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California's Milky Future

Analyzing the Proposed FMMO

RaboResearch
Food & Agribusiness
far.rabobank.com

James Williamson
Dairy Analyst
+1 (559) 447-7955

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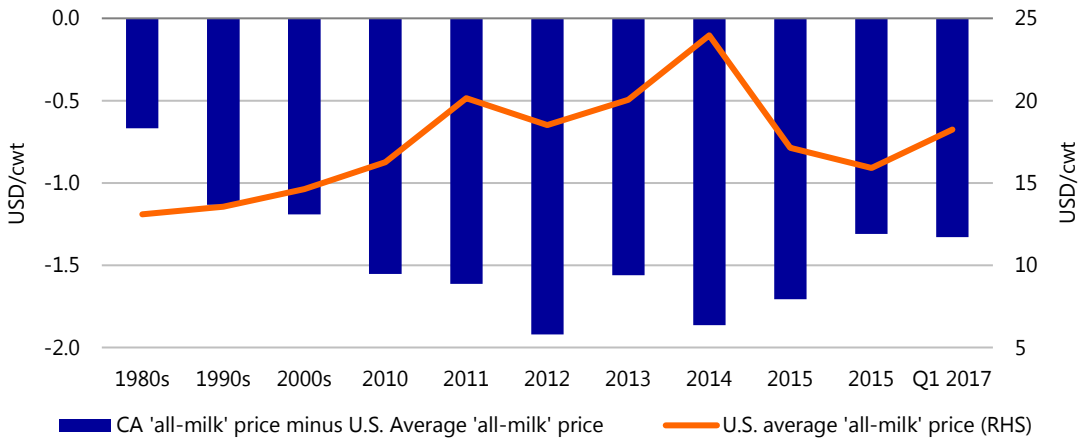
Summary

In 2015, California dairy producers petitioned to join the Federal Milk Marketing Order (FMMO), following a period of significant differences in the value of their milk relative to other regulated U.S. regions. Under an FMMO, the formulas used to calculate class prices would be unified with other FMMOs, increasing regulated minimum prices. These prices are not always a guarantee, though, as qualified processors will be able to depool their milk. Joining the FMMO will also reduce the relative value of current transportation allowances producers receive to ship milk to fluid deficit areas. Lastly, it will compromise the quota program—because the assessment would become more transparent and a majority of dairy producers do not own enough quota to break even on the program. If the FMMO is accepted by producers and/or cooperatives, it is unlikely that the USDA's estimated USc 48/cwt increase in 'all milk' price will be fully realized. Any increase in price, however, would help stabilize production and offset some of the costs associated with ongoing labor and environmental regulatory constraints.

The Road to Joining the FMMO

During the last 35 years, California's 'all-milk' price has been lower than the national average over 99 percent of the time. Lower prices along with greater regulatory restrictions—which have and continue to increase production costs—have driven producers to consider an FMMO pricing system (*see Figure 1*).

Figure 1: California 'All-Milk' Price Comes up Short, 1980-Q1 2017



Source: USDA, Rabobank 2017

As noted in our 2013 report *California Dairies: Getting More Moola*, Californian producers' lower 'all-milk' price can be traced back to an industry structure that:

1. provides lower returns on whey—causing Class 4b prices in California to be significantly lower than comparable FMMO Class III prices elsewhere, where whey values have increased in recent years
2. has a comparatively small fluid market relative to total milk production—and hence has a lower percentage of higher-value fluid milk
3. has higher transportation costs (that arise from having to ship surplus product relatively further to market) than those of producers who have greater access to the more populous East Coast markets.

Lower-than-average prices, combined with a divergence in whey pricing, caused the three largest cooperatives—California Dairies, Inc. (CDI), Land O'Lakes (LOL), and Dairy Farmers of America (DFA)— to submit a joint proposal on behalf of their producers in 2015. Their proposal petitioned the USDA to allow California dairy producers to begin operating under the FMMO. On February 14, 2017, the USDA released its initial FMMO proposal and economic analysis. The analysis suggests that, if Californian producers vote to join the FMMO, as it is currently proposed, their 'all-milk' price would, on average, increase by USc 48/cwt per year through 2025.[1]

The proposed FMMO is subject to change, based on the industry comments the USDA received through May 15, 2017. A revised final FMMO proposal will likely be released by the USDA in late 2017, at which point producers and/or cooperatives can vote to accept or reject the proposal. However, since the order is similar to other FMMOs in states with comparable milk utilization, it is unlikely that the USDA will drastically change the proposal, even after the comment period ends. If approved by producers, there will be a transition period of a few months, after which the order will take full effect.

The Impacts of Implementing the FMMO

Whether or not the USDA's estimated price increase is fully realized, if implemented, there will be changes to the Californian milk supply chain. The proposed order would reclassify milk used in the state, based on end usage, to unify it with the classification system used by FMMOs in the other states. For this report, unless otherwise noted, we will refer to all milk classifications as if they operate under the FMMO system (*see Table 1*).

Table 1: Milk Classification

Federal Order Classification	*CA Current Classification*	*End Use*
Class I	Class 1	Fluid milk in beverages
Class II	Class 2 & 3	Fluid cream (yogurt, ice cream, cottage cheese, etc.)
Class III	Class 4b	Cream cheese and hard manufactured cheese
Class IV	Class 4a	Butter and powders

Source: USDA 2017

The proposed FMMO would also change California's pricing formula, unifying it with those used in other FMMOs, increasing California class prices. It also gives qualified processors additional

[1] USc = US cents

flexibility when deciding to pool or depool their milk. [2] [3] The proposed FMMO would also reduce the relative value of the current transportation allowances producers receive to ship milk to fluid milk deficit areas, further squeezing processor margins in these regions. Lastly, it would put the current California quota program at risk, as it will make the current USc 37/cwt assessment more transparent to dairy producers.[4]

Positive Changes to Class Price Formulas

If producers and/or cooperatives opt to join the FMMO, regulated minimum prices within California will increase because of the change to base formulas. Both the current state system and the proposed FMMO calculate regulated class prices (what processors in the pool pay for milk) based on how the milk is ultimately utilized. Over 85 percent of milk produced in California is used for products other than Class I—which is generally the highest-valued milk. Thus, the minimum blend price producers receive will continue to be lower than their counterparts in other regions, who produce a larger percentage of Class I milk relative to their total volume.

Variations in the Minimum Price Formulas

When regulating the minimum class prices to be paid, California's current formula is based heavily on the Chicago Mercantile Exchange (CME) futures prices, which are, on average, lower than those in the USDA's National Dairy Products Sales Report (NDPSR)—the prices used to determine federal class prices.[5] The NDPSR class prices are more reflective of the nationwide average value of the products being produced at different locations. Because of this, reported class prices, at times, will be higher than the value Californian processors are able to sell their respective dairy products for, given the additional cost incurred of shipping products to regions such as the East Coast, where there is greater demand.

Whey's Weighty Impact on Cheese Milk

The price disparity between the two system's formulas is made evident when comparing FMMO and California cheese milk class prices—respectively, Class III milk and Class 4b milk, of which the value of whey is a significant influencer (*see Figure 2*).

The value assigned to whey in the California 4b milk price is, on average, less than the NDPSR value used in the FMMO Class III price formula. Beginning in 2010, the 'California regulated whey value' and the 'FMMO regulated whey value' began to diverge, as NDPSR whey wholesale prices increased significantly and California's whey value was capped at USc 75/cwt. In August 2015, the California Department of Food and Agriculture (CDFA) attempted to mitigate this divergence by implementing a sliding-scale whey price adjuster, which moves in relationship to reported regional whey values. However, it caps the value of whey at USD 2/cwt, limiting its upside potential. While this significantly increases the value of whey across the state, it will continue to

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[2] A qualified processor is any plant which uses or further processes Class II, III, or IV end products and ships a minimum of 10 percent of its milk to a fluid plant. If a processor does not meet this requirement, it is considered a nonpool, or unregulated, plant and does not have to pay regulated minimum prices. All Class I milk is required to be pooled.

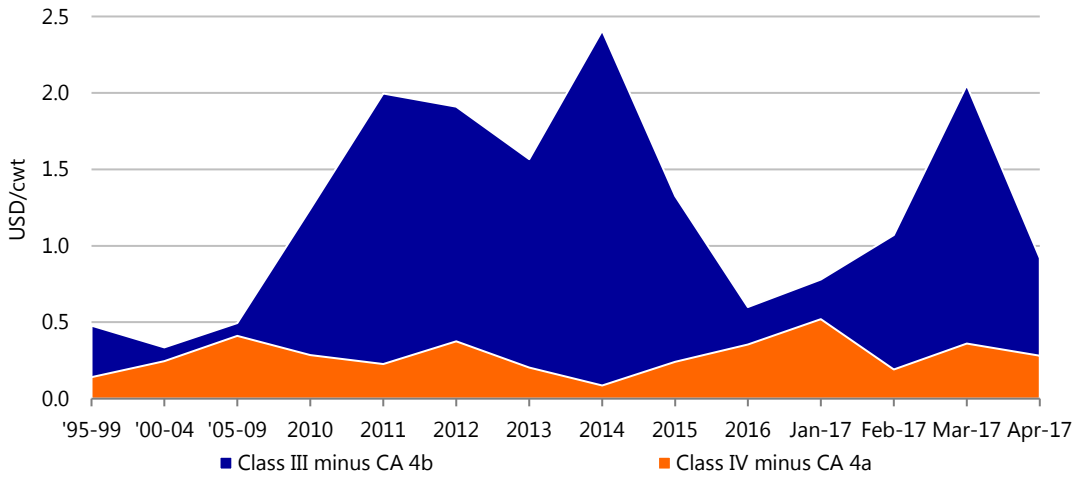
[3] The pooling process collectively combines participating processors' milk in a given region and determines a weighted average value based on total utilization for the total volume of said milk. The processor then redistributes a weighted average per cwt value to its producers in the respective region, i.e. minimum price, blend price, or pool price.

[4] For more on quota, see footnote 9.

[5] NDPSR prices are calculated based on wholesale dairy product sale pricing information that the federal government requires processors nationally to electronically report on a weekly basis. The information is collected, analyzed, aggregated, and published into dairy products sales information for selected dairy commodities, and it is used to calculate national average milk component values and class prices for milk regulated under an FMMO.

move imperfectly with the federal regulated whey value. Thus, the California 4b price will continue to use a lower regulated value for whey and will be lower than the federal Class III price, unless producers join the FMMO or the California whey price adjuster is further amended.

Figure 2: Class Price Disparity, 1995-2017



Source: USDA, Rabobank 2017

Depooling Deregulates the Minimum Prices Processors Pay

Both the current milk pricing system and the proposed order require the regulated minimum blend price to be paid to producers on all milk which is pooled. However, the proposed FMMO gives qualified processors greater flexibility in determining whether or not to pay this regulated minimum price, as they can opt to pool or depool more opportunistically. The current milk pricing system requires nearly all milk to be pooled. The proposed FMMO gives qualified processors of Class II, III, and IV a month-to-month opportunity to pool and depool milk.

When milk is pooled, all producers in the pool receive the same initial minimum blend price, which is then adjusted based on an individual processor's bonuses—i.e. quality, protein, or other incentives. A processor pays into, or draws from, the pool, based on the value of their end-use product class(es) vs. the value of the total pool—and then pays the minimum blend price to their respective producers.[6]

The proposed FMMO requires all Class I milk to be pooled. Qualified processors of other classes of milk do not have this obligation. However, if a processor does depool, the FMMO caps the amount of milk that they are able to repool next month, at 125 percent of the volume they pooled in the preceding month. This helps reduce the volatility of the pool—as processors have to consider potential future prices and pool draws before they depool. Other processors who currently operate under an FMMO often opt to depool if they are required to pay into the pool.

[6] This is commonly referred to as the producer price differential. It is calculated as follows:

PPD = { (Class I volume * Class I prices) + (Class II volume * Class II prices) + (Class III volume * Class III prices) + (Class IV volume * Class IV prices) } minus { (Protein price * total protein volume) + (Butterfat price * total butterfat volume) + (Other solids price * total other solids volume) }

Total Producer Milk Value — Only Class III Value for All Milk

When Depooling Can Be a Win-Win Scenario

It is estimated that between 40 percent and 60 percent of the milk in the state would be depooled at any given time if the FMMO is adopted. If processors depool, they will pay the minimum required to procure enough milk to efficiently run their plants. They will potentially pay above the minimum blend price to their producers, yet below their required class prices, which they would otherwise be required to pay into the pool. For example, if the minimum blend prices is USD 17/cwt and the FMMO Class III price is USD 18 cwt a qualified processor of Class III milk may opt to depool, rather than pay the USD 1/cwt into the pool. They would likely depool and pay their producers a price greater than USD 17/cwt for their milk. This is more than the minimum blend price the producer would have received and less than the required minimum class price the processor would have been obligated to pay. The option to pool or depool can be a win-win—it will help increase market efficiency, as processors and producers would be forced to negotiate a price that is reflective of what processors are actually able to sell their products for, rather than solely relying on regulated minimum prices. As prices for end-use products increase, producers will be able to negotiate a higher price to increase their profit margins.

Cooperatives: An Exception to the Rule

Cooperatives are not obligated to pay FMMO minimum prices, even if they are in the pool. Under the FMMO, cooperatives will find it increasingly difficult to pay the required minimum blend price to their producers, as they handle significantly more milk than they have capacity to process. In total, Californian coops handle over 75 percent of all the milk produced in the state. The excess milk which they handle will continue to be sold to other processing facilities, which, under the FMMO, will likely be nonpool plants that will not be required to pay minimum class prices. If these prices are higher than what nonpool plants are able, or willing, to pay, they will try to leverage cooperatives' lack of adequate processing capacity and negotiate a price lower than the FMMO-required minimum. If they succeed, the cumulative value of the coop's milk would be lower than FMMO minimum blend prices. When/if this happens, cooperatives are authorized to pay their respective producers below FMMO minimum prices regardless of their pooling status.

Relative Transportation Differentials Decline

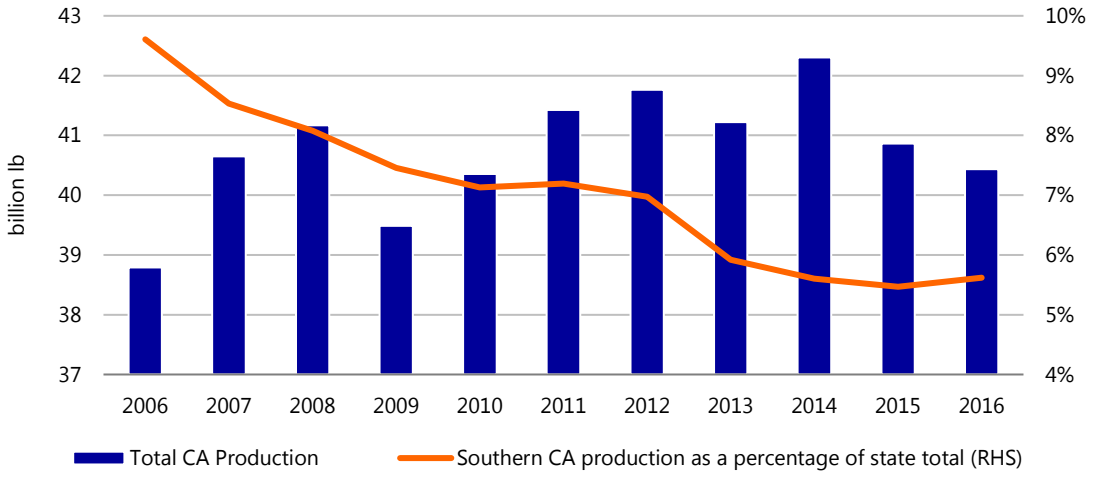
If the proposed FMMO is accepted, it will reduce the relative value of California's current transportation allowance that producers or cooperatives receive to ship milk to fluid deficit areas such as Southern California—where over 60 percent of the state's population resides, but where the amount of milk produced continues to diminish (*see Figure 3*).[7] Producers in Tulare county that currently ship milk to Southern California receive roughly USD 1/cwt to cover hauling charges The FMMO Class I premium or differential for milk delivered to the Los Angeles area and Tulare is respectively USD 2.10/cwt and USD 1.60/cwt over the advanced Class I milk price.[8] Under the FMMO, this marginal (USc 50/cwt) premium is not enough to offset the estimated USD 1/cwt transportation costs from Southern San Joaquin Valley to Southern California.

[7] Transportation allowances are a California specific program funded by the state's milk pool that reimburses producers, in part or full, for the cost of hauling milk from a producer's ranch to a plant that processes more than 50 percent of the received milk's solids-not-fat (SNF) components received into fluid milk or fluid cream products.

[8] The advanced Class I milk price is the base fluid milk price producers receive. The USDA adds Class I transportation differentials to the Class I base price to give additional premiums to those producers who ship milk to fluid deficit areas.

In order for processors in fluid deficit regions to receive adequate inflows, they will have to pay premiums over and above the USDA's Class I differential, squeezing their margins. Tighter margins can be mitigated if processors are able to pass some of the additional costs associated with procuring a sufficient supply of Class I milk on to end consumers.

Figure 3: Southern California Production—A Steady Decline, 2006-2016



Source: CDFA, Rabobank 2017

Quota Challenged in the Long Term

The proposed FMMO authorizes the CDFA to continue to administer the Californian quota program on all pooled milk.[9] It will, however, show up as an additional deduction on producer checks, which would threaten the longevity of the program. The program currently assesses all pooled milk and works because nearly all milk is required to be pooled. The total assessment, which is deducted before the minimum blend price is determined, redistributes between USD 12m and USD 13m per month to those who own quota from the entire pool. Under the FMMO, simply assessing producers in the pool will not be adequate, as processors would depool to avoid the assessment. The CDFA is considering options which will allow them to assess all Grade A milk.

Even if the CDFA is able to administer the program on all Grade A milk, any additional deduction on producers' checks would be politically detrimental to the quota program. Approximately 800 of California's roughly 1,300 dairies own less than the minimum amount of quota needed to at least break even on the program—equivalent to roughly 18 percent of a dairy's total milk volume. The quota program costs all producers in the pool approximately USc 37/cwt of milk produced. Implementing the FMMO will make this more transparent, jeopardizing the program in the long term.

[9] The quota program is similar to owning a stock which pays dividends. Similar to stocks, there is a finite amount of shares available, and producers can buy or sell certificates. On average, the quota pays USD 1.70/cwt on the volume of milk covered by the program. However, to fund this program, the CDFA assesses all pooled milk at USc 37/cwt and redistributes those funds to quota holders.

The estimated value of all the quota certificates in the state is USD 1.2bn. If compromised, there will be significant repercussions—for both dairies that own quota and their respective financial institutions—as quota certificates are considered a hard asset that can be loaned against. Some dairies in California do not have the cost structure to remain in business without the additional revenue they receive from this program.

California's Milky Future

Opting to join the FMMO will increase the regulated minimum prices within the state, because of the change in the formulas used to calculate minimum class prices. However, processors—cooperatives and otherwise—are ultimately price-takers and cannot dictate market prices for products produced. If class prices are higher than Californian processors are able to pay, they will depool to avoid negative profit margins, lowering the price producers receive. Processors will pay the minimum price required to procure a sufficient amount of milk to competitively operate their plants. The USDA's USc 48/cwt increase in milk prices may not be fully realized because cooperatives, which are not obligated to pay the regulated minimum price, control a vast majority of the milk in the state and do not have the production capacity to process all of their milk receipts. Thus, they will be subject to the price that they are able to negotiate with depooled plants and will pay their producers accordingly—regardless of the amount of milk they have pooled.

Producers who have, in the past, shipped to supply deficit areas will have to reconsider where they ship milk to get the highest value, while processors in those regions will have to entice them through added premiums to get adequate inflows of milk. This will change market dynamics, as processors in supply deficit areas will find it more difficult to get a sufficient amount of milk to efficiently operate. Areas which had found a more balanced supply—because some of the milk was being shipped to supply deficit regions—could experience a surplus of milk, potentially putting additional downward price pressure on specific regional milk prices.

Lastly, joining the FMMO will also cause the quota assessment to be a transparent deduction on producers' checks and could cause the dissolution of the program in the long term, even if the CDFA is able to equally assess all Grade A milk. Dairies and financial institutions alike will have to re-evaluate the long-term value of this asset. Without quota, some dairies will cease to operate or move their operation out of state.

If producers vote to join the FMMO system, the increase in producer prices will be less than the USDA's estimated USc 48/cwt, given that processors will be able to depool. Any increase in the price producers receive will also be insufficient to cause a significant increase in the amount of milk produced in California. Rather, it would help stabilize production levels, stemming some of the flow of those leaving the industry by helping to offset some of the costs associated with ongoing labor and environmental regulatory constraints.

Imprint

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James Williamson Dairy Analyst james.williamson@rabobank.com
+1 (559) 447-7955