

Comparison of Three MPP-Dairy Participation Strategies for a 2,500-Cow Farm

Chuck Nicholson and Mark Stephenson

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

What would net revenues from the program have been for different participation strategies if MPP-Dairy had existed during 2007-2013?

The MPP-Dairy program can be used to provide a farm with insurance against catastrophically-low margins, as risk management to ensure that the farm receives a minimum margin level or as a countercyclical payments program similar to MILC. **The decision about how to use the program should be based on a careful consideration of the farm's objectives, current financial status and preferences about risk.** However, given that the MPP-Dairy program is not exactly like other risk management options because premiums are fixed for five years and are highly subsidized, there is a larger potential to earn positive returns from MPP-Dairy participation than from traditional risk management approaches. **It is relevant to understand the revenues that farms could experience with different participation strategies.**

We calculate the revenue impacts of different strategies for a 2,500-cow farm with a 24,000-lb herd average (or, 60 million lbs per year of "production history" as defined under the program). To do this, we consider the premiums and payments that would have been made under the program if it had been in place from 2007 to 2013. The strategies we consider are:

- Catastrophic coverage (\$4 margin covered on 90% of milk)
- \$6.50 margin coverage for the proportion of production history that results in largest net payments
- Coverage that maximizes the net payments from the MPP-Dairy program

These three approaches are consistent with use of the program for catastrophic insurance, risk management and as countercyclical payments—although many other strategies are possible. The production history

(PH) for this farm is 60 million lbs, so fees and premiums for MPP-Dairy coverage would be calculated using the both the lower-tier and higher-tier premium schedule for coverage on more than 7% of PH.

Catastrophic coverage would have cost a 500-cow producer \$0.0002/cwt and would have returned \$0.09/cwt during these 7 years. A strategy of choosing a \$6.50 margin each year and adjusting the proportion of production history covered would have meant covering 25% of PH during higher-margin years and 90% of PH during low margin years. This strategy would have cost a 100-cow farm \$0.14/cwt and returned \$0.39/cwt in net payments. A strategy to maximize MPP-Dairy payments would have covered 90% of PH in all years, but covered the maximum-allowable \$8.00 margin in low-margin years (2009, 2012) and chosen catastrophic coverage in higher-margin years (2007, 2008, 2010 and 2011). This strategy would have cost a 2,500-cow producer \$0.37/cwt and provided net payments of \$0.48/cwt. **For these years, selecting higher levels of coverage provided larger net returns, although the required larger fees and premiums.** These results would be similar for somewhat smaller or larger dairies (any with a PH greater than 30 million lbs) but the actual dollar values would vary with farm size.

These results probably underestimate the net returns because margins would have been lower if MPP-Dairy actually had been in operation during 2007 to 2013. Also, these results **do not imply that participation during 2014-2018 would be exactly like those indicated here** if a farm followed this participation strategy.

Table 1. Margin Coverage and Percentage of Production History Choices for Three MPP-Dairy Participation Strategies, Based on 2007 to 2013 Margins

| Year, Outcome | Catastrophic Coverage | 6.50 Margin with Variable % of Production History | Maximize Net Returns from MPP-Dairy |
|----------------------------|-----------------------|---|-------------------------------------|
| 2007 | 4.00/90 | 6.50/25 | 4.00/90 |
| 2008 | 4.00/90 | 6.50/25 | 4.00/90 |
| 2009 | 4.00/90 | 6.50/90 | 8.00/90 |
| 2010 | 4.00/90 | 6.50/25 | 4.00/90 |
| 2011 | 4.00/90 | 6.50/25 | 4.00/90 |
| 2012 | 4.00/90 | 6.50/90 | 8.00/90 |
| 2013 | 4.00/90 | 6.50/90 | 6.50/90 |
| Fees & premiums , \$/year | 100 | 84,071 | 221,043 |
| Fees & premiums, \$/cwt PH | 0.0002 | 0.14 | 0.37 |
| Net payments, \$/year | 53,707 | 231,237 | 287,393 |
| Net payments, \$/cwt PH | 0.09 | 0.39 | 0.48 |

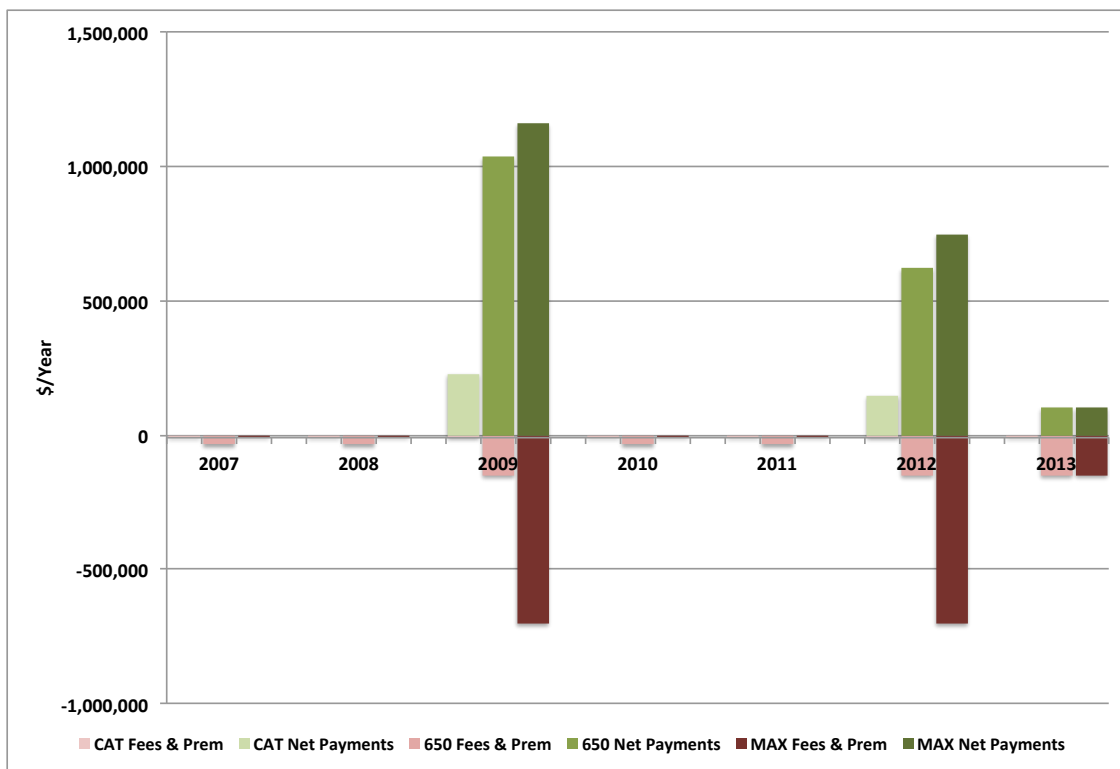


Figure 1. MPP-Dairy Fees & Premiums and Net Payments for Three Participation Strategies, 2007 to 2013

Participation strategies for MPP-Dairy have a large impact on fees & premiums required and net payments. If MPP-Dairy had existed during 2007 to 2013, higher participation would have yielded higher net payments.

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.