



# Spilt Milk: COVID-19 and the Dangers of Dairy Industry Consolidation

Eileen Appelbaum and Jared Gaby-Biegle\* †

## Working Paper No. 134

August 15, 2020

### ABSTRACT

Consolidation came later in the dairy industry than in other agricultural sectors. A long history of dairy farmer cooperatives owned by their farmer members and vertically integrated to produce and distribute fluid milk and cheese products staved off industrialized farming and horizontal consolidation. But by 1990, advances in technology and a change in antitrust regulation enabled investor-owned firms like Borden Dairy and Dean Food as well as large farmer cooperatives like DFA, Prairie Farm and Land O'Lakes to dominate the industry.

Consolidation and the pursuit of economies of scale led to two inflexible and separate supply chains in dairy – one serving retail markets for consumers, the other serving commercial markets

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\* Center for Economic and Policy Research.

† We thank Rosemary Batt for extensive and very helpful comments on an earlier draft, and the Institute for New Economic Thinking for its generous support of this project.

for institutional customers. The COVID-19 pandemic and economic lockdown revealed the lack of resilience and risks in a system dominated by a few large actors.

Viable reforms in the dairy industry that limit the domination by powerful actors can achieve resilience and improve the ability of the dairy industry to respond to disruptions.

**<https://doi.org/10.36687/inetwp134>**

**JEL Codes:** L11, L12, L41, Q13

**Keywords:** Dairy Industry, Industrialization, Consolidation, Monopolization.

## Overview

Large scale consolidation and monopolization of the U.S. dairy industry took place out of sight of most consumers. People rarely thought about where the milk on supermarket shelves or the cheese on their pizzas came from. But COVID-19 brought with it the specter of unhappy dairy farmers dumping milk while supermarkets rationed milk products and food banks could not keep up with demand from workers who lost their jobs as the economy locked down in March 2020. The fault lines in America's system of production and distribution of milk and dairy products stood out in bold relief. The large scale of dairy farms, the industrial scale and monopolization of dairy foods processing plants and distribution networks, the specialization of machinery, and the pursuit of economies of scale rendered the dairy system inflexible, lacking resilience, and unable to adjust to challenging circumstances.

Consolidation and specialization in milk and dairy foods processing over the last forty years are behind the spectacle of farmers dumping milk while food banks were unable to meet the demand for dairy from hungry families – their numbers swelled by the millions of newly unemployed. Two separate and inflexible supply chains – one serving retail markets for consumers, the other serving commercial markets for institutional customers – characterize the modern dairy industry. Both supply chains are dominated by the same few industrial scale dairy and processing operations. The COVID-19 pandemic led to the collapse in commercial demand as restaurants, caterers, schools and other institutional customers were forced to close. Dairy plants serving supermarkets and grocery stores were already operating at close to full capacity when the coronavirus struck. Capital equipment specialized to produce for commercial customers were incapable of producing for consumers served by supermarkets or food banks. Some farmers had no choice but to dump milk.

How did we get here? This paper tells the story of the dairy industry over the last century, a story that mirrors what has happened in many American industries. New technologies made larger scale dairy and processing operations both feasible and more productive; prices of raw milk fell below the costs of production for small dairy farms, driving them out of business. Public policy was also important: In 1982 the Reagan Administration's Department of Justice changed anti-trust guidelines from prioritizing the effect of mergers on competition to basing merger decisions mainly on their presumed effect on consumer prices. The new guidelines enabled a few investor-owned corporations like Borden Dairy and Dean Foods to gobble up competitors. Nominally farmer-owned cooperatives like Dairy Farmers of America (DFA) or Land O'Lakes that are vertically-integrated and own processing plants are exempt from anti-trust oversight. They too rushed to buy up smaller dairy producers and cooperatives and consolidate.

Industrial scale dairy processors now dominate the production of fluid milk and processed dairy products. Private equity played a small, and largely unsuccessful role in the consolidation of dairy products processors. The large numbers of niche producers of ice cream and artisanal cheeses – many of them middle market companies owned by smaller private equity firms – have held down the overall market share of the large producers, so monopolization in dairy, as measured by conventional indicators of market concentration, is lower than in other agricultural

sectors and other industries. However, this has not prevented a few large corporations and cooperatives from dominating dairy markets. Market domination in dairy processing has caught many family farmers in a vicious cycle of consolidation and overproduction. In recent years, processors with dominant positions in local markets have set low prices for the raw milk they buy from farmers. Since 2014, prices for raw milk have been set at or below the price of production for smaller dairies. To survive, farmers have increased the number of cows and the scale of production to reduce costs. This increases the supply of milk, while the demand for milk continues to fall as consumers seek out nondairy alternatives. Oversupply of raw milk has led to a 40 percent fall in price between 2014 and 2019, driving thousands of smaller farms into bankruptcy and forcing them to sell their cows to larger dairies. The largest dairy processors have been able to maintain product prices in retail and commercial markets, in part by opening up new markets for their products in foreign countries.<sup>1</sup> The benefits of low prices for raw milk and increased exports flow to the large, consolidated dairy processors. Efficiencies and productivity gains enabled by technology and large-scale operations have lined the pockets of the wealthy owners and top managers of these dairy processing operations. They did not raise the incomes of farmers.

The Trump administration's response to the food crisis caused by the coronavirus pandemic has exacerbated this situation. It bailed out the largest dairy farmers and dairy products producers, leaving smaller farmers largely to fend for themselves. The CARES Act, passed by Congress and signed into law in March included a \$16 billion Coronavirus Food Assistance Program (CFAP). Congress expressed its intention that the money should aid family farmers, but left it to the U.S. Department of Agriculture (USDA) to work out the rules governing the distribution of the funds. The rules favored large dairy farms and money was distributed unevenly. An investigation by NBC News found that the "top one percent of recipients got more than 20 percent of the money ... the top 10 percent got over 60 percent.... while the bottom 10 percent got just 0.26 percent." The average payment to recipients in the top 10 percent was \$95,000 while recipients in the bottom 10 percent got around \$300. Nearly 2,300 farms got more than \$250,000; almost 7,000 got less than \$200.<sup>2</sup> While the CFAP was intended to provide income to dairy farmers, the Department of Agriculture's Farmers to Families Food Box Program was designed to bail out agricultural food processors and get agricultural products being wasted because of disruptions to food supply chains to food banks and hungry families. The government contracted for agricultural products and took over the task of distribution. The contracts went to large operators like Borden Dairy, which received the largest contract in the program.<sup>3</sup>

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<sup>1</sup> Rick Barrett. 2002. "Dairy Farmers Are Caught in an Economic System with No Winning Formula," *Milwaukee Journal Sentinel*. May 16. <https://www.jsonline.com/in-depth/news/special-reports/dairy-crisis/2019/05/16/wisconsin-dairy-farms-closing-milk-prices-drop-economics-get-tough/3508060002/>

<sup>2</sup> Kit Ramgopal and Andrew W. Lehren. 2020. "Small Farmers Left Behind in Trump Administration's COVID-19 Relief Program," *Farmer*, August 9. <https://www.nbcnews.com/business/economy/small-farmers-left-behind-trump-administration-s-covid-19-relief-n1236158>; Claire Kelloway and Sarah Miller. 2019. "Addressing Monopolization in America's Food System," *Food and Power*, Open Markets Institute. March. [https://static1.squarespace.com/static/5e449c8c3ef68d752f3e70dc/t/5ea9fa6c2c1e9c460038ec5b/1588198002769/190322\\_MonopolyFoodReport-v7.pdf](https://static1.squarespace.com/static/5e449c8c3ef68d752f3e70dc/t/5ea9fa6c2c1e9c460038ec5b/1588198002769/190322_MonopolyFoodReport-v7.pdf)

<sup>3</sup> Paul O'Donnell. 2020. "Dallas Dairy Producer Borden Wins \$147 Million Coronavirus Relief Contract," *Dallas News*, May 16. <https://www.dallasnews.com/business/local-companies/2020/05/12/dallas-dairy-producer-borden->

The failure of the dairy industry to meet the challenge of the pandemic exposed more than the flaws in dairy industry operations; it also points to the potential for states to act to limit the power of dominant dairy products processors, increase diversity in the size and structure of dairy farms and processing plants, and create a more resilient dairy system. In addition to making dairy production and distribution more flexible and better able to meet unexpected challenges, a more resilient agricultural system holds the key to revitalizing rural communities and bringing consumers into a closer relationship with the farmers and workers that put food on their tables.

## **Milk Dumping during the COVID-19 Pandemic**

The headlines in April following the Trump Administration’s March 13 COVID-19 lockdown order were distressing. *Dairy Farmers Dumping Milk Amid COVID-19; Dairy Farmers Begin to Flush Away Milk Due to Coronavirus; Virus Sours Business for Already-Reeling Dairy Industry; Wisconsin Farmers Dump Milk as People Go Hungry; Farmers and Food Banks Grapple with Broken Food Supply Chain.*<sup>4</sup> Why was so much milk going to waste just as tens of millions of Americans were losing their jobs and many found themselves relying on food donations to feed themselves and their families?

The number of people experiencing food insecurity rose by 17 million between mid-March and late April, increasing the ranks of food insecure people from 37 to 54 million people as the pandemic caused record job losses and major economic disruption.<sup>5</sup> Yet farmers were dumping milk while people were going hungry. At the same time that farmers were spilling milk, some supermarkets were rationing dairy products,<sup>6</sup> limiting hoarding by consumers and reducing the amount that families — stuck at home and cooking more — could buy. The supply of milk to retail consumers could not keep up with panic buying and increased household demand.

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[wins-147-million-coronavirus-relief-contract/](https://www.dallasnews.com/business/local-companies/2020/05/26/for-second-time-in-bordens-163-year-history-a-government-contract-could-propel-it-through-crisis/); Natalie Walters. 2020. “For the second time in Borden’s 163-year history, a government contract could propel it through crisis.” *Dallas News*, May 26.

<sup>4</sup> Leighton Schneider. 2020. “Dairy farmers dumping milk amid COVID-19: Pandemic's impact on the dairy industry,” *ABC News*. April 21. <https://abcnews.go.com/US/dairy-farmers-dumping-milk-amid-covid-19-pandemics/story?id=70268302>; AP News. 2020. “Dairy Farmers Begin to Flush Away Milk Due to Coronavirus,” *AP News*. April 2. <https://www.usnews.com/news/best-states/wisconsin/articles/2020-04-02/dairy-farmers-begin-to-flush-away-milk-due-to-coronavirus>; Lisa Rathke. 2020. “Virus Sours Business for Already-Reeling Dairy Industry,” *US News and World Report*, April 14. <https://www.usnews.com/news/best-states/wisconsin/articles/2020-04-14/virus-sours-business-for-already-reeling-dairy-industry>; Robin Bravender. 2020. “Wisconsin farmers dump milk as people go hungry. Will Washington help?” *Wisconsin Examiner*. April 16.

<https://wisconsinexaminer.com/2020/04/16/wisconsin-farmers-dump-milk-as-people-go-hungry-will-washington-help/>; Stephanie Ebbs. 2020. “Farmers and food banks grapple with broken food supply chain,” *ABC News*. April 15. <https://abcnews.go.com/Politics/farmers-food-banks-grapple-broken-food-supply-chain/story?id=70137720>

<sup>5</sup> Laura Reiley. 2020. “Full fields, empty fridges,” *The Washington Post*. April 23.

<https://www.washingtonpost.com/business/2020/04/23/fixing-food-dumping-food-banks/?arc404=true>

<sup>6</sup> Dan Sanchez & Tyler Brandt. 2020. “Dairies Are Dumping Millions of Gallons of Milk While Stores Are Rationing It Due to the Coronavirus. What’s Going On?” *Foundation for Economic Education*. April 6.

<https://fee.org/articles/dairies-are-dumping-millions-of-gallons-of-milk-while-stores-are-rationing-it-due-to-the-coronavirus-what-s-going-on/>

Meanwhile, commercial demand for milk and cheese products collapsed with the closing of restaurants, stadiums, corporate catered events, university cafeterias, and schools. Commercial customers account for the consumption of about half of all dairy products.<sup>7</sup> Half of the cheese produced in the U.S. and 60 percent of the butter goes to restaurants,<sup>8</sup> while seven percent of milk goes to schools. Pizzerias alone consume a quarter of U.S. cheese production.<sup>9</sup>

The decline in demand from these customers rippled through the dairy supply chain. For example, in the major milk producing state of Wisconsin, half the milk at some dairies had no place to go during the lockdown.<sup>10</sup> Darlington Ridge, a large Wisconsin dairy, was dumping about 50 percent of the milk it produced in March and early April – 15,000 gallons, worth \$20,000, was dumped every day.<sup>11</sup> In Pennsylvania, 40 percent of milk production at some dairies was dumped.<sup>12</sup> In the space of just a few weeks, many dairy farmers were threatened with a substantial loss of income and even bankruptcy. Staggering amounts of milk were dumped in the early months of the pandemic. Almost 460 million pounds (116 million gallons) of milk were wasted – dumped or diverted to animal feed – between the shutdown in March and the end of June.<sup>13</sup> While the amount of milk dumped or diverted represents a relatively small share of total annual milk production, it is many times the amount typically wasted in any month in the past few years.<sup>14</sup> This has had a devastating effect on the finances of many dairy farmers. Dairy cooperatives and milk and cheese processors asked dairy farmers to cut production in an environment of volatile dairy prices; for some farmers this meant a cut in pay of as much as 15 percent.<sup>15</sup>

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<sup>7</sup> Elizabeth Ransom, E. Melanie DuPuis, & Michelle Worosz. 2020. “Why farmers are dumping milk down the drain and letting produce rot in fields,” *The Conversation US*. April 23. <https://theconversation.com/why-farmers-are-dumping-milk-down-the-drain-and-letting-produce-rot-in-fields-136567>

<sup>8</sup> Laura Reiley. 2020. “Full fields, empty fridges,” *The Washington Post*. April 23.

<https://www.washingtonpost.com/business/2020/04/23/fixing-food-dumping-food-banks/?arc404=true>

<sup>9</sup> John W. Fuquay, Patrick F. Fox, and Paul L.H. McSweeney. 2011. *Encyclopedia of Dairy Sciences*.

<https://books.google.com/books?id=dXE0ZfUnCKwC&pg=PT1499&lpg=PT1499&dq=Pizzerias+use+a+quarter+of+all+cheese+produced+in+the+US&source=bl&ots=AoYiBqBvNq&sig=ACfU3U1UXayp6Zg5LaaOd72e3CeHaV8zEA&hl=en&sa=X&ved=2ahUKewidssSEsLTqAhUKmHIEHSaEAD8Q6AEwDXoECA4QAQ#v=onepage&q=Pizzerias%20use%20a%20quarter%20of%20all%20cheese%20produced%20in%20the%20US&f=false>

<sup>10</sup> Andrew Carlson, Daniel Rubenstein, and Simon Levin. 2020. “New Jersey’s small, networked dairy farms are a model for a more resilient food system,” *The Conversation US*. June 3. <https://theconversation.com/new-jerseys-small-networked-dairy-farms-are-a-model-for-a-more-resilient-food-system-137881>

<sup>11</sup> Delon Thorton. 2020. “Dairy farmers forced to dump milk as schools and restaurants close,” *CBS News*. April 10. <https://www.cbsnews.com/news/dairy-farmers-hit-hard-by-coronavirus-are-spilling-a-lot-of-milk/>

<sup>12</sup> Andrew Carlson, Daniel Rubenstein, and Simon Levin. 2020. “New Jersey’s small, networked dairy farms are a model for a more resilient food system,” *The Conversation US*. June 3. <https://theconversation.com/new-jerseys-small-networked-dairy-farms-are-a-model-for-a-more-resilient-food-system-137881>

<sup>13</sup> Philip Gruber. 2020. “4-H and FFA Virtual Project Showcase Contest to Win Cash Prizes Northeast Has Dumped Most Milk During Pandemic,” *Lancaster Farming*. June 26. [https://www.lancasterfarming.com/farming/dairy/northeast-has-dumped-most-milk-during-pandemic/article\\_1bc26f75-b790-55a5-a05b-ca0ee901ccf4.html](https://www.lancasterfarming.com/farming/dairy/northeast-has-dumped-most-milk-during-pandemic/article_1bc26f75-b790-55a5-a05b-ca0ee901ccf4.html)

<sup>14</sup> *Ibid.*

<sup>15</sup> Rick Worthington. 2020. “Farmers Dumped a Lot of Milk,” *AG Information Network of the West*. June 26. <https://www.aginfo.net/report/46322/Farm-and-Ranch-Report/Farmers-Dumped-a-Lot-of-Milk>

The proximate cause of the dumping of milk is widely acknowledged. When schools, restaurants, and other commercial customers shut down to stop the spread of the coronavirus, a large part of the demand for butter and cheese disappeared. Farmers were forced to dump milk because the plants that process milk for cheese and other products sold to commercial customers did not have enough orders and were not taking as much milk. Meanwhile many plants that process and bottle milk for supermarkets were operating at full capacity.<sup>16</sup> Plants that produce items like large packages of mozzarella cheese for pizzerias aren't able to start processing gallons of milk for supermarkets.<sup>17</sup> Packaging dairy products for retail use is very different from packaging it for the commercial, high volume buyers that have been shut down by the pandemic. As one observer noted, "Producing the eight-ounce bags of shredded cheddar that grocery stores sell -- instead of the 10-pound bags that restaurants purchase -- would require retooling an entire processing plant."<sup>18</sup>

How did the dairy industry end up with two separate and inflexible supply chains? Why are these supply chains so lacking in resilience and so vulnerable to disruption by the coronavirus pandemic? What role did consolidation and domination of the dairy industry by a few large processors play? Did private equity play a role in driving consolidation?

### **From Small Dairy Farms and Milk Processors to Large Scale Operations**

Through most of the twentieth century, dairy farming and processing occurred as it still does in the hamlet of Westby, Wisconsin – a throwback to an earlier era when local cooperatives served rural towns and the farms that surrounded them. The Westby Cooperative Creamery, formed by dairy farmers in the area in 1903 to provide a stable and competitive market for their milk, is still controlled by active local farmers. The creamery employs 130 people which generates \$50 million in revenue for the local economy. Farmers are paid for their raw milk and also share in the creamery's profits from selling milk and milk products to other food processors, various retail outlets, and directly to the public. Indeed, most of the town's major businesses are cooperatives: the local phone, cable, and Internet service provider is a co-op dating back to 1950; the local electrical utility is a co-op formed in 1928; the Westby Co-op Credit Union provides banking services to its members; and, members of a farmers' co-op now get cattle breeding advice from Accelerated Genetics.<sup>19</sup>

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<sup>16</sup> Alan Yu. 2020. "The Dairy Section Is Often Empty. So Why Are Farmers Dumping Milk?," *90.5 WESA NPR Pittsburgh*. April 8. <https://www.wesa.fm/post/dairy-section-often-empty-so-why-are-farmers-dumping-milk#stream/0>

<sup>17</sup> Lisa Rathke. 2020. "Virus Sours Business for Already-Reeling Dairy Industry," *US News and World Report*, April 14. <https://www.usnews.com/news/best-states/wisconsin/articles/2020-04-14/virus-sours-business-for-already-reeling-dairy-industry>

<sup>18</sup> Ed Townley. 2020. "Dairy farmers are dumping millions of gallons of milk. This could make it stop," *CNN*. June 8. <https://www.cnn.com/2020/06/08/perspectives/cabot-dairy-farmers-pandemic/index.html>

<sup>19</sup> Leah Douglas. 2018. "How Rural America Got Milked." *Washington Monthly*. January/February/March. <https://washingtonmonthly.com/magazine/january-february-march-2018/how-rural-america-got-milked/>



In contrast to most farm towns, Westby remains mildly prosperous today. Shops line its Main Street, its public schools are strong, nearly all its adults have a high school degree and more than a fifth has a college degree or higher. Few of its citizens are rich and few are poor. Unlike most of rural America, where the cooperative movement has either disappeared or has been taken over by giant monopolies that profit at the expense of small-scale dairy farmers, the people of Westby continue to control their local economy.

Agricultural production was highly fragmented in the first half of the 20<sup>th</sup> century and, as in Westby, small-scale farming dominated the rural areas of America. In 1940 there were about 4.6 million farms with milk cows according to the U.S. Department of Agriculture. Milk processors were small, local businesses and farmers had options for selling their raw milk. Dairy farmers could organize themselves into cooperatives to counter the power of producers they believed were treating them unfairly. There were about 2,300 cooperatives in the early 1940s.<sup>20</sup>

Horizontal integration of small farmers started in the broiler chicken sector in the 1950s with chicks, but soon extended in the 1960s to vertical integration of the production of broilers with the processing of the chickens for sale to retail outlets. By 2000, the four largest broiler firms had a 50 percent share of the market. Other agriculture sectors – turkey, eggs, beef, pork – followed their own paths but ended up horizontally and vertically integrated and with a few firms controlling a large share of the market. Dairy was a latecomer to consolidation and concentration.<sup>21</sup>

As late as 1990, dairy farmers and processing plants managed to avoid the massive vertical and horizontal consolidation and concentration that confronted farmers in other agricultural sectors. Dairy farmers, through their regional cooperatives, had been vertically integrated from the production of milk through its processing and distribution for decades. However, the dairy farmers owned and controlled the vertically integrated system, and were able to hold out against non-farm, investor-owned processors who succeeded in dominating other farming sectors.

Horizontal integration of dairy farms proceeded slowly between the 1940s and the 1980s, but it was notable. The number of farmer-owned dairy cooperatives fell from 1,000 in 1938 to 200 in 1988. But in the 1990s, new capital-intensive technologies and low raw milk prices encouraged the development of large, industrialized dairies that were able to undercut small family farms. The number of family dairy farms fell from 650,000 in 1970 to under 60,000 in 2017 and 40,000 in 2019.<sup>22</sup>

Consolidation in dairy farming and processing – the move to fewer, much larger farms and firms – was driven largely by advances in technology. Technologies that led to economies of scale also

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<sup>20</sup> Food and Power website. <http://www.foodandpower.net/dairy/> (accessed August 10, 2020)

<sup>21</sup> Mary H. Hendrickson, William D. Heffernan, Philip H. Howard, and Judith B. Heffernan. 2001. “Consolidation in Food Retailing and Dairy,” *British Food Journal* 103(10): 715-728.

<sup>22</sup> Ibid; Leah Douglas. 2017. “Milk Monopolist Moves to Increase Power over Dairy Farmers,” *Food and Power*, Open Markets Institute, February 23. <http://www.foodandpower.net/2017/02/23/milk-monopolist-moves-to-increase-power-over-dairy-farmers%E2%80%8B/#bookmark/0/>



led large dairy farms to move herds indoors and substitute capital for labor. A 2016 report by the USDA's Economic Research Service found steep cost advantages for farms with 2,000 or more cows compared to farms with smaller herds. The cost advantage to these large farms compared to farms with between 1,000 and 1,999 cows was 16 percent; compared to farms with between 200 and 499 cows, it was 37 percent. These large differences in the cost of milk production led to dramatic changes in herd sizes and in the structure of dairy farming.<sup>23</sup> The median size of a herd of dairy cows increased from 80 (half of dairy farms had fewer than 80 cows) in 1987, to 900 by 2012. Despite the introduction of milk price supports aimed at smaller dairy farms, the number of dairy farms has declined dramatically since 2000 as lower production costs led to an expansion of very large farms. As MacDonald observed (p. 88), "large farms could make money, and have strong incentives to expand production and herds, at prices that failed to cover costs for small farms. Lower production costs at large dairy farms facilitated the growth of exports of milk products and accelerated the shift, underway since the 1970s, away from fluid milk processing to milk as an input into cheese and other products. Consolidation proceeded in dairy farming with no policy constraints on it or on the changing structure of the dairy industry."<sup>24</sup>

Horizontal integration of dairy food processors began in the 1980s as investor-owned firms like Borden moved into the dairy markets with highly processed products like yogurt and frozen novelties and began acquiring farmer-owned cooperatives. Dean Foods, for example, acquired the Land O' Lakes upper mid-West cooperative and processing operations. The four largest firms processing fluid milk – Borden, Dean Foods, Labatt Foods, and the retailer Kroger – shared about 26 percent of the market, far less than the market share of the four largest firms in other parts of agriculture in 1988. Large retailers like Kroger and Safeway began acquiring milk processing plants during the 1990s in order to establish their own in-house brands of dairy products. Kraft's domination of the market for several types of cheese popular with consumers was the exception. By the early 1990s, Kraft had 54 percent of the processed sliced cheese market, 88 percent of the cheese loaves market, and 56 percent of the grated cheese market.<sup>25</sup>

Regional dairy cooperatives also began merging in the 1990s. Mid-America Dairymen, a Midwest regional dairy cooperative acquired three other cooperatives in 1994. In 1997 it acquired Borden's Meadow Gold brand and the rights to their mascot, Elsie the cow. Then in 1998, Dairy Farmers of America (DFA) was formed when four major regional cooperatives merged – Mid-America Dairymen, the Southern Region of Associated Milk Producers, Milk Marketing, and Western Dairymen Cooperative. DFA, ostensibly a dairy farmer-owned cooperative, now owned part of Borden – setting up an inherent conflict of interest between dairy farmers interested in getting the highest price for their milk and a commercial cheese processing

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<sup>23</sup> James M. MacDonald, Jerry Cessna, and Roberto Mosheim. 2016. "Changing Structure, Financial Risks, and Government Policy for the U.S. Dairy Industry," *U.S. Department of Agriculture Economic Research Service. Economic Research Report*, number 205, November. [www.ers.usda.gov/publications/err-economic-research-report/err205](http://www.ers.usda.gov/publications/err-economic-research-report/err205)

<sup>24</sup> James M. MacDonald. 2017. *Consolidation, Concentration, and Competition in the Food System*, Federal Reserve Bank of Kansas City, Table 2, p. 94. <https://www.kansascityfed.org/~media/files/publicat/econrev/econrevarchive/2017/si17macdonald.pdf>

<sup>25</sup> Ibid.

plant interested in getting raw milk at the lowest possible price. Whose interests would DFA serve?<sup>26</sup>

### **Consolidation of Dairies and Processors in the 1990s: DFA, Borden, and Dean Foods**

DFA, owned in principle by its farmer members, and investor-owned Borden Dairy and Dean Foods were the big three organizations that dominated the dairy industry until Dean Food's bankruptcy in 2020 and its subsequent acquisition by DFA reduced that number to two. While technically a cooperative, DFA's behavior toward its members and its acquisition of processing and distribution operations raise questions about whether farmers control the organization. As a vertically integrated milk cooperative, DFA handles 30 percent of the national raw milk supply and a higher percentage in some markets. This leaves many dairy farmers with no way to get their raw milk to market if they refuse DFA's price for their milk. DFA operates across the entire dairy supply chain from dairy farms to milk processing and marketing. Dean Foods, until its recent bankruptcy, was the largest milk processor, controlling nearly a third of the dairy products market with over 50 brands produced in its many processing plants and sold nationwide. It also has licensing and joint ventures with Land O'Lakes, the third largest dairy co-op in the U.S. DFA members have accused the co-op of colluding with Dean Foods to hold down the price they get for their milk. The tangled relationships of these mega dairy operations underlie the evolution of America's dairy industry.

#### *Dairy Farmers of America*

Consolidation in the dairy industry has occurred through both the consolidation of dairy farming and of processing and distribution. In terms of dairy farming, the biggest culprit is the consolidation of farmers into a few cooperatives. By 2017 there were only 118 left<sup>27</sup> even as cooperatives increased their membership of dairy farms from 67 percent to 78 percent of all dairy farms.<sup>28</sup> The decline in the number of cooperatives was due to the growing size and strength of a few, not because too few farmers were joining them. DFA, today the largest dairy cooperative in the US with over 13,000 farmers<sup>29</sup> and \$13.6 billion in 2018 sales,<sup>30</sup> is mostly responsible for this trend. As noted above, DFA was formed through the merger of four large,

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<sup>26</sup> Ibid.

<sup>27</sup> United States Government Accountability Office. 2019. "Dairy Cooperatives: Potential Implications of Consolidation and Investments in Dairy Processing for Farmers," *GAO*. September 27. <https://www.gao.gov/assets/710/701795.pdf>

<sup>28</sup> United States Department of Agriculture. 2019. "Marketing Operations of Dairy Cooperatives 2017: USDA Rural Development Research Report 234," *USDA*. August. <https://www.rd.usda.gov/files/publications/RR234MarketingOperationsofDairyCooperatives2017.pdf>

<sup>29</sup> David Yaffe-Bellany. 2019. "America's Dairy Farmers Are Hurting. A Giant Merger Could Make Things Worse," *The New York Times*. December 13. <https://www.nytimes.com/2019/12/11/business/dean-foods-dairy-farmers-antitrust.html>

<sup>30</sup> Jon Schulte. 2019. "Area's largest private company sees \$1B drop in revenue," *Kansas City Business Journals*. March 25. <https://www.bizjournals.com/kansascity/news/2019/03/25/area-s-largest-private-company-sees-1b-drop-in.html>

regional dairy cooperatives, including Mid-America Dairymen, in late 1998.<sup>31</sup> DFA has been able to recruit smaller farms and cooperatives to join it because of the difficulties smaller producers have adjusting to the declines in raw milk prices. Falling raw milk prices are due both to the higher productivity of cows and overproduction of milk in industrialized dairies and to the decades-long slump in demand for milk.<sup>32</sup> Coercion may also have played a role in DFA's growth. In January 2017, DFA's marketing arm threatened to stop marketing the milk of about 900 dairy farmers. The farmers were given the option of seeking another (nonexistent) marketer, selling to dairy processors on their own, or joining DFA.<sup>33</sup>

Farmers that do not join DFA may find that they lack bargaining power in their negotiations with large milk processors over the price of the milk they are selling. They may see belonging to DFA as a way to gain some protection against even lower prices for their raw milk. DFA has likely succeeded in negotiating higher prices in its sales of some of its raw milk to other dairy processors than individual farmers or smaller cooperatives can get, possibly using illegal means as recent lawsuits claim. DFA is alleged to have negotiated restrictive supply contracts with big processing firms like Dean Foods and Farmland Dairies that limit competition from dairies outside its co-op and make the situation of these dairies more difficult.<sup>34</sup>

In theory, all farmers that join a co-op should benefit equally because the co-op is more effective and able to hold out for better deals on all the milk they supply. However, in the largest co-ops such as DFA, this is not the case for several reasons. First, some states have allowed co-ops to end one person, one vote and, instead, adopt a voting formula based on the amount of milk the farmer produces.<sup>35</sup> The U.S. Government Accountability Office (GAO) suggests that this is increasingly becoming the norm for co-ops. Secondly, the GAO found that DFA likely engaged in collusion with other dairy cooperatives not to "poach" each other's members, making conditions worse for farmers as cooperatives no longer competed for them.<sup>36</sup> Thirdly, DFA itself has expanded into other parts of the milk product supply chain beyond dairy farmers, such as

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<sup>31</sup> United States Government Accountability Office. 2019. "Dairy Cooperatives: Potential Implications of Consolidation and Investments in Dairy Processing for Farmers," GAO. September 27. <https://www.gao.gov/assets/710/701955.pdf>

<sup>32</sup> Anahad O'Connor. 2017. "Got Almond Milk? Dairy Farms Protest Milk Label on Nondairy Drinks," *The New York Times*. February 13. <https://www.nytimes.com/2017/02/13/well/eat/got-almond-milk-dairy-farms-protest-milk-label-on-nondairy-drinks.html>

<sup>33</sup> Leah Douglas. 2017. "Milk Monopolist Moves to Increase Power over Dairy Farmers," *Food and Power*, Open Markets Institute, February 23. <http://www.foodandpower.net/2017/02/23/milk-monopolist-moves-to-increase-power-over-dairy-farmers%E2%80%8B/#bookmark/0/>

<sup>34</sup> David Yaffe-Bellany. 2019. "America's Dairy Farmers Are Hurting. A Giant Merger Could Make Things Worse," *The New York Times*. December 13. <https://www.nytimes.com/2019/12/11/business/dean-foods-dairy-farmers-antitrust.html>

<sup>35</sup> United States Government Accountability Office. 2019. "Dairy Cooperatives: Potential Implications of Consolidation and Investments in Dairy Processing for Farmers," GAO. September 27. <https://www.gao.gov/assets/710/701795.pdf>

<sup>36</sup> David Yaffe-Bellany. 2019. "America's Dairy Farmers Are Hurting. A Giant Merger Could Make Things Worse," *The New York Times*. December 13. <https://www.nytimes.com/2019/12/11/business/dean-foods-dairy-farmers-antitrust.html>

trucking and processing. As of early 2020, DFA had more than 13,000 dairy farmer members and owned 42 manufacturing facilities across the country, which represents a major increase in production capacity after decades of investment. DFA accounts for 30 percent of all fluid milk sales in the U.S., more in some regions.<sup>37</sup> Farmers have claimed that DFA has attempted to monopolize the market for raw milk and that it has colluded with Dean Food on pricing and forced them to use those companies' marketing services to sell their milk. In 2012, farmers in the Southeast region brought a class action legal suit that alleged collusion between DFA and Dean lowered prices paid to them for their milk. The case was settled in 2013 with DFA paying \$158 million to the farmers. Two years later in 2015, DFA agreed to pay \$50 million to settle a class action lawsuit brought in 2014 by thousands of dairy farmers in the Northeast that alleged that DFA and its marketing arm had conspired to monopolize the raw milk market in that area.<sup>38</sup>

DFA is able to use its market power to gain higher prices for the milk it sells to other dairy processors and to make a substantial profit on these sales. Having already paid farmer members for their milk, DFA is not required to share this profit with its members, DFA's ostensible owners. This "non-member income" has become such a substantial source of revenue for DFA that it accounted for 60 percent of the organization's net income in 2016.<sup>39</sup>

DFA is far from the only co-op with substantial market power. Prairie Farms, a smaller co-op of about 900 farmers, owned 44 manufacturing plants and over 100 distribution centers, employing 5,700 people in 2018.<sup>40</sup> In 2017, cooperatives like DFA, Prairie Farms, and Land O'Lakes owned 198 dairy processing facilities. This, however, was just 15 percent of such facilities in the U.S. at that time.<sup>41</sup>

When Dean Foods, America's largest dairy processing company and biggest DFA customer,<sup>42</sup> declared bankruptcy in November 2019, DFA recognized this as an opportunity to further integrate its supply chain. The deal enabled DFA to acquire from Dean 56 facilities (44 in

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<sup>37</sup> Leah Douglas. 2019. "Farmers' case against giant dairy co-op will go to trial," *The Fern*. October 1. [https://thefern.org/ag\\_insider/farmers-case-against-giant-dairy-co-op-will-go-to-trial/](https://thefern.org/ag_insider/farmers-case-against-giant-dairy-co-op-will-go-to-trial/); David Yaffe-Bellany. 2019. "America's Dairy Farmers Are Hurting. A Giant Merger Could Make Things Worse," *The New York Times*. December 13. <https://www.nytimes.com/2019/12/11/business/dean-foods-dairy-farmers-antitrust.html>

<sup>38</sup> Mark Astley. 2014. "DFA to Pay \$50 M to Settle Northeast US Milk Price Lawsuit," *Dairy Reporter*. July 16. , <https://www.dairyreporter.com/Article/2014/07/16/DFA-to-pay-50m-to-settle-Northeast-US-milk-price-lawsuit>; Leah Douglas. 2017. "Milk Monopolist Moves to Increase Power over Dairy Farmers," *Food and Power*, Open Markets Institute, February 23. <http://www.foodandpower.net/2017/02/23/milk-monopolist-moves-to-increase-power-over-dairy-farmers%E2%80%8B/#bookmark/0/>

<sup>39</sup> Leah Douglas. 2018. "How Rural America Got Milked," *Washington Monthly*. January/February/March. <https://washingtonmonthly.com/magazine/january-february-march-2018/how-rural-america-got-milked/>

<sup>40</sup> Prairie Farms. 2018. "Prairie Farms Dairy Named St. Louis' 8th Largest Privately Held Company." *Prairie Farms*, May 10. <https://www.prairiefarms.com/wp-content/uploads/2018/05/5-10-18-TOP-150.pdf>

<sup>41</sup> United States Government Accountability Office. 2019. "Dairy Cooperatives: Potential Implications of Consolidation and Investments in Dairy Processing for Farmers," *GAO*. September 27. <https://www.gao.gov/assets/710/701955.pdf>

<sup>42</sup> David Yaffe-Bellany. 2019. "America's Dairy Farmers Are Hurting. A Giant Merger Could Make Things Worse," *The New York Times*. December 13. <https://www.nytimes.com/2019/12/11/business/dean-foods-dairy-farmers-antitrust.html>

manufacturing<sup>43</sup>) across the country, facilities that were responsible for \$1.44 billion in gross profit, and employed 14,500 people.<sup>44</sup> DFA's smaller rival co-op, Prairie Farms, bought eight of Dean's facilities.<sup>45</sup> DFA completed its purchase of Dean Foods' assets in May 2020, and secured its position as a dominant producer of fluid milk, butter and cheese. Despite anti-trust concerns raised by many dairy farmers, the Department of Justice approved the merger, requiring DFA to divest just three of its processing plants and to halt its efforts to acquire other plants in the upper Midwest.<sup>46</sup>

### *Dean Foods*

Dean Foods rose to become the largest dairy producer in America by consolidating its holdings and acquiring smaller processors. From its beginnings in 1925 as a small dairy producer in the Chicago area, the company slowly expanded to other parts of the Midwest. Dean became known for its strategy of buying small brands with local connections and allowing them to maintain some autonomy. These brands tended to produce low but steady margins which, over time, enabled Dean to grow substantially. This contrasted with the strategy of other dairy processors that tended to buy bigger brand names.<sup>47</sup> Dean began expanding to other regions with the purchase of Mayfield Dairy in 1990 which allowed it to add operations in the South via acquired facilities in Tennessee and Georgia.<sup>48</sup> Dean increased its presence in the Northeast with the acquisition of Garelick Farms and Leigh Valley in 1997 and 2001, respectively.<sup>49</sup> Dean was the second largest dairy processing company in the U.S. in 2001 when it was purchased by Suiza Foods, the number one dairy processor at the time.<sup>50</sup> The combined company took the Dean name, and Greg Engles, who was CEO of Suiza, took over leadership of the "new" Dean. Suiza had been even more aggressive in consolidating the industry than Dean, and had acquired over 40 companies since the early 1990's.<sup>51</sup> The merger expanded the new Dean's market power and geographic presence; the company moved into the Southwest region by virtue

<sup>43</sup> Keith Nunes. 2020. "DFA to acquire most Dean Foods assets," *Food Business News*. April 1.

<https://www.foodbusinessnews.net/articles/15733-dfa-to-acquire-most-dean-foods-assets>

<sup>44</sup> Dean Foods Company. 2019. *Form 10-K 2019*.

<https://www.sec.gov/ix?doc=/Archives/edgar/data/931336/000093133620000006/df-20191231x10k1.htm>

<sup>45</sup> Lillianna Byington. 2020c. "Dairy Farmers of America wins bid to buy Dean Foods' assets for \$433M," *Food Dive*. April 23. <https://www.fooddive.com/news/dairy-farmers-of-america-wins-bid-to-buy-dean-foods-assets-for-433m/575225/>

<sup>46</sup> Brian Kaberline. 2020. "DFA completes \$433M acquisition, with feds' blessing," *Kansas City Business Journal*. May 4. <https://www.bizjournals.com/kansascity/news/2020/05/04/dfa-completes-433m-dean-foods-acquisition.html>

<sup>47</sup> Funding Universe. 1998. "Dean Foods Company History," *Funding Universe*.

<http://www.fundinguniverse.com/company-histories/dean-foods-company-history/>

<sup>48</sup> Janet Key. 1990. "Dean Foods Acquires Tennessee-Based Dairy," *Chicago Tribune*. January 3.

<https://www.chicagotribune.com/news/ct-xpm-1990-01-03-9001010342-story.html>

<sup>49</sup> Jim Kinney. 2019. "Dean Foods, owner of Friendly's ice cream plant in Wilbraham and Garelick Farms in Lynn, considers selling off businesses," *MassLive*. May 6. <https://www.masslive.com/business/2019/05/dean-foods-owner-of-friendlys-ice-cream-plant-in-wilbraham-and-garelick-farms-in-lynn-considers-selling-off-businesses.html>;

Anthony Salamone. 2019. "Lehigh Valley Dairy Farms part of bankruptcy filing by milk producer Dean Foods," *The Morning Call*. November 15. <https://www.mcall.com/business/mc-biz-dean-foods-bankruptcy-lehigh-valley-20191115-2nwzrgxf4ndnrjd72hpi5sbuci-story.html>

<sup>50</sup> Tribune News Services. 2001. "Dean Foods: Merger completed with Suiza Foods," *Chicago Tribune*. December 22. <https://www.chicagotribune.com/news/ct-xpm-2001-12-22-0112220180-story.html>

<sup>51</sup> AP News Service. 2019. "The Fall of Dean Foods," *Tulsa World*. November 22.

[https://tulsaworld.com/news/national/the-fall-of-dean-foods/article\\_395e33da-9c31-5b3d-8969-717d463abb9b.html](https://tulsaworld.com/news/national/the-fall-of-dean-foods/article_395e33da-9c31-5b3d-8969-717d463abb9b.html)



of owning Suiza's facilities in the Dallas area. Dean already had a presence in several Western states through its ownership of some Meadow Gold facilities, acquired from Borden in 1997 as part of the deal that gave DFA some of the brand's other processing plants, and through its acquisition in the early 2000s of Land O'Lakes' upper Midwest dairies and processing plants.<sup>52</sup>

By 2015, as result of all these acquisitions, Dean had 31 regional dairy brands across the country. However, there was little integration among them, leading to glaring inefficiencies. For example, there were instances of two different Dean trucks supplying the same convenience store with two different brands.<sup>53</sup> To reduce inefficiency, Dean created the first national milk brand by uniting all the regional brands as "DairyPure," while retaining separate labeling of local brands.<sup>54</sup> Consolidating Dean's various milk interests into one national brand was a move the company hoped would help it cut costs and expand sales. Unfortunately, the cost cutting was not enough to forestall serious financial problems. Dean Foods' net income, which was \$61.6 million in 2017, declined to a loss of \$327.4 million in 2019.<sup>55</sup> Bankruptcy, and Dean's subsequent acquisition by DFA, soon followed.

Opposition to DFA's purchase of Dean Foods out of bankruptcy brought legal suits following the bankruptcy court's approval of the deal. DFA faces charges from DFA member dairy farmers in the Midwest that accuse it of extorting them and other dairy farmers in the region to raise the funds for the purchase of Dean Foods. The plaintiffs argue that DFA "extorted substantially all assets from publicly-traded Dean Foods Company after forcing it into bankruptcy." DFA, they contend, presented the bankruptcy court with a false choice between allowing the deal to go through or facing the collapse of a significant part of the dairy supply chain.<sup>56</sup>

A second suit, brought by Food Lion and the Maryland and Virginia Milk Producers Cooperative Association, argues that DFA is essentially a cartel, with the ability to assert monopoly power over milk prices. DFA, they claim, has concentrated markets at two stages of the supply chain – dairy farming and production and distribution of processed dairy products. As a result, the suit argues, DFA has the ability to exercise market power and reduce milk prices paid to dairy farmers and to raise prices in its dealings with supermarkets, schools, and restaurants. The farmers and the supermarket argue for the breakup of DFA on anti-trust grounds.

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<sup>52</sup> John Sowell. 2019. "Dairy giant with Boise milk-processing plant files for bankruptcy," *MagicValley.com*. November 12. [https://magicvalley.com/business/agriculture/dairy-giant-with-boise-milk-processing-plant-files-for-bankruptcy/article\\_43d13caa-d57c-533d-b218-d2d924a19466.html](https://magicvalley.com/business/agriculture/dairy-giant-with-boise-milk-processing-plant-files-for-bankruptcy/article_43d13caa-d57c-533d-b218-d2d924a19466.html)

<sup>53</sup> Ilan Brat. 2015. "Dean Foods Bets on One National Milk Brand," *The Wall Street Journal*. May 4. <https://www.wsj.com/articles/dean-foods-bets-on-one-national-milk-brand-1430712167>

<sup>54</sup> Mark Astley. 2015. "Dean Foods brings US regional milk brands under Dairy Pure banner," *Dairy Reporter*. May 4. <https://www.dairyreporter.com/Article/2015/05/05/Dean-Foods-brings-US-regional-milk-brands-under-DairyPure-banner>

<sup>55</sup> Lillianna Byington. 2019. "How Dean Foods' bankruptcy is a 'warning sign' to the milk industry," *Food Dive*. November 21. <https://www.fooddive.com/news/how-dean-foods-bankruptcy-is-a-warning-sign-to-the-milk-industry/567486/>

<sup>56</sup> Lillianna Byington. 2020d. "Lawsuit accuses DFA leadership of 'extortion' and 'cartel' tactics after Dean Foods sale," *Food Dive*. July 2. [https://www.fooddive.com/news/lawsuit-accuses-dfa-leadership-of-extortion-and-cartel-tactics-after-de/580052/?utm\\_source=Sailthru&utm\\_medium=email&utm\\_campaign=Issue:%202020-07-02%20Food%20Dive%20Newsletter%20%5Bissue:28287%5D&utm\\_term=Food%20Dive](https://www.fooddive.com/news/lawsuit-accuses-dfa-leadership-of-extortion-and-cartel-tactics-after-de/580052/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202020-07-02%20Food%20Dive%20Newsletter%20%5Bissue:28287%5D&utm_term=Food%20Dive)

*Borden* The Borden Company, founded before the Civil War, has produced milk products for 163 years. By the 1930s it was the biggest milk distributor in the U.S. In the 1950s, it grew into a large and complex conglomerate. The company retrenched in the 1970s, but resumed acquiring companies in the 1980s, by which time it was the largest milk distributor in the world. However, the company suffered serious financial losses between 1991 to 1993. Despite divesting many of its businesses, Borden remained in deep financial difficulty, making it an attractive target for private equity. The Borden Company already played a major role in the processing and distribution of fluid milk when, in 1995, it was bought out by Kohlberg Kravis Roberts (KKR), one of the largest U.S. private equity firms. Far from further consolidation, KKR increased the pace of divestiture; but KKR was not able to turn the company around.<sup>57</sup> In January 1997, as noted above, KKR sold its Borden/Meadow Gold Dairies unit to Mid-America Dairymen, a dairy co-op based in Springfield, MO. Mid-America acquired Borden's 27 processing plants, several of the company's brands, and the Elsie the Cow trademark.<sup>58</sup> A year later, when Mid-America joined with three other dairy co-ops to form DFA, the Borden Company's processing facilities helped DFA establish itself in dairy processing. DFA combined Borden with other companies in a subsidiary it named National Dairy.

In 2009, National Dairy – including Borden – was acquired by the Mexican firm, Grupo Lala. In 2013, Borden Dairy was carved out of National Dairy and acquired by Laguna Dairy, a private company. In January 2017, a decade after KKR had sold its failing Borden dairies holdings, it provided Borden Dairy with a \$175 million loan. And in July 2017, private equity firm ACON Investments acquired a majority stake in the Borden Dairy business via a leveraged buyout, with Laguna retaining a minority stake.<sup>59</sup> Private equity had a hand in the dairy industry, but it was not a driving force in industrialization and consolidation of milk processing.

In January 2020, Borden Dairy entered bankruptcy in an all-too-familiar story. Two private equity leveraged buyouts in 1995 and 2017, plus loans from KKR in 2017, led to a buildup of debt at Borden that was unsustainable and made it difficult for the company to adjust its product offerings to changes in consumer tastes and the decline in fluid dairy milk consumption. Unlike some of its competitors, Borden did not enter the growing market for lactose-free milk and missed other opportunities to innovate. The market for dairy milk remained challenging in 2018 and 2019. Burdened by debt and having failed to respond to changing market conditions, Borden was forced to seek bankruptcy protection.<sup>60</sup>

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<sup>57</sup> Wikipedia. "Borden (company)." [https://en.wikipedia.org/wiki/Borden\\_\(company\)](https://en.wikipedia.org/wiki/Borden_(company)): Natalie Walters. 2020. "For the second time in Borden's 163-year history, a government contract could propel it through crisis." *Dallas News*, May 26. <https://www.dallasnews.com/business/local-companies/2020/05/26/for-second-time-in-bordens-163-year-history-a-government-contract-could-propel-it-through-crisis/>

<sup>58</sup> Reuters. 1997. "Borden to Sell Dairy Unit to Mid-America Dairymen," *New York Times*, May 23. <https://www.nytimes.com/1997/05/23/business/borden-to-sell-dairy-unit-to-mid-america-dairymen.html>

<sup>59</sup> PitchBook Borden Dairy Company Report, PitchBook\_Borden\_Dairy\_2020\_07\_20\_08\_56\_04. <https://my.pitchbook.com/profile/121802-05/company/profile#deal-history/90753-85T>

<sup>60</sup> Lillianna Byington. 2020a. "How two years of changes in dairy led to two major bankruptcies." *Food Dive*. March 4. <https://www.fooddive.com/news/how-two-years-of-changes-in-dairy-led-to-two-major-bankruptcies/573283/>



By the summer of 2019 Borden, which had once had a presence in all 50 states, offered just 35 products mostly in the Southern United States. While the geographic range of their facilities had shrunk,<sup>61</sup> successfully cutting costs for the company, the cost reductions could not save Borden from bankruptcy. From January 1 through December 7, 2019, Borden reported a net loss of \$42.4 million.<sup>62</sup>

While it may not have played much of a role in establishing Borden's dominance in fluid milk production and distribution, KKR clearly tried to pursue opportunities to engage in financial engineering and profit at the company's expense. In July 2020, just a few months after entering bankruptcy, Borden Dairy with its 3,300 employees, was acquired by KKR and Peak Capital. In a move favored by private equity to stave off competing bidders, KKR used forgiveness of its earlier \$175 million loan to Borden as a large part of its payment for the company.<sup>63</sup> Peak Capital, the senior partner in the joint venture, was founded in 2017 by Gregg Engles, a former chairman and chief executive of Dean Foods. During Engles' stint at Dean Foods, he drew extremely high pay packages while the company's share price dropped by 11 percent. In 2011, Forbes ranked Engles among the Worst Bosses for the Buck.<sup>64</sup>

### **DFA and Borden Dairy Emerge as Dominant Firms in Milk and Cheese Processing and Distribution**

Farmer cooperative DFA and private equity firm KKR-owned Borden Dairy now dominate the dairy industry, from dairy farming to processing and distributing products for retail and commercial customers. They are not alone – Prairie Farms and Land O'Lakes have followed a trajectory very much like DFA's. Kraft Foods (now Kraft-Heinz) owned by a Brazilian private equity firm has a large presence in producing cheese for retail consumers. Monopolization of the dairy industry is characterized by the interlocking relationships among DFA, Borden and Dean, which together control prices paid to farmers for their raw milk and by customers for milk and cheese products. It is too early to see exactly how KKR will use Borden's dominant position in dairy products processing in this latest dairy industry configuration. Will it be able to further squeeze dairy farmers on price? When antitrust regulators approved the controversial acquisition

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<sup>61</sup> Borden Website. 2020. "Borden Fact Sheet," <https://www.bordendairy.com/borden-fact-sheet/>; Christopher Doering. 2019. "With the dairy industry in a sour state, Borden CEO plots comeback for one-time milk giant," *Food Dive*. July 23. <https://www.fooddive.com/news/with-the-dairy-industry-in-a-sour-state-borden-ceo-plots-comeback-for-one-/556660/>

<sup>62</sup> Rachel Siegel. 2020. "Borden Dairy becomes second major milk producer to file for bankruptcy in two months," *The Washington Post*. January 6. <https://www.washingtonpost.com/business/2020/01/06/borden-dairy-files-bankruptcy-amid-debt-load-headwinds-facing-milk-producers/>

<sup>63</sup> Christopher Doering. 2019. "With the dairy industry in a sour state, Borden CEO plots comeback for one-time milk giant," *Food Dive*. July 23. <https://www.fooddive.com/news/with-the-dairy-industry-in-a-sour-state-borden-ceo-plots-comeback-for-one-/556660/>

<sup>64</sup> Lillianna Byington. 2020b. "KKR and former Dean Foods CEO win bankruptcy auction for Borden," *Food Dive*. June 16. [https://www.fooddive.com/news/kkr-and-former-dean-foods-ceo-win-bankruptcy-auction-for-borden/579862/?utm\\_source=Sailthru&utm\\_medium=email&utm\\_campaign=Issue:%202020-06-16%20Food%20Dive%20Newsletter%20%5Bissue:27949%5D&utm\\_term=Food%20Dive](https://www.fooddive.com/news/kkr-and-former-dean-foods-ceo-win-bankruptcy-auction-for-borden/579862/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202020-06-16%20Food%20Dive%20Newsletter%20%5Bissue:27949%5D&utm_term=Food%20Dive); Lillianna Byington. 2019. "How Dean Foods' bankruptcy is a 'warning sign' to the milk industry," *Food Dive*. November 21. <https://www.fooddive.com/news/how-dean-foods-bankruptcy-is-a-warning-sign-to-the-milk-industry/567486/>

of Dean Foods by DFA in mid-2020, it only ratified the monopoly structure of the dairy industry that was already in place.

### *Anti-Trust Policy and the Structure of the Dairy Industry*

The lack of policy regarding the structure of dairy farming may be due to the perception of farming as a competitive industry. Changes in industry structure are seen as a response to technology and to changing prices of feed and other inputs as well as to the price of milk. Structural change drives productivity growth in agriculture. Externalities such as the consolidation of manure in storage facilities are (inadequately) addressed through environmental regulations. Most large dairy farms are subject to regulation under the Clean Water Act. Government income support policy hasn't adapted to consolidation and the large scale of much farming. Policies that in earlier periods protected the income of small family farmers from price swings and risks that threatened earnings now flow to larger farms and high-income households.

In dairy product production – as elsewhere in the economy – changes in the approach of anti-trust regulators to mergers led to increased industry consolidation. Guidelines for regulators before 1982 viewed concentration ratios, the share of the market held by one or a small number of companies, as an important indicator of the amount of monopoly power firms in the industry would be able to exercise – power to raise prices for the industry's products and/or power to dictate lower prices for inputs into the production process. In 1982, President Reagan's anti-trust enforcement chief rewrote the rules governing the interpretation of anti-trust law that had been a bulwark against monopolization. It replaced a mandate to protect markets from domination by a few firms with a mandate to safeguard "consumer welfare," narrowly conceived of as lower consumer prices. Since 1982, the main factor used to determine if regulators will approve a merger is the promise of improved efficiency, usually ascribed to larger scale and assumed to flow to consumers in the form of lower prices. Without any change in anti-trust law, regulators allowed mergers and acquisitions to run rampant in agriculture and dairy as elsewhere in the economy after 1982. Price declines for consumers proved elusive. Instead, monopolization raised profit margins of the new behemoths, enriching the wealthy owners of these dairy operations.<sup>65</sup>

As we have seen, consolidation is not the same as concentration. A market is highly concentrated when a few firms account for a large share of the market. There is still a very large number of farms producing milk, holding down measures of market concentration in dairy farming. Nevertheless, DFA, Prairie Farms, Land O'Lakes, and a handful of other large cooperatives dominate dairy farming. The situation is different in fluid milk processing which has become increasingly concentrated. The share of the four largest firms in fluid milk processing rose from a

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<sup>65</sup> J.M. MacDonald. 2017. *Consolidation, Concentration, and Competition in the Food System*. Federal Reserve Bank of Kansas City.

<https://www.kansascityfed.org/~media/files/publicat/econrev/econrevarchive/2017/si17macdonald.pdf>; David Dayen. 2020. *Monopolized: Life in the Age of Corporate Power*: Introduction and pp. 52-53. New York: The New Press; Matt Stoller. 2019. *Goliath: The 100-Year War Between Monopoly Power and Democracy*. New York: Simon and Schuster.

market share of 18 percent in 1977 to 46 percent in 2012<sup>66</sup> and has increased since with DFA's acquisition of Dean Foods.

Consolidation and concentration in cultured milk products – butter and natural cheese - occurred since 2000, but to a lesser extent. By 2014, the top 20 cheese producers owned 15 percent of cheese processing plants, so there are still a large number of smaller cheese producers. Among them are at least 27 cheese producers we were able to identify from Google searches and PitchBook data as private equity-owned. Artisanal cheese producers have become a likely target for some PE firms. Some PE-owned cheese producers, like Wisconsin Cheese group, are fairly large but far below the size of the top producers. Most are niche producers of artisanal cheeses, Spanish-style cheeses, or specialty deli cheeses. Despite the large number of producers, the facilities owned by the 20 largest firms accounted for 75 percent of the cheese produced in the U.S. The top cheese processing companies are Leprino Foods, Saputo Cheese USA, Hilmar Cheese Company, Glanbia Foods, and Agropur. Saputo USA greatly enlarged its ownership of U.S. cheese processing plants as a result of its 2003 acquisition of DCI from private equity firm GTCR. Glanbia made it into the top five because of its stake in the massive Southwest Cheese plant in Clovis, New Mexico, a joint venture between Glanbia Foods and DFA. Land O'Lakes, a dairy co-op known mainly for its dominant position in butter production, is in the top 20 cheese producers by virtue of its joint ownership, with DFA, of Melrose Dairy Proteins. Production at DFA's five wholly-owned natural cheese production plants put them in the top 20 as well. Kraft Heinz is also a top 20 cheese producer; it would rate closer to the top in terms of marketing and sales revenue.<sup>67</sup>

The market for butter is more competitive than other milk-based products, with large supermarket chains producing their own private label products. Major dairy processors including DFA and Land O'Lakes dominate non-private label U.S. butter producers. DFA's presence in butter production has become even larger now that it has acquired Dean Foods.<sup>68</sup>

### **Consolidation and Specialization: Behind the Collapse of the Dairy Supply Chain**

Advances in technology and consolidation in dairy processing led to an increase in the scale of major producers and resulted in a focus on standardization and specialization to achieve greater efficiency. A firm like Borden Dairy, one of the largest producers of milk for schools, processes this milk in plants with equipment specialized for this task. Fluid milk processing for

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<sup>66</sup> Ibid.

<sup>67</sup> PE-owned cheese producers from search of PitchBook data; John Umhoefer. 2014. "Leading U.S. cheese producers," *Cheese Market News*. August 8.  
[https://www.cheesemarketnews.com/guestcolumn/2014/08aug14\\_01.html](https://www.cheesemarketnews.com/guestcolumn/2014/08aug14_01.html);

<sup>68</sup> IBISWorld. 2020. "Dairy Product Production Industry in the US - Market Research Report," *IBISWorld*. June.  
<https://www.ibisworld.com/united-states/market-research-reports/dairy-product-production-industry/>; Vincent Amanor-Boadu, Michael Boland, and David G. Barton. 2004. "Land O' Lakes," *The International Food and Agribusiness Management Review*. January.  
[https://www.researchgate.net/publication/23941171\\_Land\\_O%27\\_Lakes](https://www.researchgate.net/publication/23941171_Land_O%27_Lakes)

supermarkets and grocery stores requires different capital goods and different packaging. Each facility accepts milk trucked in from different dairy farms and uses different truckers and routes to deliver the finished products to their respective destinations. A shift from producing products for which demand has fallen to those where demand is rising requires extensive changes at plants that are both expensive and time consuming.

A 2003 case study of dairy co-op Land O'Lakes, which at the time dominated the markets for butter and deli cheese, noted that the company used mergers, joint ventures, acquisitions of public and private companies, and divestitures to achieve size and scale. It relied on high levels of debt to carry out these deals. By 2003, Land O'Lakes operated 200 processing, manufacturing, warehousing, and distribution facilities and employed about 8,000 people. Its Dairy Foods Group was divided into two distinct segments – one that focused on retail, including butter, deli cheese and specialty products, and one focused on manufacturing activities and the sale of bulk cheeses to industrial and high-volume customers (e.g., mozzarella sales to large pizza chains). Its processing plants were specialized to these different product lines, milk delivered to each plant came from its own subset of dairy farms and cooperatives, and trucks with distinct routes picked up the milk from the dairy farmers and delivered the processed dairy products to distinct customers.<sup>69</sup>

Consolidation and specialization were already well-established in the dairy products industry by 2003. Consolidation affected both the number of plants and their geographic location. Overall, the dairy products industry saw a fall in the number of cheese processing facilities by nearly half between 1980 and 1999 and by a third in butter processing over the same period. While all 50 states produced milk, production and distribution were concentrated in just five states - California, Wisconsin, New York, Pennsylvania, and Minnesota – which in 2003 processed more than half the milk produced in the U.S.<sup>70</sup> The geographic concentration of processing plants meant many dairy farms and cooperatives had to ship milk long distances for processing.

As we have seen, the dairy industry is characterized by two separate supply chains that differ in terms of the specialized equipment they use for processing and packaging of the products but have important characteristics in common. Both are consolidated and are characterized by complex relationships among processing firms, long distances from milk producers to dairy product processors, and just-in-time production. It is these characteristics that make dairy industry vulnerable to disruption.<sup>71</sup> As many of the articles cited earlier on dumping milk in the weeks following the national lockdown detail, surging demand for milk and cheese in supermarkets and food banks could not be met even as milk was being wasted. Plants producing

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<sup>69</sup> Vincent Amanor-Boadu, Michael Boland, and David G. Barton. 2004. "Land O' Lakes," *The International Food and Agribusiness Management Review*. January.

<sup>70</sup> Ibid.

<sup>71</sup> Elizabeth Ransom, E. Melanie DuPuis, and Michelle R. Worosz. 2020. Why farmers are dumping milk down the drain and letting produce rot in fields. *The Conversation US*. April 23.

<https://theconversation.com/why-farmers-are-dumping-milk-down-the-drain-and-letting-produce-rot-in-fields-136567>

for consumers were limited by the fact that they lacked spare capacity to ramp up production and they lacked refrigerated trucks and trucking routes able to reach food banks. Plants producing for restaurants and schools would have had to retool their production lines in order to meet consumers' demand for products.

Dumping milk has slowed considerably since May. In part, this is due to steps taken by the Department of Agriculture (USDA) intended to bail out dairy farmers and to get milk products to where they are needed. The USDA announced in mid-April that it would provide \$16 billion in direct support to agricultural producers, including dairy farmers, that have experienced losses due to COVID-19. The agency also agreed to purchase \$3 billion in fresh produce, dairy, and meat. To begin with, the USDA will spend \$100 million per month to get a variety of dairy products to food banks and nonprofits as part of its new Farmers to Families Food Box Program.<sup>72</sup>

These initiatives are unlikely to succeed in mitigating the effects of the pandemic on family farmers. The \$16 billion in income supports, as we have seen, was unequally distributed with the lion's share going to big, industrialized dairies. Smaller family farms received as little as \$200. As for the Farmers to Families Food Box Program, previous experience with a similar program aimed at helping farmers hurt by trade deals and foreign competition showed that aid went mainly to large cooperatives and investor-owned farms and food processing plants. They did not prevent family farm bankruptcies, which hit an eight-year high over the course of that program. There is reason to suspect that the Farmers to Families Food Box Program will similarly fail to help family farmers and smaller processing operations.<sup>73</sup>

Indeed, one of the largest recipients in the Farmers to Families program is Borden, a major supplier of milk to schools. The company, now owned by private equity, won a \$147 million contract to deliver 700 million servings of fresh fluid milk to USDA for distribution to nonprofits across the Southeast, Southwest, and Midwest. This is about 10 percent of Borden's annual production and makes up for the losses due to school shutdowns. It is not clear whether KKR's formidable lobbying prowess played a role, but Borden received the largest contract in the Farmers to Families Food Box Program.<sup>74</sup>

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<sup>72</sup> U.S. Department of Agriculture. 2020. "USDA Announces Coronavirus Food Assistance Program," *Press Release No. 0222.20*, April 17. <https://www.fns.usda.gov/news-item/usda-022220>

<sup>73</sup> Anthony Pahnke and Jim Goodman. 2002. "Commentary: Make Investing in Resilient, Localized Food System Par of Next Stimulus," *Daily Yonder*, June 1. <https://www.dailyyonder.com/commentary-make-investing-in-resilient-localized-food-system-part-of-next-stimulus/2020/06/01/>

<sup>74</sup> Paul O'Donnell. 2020. "Dallas Dairy Producer Borden Wins \$147 Million Coronavirus Relief Contract," *Dallas News*, May 16. <https://www.dallasnews.com/business/local-companies/2020/05/12/dallas-dairy-producer-borden-wins-147-million-coronavirus-relief-contract/>; Natalie Walters. 2020. "For the second time in Borden's 163-year history, a government contract could propel it through crisis." *Dallas News*, May 26. <https://www.dallasnews.com/business/local-companies/2020/05/26/for-second-time-in-bordens-163-year-history-a-government-contract-could-propel-it-through-crisis/>

## Pockets of Resilience: Lessons for the Future

The increase in scale and consolidation in both dairy farming and dairy products processing accompanied mechanization in the dairy industry and the use of dedicated capital goods producing specialized products. Efficiency and productivity increased as a result, making milk and milk products cheaper to produce and more widely available. Consumers gained from lower milk and cheese prices. But cheap food came at the expense of the cows, now housed in warehouse-like barns with no access to grass or sunlight, fed growth hormone to greatly increase their milk production, and filling lagoons with manure. Consumers are deprived of better-quality milk from grass-fed cows, are exposed to the effects of hormones in their milk, and bear the costs of environmental damage from the lagoons. Meanwhile, the gains from higher productivity do not flow to family dairy farmers.

The increase in scale and pursuit of efficiency have come at the expense of resiliency in the dairy industry and the ability to adapt to challenging conditions.<sup>75</sup> Inflexible supply chains link farmers to specific processing plants whose technology and packaging capabilities are suited to a small number of similar products. There is little diversity in scale or organizational form in the dairy industry. Relying so heavily on industrialized dairy production poses a risk in times of disruption, as with the current pandemic.

Nate Wilson, a retired farmer from Sinclairville, New York, put it more bluntly. Milk dumping and the destruction of other viable crops, he argues, is the “unforeseen but logically predictable outcome of several decades of the much celebrated national ‘cheap food’ policy ....” He argues that investors with a short-sighted focus on making profits and getting rich took over both farming and food processing, replacing numerous, geographically dispersed small farms and processing facilities. In his view they “fostered the scourge of globalism and the wholesale consolidation of U.S. agricultural production and processing capacity to reap the worshiped idol of ‘economies of scale’.” Politicians and anti-trust regulators stood aside while wealthy U.S. investors took over agriculture. “For decades this short-sighted, disastrous national policy has laid economic waste to rural America’s economy, small towns, family farms and agricultural infrastructure that were once the marvel and envy of the world.”<sup>76</sup>

The ultimate solution is to restore the interpretation of anti-trust legislation to protect the economy – producers and consumers – from the ravages of monopolization. A starting point in dairy would be a look back by anti-trust regulators at mergers and acquisitions to determine whether they reduced consumer prices or, instead, increased the power of merged companies to

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<sup>75</sup> Mary K. Hendrickson. 2014. “Resilience in a Concentrated and Consolidated Food System,” *Working Paper*, Department of Rural Sociology, University of Missouri, November. Hendrickson recognized the threat to the food supply in emergencies posed by consolidation and the potential to increase resilience by supporting local networks of small farmers and processors.

<sup>76</sup> Nate Wilson. 2002. “Disastrous Policy Has Laid Economic Waste to Rural America,” *Post-Journal*, May 2. <https://www.post-journal.com/opinion/local-commentaries/2020/05/disastrous-policy-has-laid-economic-waste-to-rural-america/>



dictate lower prices paid to suppliers and higher prices than are warranted paid by consumers. Mega-mergers that increase the market power of the combined entity, like the merger of DFA and Dean Foods, should not be allowed to stand, and almost certainly would not pass muster in such a review. Breaking up these companies and blocking future mergers that lead to monopolization of markets in the dairy industry would reduce the dominance and power of a few big firms and limit their ability to capture the gains of higher productivity for their wealthy investors and managers at the expense of farmers, workers and consumers.

More modest steps to reduce the power of dominant firms and increase the resilience of the dairy industry do not have to wait for the penultimate solution. Andrew Carlson, Daniel Rubenstein, and Simon Levin, Princeton University faculty who study ecology and environment, have documented how New Jersey's innovative small milk producers have adapted to survive the pandemic. They note that milk remained in high demand at grocery stores and supermarkets, but it was too expensive and too time consuming to retool dairy products plants that supplied schools and restaurants to produce for consumers. As a result, dairies had to dump milk even as grocery stores and food banks could not meet the demand for milk and milk products. This waste of milk is a signal, the authors argue, of a lack of resilience in the dairy industry.

New Jersey's dairy industry, however, proved far more resilient, according to the Princeton scholars. Farms in the state are small, and that is true of the state's dairy sector. It consists of just 50 dairy farms and ranks 44<sup>th</sup> out of 50 states in total milk production. But the state's dairy industry is surviving the pandemic by working in cooperatives that sell directly to consumers. The key is a collaborative 'horizontal' element in New Jersey that is added to the vertical integration of dairy cooperatives. Dairy farms in New Jersey are part of a network in which dairy co-ops with processing capabilities process milk for other local producers, sell milk products directly to consumers at markets operated by farmers, supply products to grocery stores, cafes, and restaurants in their network for their own use but also serve as hubs that stock and sell milk and other product to a broader clientele. Profits generated from these activities are shared among participants in the network. "Resilient food systems," they note, "make agriculture smaller, not larger." One lesson for policy makers is to foster flexible and diverse food systems that include horizontal integration and support the farm to table movement.<sup>77</sup>

Another example of resilience comes from Litchfield, Connecticut, where, at the start of the pandemic, the Arethusa Farm dairy consisted of a mid-size farm with 460 cows and a plant that processed the farm's own milk into prize-winning dairy products for consumers in its local market area. It owns dairy stores in Bantam, New Haven, and West Hartford, which provide it with outlets for its products in addition to the local supermarkets it serves. When the pandemic struck and dairy farmers were forced to dump milk while grocers and food banks were begging for milk products, the dairy's owners made a decision to change their business model to meet the needs of the moment. They opened up Arethusa's milk processing operations to two nearby dairy farms that had been asked to dump milk by the large processing plant they normally supplied.

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<sup>77</sup> Andrew Carlson, Daniel Rubenstein and Simon Levin. 2002. "New Jersey's Small Networked Dairy Farms Are a Model for a More Resilient Food System," *The Conversation US*, June 3. <https://theconversation.com/new-jerseys-small-networked-dairy-farms-are-a-model-for-a-more-resilient-food-system-137881>



Arethusa's new model is "designed to make milk production more financially-efficient and sustainable without sacrificing quality and quantity." Milk from the dairy farms now supplying Arethusa is still under contract with the Agri-Mark facility in Springfield, Massachusetts that produces dairy products for restaurants and schools as well as dried milk for export. Like other plants, it cannot be converted to produce fluid milk, and its purchases from dairy farmers have decreased. Arethusa stepped in to pick up the slack.<sup>78</sup> This example clearly illustrates how small dairy processors can provide resilience to a milk supply chain dominated by national industrial-scale processing operators.

Not every large dairy co-op found it necessary to ask its farmer members to cut the amount of milk sold to it. The 750 farm families across the Midwest and parts of the South that are members of the Prairie Farms cooperative, haven't dumped any. Prairie Farms, headquartered in Edwardsville, IL, owns numerous processing plants and trucking facilities. It has a diverse dairy product line and flexible distribution capabilities. Despite the disruptions in the industry, it was able to shift some milk that would ordinarily go to plants producing products for restaurants, schools, and other institutions to other plants that produce products in demand by grocery stores and supermarkets. Managing the logistics has not been easy, but the co-op was successful in shifting distribution. While Prairie Farms farmers have not had to dump milk, the pandemic has affected the price they get for their milk and their profits. Nationally, the price of milk used in cheese, for example, declined from about \$18 per 100 pounds in early 2020 to \$14 by the end of April. And as we noted earlier, Prairie Farms uses its large size to drive a hard bargain with its farmer members over what it pays for raw milk and does not share the profits from its milk and cheese processing operations with them. It may be a while before milk prices and farmers' incomes recover. COVID-19 has reduced domestic demand and exports.<sup>79</sup>

Vermont may be pointing the way forward. Writing in the *VT Digger*, Bill Schubart argues that: "Opportunities lurk in every downturn." He notes that Vermont's "dairy industry is inextricably bound to the broken national food supply" dominated by "massive national food supply monopolies" with their "hyper-efficient food chain technologies." The pandemic, he argues, has pointed up the need for greater diversity in food production – both in the large, industrialized agricultural farms and processing facilities and by reimagining the region's food supply in a way that stimulates family farms and local processing of milk and other agricultural products. Industrialized agriculture has been stymied in its efforts to right size and achieve resilience and sustainability, he writes, by the "outsized influence and profit in the current system." But even here, the COVID induced financial crisis has created opportunities for change, which many large producers are trying to make. Most promising, however, is the initiative by the Vermont Agency of Agriculture, Food and Markets to promote economic development through the stabilization, diversification and revitalization of agriculture in the state. Alongside the national, industrial food supply system, the plan would expand and diversify the state's smaller farms, dairies, and

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<sup>78</sup> John McKenna. 2020. "Got Milk? Arethusa Farm Changes Its Business Model to Preserve Quality, Assist Smaller Dairy Farms," *Republic-American*, May 23. <https://www.rep-am.com/local/localnews/2020/05/23/got-milk-arethusa-farm-changes-business-model-to-preserve-quality-assist-smaller-dairy-farms/>

<sup>79</sup> Allen Laman. 2020. "Dairy Farmers Brace for Uncertain Future," *Dubois County Herald*, April 28. <https://duboiscountyherald.com/b/dairy-farms-brace-for-uncertain-future>

processing plants that serve local communities. “Imagine the economic impact on our rural communities,” Schubart writes, “if we increased our spending on local and regional food to 50 percent” from its current 14 percent of Vermonters’ food budget.<sup>80</sup>

## Conclusion

In an ideal world, antitrust guidelines would revert to their pre-1982 interpretation of the Sherman Act and would take the effects of mergers on competition into account in deciding whether to approve them. Antitrust authorities would break up mega dairy producers like the new DFA that dominate markets and are intent on monopolizing them. But a new antitrust regime and the break-up of mega dairy products processors are not the only approaches to reducing the market power of these giant companies.

As the examples in the previous section illustrate, there are viable reforms of the dairy products system that can achieve resilience and improve the ability of the dairy industry to respond to disruptions. These reforms will require substantial investments in local production systems to succeed. The smaller processing and distribution operations these reforms will create are not designed to replace the large-scale processors of milk and cheese products, but to enable the dairy industry to meet unforeseen challenges to supply.

Like too-big-to-fail banks, the challenges to breaking up national and global milk and cheese processors and the complex logistics involved in getting a perishable product to markets all over the U.S. will take a national effort as well as a change in antitrust enforcement. But that doesn’t mean that the strangle hold monopoly producers have on milk processing can’t be broken. The Arethusa Farm example illustrates the role that local processing plants can play in offering family dairy farmers an alternative place to sell their milk. Besides reducing the need to dump milk, support for smaller scale processing plants increases the bargaining power of small farmers in negotiation over the price of raw milk paid by the major cooperatives like DFA and Prairie Farm and by investor-owned companies like Borden Dairy. New Jersey’s small-scale dairy farms and processing plants demonstrate the importance of horizontal coordination with end-users of milk and processed dairy products. Both approaches support the growing Farm to Table movement.

But it is Vermont’s approach that best illustrates how states can take on the antimonopoly project, described by antitrust expert Sanjukta Paul in personal correspondence, as limiting domination by powerful actors and promoting coordination among less powerful ones, to make the dairy industry more resilient and better able to meet the needs of farmers and consumers.

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<sup>80</sup> Bill Schubart. 2020. “Schubart: Building a Regional Food Supply System Out of the Pandemic, *VT Digger*, May 10. <https://vtdigger.org/2020/05/10/schubart-building-a-regional-food-supply-system-out-of-the-pandemic/>

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