NAJ Equity Newsletter

July 2020

Vol. XLVI, No. 4

Negative PPDs, Depooling and Producer Milk Checks

The two overriding issues in the dairy industry during the past four months have been extreme price volatility, and the unprecedented impact it had on announced Federal Milk Marketing Order (FMMO) prices.

In late June Dr. Mark Stephenson and Dr. Andrew Novakovic published an excellent and extensive Information Letter addressing how USDA calculates FMMO prices. Titled, "Making Sense of Your Milk Price in the Pandemic Economy: Negative PPDs, Depooling, and Reblending," their paper can be downloaded at the following internet address: https://dairymarkets.org/PubPod/Pubs/IL20-03.pdf. The analysis is a 20-minute read, but worth every minute of it.

The Class I price for June of $11.42/cwt. was set on May 20th following several weeks of severely depressed commodity prices that are surveyed by USDA to establish FMMO prices. By early to mid-June commodity prices had rallied significantly. It became obvious that by July 1, when component and Class prices would be calculated for June milk, the Class III price would be significantly higher than Class I.

The FMMO Uniform Price is calculated as the weighted average price of all four Classes, and the Producer Price Differential (PPD) is calculated as the Uniform Price minus the Class III price. When the Class III price is the highest priced milk in the pool, PPDs are negative and pooled Class III handlers are required to pay into FMMO producer settlement funds in order to augment the handlers of the other Classes. However, Class III handlers are not required to pool their milk (unlike Class I handlers). When PPDs are negative many Class III handlers opt to depool their milk and retain the higher Class III value for themselves instead of sharing it with all pooled handlers. Depooling the highest-priced milk leads to even lower Uniform Prices and PPDs that are even more negative.

Table 1

Class	Pooled pounds	% Utilization	Price	Pooled $$
Class I	50,000,000	15.6%	$11.42	$ 5,710,000
Class II	20,000,000	6.3%	$12.99	$ 2,598,000
Class III	200,000,000	62.5%	$21.04	$42,080,000
Class IV	50,000,000	15.6%	$12.90	$ 6,450,000
Total	320,000,000			$56,838,000
Uniform Price/cwt.				**$ 17.76**
PPD				**$ (3.28)**

Table 2

Class	Pooled pounds	% Utilization	Price	Pooled $$
Class I	50,000,000	38.5%	$11.42	$ 5,710,000
Class II	20,000,000	15.4%	$12.99	$ 2,598,000
Class III	10,000,000	7.7%	$21.04	$ 2,104,000
Class IV	50,000,000	38.5%	$12.90	$ 6,450,000
Total	130,000,000			$16,862,000
Uniform Price/cwt.				**$ 12.97**
PPD				**$ (8.07)**

Consider the example (Table 1) of a hypothetical FMMO that typically has 320 million pounds of milk, including 200 million pounds of Class III. Using June's Class prices, the Uniform Price in this FMMO is $17.76/cwt., and the PPD is -$3.28/cwt. In that scenario, Class III handlers would need to decide whether to pool their milk and pay $3.28/cwt. to the order's pool or to depool their milk and keep the $3.28/cwt. for themselves. Table 2 shows the impact of all the Class III milk being depooled except 10 million pounds. The results are dramatic causing the Uniform Price to fall to $12.97/cwt. and the PPD to drop to -$8.07.

National All-Jersey Inc. **6486 East Main Street, Reynoldsburg, OH 43068** **www.usjersey.com**
614-861-3636 VOICE **naj@usjersey.com** **614-861-8040 FAX**

The situation outlined in the theoretical FMMO became reality. Table 3 shows that massive amounts of Class III milk opted to depool in June 2020 compared to June 2019, which further depressed Uniform Prices and led to even more severely negative PPDs. Pooling decisions for manufacturing milk are made by co-ops that market milk to manufacturing plants and by proprietary manufacturing plants that buy milk directly from producers.

Table 3 Federal Order	June 2019 Class III pooled lbs.	June 2019 PPD	June 2020 Class III pooled lbs.	June 2020 PPD	% Decline in Pooled Class III
Northeast (Boston) FO #1	644,090,803	$ 2.01	343,753,223	$ (5.38)	47%
Mideast (Cleveland) FO #33	646,702,863	$ 1.13	126,783,372	$ (7.50)	80%
Upper Midwest (Chicago) FO #30	2,917,575,904	$ 0.25	542,204,301	$ (3.81)	81%
Central (Kansas City) FO #32	804,759,786	$ 0.64	57,284,608	$ (7.51)	93%
California FO #51	1,376,702,833	$ 0.96	11,983,047	$ (7.91)	99%
Southwest (Dallas) FO #126	490,886,563	$ 1.61	4,584,595	$ (7.62)	99%
Pacific Northwest (Seattle) FO #124	319,176,209	$ 0.67	178,080,477	$ (5.87)	44%
Appalachian (Charlotte) FO #5	37,201,938	N/A	1,855,656	N/A	95%
Southeast (Atlanta) FO #7	71,012,230	N/A	5,868,017	N/A	92%
Florida (Tampa) FO #6	4,776,006	N/A	477,119	N/A	90%
Arizona (Phoenix) FO #131	137,828,589	N/A	98,847,773	N/A	28%
Total	7,450,713,724		1,371,722,188		82%

Producers fall into two basic categories; independents, who market their milk directly to a processor, and co-op members. Independent producers are paid according to the terms of their contract with the processing plant. If the processor pools their milk in a FMMO, the processor is obligated to pay at least FMMO minimums. In many cases the processor agrees to pay FMMO prices, including PPDs (which are positive most of the time), even if they don't qualify their milk for the federal order. Some non-Class I processors never pool milk and pay producers according to their own proprietary formula.

Co-ops have three basic options to account for depooled Class III value to their producer members. They can supplement milk checks above the announced FMMO prices. They can include the value in the annual, so-called 13th check, or they can hold the value in retained earnings.

Due to depooling, the value of Class III milk was not reflected in announced FMMO prices. What was unknown was if and how the value of Class III milk would be accounted for in producer milk checks. To get a glimpse of different producer payments, NAJ solicited settlement statements for June milk from numerous producers. Table 4 summarizes the statements. Producers are grouped by the federal order where their milk is marketed along with the announced PPD for those orders. In addition, the PPD of producers' counties is given, which, due to Class I differentials, can be different than the 'home' county of their federal order. Finally, producers are identified as co-op members or as independent producers.

It is important to understand that these producer settlement statements are one snapshot in time. However, the differences are dramatic. The PPDs paid to producers (highlighter under Milk Price) range from the full, negative value to $0.00. In addition to PPDs, some milk component prices vary from the announced FMMO values. When reviewing these settlement statements it is also important to remember that co-ops are authorized to re-blend prices, and that non-pool manufacturing plants are not required to pay FMMO minimum prices. A few observations are in order.

1. Nine of the 19 producers who were paid PPDs received more than $0.50/cwt. bonus over their county-adjusted PPD. Three producers (I, M, and S) were paid PPDs of $0.00. However, the co-ops for M and S also adjusted the butterfat and protein prices paid. Most notably

the co-op for producer M increased the butterfat price by $0.40/lb. and reduced the protein price by nearly $0.90/lb.

2. Other solids is the component value most likely to be adjusted from the federal order announced price. The reductions in other solids value is likely related to cheese plants that do not have whey processing capacity and market their whey at greatly reduced prices to plants that can process it.

3. Producers F, G and H from FMMOs 5 and 7 do not show PPDs because those federal orders, along with FO 6 and 131, do not employ multiple component pricing. Instead, milk is priced based on skim and butterfat. The announced skim and butterfat prices are the weighted averages across the four classes of milk pooled in those orders. While negative PPDs are not published, the volume of depooled Class III milk shown in Table 3 negatively impacted prices in all four federal orders. Without depooling, having typical volumes of Class III milk pooled would have increased the uniform skim and butterfat prices in the skim-fat federal orders.

4. The pay prices for producers F, G and H were significantly lower at this snapshot in time because of advance pricing of Class I. In June Class I sales accounted for 83% of milk pooled in Federal Order 5 and 70% of milk pooled in Federal Order 7. Pay prices in these orders will catch up with and surpass the rest of the nation in August when the Class I base price will be $19.78, the highest Class I price since 2014.

5. Producer W markets to a non-pool plant that uses a payment program based on weekly CME prices for block and barrel cheese. During June, CME cheese prices set records, resulting in extremely high values for high component milk. Had this snapshot comparison been taken for April milk when CME cheese prices were barely over $1.00/lb., Producer W's price would be significantly lower.

What does the future hold? Given price relationships between July's Class I base price of $16.56 and expected July Class III and IV prices based on future markets (currently $24.41 for Class III and $13.65 for Class IV), we know PPDs will be negative for July, but probably not to the degree of June. August PPDs will likely also be negative, but to even a lesser degree than July. Given recent price volatility, September's expected prices are difficult to project.

While federal orders and producers have experienced negative PPDs previously, the magnitude of June's PPDs were a shock to the system. It is important to remember that federal order prices reflect a weighted average of pooled milk in the four classes. The PPD is reported relative to the Class III price, and when Class III is the highest priced milk basic arithmetic implies that PPDs will be negative. However, extensive depooling of Class III milk lowered the federal orders' weighted average prices and caused PPDs to be even more negative than they would have been otherwise.

In addition, it is important to remember that negative PPDs only occur when commodity prices are increasing, causing Class I prices, which are advance priced, to be lower than Class III prices, which are lag priced. Most importantly, even though the value of depooled Class III milk is not reflected in announced FMMO prices, this survey of settlement statements found that many milk buyers incorporated Class III value into producer milk checks.

Finally, NAJ thanks the numerous producers who participated in this survey. Their confidence is sincerely appreciated.

National All-Jersey Inc. **6486 East Main Street, Reynoldsburg, OH 43068** **www.usjersey.com**
614-861-3636 VOICE **naj@usjersey.com** **614-861-8040 FAX**

Milk Check Comparison

Producer	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	Average
Order	Order 1	Order 1	Order 1	Order 1	Order 1	Order 5	Order 7	Order 7	Order 30	Order 30	Order 30	Order 30	Order 30	Order 30	Order 30	Order 30	Order 30	Order 32	Order 32	Order 33	Order 33	Order 33	Order 51	
Milk Buyer	Co-op	Co-op	Co-op	Co-op	Co-op	Co-op	Co-op	Co-op	Independent	Independent	Co-op	Independent	Co-op	Independent	Independent	Independent	Co-op	Co-op	Co-op	Co-op	Co-op	Independent	Independent	
Order PPD	(5.38)	(5.38)	(5.38)	(5.38)	(5.38)	N/A	N/A	N/A	(3.81)	(3.81)	(3.81)	(3.81)	(3.81)	(3.81)	(3.81)	(3.81)	(3.81)	(7.51)	(7.51)	(7.05)	(7.05)	(7.05)	(7.91)	
County PPD	(6.33)	(6.13)	(5.93)	(6.13)	(5.83)				(3.86)	(3.86)	(3.91)	(3.86)	(3.91)	(3.86)	(3.86)	(3.86)	(3.91)	(7.71)	(7.76)	(7.05)	(7.05)	(7.05)	(7.91)	
Milk Composition																								
Milkfat%	5.1040	4.6400	5.0000	4.5590	4.7700	4.8900	4.6931	4.1990	4.7000	4.6719	4.5400	4.9637	4.7230	4.6970	4.8000	4.7567	4.2547	4.3110	4.7710	4.6300	4.8000	4.8900	4.6700	4.70
True Protein %	3.9320	3.3200	3.6500	3.4790	3.5900				3.3750	3.5274	3.3100	3.4418	3.6000	3.4539	3.5540	3.5743	3.2327	3.4370	3.5760	3.5700	3.6700	3.6100	3.6100	3.53
SNF %																							9.3700	9.37
Other Solids%	5.7040	5.7600	5.7300	5.7590	5.7400				5.7270	5.7271	5.7800	5.7520	5.7850	5.6701	5.7467	5.7590	5.7793	5.7920	5.6850	5.6700	5.6600	5.7000		5.73
Milk Price																								
Skim Price / 3.5% Price						10.0300	9.3800	9.6300																9.68
PPD	($5.70)	($6.01)	($5.80)	($6.18)	($5.73)	N/A	N/A	N/A	$0.00	($1.96)	($3.91)	($3.81)	$0.00	($1.96)	($3.86)	($3.86)	($2.00)	($4.71)	$0.00	($5.55)	($7.05)	($7.05)		(3.95)
Butterfat	1.8591	1.8591	1.8591	1.8591	1.8591	1.5962	1.6270	1.6295	1.8591	1.8591	1.8591	1.8591	2.2500	1.8591	1.8591	1.8591	1.8591	1.8591	1.7973	1.8591	1.8591	1.8591		1.84
Protein	4.5349	4.5349	4.5349	4.5349	4.5349				4.5349	4.5349	4.5349	4.5349	3.6500	4.5349	4.5349	4.5349	4.5349	4.5349	4.3759	4.5349	4.5349	4.5349		4.48
SNF / Other Solids	0.1696	0.1696	0.1696	0.1696	0.1696				0.1649	0.1696	0.1696	0.1221	0.1620	0.1696	0.1696	0.1696	0.1696	0.0009	0.0135	0.1696	0.1696	0.1696		0.15
Plant Cheese Yield:																								
Yield / Cwt.																							12.4790	12.4790
Value / Pound:																							2.2975	2.2975
Protein Premium									0.26	0.70		0.59		0.58			0.13			0.37		0.30		0.42
Volume	0.15					0.20			0.08		0.15	0.13						0.05			0.20			0.14
Quality	0.55	0.10		0.15		0.15	0.30	0.60	0.72	0.17	0.36	0.61	0.29	0.04	0.34	0.30	0.77	0.59		0.12	0.56	0.53	0.06	0.37
Market Premium	0.45		(0.63)	(0.24)		0.40		0.38																0.07
Gross Milk Check	**$23.74**	**$18.75**	**$20.39**	**$18.96**	**$20.39**	**$ 18.09**	**$ 16.88**	**$ 17.05**	**$ 26.05**	**$ 24.56**	**$ 21.03**	**$ 23.06**	**$ 25.00**	**$ 24.01**	**$ 22.50**	**$ 22.47**	**$ 22.46**	**$ 19.54**	**$ 24.30**	**$ 20.70**	**$ 20.24**	**$ 20.21**	**$ 28.73**	**$21.70**
Deductions																								
Hauling	$1.32	$1.34	$0.72	$1.07	$0.67	$0.86	$1.06	$1.40	$0.68	$0.70	$0.33	$0.36	$0.12	$0.30	$0.76	$0.70	$0.16	$0.90	$0.95	$0.00	$0.47	$0.80	$0.33	$0.70
Promotion	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15	$0.15
Other (incl. CWT)	$0.48			$0.04		$0.04	$0.04	$0.04										$0.04		$1.44				$0.04
Total Deductions:	**$1.95**	**$1.49**	**$0.87**	**$1.26**	**$0.82**	**$1.05**	**$1.25**	**$1.59**	**$0.83**	**$0.85**	**$0.48**	**$0.51**	**$0.27**	**$0.45**	**$0.91**	**$0.85**	**$0.31**	**$1.09**	**$1.10**	**$1.59**	**$0.62**	**$0.95**	**$0.48**	**$0.94**
Mail Box Price	**$21.78**	**$17.26**	**$19.52**	**$17.70**	**$19.58**	**$17.04**	**$ 15.62**	**$ 15.46**	**$ 25.22**	**$ 23.71**	**$ 20.55**	**$ 22.55**	**$24.73**	**$23.56**	**$21.59**	**$21.62**	**$22.14**	**$18.44**	**$23.20**	**$19.11**	**$19.62**	**$19.26**	**$ 28.25**	**$20.76**