TMT
Cheese Prices

[Graph showing cheese prices for U.S. and Oceania from Jan 02 to Jan 14]
U.S. Fluid Milk Sales

-4%  -3%  -2%  -1%  0%  1%  2%

Jan 02  Jan 04  Jan 06  Jan 08  Jan 10  Jan 12  Jan 14

Million Pounds

Actual

Annual Growth, 6-month MA

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Federal Order Milk Prices

Class III
Class IV
Class III Futures 7/9/2015

Dollars per Cwt

Jan 02 Jan 04 Jan 06 Jan 08 Jan 10 Jan 12 Jan 14

Jan 02 Jan 04 Jan 06 Jan 08 Jan 10 Jan 12 Jan 14
U.S. Milk Production

Billion Pounds

Corn – December 2015 Futures Quotes
Margin Protection Program (MPP)

- Passing the 2014 farm bill was a monumental challenge
- Dairy had its fair share of fights
  - Soviet-style dairy policy
  - Supply management
- Dairy took a big swing at policy change
- Too early to grade the program
- Policy NEVER works under all market outcomes
Milk Less Feed Costs (MPP Margin)
National Program Margin Calculation

- All Milk Price less Feed Cost
  - The average cost of feed for a dairy operation required to produce a Cwt. of milk, determined in accordance with the following formula: \[1.0728 \times \text{price of corn/bu.} + 0.00735 \times \text{price of soybean meal/ton} + 0.0137 \times \text{price of alfalfa hay/ton}\].
  - Milk, corn and alfalfa prices reported in Agricultural Prices; soybean meal price is Central Illinois, USDA/AMS
## MILC and the New Margin Program Compared

<table>
<thead>
<tr>
<th></th>
<th>New Margin Program</th>
<th>MILC</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Coverage Level</strong></td>
<td>Pick $4 to $8 in $0.50 increments</td>
<td>Feed Adjusted $16.94 minus Boston Class I</td>
</tr>
<tr>
<td><strong>Coverage Quantity</strong></td>
<td>Pick 25% to 90% in 5% increments</td>
<td>34% or 45% applied to price difference above</td>
</tr>
<tr>
<td><strong>Payments</strong></td>
<td>Production history adjusted by US milk production growth</td>
<td>Capped – 2.985 million pounds or 2.4 million pounds</td>
</tr>
<tr>
<td><strong>Premiums</strong></td>
<td>Depends on coverage level</td>
<td>None</td>
</tr>
</tbody>
</table>
Bimonthly MPP-Dairy Margin – 2015
Current Futures Estimate

Jan/Feb 2000 - Jan/Feb 2012

$ per cwt

$0 $2 $4 $6 $8 $10 $12 $14 $16
Higher Premiums At Higher Margin Coverage Levels

<table>
<thead>
<tr>
<th>Coverage Level</th>
<th>Tier 1 Premium per cwt for 2016-2018 for covered production history at 4 mil lbs or less</th>
<th>Tier 2 Premium per cwt, all years for covered production history over 4 mil lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td>$4.00</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>$4.50</td>
<td>$0.010</td>
<td>$0.020</td>
</tr>
<tr>
<td>$5.00</td>
<td>$0.025</td>
<td>$0.040</td>
</tr>
<tr>
<td>$5.50</td>
<td>$0.040</td>
<td>$0.100</td>
</tr>
<tr>
<td>$6.00</td>
<td>$0.055</td>
<td>$0.155</td>
</tr>
<tr>
<td>$6.50</td>
<td>$0.090</td>
<td>$0.290</td>
</tr>
<tr>
<td>$7.00</td>
<td>$0.217</td>
<td>$0.830</td>
</tr>
<tr>
<td>$7.50</td>
<td>$0.300</td>
<td>$1.060</td>
</tr>
<tr>
<td>$8.00</td>
<td>$0.475</td>
<td>$1.360</td>
</tr>
</tbody>
</table>
Hindsight Is 20/20

- Looking backwards.....
  - Small producers should have picked $4 or $8
  - Larger producers should have picked $4, $6.5, $8

- Looking forward......
  - Does not mean the same choices
  - Premium cost versus safety net
My Observations After The First Signup

- Did producers think through the risk mitigation opportunities under MPP?
- More education needed on correlation of their margin to the MPP margin
- Use of futures markets versus MPP for risk protection
  - 2015 Class III futures near $18 when 2015 signup started
  - 2016 Class III futures near $16.50 today
- Producer tools and producers focused too much on program maximization and not enough on risk management
2016 MPP Signup Is Underway

- Signup period 7/1/2015 – 9/30/2015
- Choice must be made further from the period of coverage
- This may highlight risk management versus program maximization or cause producers not to enroll
- Compare futures market cost versus MPP cost
- Producers need to think about what level of coverage they need to survive
US Production History Signed Up For 2015 MPP Payments

Billion pounds

$4.00  $4.50  $5.00  $5.50  $6.00  $6.50  $7.00  $7.50  $8.00
MO Production History Signed Up For 2015 MPP Payments

Million pounds

$4.00 $4.50 $5.00 $5.50 $6.00 $6.50 $7.00 $7.50 $8.00
Summary

- 2015 will be a year of lower returns
- Export recovery necessary in the short term and growth long term
  - China, China, China
  - TPP deal
- Feed costs depend on no weather issues in the Midwest
- Expect more volatility in milk returns ahead
- MPP is a new risk management program for producers