

Agricultural economists offer food for thought to improve baby formula supply

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The 2022 baby formula crisis highlighted the precarious balance between regulation, competition and safety, according to a recent study published last month.

The [study](#) titled "Navigating the Challenges of Building a More Resilient Infant Formula Industry" was published in *Applied Economic Perspectives and Policy*, the Agricultural and Applied Economics Association journal. The article takes a close look at the [infant formula](#) market and factors that contributed to the historic shortage of infant formula in 2022.

Study co-author Trey Malone, assistant professor of agricultural economics and agribusiness with the University of Arkansas System Division of Agriculture, said the article proposes a "strategic rethinking of policies to foster a more competitive and accessible market."

The goal is ensuring infant nutrition security.

"Our [collaborative effort](#) has been an enlightening journey, shedding light on the delicate balance between regulation, market competition, and ensuring the availability of essential nutrition for infants," said Malone, who conducts research for the Arkansas Agricultural Experiment Station, research arm of the Division of Agriculture. "This article is a great place to start for those interested in the complexities of the infant formula market and policy implications."

Unpacking the crisis

Years of declining [birth rates](#), increasing maternal breastfeeding, market concentration and regulations on importing infant formula were ingredients for the crisis, Malone says. The final whammy was a potential Cronobacter contamination that led to the voluntary production halt at one of the biggest infant formula production facilities in the United States. National out-of-stock rates for infant formula, which had already been at 15% due to supply chain issues from the pandemic, rose to 74% by the end of May 2022.

The article noted that the crisis underscored the existence of high market

concentration in the baby formula market. Market concentration has been a feature of baby formula production since the 1980s, with two firms, Abbott and Reckitt, accounting for at least 50% of the market.

"A central issue in the infant formula industry is a lack of market competition and overly stringent regulations," Malone said.

The regulatory framework for infant formula in the United States was shaped by the Federal Food, Drug, and Cosmetics Act and the Infant Formula Act of 1980 with amendments in 1986. The laws established standards for nutritional content and labeling, giving the Food and Drug Administration authority over infant formula manufacturing. However, the FDA has rules and regulations that have limited infant formula imports approved by "equally competent regulators in Europe" and other Organization for Economic Cooperation and Development countries, the article states.

Comparing trends in imports among 171 countries, the economists showed the United States ranked 147th in the amount of infant formula imported between 2017 and 2019.

Another key component in the infant formula market is the Special Supplemental Nutrition Program for Women, Infants, and Children, also known as WIC. The program provides free infant formula to qualifying low-income households. States, or a coalition of states, award WIC infant formula contracts to the manufacturer that submits the highest rebate level. This is known as a competitive sole-source contract. The economists say the practice received considerable attention during the infant formula shortage of 2022 "due to concerns that it creates a barrier to competition."

"Previous research has consistently shown that a change in a state's contract brand substantially shifts market shares," the article noted.

The practice of "medical detailing" infant formula samples by companies that also make [medical equipment](#) was noted in the article as unique on the world stage. "Medical detailing," the article explains, is a practice in which manufacturers market directly to hospitals and [medical professionals](#).

"The U.S. Government Accountability Office GAO identified medical detailing as a possible barrier to entry in part because it may be prohibitively expensive for non-pharmaceutical or medical companies," the article noted. "The practice is fairly unique to the U.S. market as most countries regulate infant formula marketing in response to the 1980 World Health Organization's WHO International Code of Marketing of Breastmilk Substitutes, which includes infant formula. This code specifically discourages the promotion of breast milk substitutes within the health care sector."

A series of tradeoffs

Jackie Yenerall, lead author of the article and an assistant professor of agricultural and resource economics for the University of Tennessee Institute of Agriculture, noted that their review of the infant formula supply shortage identified a series of tradeoffs.

"Our article provides a discussion of the potential tradeoffs associated with making permanent changes to three policies and programs that currently influence the infant formula [market](#): import tariffs, Food and Drug Administration regulation, and WIC," Yenerall said.

Suspending tariffs or relaxing U.S. Food and Drug Administration standards could lead to an increased infant formula supply but may increase risk of contamination. Alternatively, increased consumer choice could lead to increased cost to the government from modifying WIC.

Striking the proper balance between these tradeoffs could help strengthen the infant formula industry.

"The heart of our work lies in analyzing policy responses and proposing ways to build a more resilient industry," Malone said.

Other co-authors of the study include Andrew Muhammad, professor and Blasingame Chair of Excellence, and Karen Lewis DeLong, associate professor of agricultural and resource economics, both with the University of Tennessee Institute of Agriculture.

More information: Jackie Yenerall et al, Navigating the challenges of building a more resilient infant formula industry, *Applied Economic Perspectives and Policy* (2024). [DOI: 10.1002/aep.13416](https://doi.org/10.1002/aep.13416)

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