Outlook for U.S. Dairy Markets

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Presentation Outline

- Characterization of recent dairy market conditions
  - Milk prices
  - Commodity prices
  - Milk production
  - International trade

- Dairy industry outlook
  - What do the futures markets tell us?
  - USDA’s recent dairy industry forecasts
Where Have We Been: Class III Price

- 2009 Class III milk averaged less than $11.36/cwt
- Lowest average since 2002

Milk Support Price vs Class III ($/cwt)

Jan-Oct '09 WI Mailbox: $12.14

Class III below support
Where Have We Been: Class III Price

- Lets divide the history of Class III prices into distinct ranges

Class III/BFP/MW Prices ($/cwt)

- Jan 70 - Dec 81
- Jan 82 - Dec 87
- Jan 88 - April 1995
- May 95 - Dec 99
- Jan 00 - Present

Where Have We Been: Dairy Product Prices

Daily CME Block Prices ($/lb)

- Imputed Cheddar Values from Futures Prices
  - Mar '10: $1.48
  - Apr '10: $1.46
  - May '10: $1.48

- $1.72 Support Price
- $1.09 Imputed value derived from future prices on 2/5/10

Source: Understanding Dairy Markets website (http://future.ase.wisc.edu)
Where Have We Been: Dairy Product Prices

Weekly Average NASS Prices ($/lb)

- Cheddar Blocks
- Butter
- NFDM
- Dry Whey

Dry Whey (4/21/07): 79.33¢
Whey FMMO Make Allowance: 19.91¢

Where Have We Been: Farm Input Costs

- There has been some relief on the input cost side

Index of Prices Paid

- Fuel Diesel
- Pork
- Feed Costs
- Cow Replacement

Source: Understanding Dairy Markets website (http://future.aac.wisc.edu)
With low milk prices and high feed costs what has this meant for Wisconsin dairy producers?

**Ration (lb/d)**
- Corn: 22.2
- SBM: 2.52
- Hay: 25.5

**IOFC = Income Over Feed Costs**
- With MILC Payments
- Average

**IOFC for cow producing 65 lbs/day**

Note: Our current forecast is for $0 MILC payments after Nov. '09.

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**Where Have We Been: U.S. Milk Production**

- Milk supply has direct influence on milk price
  - Milk needs to go somewhere
  - If milk production growth rate exceeds growth in product demand → downward price pressure

- The U.S. dairy farmer has provided evidence of an incredible ability to increase output
  - Between 2001-2009: Annual herd size increased
    - Prior to 2009: April 2004 last time with monthly decline from previous year
    - Continual increases in per cow productivity
Where Have We Been: WI Milk Production

![Graph showing Wisconsin Milk Production and Number of Farms]

**Wisconsin Licensed Dairy Herds and Total Milk Production**

- **Number of Farms**
  - Aug 2003: 16,264
  - Jan 2010: 12,929

- **Wisconsin Milk Production**

**Annual Y-O-Y Changes**

- **Cows**
  - WI: +0.32%
  - CA: -4.13%

- **Prod**
  - WI: +3.25%
  - CA: -3.85%

**Note:** Production has been standardized to 30-day months.

Where Have We Been: U.S. Milk Production

![Graph showing U.S. Milk Production and Year over Year % Change in Milk Yield and Cows]

**Annual Y-O-Y Changes**

- **Cows**
  - WI: +0.32%
  - CA: -4.13%

- **Prod**
  - WI: +3.25%
  - CA: -3.85%

**Source:** USDA, NASS & Understanding Dairy Markets website (http://future.ues.wisc.edu)
Wisconsin: 4.3% ↑
Over Dec '08

California: 4.7% ↓
From Dec '08

1st Drop Since '04

2009: -0.11% ↓ from 2008

Where Have We Been: U.S. Milk Production

Can the recent downturn in dairy and milk prices be explained by:

- Excessive dairy stocks?
  - ↑ in stocks → ↓ commodity prices

- Dramatic increases in dairy product production?
  - ↑ in production → ↓ commodity prices (if demand does not ↑ as well)

- Most milk in the U.S. is priced based on formulas
  - Wholesale commodity prices impact milk value
  - ↓ commodity prices → ↓ milk prices
Role of Dairy Trade

- 2007-2008: International trade became an important market for U.S. dairy products
  - Production problems in other exporting countries
  - Devaluation of U.S. dollar
  - 2008: 10.8% of total solids exported
    - Usually 4-5% of total solids exported

- 2007: U.S. became a net dairy exporting country where value of dairy exports greater than import value
  - Average quarterly dairy trade surplus of $268 Mil

Where Have We Been: Dairy Trade

<table>
<thead>
<tr>
<th>Year</th>
<th>Deficit</th>
<th>Surplus</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998-2006</td>
<td>$117 Mil</td>
<td></td>
</tr>
<tr>
<td>2007-3rd Qtr 2008</td>
<td></td>
<td>$268 Mil</td>
</tr>
<tr>
<td>Qrt 2, 2008</td>
<td>$481 Mil</td>
<td></td>
</tr>
</tbody>
</table>

Exports = Imports

Source: USDA, Foreign Agricultural Service
Where Have We Been: Dairy Trade

Dairy Industry Outlook: Futures Markets

- Since the mid-1990’s we have had active dairy product futures/options markets
  - These markets to provide a clue as to possible future price environments
  - Can be used to control price variability
    - Dairy farm operators
    - Dairy product manufacturers
    - Users of dairy products
- As an example let’s look at Class III milk futures
  - Milk used for cheese manufacturing
  - Cash price history used to determine a *good* price
Data as of Feb. 5

Based on Feb. 5th Class III futures settle prices

Average Mailbox:
- 2007: $19.00
- 2008: $18.63
- 2009: $12.21
- 2009*: $12.85

Avg. Futures Settles: $14.67

Basis = $1.24

Note: The 2009 average is for Jan-Oct '09, 2009* includes Nov-Dec predicted value
Correlation between these two series is 0.659
Data as of Feb. 5th

Class III ↑ relative to grain prices after April

Data as of Feb. 5th

Dairy Industry Outlook: Futures Markets

Comparison of Class III and grain futures

$/cwt

Data as of Feb. 5th

Class III ↑ relative to grain prices after April

$/bu

Dairy Industry Outlook: Wisconsin IOFC

Based on futures prices for Class III, Corn and SBM

Ration (lb/d)

Corn: 22.2
SBM: 2.52
Hay: 25.5

Note: Based on Feb. 1st futures settle price. A cow producing 65 lbs/day assumed.
Dairy Industry Outlook: USDA Forecasts

- Each month the USDA publishes the *World Agricultural Supply and Demand Estimates* report
  - Supply/Demand data for grain and livestock sectors
  - Accessible from the UW *Understanding Dairy Markets* website

Dairy Industry Outlook: USDA Forecasts

- Milk production expected to decline and demand increase

![Chart showing milk production and commercial disappearance forecast for years 2002 to 2010.](chart)

Source: WASDE, Feb 9, 2010. Commercial disappearance on a skim solids basis.
### Dairy Industry Outlook: USDA Forecasts

#### USDA Quarterly Forecasts

<table>
<thead>
<tr>
<th>Year</th>
<th>Quarter</th>
<th>All Milk Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>I</td>
<td>15.80 $/cwt 29.2 % Chg</td>
</tr>
<tr>
<td></td>
<td>II</td>
<td>15.90 $/cwt 37.1 % Chg</td>
</tr>
<tr>
<td></td>
<td>III</td>
<td>16.70 $/cwt 38.4 % Chg</td>
</tr>
<tr>
<td></td>
<td>IV</td>
<td>17.70 $/cwt 15.5 % Chg</td>
</tr>
<tr>
<td></td>
<td>Annual</td>
<td>16.55 $/cwt 29.2 % Chg</td>
</tr>
</tbody>
</table>

Note: The % Chg value represents the percentage change from the previous year.  
Source: WASDE, Feb 9, 2010

### Dairy Industry Outlook: USDA Forecasts

#### USDA forecasts of NASS and FMMO prices

<table>
<thead>
<tr>
<th>Product</th>
<th>2008 $/lb</th>
<th>2009 $/lb</th>
<th>2010 Forecast $/lb</th>
<th>% Chg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cheddar</td>
<td>1.895</td>
<td>1.297</td>
<td>1.610</td>
<td>24.1</td>
</tr>
<tr>
<td>Butter</td>
<td>1.436</td>
<td>1.210</td>
<td>1.445</td>
<td>19.4</td>
</tr>
<tr>
<td>Whey</td>
<td>0.250</td>
<td>0.259</td>
<td>0.390</td>
<td>50.6</td>
</tr>
<tr>
<td>NFDM</td>
<td>1.226</td>
<td>0.922</td>
<td>1.205</td>
<td>30.7</td>
</tr>
<tr>
<td>Class III</td>
<td>17.44*</td>
<td>11.36</td>
<td>15.25</td>
<td>34.2</td>
</tr>
<tr>
<td>Class IV</td>
<td>14.65*</td>
<td>10.89</td>
<td>14.35</td>
<td>31.8</td>
</tr>
</tbody>
</table>

Note: The % Change value represents the percentage change from previous year.  * = $/CWT  
Source: WASDE, Feb 9, 2010
Contact Information

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