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# The Effects of the Margin Protection Program for Dairy Producers

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## What Is the Issue?

U.S. dairy farmers increasingly face highly variable milk prices and feed costs due to weather events, grain and dairy farm policies, fluctuations in global supply and demand, changes in currency valuations, and other factors. Introduced in 2014, the Margin Protection Program for Dairy Producers (MPP-Dairy) is a voluntary risk management program for dairy farmers, offering protection when the national average margin (the difference between the U.S. all-milk price and the estimated average feed cost) falls below a level selected by the dairy farmer. MPP-Dairy helps dairy farmers reduce the risks associated with highly variable milk prices and feed costs, which account for the largest share of operating costs for most dairy farms.

The Livestock Gross Margin for Dairy Cattle (LGM-Dairy), established in 2008, was the first Government program specifically designed to protect margins between milk prices received by dairy farmers and feed prices paid. While LGM-Dairy has historically been small and has limited enrollment at times, it remains an option for dairy farmers choosing not to enroll in MPP-Dairy. MPP-Dairy overcomes some of the limitations of LGM-Dairy by providing protection to all dairy operations on a countercyclical basis and by setting available margin coverage levels that will stay in place through 2018 (rather than allowing margin protection to evolve with market conditions as with LGM-Dairy).

This study addresses four key questions that farmers face in the dairy industry. First, what impact does MPP-Dairy have on realized margins? Second, how does downside risk reduction through MPP-Dairy differ by region and coverage levels selected? Third, are there likely to be supply impacts (increases in milk production) resulting from the MPP-Dairy program? Finally, how does the downside risk management of MPP-Dairy compare to LGM-Dairy for the same regions?

## What Did the Study Find?

In order to understand potential impacts of the MPP-Dairy Program, this study estimates the effects of the MPP-Dairy program had it been in place during 2002-13. Key findings include:

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- Realized net margins for farmers participating in MPP-Dairy would have varied based on the amount of production covered.
  - › Small dairy operations (designated in this study as those with potential coverage of 4 million pounds of production history per year) would have realized the highest average net margins if they had chosen coverage of \$8 per hundred pounds of milk (cwt) for 90 percent of historic production. Small dairy farmers choosing this rate of coverage would have received an average net benefit of \$0.35 per cwt more (about 4.7 percent of the margin as a simple average for all regions) than they actually received over the period.
  - › Medium and large dairy operations (with potential coverage of 20 million and 40 million pounds of production history per year, respectively) would have realized the highest average net margins if they had chosen coverage of \$6 per cwt covering 90 percent of historic production. Medium and large dairy farms would have received average net benefits of \$0.12 per cwt and \$0.11 per cwt more (about 1.6 and 1.5 percent of the margin, respectively) than they actually received over the period.
- Risk reduction from MPP-Dairy would have varied by region, margin coverage level, and share of coverage selected.
  - › Dairy farmers would have reduced risk substantially if they had selected higher margin protection levels and higher percentages of historic production.
  - › Differences in potential risk reduction by region are substantial. For example, dairy farmers choosing \$8 per cwt of coverage for 90 percent of production history in New England and the Northwest would have reduced downside risk by 46 percent and 75 percent, respectively.
- The supply response to MPP-Dairy (the increase in milk production) due to risk reduction would have increased with greater margin-coverage levels and greater shares of production base covered.
  - › While the premiums for MPP-Dairy are fixed for the life of the program, LGM-Dairy premiums are based on futures prices and change as the expectations of milk and feed prices change. Therefore, LGM-Dairy is likely to be more attractive to farmers when overall market conditions are favorable (higher margins) and MPP-Dairy more attractive when they are not favorable (lower margins).

## How Was the Study Conducted?

Historical margins (farm milk prices minus feed values) were constructed using historical monthly data and mailbox milk prices (net pay prices received by dairy farmers) for each of the 13 regions. Regional feed values were constructed using multiple sources. Historical margins were compared with what margins would have been if farmers had been paying premiums and collecting indemnities under the MPP-Dairy program at the assumed levels, and changes in risk reduction (defined in this study as root mean squared downside deviation from the median margin) were also calculated for each region. MPP-Dairy to LGM-Dairy comparisons were made by examining results from this study and previous studies, and potential supply responses were examined per region based on risk-reduction percentages calculated under two supply-response scenarios.