

TESTIMONY OF
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BEFORE THE

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“A 2022 Review of the Farm Bill: Dairy Provisions”

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Chairman Scott, Ranking Member Thompson, and Members of the Committee, thank you for inviting me to participate in this hearing.

I am employed as an assistant professor in the Department of Applied Economics at the University of Minnesota. I have been on the faculty at the university for 11 years. My research focuses on dairy markets, risk management and dairy policy. I frequently collaborate with the U.S. Department of Agriculture to research policy-relevant issues and develop risk management tools for dairy producers. Outside of my academic appointment, I support the U.S. livestock sector as the principal of Bozic LLC, a consultancy and technology company that designs and maintains all three livestock insurance plans currently supported by the Federal Crop Insurance Corporation: Dairy Revenue Protection, Livestock Risk Protection, and Livestock Gross Margin. As an insurance designer, it is my role to collaborate with the USDA Risk Management Agency to ensure that these programs are actuarially fair and effective for reducing risk in the livestock sector and that policy rules promote program integrity. I also regularly help industry groups understand dairy regulation in the U.S. and overseas. I appear in front of you today representing myself, as an independent academic researcher and a public servant employed at a land-grant university. My statements do not represent the opinion of the University of Minnesota or any other entities in which I have a financial or business interest.

This testimony summarizes my evaluation of two dairy policy reforms passed in the Agricultural Act of 2018: Dairy Margin Coverage (DMC) and Federal Milk Marketing Orders.

Dairy Margin Coverage

The Agricultural Act of 2018 substantially reformed the dairy safety net, by transforming the poorly functioning Margin Protection Program into the highly effective Dairy Margin Coverage (DMC) program. Dairy Margin Coverage indemnifies participating dairy producers when the national average income over feed cost margin falls below the coverage level chosen by the producer (Congressional Research Service, 2019). The 2018 reform increased the maximum coverage level from \$8.00/cwt to \$9.50/cwt and authorized the change in the feed cost formula to include dairy-quality hay prices instead of ordinary alfalfa hay prices.

From January 2019 through April 2022, DMC margins averaged \$8.95/cwt. Margins were lower than \$9.50/cwt in 23 months, or 57% of the time. DMC participation peaked in 2021 at 46.2 billion pounds covered at the highest coverage level, \$9.50/cwt. That represented 20.4% of U.S. milk production. For 2022, 43 billion pounds were covered at the \$9.50/cwt level, representing 19% of estimated 2022 U.S. milk production.

Had DMC been in effect since 2000, over the previous 21 years the program would have had a major impact on net farm income of participating dairy operations. An operation that could cover 95% of their milk marketings at \$9.50/cwt would have seen their net farm income over 2000-2021 period increased on average \$1.40/cwt. Benefits received by producers would be higher than premiums paid into the program in 19 out of 21 years. In 2021, the program paid over \$1 billion in indemnities. For 2022, no payments are estimated due to high projected margins. One of the goals of the DMC program was to slow down the pace of consolidation in the dairy sector. In 2018, U.S. lost 3,261 dairies. Per the latest data available in 2021, the number of farms that exited the sector is only 1,794 dairies.

Several research papers in prior years have expressed concerns that DMC may provoke additional milk supply (Mark et al, 2016; Nicholson and Stephenson, 2014; Raghunathan, 2014). However, in the aftermath of pandemic disruption of the dairy supply chain, many dairy buyers have introduced supply management plans that help them align the growth in milk supply with growth in demand for their dairy products. As such, I do not believe that DMC will cause oversupply, even if rules regarding updates to individual production history were further relaxed.

By and large, DMC appears to be effective in accomplishing the legislative intent. DMC payments substantially stabilized net farm income for dairies with herd sizes up to 250 cows, and consolidation pace has slowed down. Fixed coverage levels and premium rates keep this program simple and affordable to dairy producers, however those same design choices may reduce program effectiveness if inflationary pressures persist.

Federal Milk Marketing Orders

Federal Milk Marketing Orders (FMMO) are one of the primary dairy policies in the United States (Bozic and Wolf, 2022). FMMOs are often portrayed as a byzantine set of regulations that cannot be explained easily. In fact, central premises of FMMOs are common sense and easy to describe. First, FMMOs start from the assumption that the fair commodity value of farm milk can be derived from wholesale prices of commodity dairy products, net of processing costs and reasonable returns to capital invested in manufacturing capacity. If a dairy plant is making undifferentiated, commodity cheddar cheese and dry whey powder, then per FMMO principles, it would be fair to pass most of the revenue from sales of those products to dairy producers. Processors thus get a stable profit margin, and producers get a major share of the wholesale value of dairy products. In contrast, if a processor is making a branded, differentiated product such as aged cheddar cheese mixed with Italian herbs, then the processor has added substantial value above and beyond commodity products, and most of that added value and risk associated with uncertain additional revenue should be kept by the processor, other than unregulated milk premiums needed to attract sufficient milk supply. Another principle of FMMOs is that beverage milk is a superior food that should never be in short supply, and fluid milk

manufacturers should never be able to use their market power to pit one dairy producer against another to reduce the input cost, and thus increase the spread between wholesale price of beverage milk and farmgate price of raw milk.

The way these principles are implemented in practice is through establishment of geographically bounded marketing orders and requiring milk processing plants converting raw milk to beverage milk products to participate in the marketing order. For all other milk processing plants, participation is voluntary, incentivized by the prospect of sharing in revenue generated through sales of beverage milk products. The desired outcome is that all producers in a certain geography get at least the market-average commodity value of milk, referred to as the uniform milk price.

FMMOs start from a set of farmer-friendly ideas and have been successful in regulating orderly marketing of milk, which is why they have persisted as a collective bargaining institution for almost a full century. In recent years, FMMOs have somewhat lost their luster due to declining sales of beverage milk products. In late 1990s, when the last major FMMO reform was passed by Congress, beverage milk share of all milk regulated under FMMOs was higher than 45%. In recent years, that share has fallen to less than 30%. In my opinion, in regions other than Northeast and Southeast, fluid milk sales no longer provide strong enough incentives for dairy manufacturers to choose to stay consistently regulated under FMMOs.

In 2018, upon the request of the National Milk Producers Federation and International Dairy Foods Association, Congress modified the formula used to calculate the price that fluid milk processors must contribute to FMMO pools. The reason for the change was to facilitate hedging of raw milk purchases by non-traditional fluid milk processors, such as large restaurant and coffeehouse chains (Bozic and Gould, 2019). The hope was that such a change would increase fluid milk sales, and thus increase FMMO benefits to dairy producers. Prior to 2019, when the change took effect, fluid milk skim price was based on the higher of the commodity value of skim milk in cheese and whey (Advanced Class III Skim Milk Price) and the commodity value of skim milk in nonfat dry milk powder (Advanced Class IV Skim Milk Price). Since May 2019, the formula is changed to be equal to the average of Advanced Class III and IV Skim Milk Price plus \$0.74/cwt. The change would result in a higher milk check to dairy producers whenever the difference between Advanced Class III and IV Skim Milk Prices is less than \$1.48/cwt. From January 2000 through December 2018, this difference was lower than \$1.48/cwt over 60% of months and never higher than \$6.77/cwt. To simplify, for as long as prices of cheese and milk powders would move in the same direction and with approximately the same intensity, there was little to lose, and potentially much to gain from the fluid milk formula change. Unfortunately, the pandemic affected cheese and milk powder markets in a profoundly different way. By May 2020, all dairy product prices collapsed due to COVID-19 lockdowns, and the June 2020 Base Class I price (based on mid-May dairy product prices) was higher under the new formula than under the old formula. However, federal government intervention through Farmers to Families Food Box Program dramatically increased cheese prices, while milk powder prices were not affected. From July to December 2020, in all months other than October, the spread between Advanced Class III and Class IV Skim Milk Price was much higher than the historic record spread observed prior to December 2018. The new formula resulted in substantially lower milk checks and a widespread sense of injustice

among producers in fluid-heavy areas. Consequently, some producer groups have started demanding the return to 'higher-of' formula in force prior to 2019. There are several broader aspects of this issue that should be considered in future reforms. First, lack of wide public debate on proposed reforms increases odds of a fragile or flawed policy design, and lack of grassroots support for the mechanism in changing markets. FMMOs have a comprehensive protocol for instituting changes through an industry hearing process. Legislative changes are necessary only for changes that cannot be done through a hearing. The Class I milk price formula can be modified through a hearing process. Second, low elasticity of supply combined with low elasticity of demand for dairy products virtually guarantees that milk prices will have high volatility. To the maximum extent possible, the next Farm Bill should not make risk management less effective, either for dairy producers or dairy processors.

Finally, no reform can be considered complete unless it fully contemplates the long-term trends in U.S. dairy markets. My estimates are that over the next 10 years, the share of U.S. milk production utilized in beverage milk products is likely to fall further, from 18.3% in 2022 to 14.5% by 2032. Last year we crossed a major milestone: U.S. is now exporting more milk solids than are used for beverage milk products. Going forward, dairy exports will be critical for maintaining profitability. Recent estimates are that over the next decade, 45-60% of all additional skim solids produced due to improved cow productivity will need to be exported (Bozic and Blimling and Associates, 2022). If our regulatory framework remains centered on prescribing minimum prices for milk consumed domestically in beverage milk products, it will be increasingly irrelevant for majority of U.S. regions where milk is primarily used in manufactured dairy products. The ultimate question we must ask is the following: Do Federal Milk Marketing Orders suffice, today and in the future, to deliver fair milk prices to dairy producers? I lack the confidence to answer this question in the affirmative. The critical missing ingredient is vibrant competition for farm milk. Whereas just six or seven years ago, many producers had a choice where to ship their milk, today it is extremely difficult for most producers to switch from their current buyer to another one. One contributing factor is the rise in milk supply which was not matched by sufficient increases in processing capacity. To my knowledge, no current academic research has explored the consequences of these changes on the relationship between producers and their milk buyers. Anecdotal evidence, from conversing with dairy producers, consultants and educators, suggests some presence of anticompetitive behavior by some processors. Some dairy producers have confided to me that when a prospective milk buyer was willing to take them on as a patron, their current milk buyer stopped that from happening, by calling the prospective milk buyer to inform them of repercussions if such a transfer were to take place. Farmgate milk price discovery is also challenged by the lack of competition. If a corn producer wishes to know how different local elevators would pay for corn, all he needs to do is go online or tune in to his local radio station. Dairy producers used to be able to "shop around" and ask various processors what they would pay for their milk. Recently, when some dairy producers have asked for milk price benchmarking information from their educators or consultants, those service providers have in multiple instances faced tacit disapproval or even aggressive legal threats from some dairy processors. We should not rush to generalize from such anecdotal evidence, but in my opinion, it would also be prudent not to ignore it. Further research, and an honest debate on competition in dairy is merited.

References:

- Bozic, M. and M. Gould. 2019. Fluid Milk: A Better Hedge. CMEGroup. URL: <https://www.cmegroup.com/education/articles-and-reports/fluid-milk-a-better-hedge.html>
- Bozic, M. and Blimling and Associates. 2022. Modernizing U.S. Milk Pricing: An Exploration. International Dairy Foods Association. URL: <https://www.idfa.org/resources/modernizing-u-s-milk-pricing-an-exploration>
- Bozic, M. and C. Wolf. 2022. Negative Producer Price Differentials in Federal Milk Marketing Orders: Explanations, Implications and Policy Options. Journal of Dairy Science, vol 105(1). URL: [https://www.journalofdairyscience.org/article/S0022-0302\(21\)00977-2/fulltext](https://www.journalofdairyscience.org/article/S0022-0302(21)00977-2/fulltext)
- Congressional Research Service. 2019. 2018 Farm Bill Primer: Dairy Programs. URL: <https://sgp.fas.org/crs/misc/IF11188.pdf>
- Mark, T.B., K.H. Burdine, J. Cessna, and E. Dohlman. 2016. The Effects of the Margin Protection Program for Dairy Producers. Economic Research Service, U.S. Department of Agriculture. URL: https://www.ers.usda.gov/webdocs/publications/79415/err214_summary.pdf?v=0
- Nicholson, C.F. and M.W. Stephenson. 2014. Dynamic Market Impacts of the Dairy Margin Protection Program. Journal of Agribusiness 32(2). URL: https://dairymarkets.org/PubPod/Pubs/AgBusiness/Nicholson_Stephenson_JAB-Dairy.pdf
- Raghunatan, U. 2014. The impact on the milk supply response to MPP-Dairy. Journal of Agribusiness 32(2). URL: https://dairymarkets.org/PubPod/Pubs/AgBusiness/Raghunatan_JAB-Dairy.pdf