DMaP Dairy Markets and Policy

Market Impacts of the MPP and Implications for Participation Decisions

Chuck Nicholson and Mark Stephenson

Smeal College of Business, Penn State University and University of Wisconsin, Madison

MPP is different than other risk management tools because it can lower margins. What are the implications for participation decisions?

The Margin Protection Program (MPP) provides an important tool for dairy producers to manage risk. However, the MPP has some features that make it a bit different than other risk management tools such as the use of futures contracts and LGM-Dairy. One difference is that in the most common use of risk management tools, a dairy producer will be able to achieve *certainty* in margins (although not necessarily good margins or stable margins) by paying the fees associated with futures contracts or the premiums of LGM-Dairy. Thus, the "expected return" of risk management for most dairy producers will be negative—on average they will pay for the certainty than they will receive. **For MPP, this "expected return" would have been positive over the last decade**—i.e., producers are likely to receive more in benefits than they pay in premiums, based on our analysis of alternative decision strategies during 2005 to 2013.

A second difference concerns market impacts. We do not expect that the use of other risk management tools is likely to have a large impact on the margins earned by dairy farmers, partly because relatively few dairy farmers use risk management tools, and partly because of the way in which the other risk management tools work. **For MPP, there is likely to be an impact on market outcomes (that is, it is likely to lower margins).** MPP is likely to lower margins because it pays producers when margins are below the covered levels, and this is likely to slow the response of milk production to market signals indicating that there is "too much" milk relative to demand. Additional milk is marketed, which would make milk prices—and margins—lower than they would be if there were no MPP. The bottom line is that **the MPP program itself can cause lower margins** if enough milk is covered and margins fall to levels covered under the program (that is, $8).

The history of the MPP margins from 2005 to 2013 indicates that we have never gone four consecutive years—similar to the current authorization period for MPP—without margins falling below $8 for a number of months. This suggests that the program is likely to become active at some point during 2014 to 2018. Our analyses based on statistical and simulation modeling suggest a lower-margin period beginning in late 2015 and running through early 2017. (This is consistent with previously observed milk price cycles.) Given our projected milk prices through 2018, we examined the farm impacts of the MPP on margins and NFOI (Table 1)

Table 1. Simulated Average Annual Net Farm Operating Income (NFOI) during 2015 to 2018 for Four Farm Sizes with Previous Programs, With and Without MPP Participation

Farm Size (Cows)	NFOI With Previous Programs ($/Year)	NFOI with MPP Participation ($/Year)	NFOI without MPP Participation ($/Year)	Difference without MPP Participation ($/Year)	Difference Without MPP Participation, $/cwt
50	28,623	28,133	10,203	-17,930	-0.25
190	76,706	56,414	22,391	-34,022	-0.16
800	435,683	351,343	222,781	-128,562	-0.17
3400	2,488,348	2,087,047	1,486,287	-600,760	-0.17

NOTES: NFOI is calculated as revenues less variable costs. Previous programs include dairy price support, DEIP, and MILC. Participation is assumed to be high when margins are expected to be lower than $8/cwt.

Simulation analysis based on our margin projections indicates that the MPP could lower margins by about $0.90/cwt on average during 2015 to 2018. Of course, there is a good deal of uncertainty in any projection like this, and the possible impacts of MPP on margin based on different developments in global markets, feed costs and farmer participation levels range from essentially no impact on margins to a decrease in margin of $3.15 / cwt.

One implication of MPP market impacts is that producers who opt not to participate may find themselves receiving lower milk prices (and therefore margins) without receiving any indemnity payments. The analysis in Table 1 suggests that the impacts on Net Farm Operating Income (NFOI) vary by farm size, but not participating in MPP when payments are expected results in lower farm income than participating. In this analysis, we assumed a high level of participation when margins were projected to be low, but the type of impacts would be similar if fewer producers enrolled in MPP although the reduction in income would be less. Thus, in making participation decisions, producers should consider the possible market impacts of the program.

Not participating if projected margins are low and the proportion of milk participating is large can result in lower farm income.

The DMaP Team includes Marin Bozic, University of Minnesota, Brian Gould, University of Wisconsin, John Newton, University of Illinois, Charles Nicholson, The Pennsylvania State University, Andrew Novakovic, Cornell University, Mark Stephenson, University of Wisconsin, Cameron Thraen, The Ohio State University, and Christopher Wolf, Michigan State University. With respect to any opinions, findings, conclusions, or recommendations, neither the United States Government, the University of Illinois, nor the National Program on Dairy Markets and Policy makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Users bear the sole responsibility for decisions affecting program participation and may want to consult other resources. The National Program on Dairy Markets and Policy is working with the University of Illinois led consortium National Coalition for Producer Education, which is supported by the U.S. Department of Agriculture, Farm Service Agency, under Agreement No. 58-0210-4-002 N.