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FMMO Class I Reform

The Federal Milk Marketing Order (FMMO) Class I price formula remained unchanged from the implementation of federal order reform in 2000 until the 2018 Farm Bill. The order reform hearing established the monthly Class I price to be the higher of the advance Class III or Class IV price. The objective of the so-called Higher Of approach was to maintain a Class I price higher than the price of milk used in manufactured products, thus assuring that milk marketers, seeking to sell milk for its greatest value, would always supply Class I processors with all the milk they needed.

Class I sales, however, did not remain unchanged during the same time period. Total U.S. fluid sales were 55 billion pounds in 2000 and remained at roughly that level through 2009. However, 2010 marked the beginning of year-over-year losses, and by 2017 sales had slumped to 48 billion pounds. In an effort to rejuvenate sales, the industry reached out to non-traditional dairy retailers like McDonalds and Starbucks. One limiting factor cited by these companies was the inability to hedge fluid milk costs due to its price being determined by the 'higher of' Class III or IV.

In response, processors, represented by the International Dairy Foods Association (IDFA), and producers, represented by the National Milk Producers Federation (NMPF), initiated discussions to develop a Class I price formula that would allow for risk management. From 2000 through 2017, the advanced skim price based on the higher of Class III or Class IV averaged $9.66/cwt. whereas the average of Class III and Class IV was $8.92/cwt. The difference between the two prices was $0.74/cwt. Based on those data points IDFA and NMPF asked Congress to amend the Class I price to be the average of the advanced Class III and IV prices, plus $0.74, as part of the 2018 Farm Bill. The $0.74 adjustment was included to make the new formula revenue neutral with the prior formula. Congress agreed, and the new formula went into effect with milk marketed in May 2019.

The new formula worked as intended initially, but then the COVID-19 pandemic caused widespread shutdowns beginning in March 2020. Both Class III and IV prices collapsed as orders from the food service industry dried up. In late May USDA launched the Farmers to Families Food Box program. The requirement that the food boxes include cheese coupled with strong export sales, booked when the cheese market bottomed, and producer supply management programs caused cheese prices to rocket to records highs within weeks. As a result, the Class III price soared while the Class IV price languished. The spread between Class III and IV reached a record high. The $0.74/cwt. add-on to the average of Class III and IV prices came nowhere near making the new Class I formula be revenue neutral with the previous Higher Of Class I price. In fact, NMPF estimates the new Class I price resulted in approximately $725 million less Class I revenue dating back to July 2020.

In hindsight the 2018 Farm Bill introduced asymmetrical risk into the Class I price equation. The maximum amount that the Average Of Plus $0.74 Class I price could exceed the Higher Of was $0.74/cwt. which would happen only when the Class III and IV prices were equal. By contrast, the Average Of Plus $0.74 price resulted in Class I prices as much as $5.00/cwt. less than the Higher Of formula when the spread between Class III and IV reached $10.

In addition, the Class I price now regularly trailed the Class III price which contributed to negative Producer Price Differentials (PPDs) and massive depooling of high-value Class III milk. The negative PPDs that impacted producer milk checks also negated many risk management strategies. Due to higher Class III prices, risk

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management strategies taken to guard against a decline in the Class III price were nullified, but due to negative PPDs, the high Class III prices were not fully realized in producer milk checks.

NMPF Proposal

As a result, NMPF drafted a revision to the Class I price calculation and plans to request USDA conduct a national hearing to amend the current price formula. The NMPF proposal would retain using the average of advance Class III and IV prices but update the add-on adjuster every 24 months based on the monthly differences between the 'higher of' and 'average of' prices for the previous 24 months. By updating the add-on adjuster every two years using the previous 24 months, the large spreads between the Class III and IV prices seen during the last six months of 2020 would be incorporated into the Class I price. That mechanism would help to recoup revenue not realized during those months. Based on the current time frame, the add-on adjuster would move to approximately $1.63/cwt. for the next two years.

While the additional revenue from the initial update to the add-on adjuster may look to be welcome, during the subsequent 24 months Class III and IV prices will likely converge. Significant additional cheese processing capacity is coming into production and will likely apply pressure to the Class III price. Furthermore, as economies recover from the COVID-19 pandemic, U.S. exports of milk powders could accelerate, lifting the Class IV price. When the add-on adjuster is scheduled to be updated again, the difference between the 'higher of' and 'average of' could be less than the current $0.74. To guard against that scenario, the NMPF proposal includes a provision that the add-on cannot be less than $0.74, which in turn renders the proposal no longer revenue neutral.

As for its impact on risk management strategies, during the next two years if the add-on adjuster is $1.63, PPDs will be boosted and depooling will occur less frequently. However, it is likely that the next two-year update to the add-on adjuster could again be in the $0.74/cwt. range and increase the probability of depooling as has been experienced during the past year.

Furthermore, the use of advance pricing (prior to the beginning of the month) increases basis risk for producers, whose risk management tools are based on announced prices (available at the end of the month). Given that the purpose of the 2018 formula change was to facilitate processors risk management, it is logical to remove advance pricing because it is no longer critical for processors and is detrimental to producers.

Edge Dairy Farmer Cooperative Proposal

In late April Edge Dairy Farmer Cooperative, supported by the Dairy Business Association, Minnesota Milk Producers, Nebraska State Dairy Association, and South Dakota Dairy Producers, introduced a different approach. The Edge proposal, known as Class III Plus, would base the Class I price on the announced Class III price (instead of the advance price), plus an add-on adjuster. The adjuster would be updated annually based on the monthly differences between the 'higher of' Class III and IV and the Class III prices for the previous 36 months.

Class III Plus is designed to facilitate producer risk management and reduce the occurrences of negative PPDs and subsequent depooling. The six-week time difference between advance prices and announced prices can lead to Class I prices being less than Class III prices. The Edge proposal eliminates that time lag by using announced prices. The add-on adjuster accounts for the few months when the Class IV price is higher than the Class III price. By using the announced Class III price as the basis for the Class I price, the Class I price is **always** higher than the Class III price.

At this point it is important to note that PPDs are affected by more variables than just the Class I price. The relationship between Class III and Class IV prices, along with the order's class utilizations, have significant impacts on PPDs.

Then in early May FarmFirst Dairy Cooperative announced their intention to submit a proposal to return to the previous Higher Of formula if USDA

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decides to conduct a hearing addressing the Class I price. Meanwhile IDFA's preference has been to retain the current Average Of Plus $0.74.

Economic Analysis

On May 21, Dr. Marin Bozic, University of Minnesota, presented a webinar comparing the four options. To compare the two new proposals with the two existing formulas (Higher Of and Average Of Plus $0.74), Dr. Bozic calculated monthly Class I, III an d IV prices from January 2015 through March 2021. Because of advance pricing, both the Higher Of and Average Of Plus $0.74 formulas resulted in Class I prices being less than either the Class III or the Class IV price nearly 50% of the time. By using the announced Class III price, the Class III Plus option resulted in the Class I price exceeding both Class III and IV approximately 75% of the months.

Next Dr. Bozic calculated monthly PPDs for each order from June 2020 through March 2021. As is shown in Table 1, while PPDs were negative under all the pricing scenarios, the Class III Plus option performed better than the others.

Realizing that June 2020 to March 2021 represented an unprecedented period in milk marketing, Dr. Bozic calculated PPDs for February 2013 through February 2014 when the Higher Of formula was being used and PPDs were generally positive. Under that scenario (Table 2) the current Average of Plus $0.74 formula yielded the best results, but all four pricing options were within nine cents of each other.

Finally, Dr. Bozic looked at monthly PPDs for each federal order during the 11-year period from 2010 through March 2021. Table 3 shows that the Class III Plus option resulted in the fewest months with negative PPDs (22) compared to the other three options (28 and 29 months).

At this time none of the Class I proposals have been submitted to USDA for consideration and no amendatory hearings have been requested. However, inevitably USDA will hold a hearing examining the Class I price. Whether the hearing's scope is solely the Class I price or more broad addressing many aspects of federal orders remains to be determined. However, the hearing process does assure that both proponents and opponents of all options will have the opportunity to present data and testimony in support of their positions.

Table 1

Producer Price Differentials June 2020 - March 2021 under various Class I reform proposals

Federal Milk Marketing Order	Higher-Of	Average-Of + $0.74/cwt.	NMPF 2021 Proposal	Class III +	Actual (with Depooling
FO #1 - Northeast	$ (1.42)	$ (2.04)	$ (2.10)	$ (1.23)	$ (2.00)
FO #30 - Upper Midwest	$ (0.49)	$ (0.68)	$ (0.70)	$ (0.44)	$ (2.32)
FO #32 - Central	$ (1.69)	$ (2.38)	$ (2.44)	$ (1.54)	$ (3.99)
FO #33 - Mideast	$ (1.97)	$ (2.67)	$ (2.73)	$ (1.79)	$ (3.38)
FO #124 - Pacific Northwest	$ (2.80)	$ (3.27)	$ (3.32)	$ (2.68)	$ (3.47)
FO #126 - Southwest	$ (1.16)	$ (1.89)	$ (1.96)	$ (0.99)	$ (3.88)
Average	$ (1.59)	$ (2.15)	$ (2.21)	$ (1.45)	$ (3.17)

Table 2

Producer Price Differentials Feb 2013 - Feb 2014 under various Class I reform proposals

Federal Milk Marketing Order	Higher-Of	Average-Of + $0.74/cwt.	NMPF 2021 Proposal	Class III +	Actual (with Depooling
FO #1 - Northeast	$ 2.32	$ 2.39	$ 2.37	$ 2.32	$ 2.32
FO #30 - Upper Midwest	$ 0.42	$ 0.44	$ 0.43	$ 0.40	$ 0.32
FO #32 - Central	$ 1.00	$ 1.06	$ 1.04	$ 0.96	$ 0.87
FO #33 - Mideast	$ 1.33	$ 1.40	$ 1.38	$ 1.30	$ 1.27
FO #124 - Pacific Northwest	$ 0.94	$ 1.00	$ 0.98	$ 0.91	$ 0.91
FO #126 - Southwest	$ 1.94	$ 2.02	$ 1.99	$ 1.88	$ 1.68
Average	$ 1.33	$ 1.39	$ 1.37	$ 1.30	$ 1.22

Table 3

Number of Months with Negative Predicted Producer Price Differentials, 2010-2021

Federal Milk Marketing Order	Higher-Of	Average-Of + $0.74/cwt.	NMPF 2021 Proposal	Class III +
FO #1 - Northeast	10	12	12	7
FO #30 - Upper Midwest	20	23	23	15
FO #32 - Central	43	39	39	27
FO #33 - Mideast	27	31	31	21
FO #124 - Pacific Northwest	56	55	55	53
FO #126 - Southwest	10	12	12	7
Average	28	29	29	22

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NAJ Milk & Component Outlook - *April 2021 Jersey Price Comparisons*

APR'21 STATISTICAL BLEND PRICE

Northeast (Boston)	$17.75
Appalachian (Charlotte)	$18.43
Southeast (Atlanta)	$18.46
Florida (Tampa)	$20.21
Mideast (Cleveland)	$16.33
Upper Midwest (Chicago)	$16.65
Central (Kansas City)	$15.88
California (Los Angeles)	$15.91
Southwest (Dallas)	$16.48
Arizona (Phoenix)	$16.43
Pacific Northwest (Seattle)	$16.28
ALL FMMO MARKET AVERAGE	**$17.16**

Prices reflect Federal Order minimum blend prices for city shown.

APR'21 MONTHLY MILK VOLUME (Million #)

Northeast (Boston)	2,277
Appalachian (Charlotte)	462
Southeast (Atlanta)	421
Florida (Tampa)	211
Mideast (Cleveland)	1,289
Upper Midwest (Chicago)	927
Central (Kansas City)	931
California (Los Angeles)	1,913
Southwest (Dallas)	1,005
Arizona (Phoenix)	352
Pacific Northwest (Seattle)	611
ALL FMMO MARKET TOTAL	**10,398**

Total Grade A milk volume sold under FMMO during month.

APR'21 JERSEY REGULATED BLEND PRICE

Northeast (Boston)	$21.78
Appalachian (Charlotte)	$20.76
Southeast (Atlanta)	$20.77
Florida (Tampa)	$22.91
Mideast (Cleveland)	$19.77
Upper Midwest (Chicago)	$20.59
Central (Kansas City)	$19.63
California (Los Angeles)	$17.53
Southwest (Dallas)	$19.75
Arizona (Phoenix)	$19.10
Pacific Northwest (Seattle)	$19.79
ALL FMMO MARKET AVERAGE	**$20.21**

Prices reflect FMMO minimum prices at Jersey component values.

APR'21 JERSEY BLEND WITH ESTIMATED PROTEIN OR CHEESE YIELD PREMIUMS

Northeast (Boston)	$22.04
Appalachian (Charlotte) (includes protein prem.)	$21.12
Southeast (Atlanta)	$20.77
Florida (Tampa)	$22.91
Mideast (Cleveland) (includes protein premium)	$20.39
Upper Midwest (Chicago) (includes cy premium)	$20.84
Central (Kansas City)	$19.63
California (Los Angeles)	$17.53
Southwest (Dallas)	$19.75
Arizona (Phoenix) (includes protein)	$19.46
Pacific Northwest (Seattle)	$19.79
ALL FMMO MARKET AVERAGE	**$20.38**

Includes a protein premium of $0.05 for every 0.01% increase in protein over the market average.

APR'21 DOLLAR DIFFERENCE: JERSEY MILK WITH PREMIUMS VS. STATISTICAL BLEND PRICE

Northeast (Boston)	$4.29
Appalachian (Charlotte)	$2.69
Southeast (Atlanta)	$2.31
Florida (Tampa)	$2.70
Mideast (Cleveland)	$4.06
Upper Midwest (Chicago)	$4.19
Central (Kansas City)	$3.75
California (Los Angeles)	$1.62
Southwest (Dallas)	$3.27
Arizona (Phoenix)	$3.03
Pacific Northwest (Seattle)	$3.51
ALL FMMO MARKET AVERAGE	**$3.22**

Prices reflect difference between Jersey price with premiums, and the statistical blend price.

APR'21 PERCENT DIFFERENCE: JERSEY MILK WITH PREMIUMS VS. STATISTICAL BLEND PRICE

Northeast (Boston)	24.2%
Appalachian (Charlotte)	14.6%
Southeast (Atlanta)	12.5%
Florida (Tampa)	13.3%
Mideast (Cleveland)	24.9%
Upper Midwest (Chicago)	25.1%
Central (Kansas City)	23.6%
California (Los Angeles)	10.2%
Southwest (Dallas)	19.9%
Arizona (Phoenix)	18.4%
Pacific Northwest (Seattle)	21.5%
ALL FMMO MARKET AVERAGE	**18.9%**

Percent difference in Jersey price with premiums, over the statistical blend price.

ESTIMATED JERSEY MILK COMPOSITION	Apr-21
Butterfat	5.07
TRUE Protein	3.83
Other Solids	5.73
Solids Not Fat (SNF)	9.56
Cheese Yield (90% Fat Recovery, 38% Moisture)	13.24
CME Block Cheese Price	$ 1.79

REGULATED MILK PRICES	Apr-21
FMMO Milkfat	$ 1.9496
FMMO True Protein	$ 2.8136
FMMO Other Solids	$ 0.4268

AVERAGE JERSEY PRICE ADJUSTMENT PER CWT:	Apr-21
FMMO Milkfat Adjustment	$2.28
FMMO True Protein Adjustment	$1.72
FMMO Other Solids Adjustment	($0.02)

NAJ Milk & Component Outlook - *2021 Prices through April*

2021 AVERAGE STATISTICAL BLEND PRICE FOR EACH FEDERAL ORDER

Northeast (Boston)	$16.50
Appalachian (Charlotte)	$17.84
Southeast (Atlanta)	$17.94
Florida (Tampa)	$19.78
Mideast (Cleveland)	$15.47
Upper Midwest (Chicago)	$15.56
Central (Kansas City)	$14.97
California (Los Angeles)	$15.08
Southwest (Dallas)	$15.43
Arizona (Phoenix)	$15.43
Pacific Northwest (Seattle)	$15.15
ALL FMMO MARKET AVERAGE	**$16.29**

Prices reflect Federal Order minimum blend prices for city shown.

2021 MILK VOLUME (Million #)

Northeast (Boston)	9,049
Appalachian (Charlotte)	1,838
Southeast (Atlanta)	1,612
Florida (Tampa)	835
Mideast (Cleveland)	5,454
Upper Midwest (Chicago)	3,826
Central (Kansas City)	3,744
California (Los Angeles)	7,801
Southwest (Dallas)	4,025
Arizona (Phoenix)	1,380
Pacific Northwest (Seattle)	2,421
ALL FMMO MARKET TOTAL	**41,985**

Total Grade A milk volume sold under FMMO.

2021 AVERAGE JERSEY REGULATED BLEND PRICE

Northeast (Boston)	$20.29
Appalachian (Charlotte)	$20.42
Southeast (Atlanta)	$20.47
Florida (Tampa)	$22.23
Mideast (Cleveland)	$18.62
Upper Midwest (Chicago)	$19.30
Central (Kansas City)	$18.54
California (Los Angeles)	$16.97
Southwest (Dallas)	$18.53
Arizona (Phoenix)	$17.77
Pacific Northwest (Seattle)	$18.48
ALL FMMO MARKET AVERAGE	**$19.24**

Prices reflect FMMO minimum prices at Jersey component values.

2021 AVERAGE JERSEY BLEND WITH ESTIMATED PROTEIN OR CHEESE YIELD PREMIUMS

Northeast (Boston)	$20.57
Appalachian (Charlotte) (includes protein prem.)	$20.81
Southeast (Atlanta)	$20.47
Florida (Tampa)	$22.23
Mideast (Cleveland) (includes protein premium)	$19.30
Upper Midwest (Chicago) (includes cy premium)	$19.57
Central (Kansas City)	$18.54
California (Los Angeles)	$16.97
Southwest (Dallas)	$18.53
Arizona (Phoenix) (includes protein)	$18.16
Pacific Northwest (Seattle)	$18.48
ALL FMMO MARKET AVERAGE	**$19.42**

Includes a protein premium of $0.05 for every 0.01% increase in protein over the market average.

2021 AVERAGE DOLLAR DIFFERENCE: JERSEY MILK WITH PREMIUMS VS. STATISTICAL BLEND PRICE

Northeast (Boston)	$4.08
Appalachian (Charlotte)	$2.43
Southeast (Atlanta)	$2.13
Florida (Tampa)	$2.45
Mideast (Cleveland)	$3.83
Upper Midwest (Chicago)	$4.01
Central (Kansas City)	$3.58
California (Los Angeles)	$1.87
Southwest (Dallas)	$3.10
Arizona (Phoenix)	$2.74
Pacific Northwest (Seattle)	$3.35
ALL FMMO MARKET AVERAGE	**$3.05**

Prices reflect difference between Jersey price with premiums, and the statistical blend price.

2021 AVERAGE PERCENT DIFFERENCE: JERSEY MILK WITH PREMIUMS VS. STATISTICAL BLEND PRICE

Northeast (Boston)	24.8%
Appalachian (Charlotte)	13.2%
Southeast (Atlanta)	11.6%
Florida (Tampa)	12.4%
Mideast (Cleveland)	24.8%
Upper Midwest (Chicago)	25.8%
Central (Kansas City)	23.9%
California (Los Angeles)	12.5%
Southwest (Dallas)	20.1%
Arizona (Phoenix)	17.8%
Pacific Northwest (Seattle)	22.1%
ALL FMMO MARKET AVERAGE	**19.0%**

Percent difference in Jersey price with premiums, over the statistical blend price.

ESTIMATED JERSEY MILK COMPOSITION 2021

Butterfat	5.17
TRUE Protein	3.87
Other Solids	5.73
Solids Not Fat (SNF)	9.60
Cheese Yield (90% Fat Recovery, 38% Moisture)	13.40
CME Block Cheese Price	$1.72

REGULATED MILK PRICES 2021

FMMO Milkfat	$1.6647
FMMO True Protein	$2.8815
FMMO Other Solids	$0.3441

AVERAGE JERSEY PRICE ADJUSTMENT PER CWT: 2021

FMMO Milkfat Adjustment	$1.99
FMMO True Protein Adjustment	$1.78
FMMO Other Solids Adjustment	$0.04