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**Margin Protection Program for Dairy Producers:  
Implementation, Participation and Consequences**

Marin Bozic  
Assistant Professor, Department of Applied Economics  
University of Minnesota  
[mbozic@umn.edu](mailto:mbozic@umn.edu)

Christopher Wolf  
Professor, Department of Agricultural, Food, and Resource Economics  
Michigan State University  
[wolfch@msu.edu](mailto:wolfch@msu.edu)

Fanda Yang  
Graduate Student, Department of Applied Economics  
University of Minnesota  
[fanda007@umn.edu](mailto:fanda007@umn.edu)

John Newton  
Clinical Assistant Professor, Department of Agricultural and Consumer Economics  
University of Illinois at Urbana-Champaign  
[jcnewt@uiuc.edu](mailto:jcnewt@uiuc.edu)

Cameron S. Thraen  
Associate Professor, Department of Agricultural, Environmental and Development Economics  
The Ohio State University  
[thraen.1@osu.edu](mailto:thraen.1@osu.edu)

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## **Margin Protection Program for Dairy Producers: Implementation, Participation and Consequences**

### **Summary**

In the period leading up to the start of the Margin Protection Program for Dairy Producers (MPP-Dairy), a survey was undertaken to assess dairy farmer knowledge, attitudes, impressions and expected participation decisions. All surveys were collected in July and August 2014. Main conclusions of the survey are:

- 1) Prior to the announcement of USDA rules regarding MPP-Dairy, most dairy producers felt they had ‘some knowledge’ of the program, with close to 30 percent declaring ‘no knowledge’ about the program.
- 2) About thirty percent of respondents had somewhat or very favorable impressions of MPP-Dairy while similar percent had somewhat or very unfavorable. Top four concerns about the program were too much government involvement, program complexity, lack of supply management and fear that the program would distort market signals to farmers.
- 3) Close to 40 percent of producers indicated they were leaning towards registering for MPP-Dairy, while 30 percent were leaning against participation. Over 30 percent of producers had not decided if they would to participate or not. More knowledge about MPP-Dairy was associated with higher likelihood of participation.
- 4) We asked dairy farmers which coverage level they would choose in *most* years. Distribution of responses had two pronounced peaks, with \$4.00/cwt and \$6.00/cwt chosen by 28 and 25 percent of producers respectively. No other coverage choice was chosen by more than 12 percent of producers.
- 5) Just under 70 percent of LGM-Dairy users indicated that when faced with a one-time irreversible choice between LGM-Dairy and MPP-Dairy, they would choose MPP-Dairy.
- 6) Just under 25 percent of producers indicated MPP-Dairy would ‘somewhat’ reduce their use of other risk management tools, while 18 percent replied they expected a ‘strong reduction’ in their use of other risk management instruments.

## **Introduction**

Agricultural Act of 2014 repealed two main pillar of former federal dairy safety net – Milk Income Loss Contract and Dairy Product Price Support Program. Two new programs were introduced – Margin Protection Program for Dairy Producers (MPP-Dairy) and Dairy Product Donation Program. MPP-Dairy is a Title I risk management program that combines features of insurance products and countercyclical payment programs. The MPP-Dairy is a voluntary risk management program that pays participating dairy farmers when a national benchmark for income over feed costs falls below a farmer-selected coverage level. For a detailed description of MPP-Dairy see Bozic et al. (2014) and Novakovic (2014).

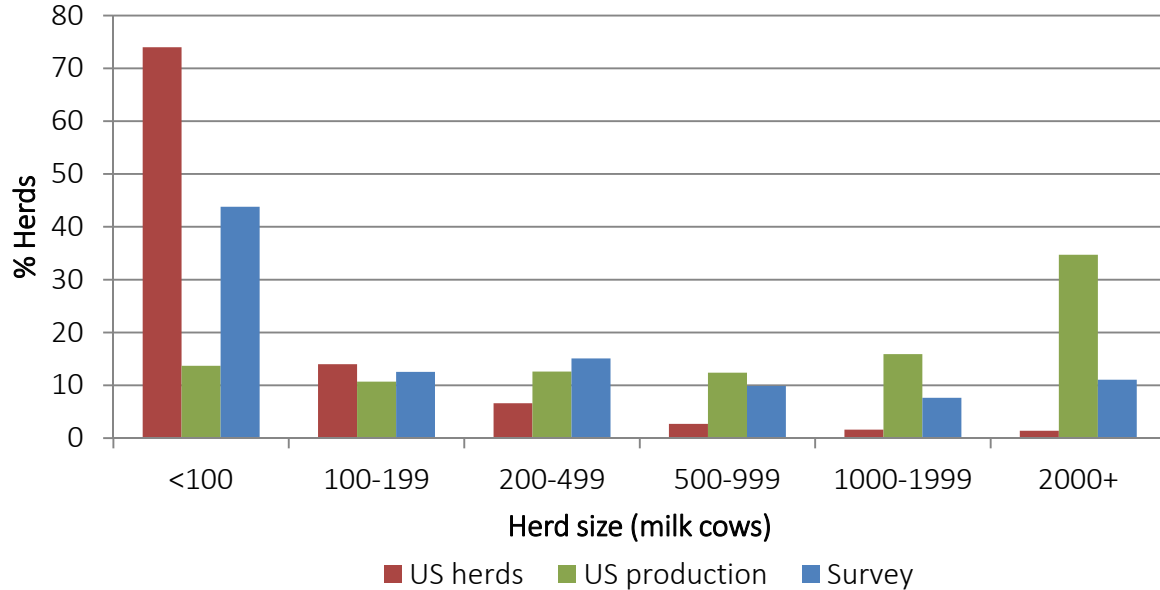
The registration for MPP-Dairy for 2014 and 2015 coverage years started on September 2, 2014. In the period leading up to the start of the program, a survey was undertaken to assess dairy farmer knowledge, attitudes, impressions and likely participation decisions. The survey had both mail and internet form. Potential dairy farmer respondents were recruited using email lists from dairy farm industry publications and dairy cooperatives (internet) and state lists of licensed operations shipping milk (mail). The internet respondents were not drawn randomly while the mail survey addresses were drawn randomly. The survey information was collected prior to the start of MPP-Dairy on September 1, 2014. This paper summarizes the responses and draws some preliminary implications for educational and informational programs related to MPP-Dairy.

## ***Survey and Respondents***

The survey focused on producer impressions, concerns, and attitudes about MPP-Dairy. Also collected was basic information about the operation. Up to and including September 1 there were 669 useable responses. Of those responses 327 were from internet respondents and 342 were mail respondents.

The distribution of respondent milking herd sizes is displayed in Figure 1 along with the most recent US Department of Agriculture-National Agricultural Statistics Service percentage of herds and production from those herd size categories. The average respondent operation had 646 milk cows which was significantly larger than the average US operation with milk cows which had about 160 milk cows. Respondent dairy herd size ranged from 8 to 7,500 cows. The response profile indicates that the survey respondents were more representative of the percent of milk produced in each size category than the number of herds at the larger herd size categories (Figure 1).

**Figure 1. Respondent and US Herd Size Distribution**



Responses by state were collected into regions as follows:

Northeast = CT, ME, NH, NJ, NY, PA, VT (100 responses)

Upper Midwest = IL, IN, IA, MI, MN, OH, WI (372 responses)

Southeast = FL, GA, KY, LA, MD, MS, NC, TN, VA (31 responses)

Central/Plains/Mountain = CO, ID, KS, MO, MT, NE, ND, NM, OK, SD, TX (37 responses)

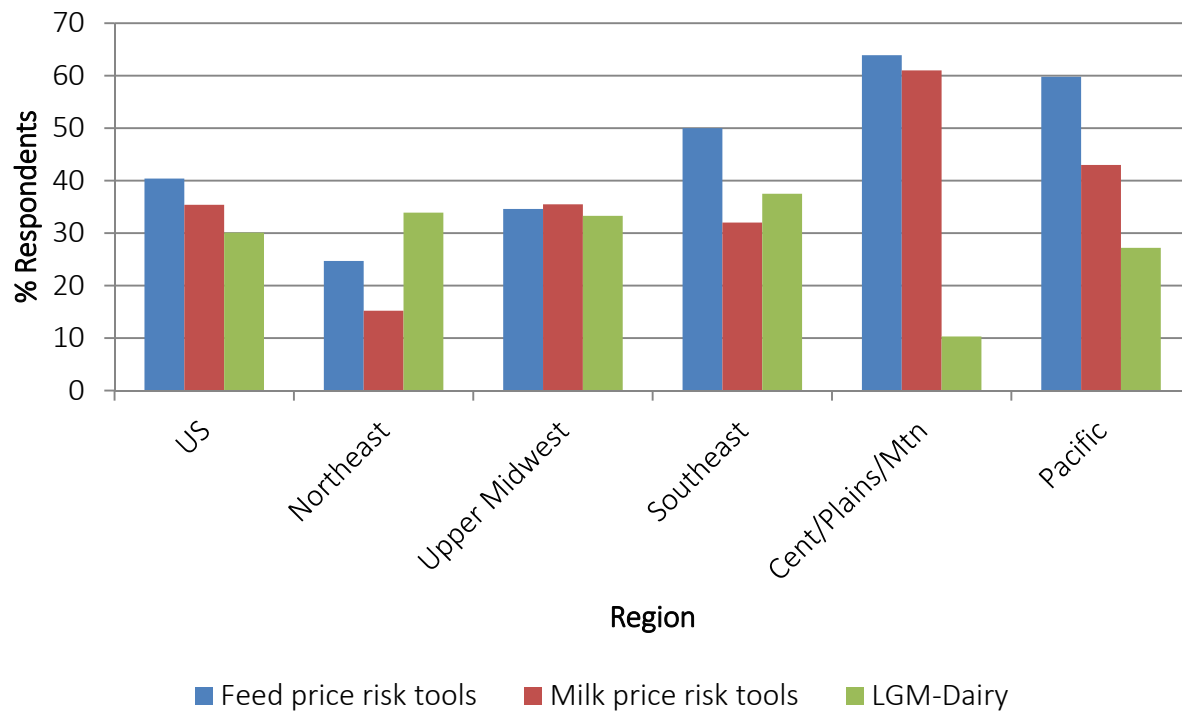
Pacific = AZ, CA, OR, WA (129 responses)

**Table 1. MPP-Dairy Survey Participants - Herd Size by Region**

Region	Average	Standard
		Deviation
	(milk cows)	
US	646	1,178
Northeast	182	267
Upper Midwest	270	686
Southeast	780	1,268
Central/Plains/Mountain	1,703	2,117
Pacific	1,750	1,432

Figure 2 indicates that the respondents were using both feed and milk price risk management tools including forward, futures, and options contracts. The survey respondents were likely much more active in milk and feed risk management than the typical dairy farm operator.

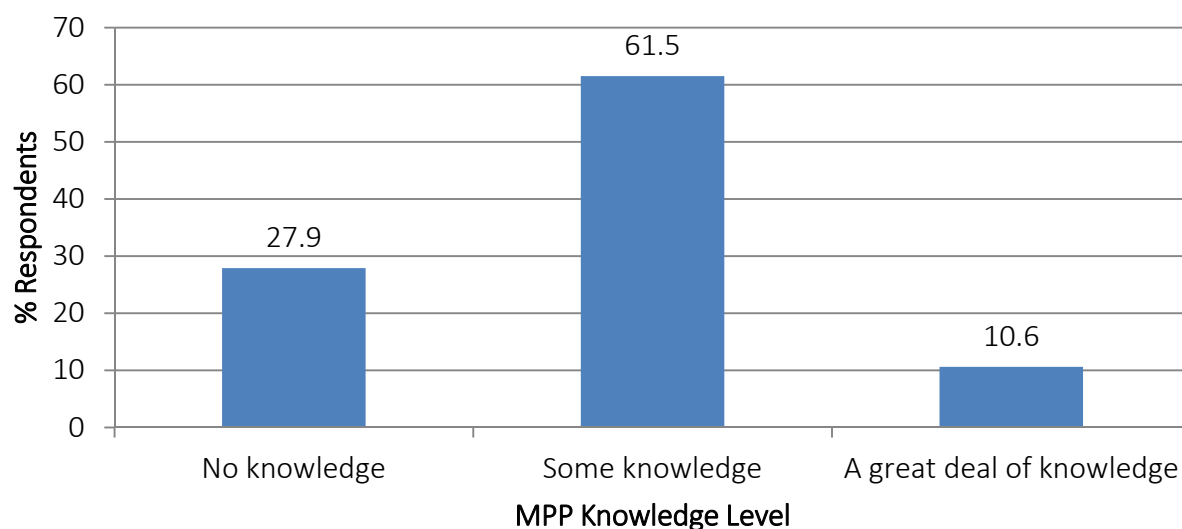
**Figure 2. Past Use of Risk Management Tools**



***Knowledge, Impression, and Concerns about MPP-Dairy***

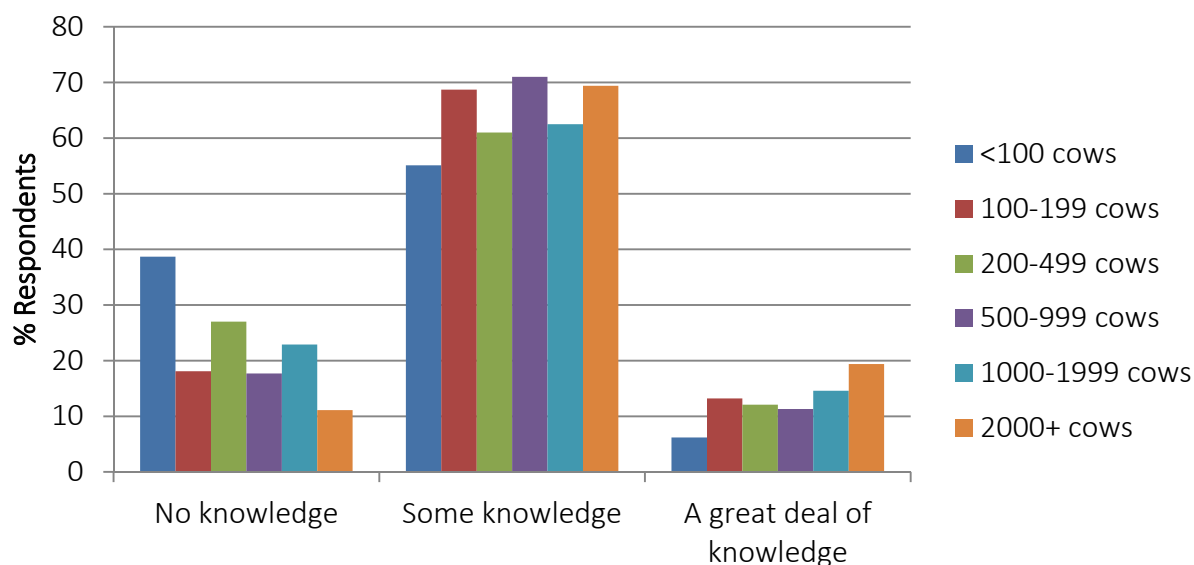
A majority of respondents indicated that they had “some” knowledge about MPP-Dairy. About a quarter of respondents had no knowledge and only a bit more than 10 percent assessed their knowledge level as “a great deal” (Figure 3).

**Figure 3. US Respondent Self-Evaluated Current Knowledge Level about MPP-Dairy**



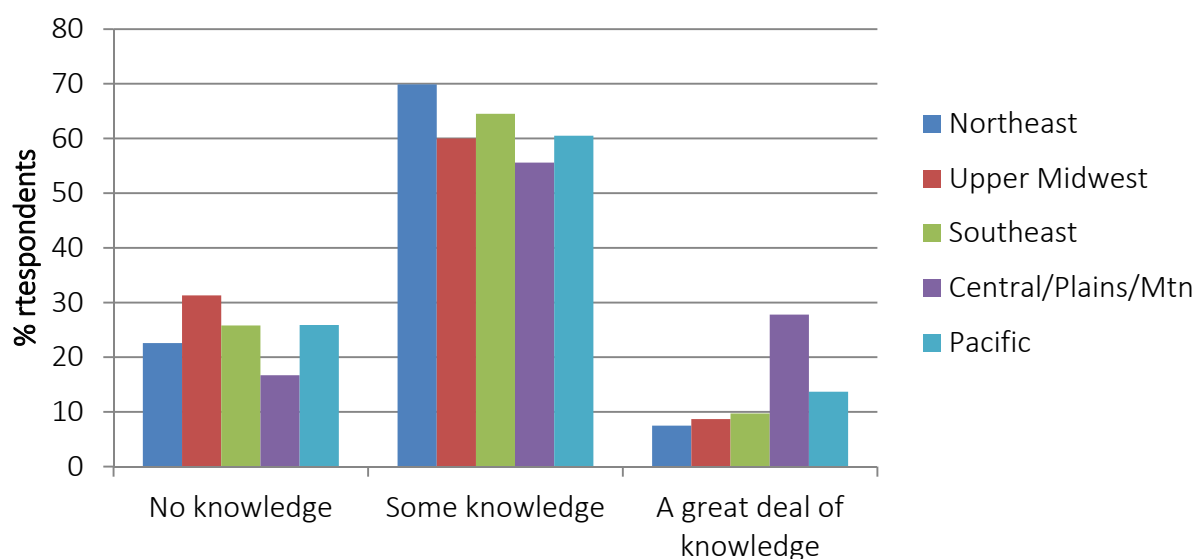
Examining knowledge level by herd size reveals that the operators of very large herds (2000+ milk cows) had relatively more knowledge about MPP-Dairy than the smaller herd operators (Figure 4).

**Figure 4. MPP-Dairy Knowledge by Milking Herd Size**



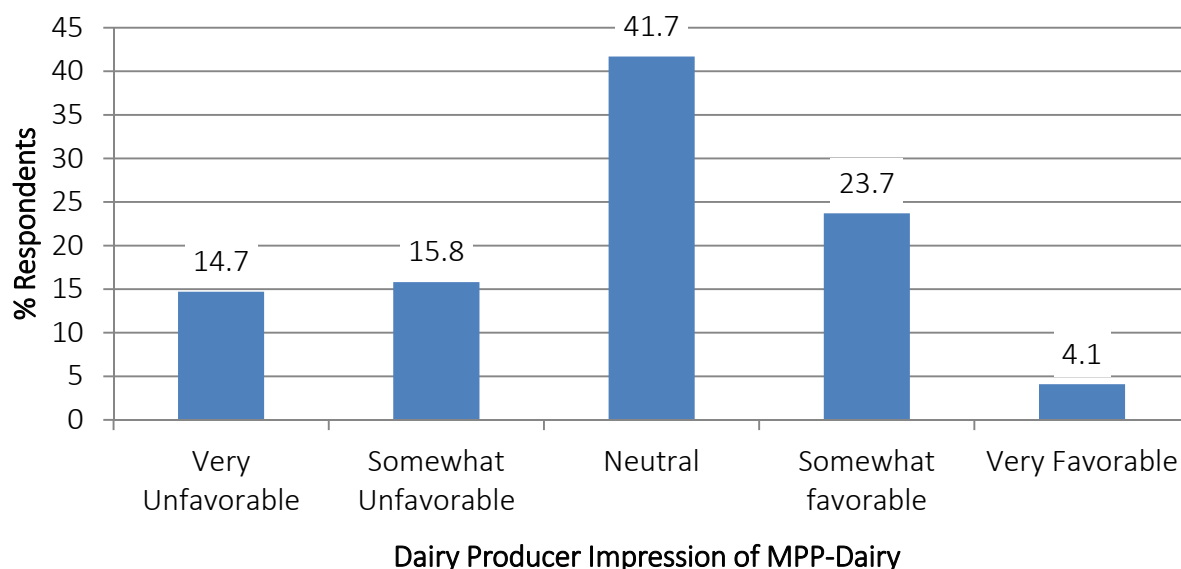
Knowledge about MPP was basically distributed similarly across regions except the Central/Plains/Mountain region respondents characterized their knowledge level higher than other regions (Figure 5).

**Figure 5. Respondent Current Knowledge Level about MPP-Dairy by Region**



Given their level of knowledge before the USDA published MPP-Dairy implementation rules, about thirty percent of respondents had somewhat or very favorable impressions of MPP-Dairy while similar percent were somewhat or very unfavorable (Figure 6). It would appear that many operators had yet to decide what to think about the program as they were likely waiting for more information.

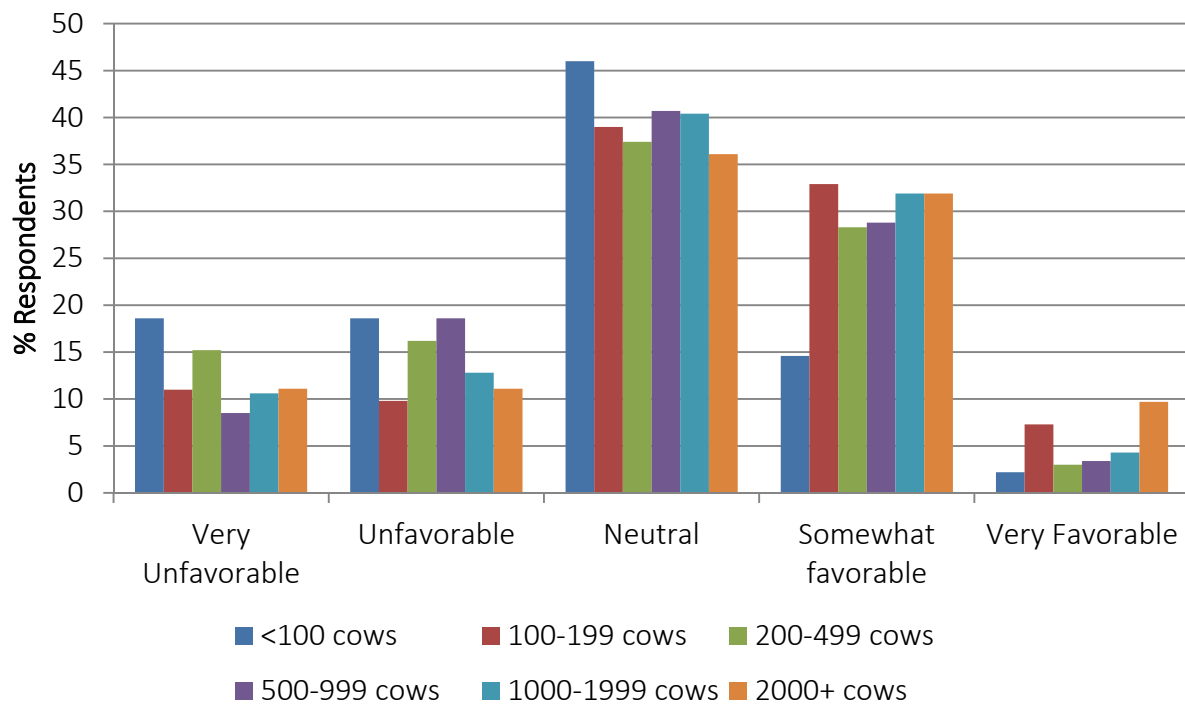
**Figure 6. Dairy Producer Impression of MPP-Dairy**



By herd size, smaller herd operators generally viewed the program less favorably than operators of larger herds (Figure 7).

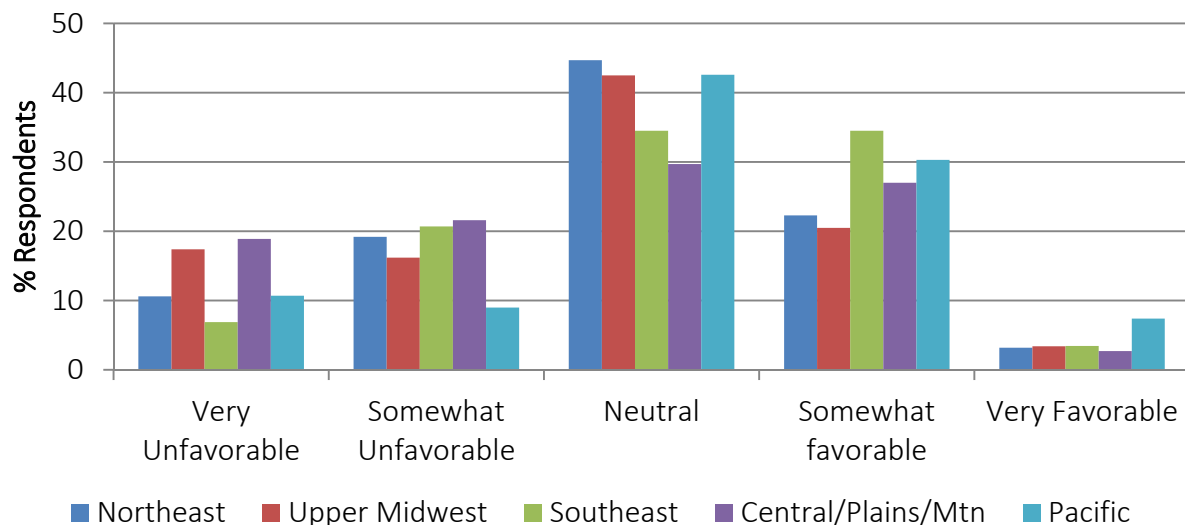


**Figure 7. MPP-Dairy Impression by Herd Size**



By region, respondents from the Northeast held less favorable views while Pacific region respondents had relatively more favorable views of MPP-Dairy than other regions.

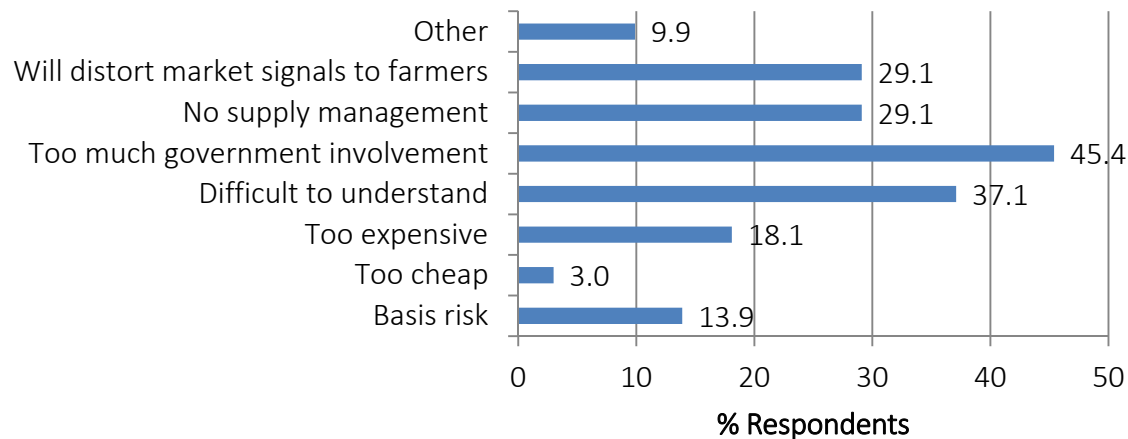
**Figure 8. MPP-Dairy Impression by Region**



The survey asked about concerns respondents had with the MPP-Dairy. Four concerns were more common than the rest with 29 to 45 percent of respondents indicating those concerns including that there was too much government involvement; it was difficult to understand; that it might distort market signals to farmers; and that there was no supply management. A smaller number of

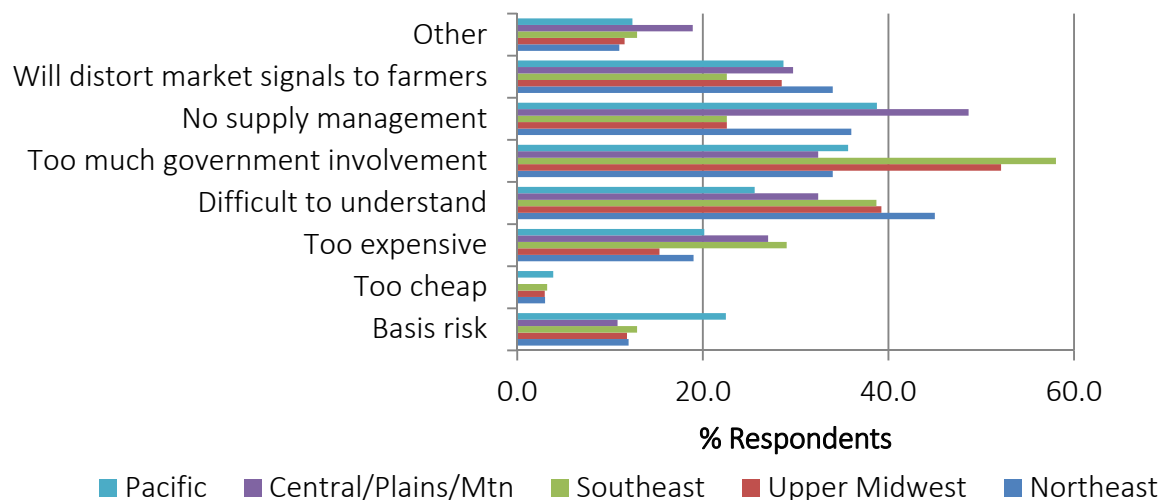
respondents were concerned with basis risk or that the MPP premiums were too expensive. Because the premiums are fixed it is possible that MPP could be relatively cheap when margins are expected to be lower than average and relatively expensive when margins are expected to be above average.

**Figure 9. Concerns with the MPP-Dairy**



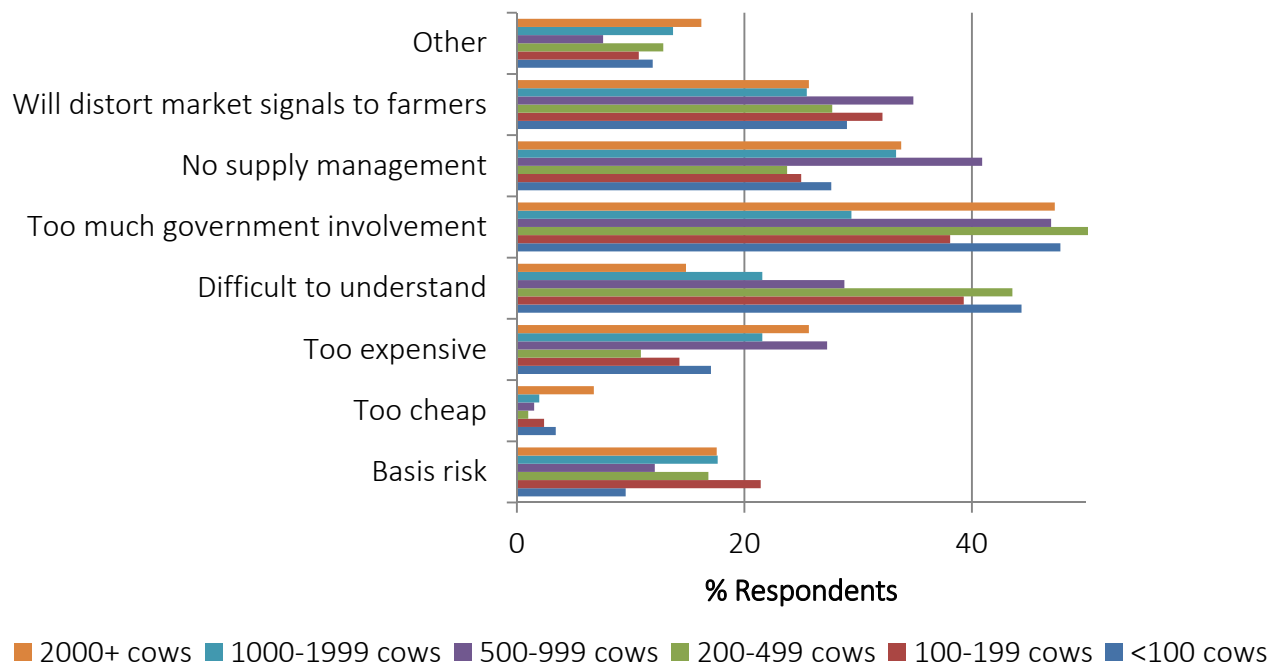
By region, operators in the Southeast and Upper Midwest regions were most concerned about too much government involvement while about 40 percent of producers in western states worried about the lack of dairy supply management provisions. Basis concerns were much more present among dairy producers in Pacific region, relative to other regions.

**Figure 10. MPP-Dairy Concerns by Region**



By herd size, operators of smaller herds were most concerned about government involvement but also that the program was difficult to understand.

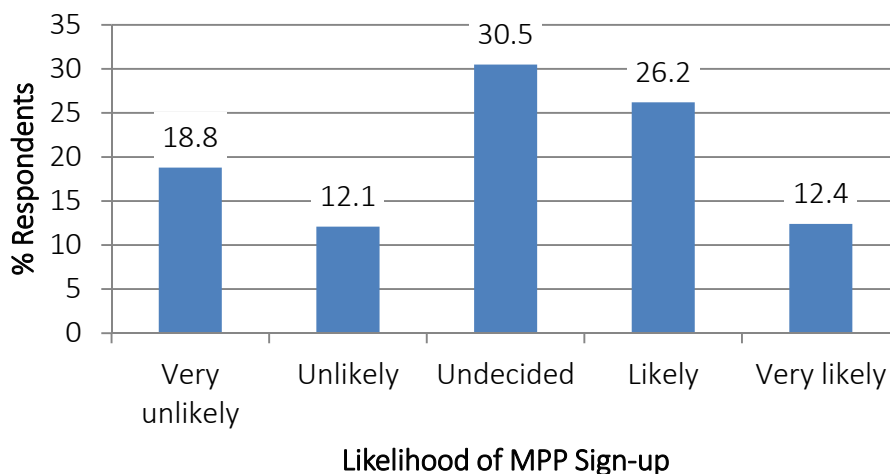
**Figure 11. MPP-Dairy Concerns - By Herd Size**



### ***Registration and Coverage Decisions***

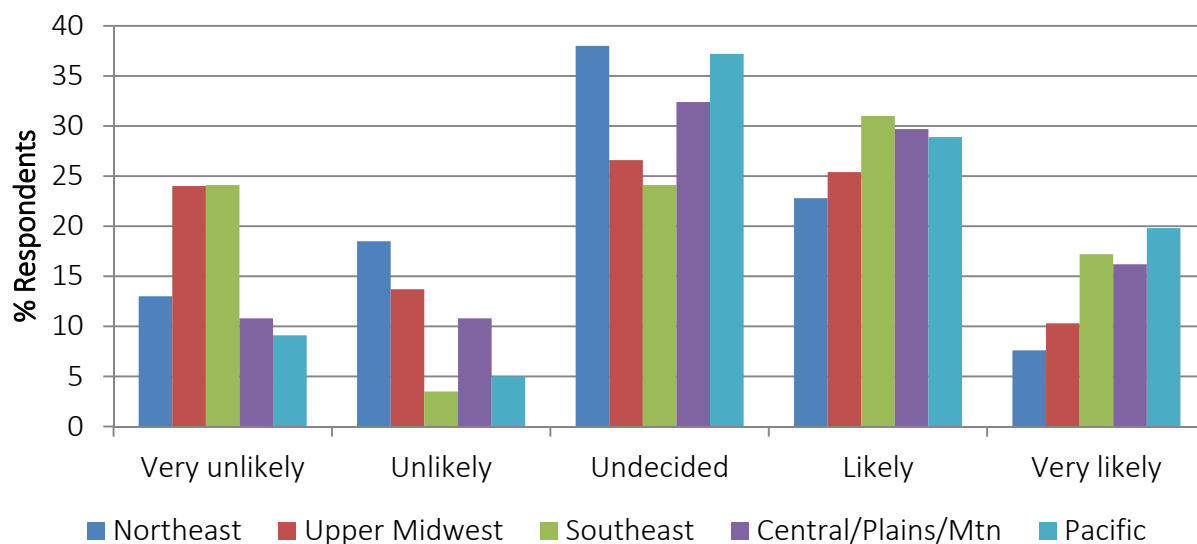
Respondents were asked to assess the likelihood that they would sign-up (register) for MPP-Dairy. Almost 39 percent said they were likely or very likely while 30 percent were undecided or unlikely.

**Figure 12. Likelihood of MPP Sign-up, Given Current Knowledge about MPP-Dairy**



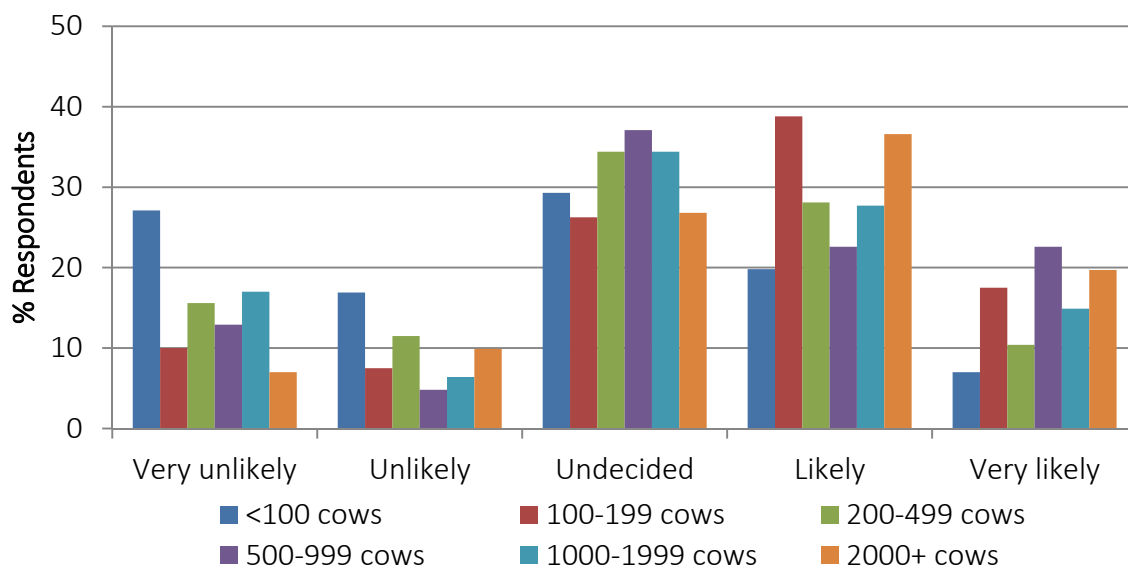
By region, less than 15 percent of respondents in the Pacific region said they were unlikely or very unlikely to participate. In contrast, more than 37 percent of respondents from the Upper Midwest said they were unlikely or very unlikely to participate.

**Figure 13. Likelihood of MPP sign-up by Region**



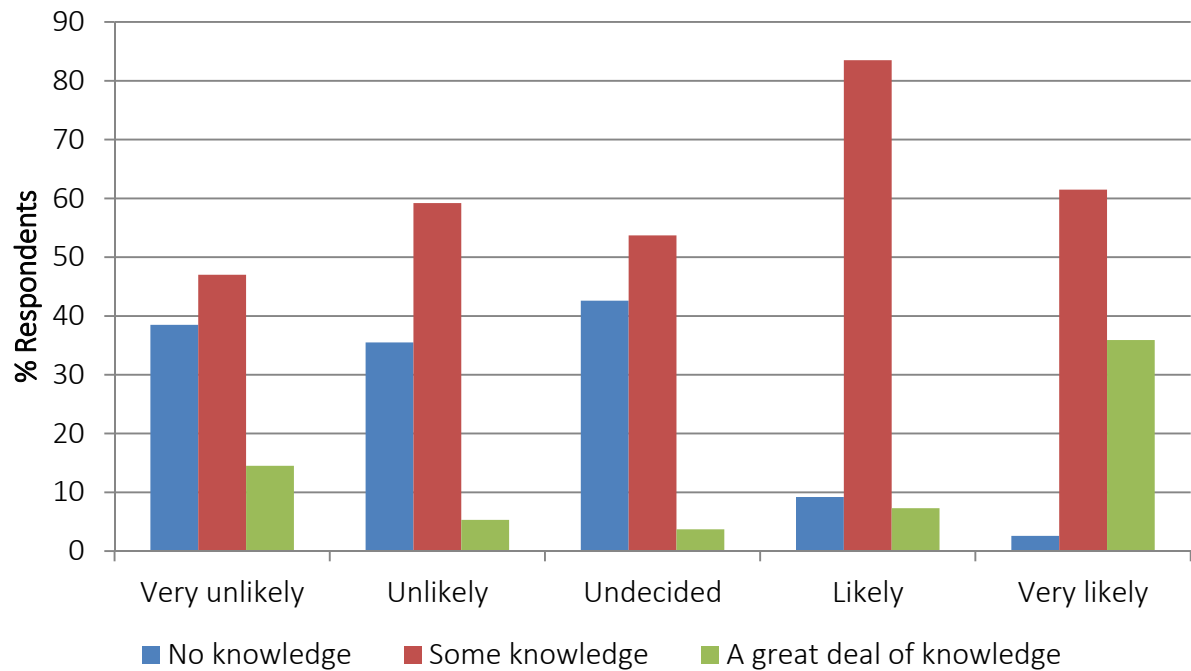
Assessed across herd size category, operators of the smallest herds (<100 milk cows) characterized their sign-up likelihood as unlikely or very unlikely at a significantly higher rate than operators of larger herds. Meanwhile, more than half of operators of the largest herds (2000+ milk cows) indicated they were likely or very likely to sign-up.

**Figure 14. Likelihood of MPP-Dairy Registration - by Herd Size**



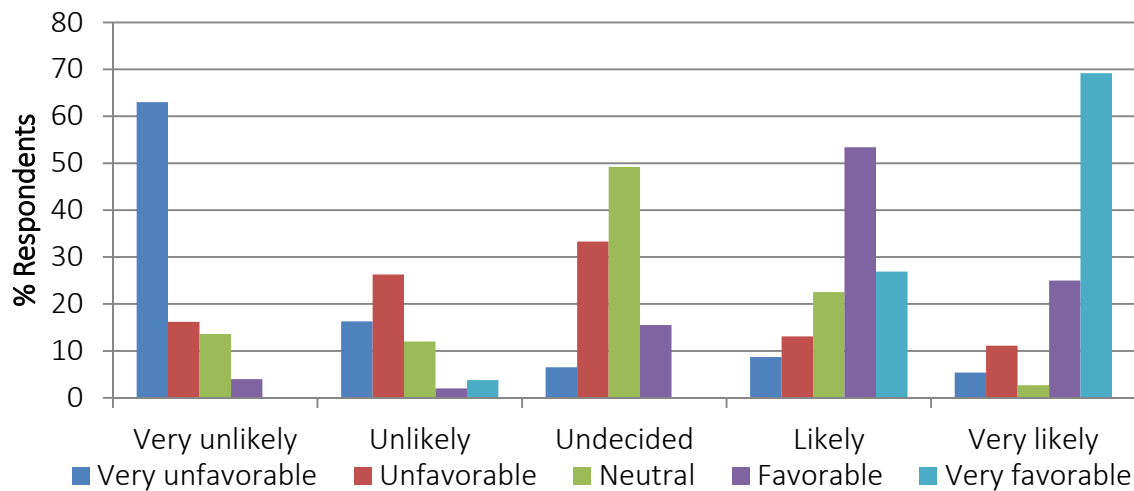
We might expect that market conditions at sign-up, which is to say expected margin level, will heavily influence sign-up as margins were at historically high levels when the survey information was collected.

**Figure 15. Likelihood of MPP Registration by Knowledge Level**



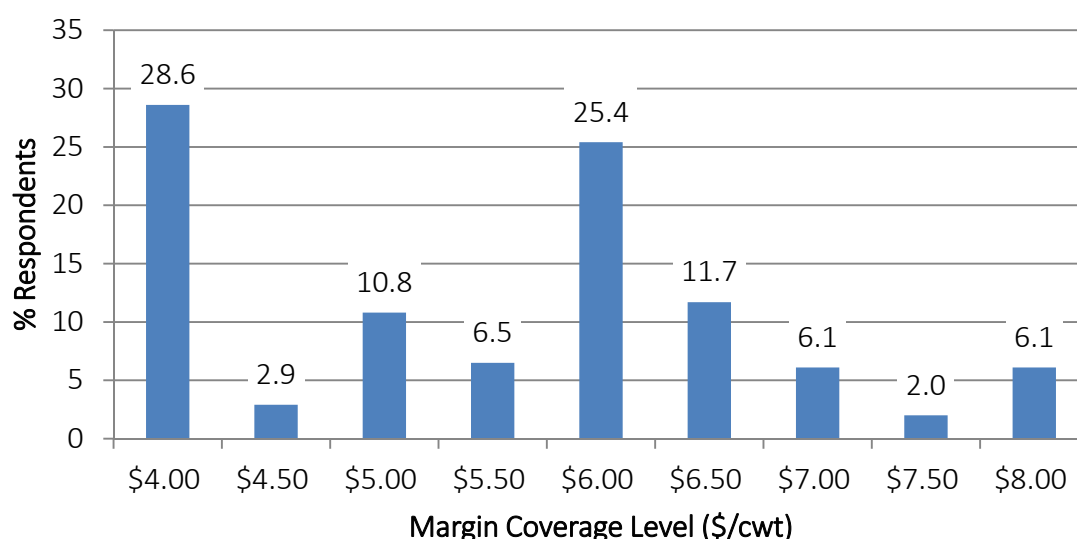
Categorized by their self-assessed level of MPP knowledge, more knowledge was correlated with increased likelihood of planned sign-up (Figure 15). Similarly, operators with a more favorable impression of MPP were more likely to plan to participate (Figure 16).

**Figure 16. Likelihood of MPP-Dairy Registration by Impression**



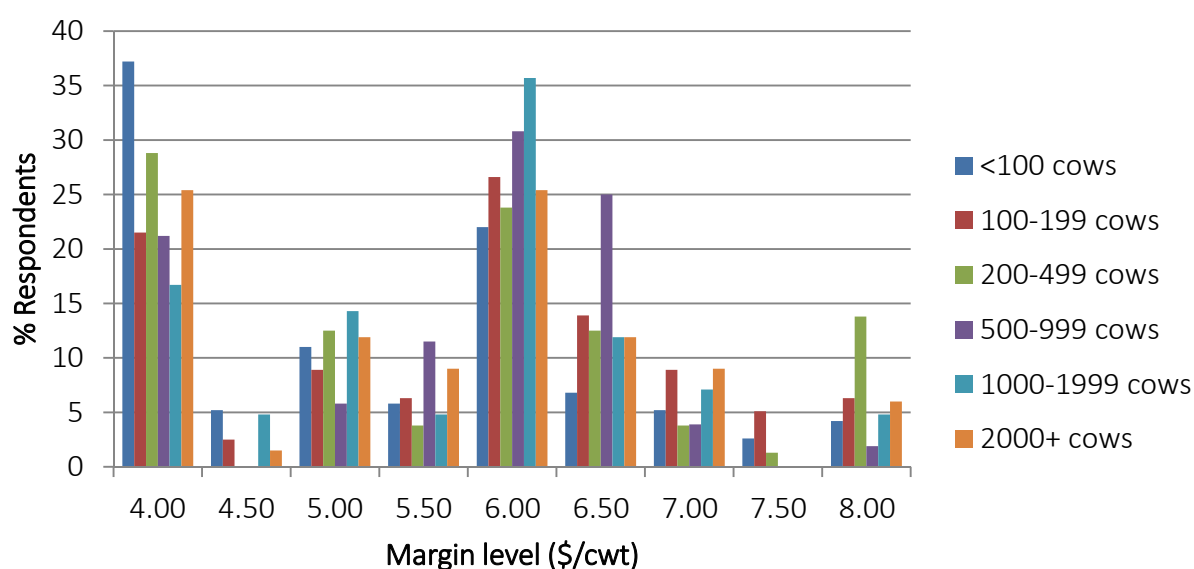
With \$4/cwt coverage level being available for the \$100 administration feed and no marginal cost as far as premiums, it is not surprising that more than 28 percent of respondents indicated that would be the most common coverage level chosen (Figure 17). The next most common level was \$6/cwt followed by \$6.50/cwt. Premiums climb quickly at \$7/cwt and up and respondents indicated that most did not expect to choose those levels in most years.

**Figure 17. MPP-Dairy Coverage Level Likely to be Chosen in Most Years**

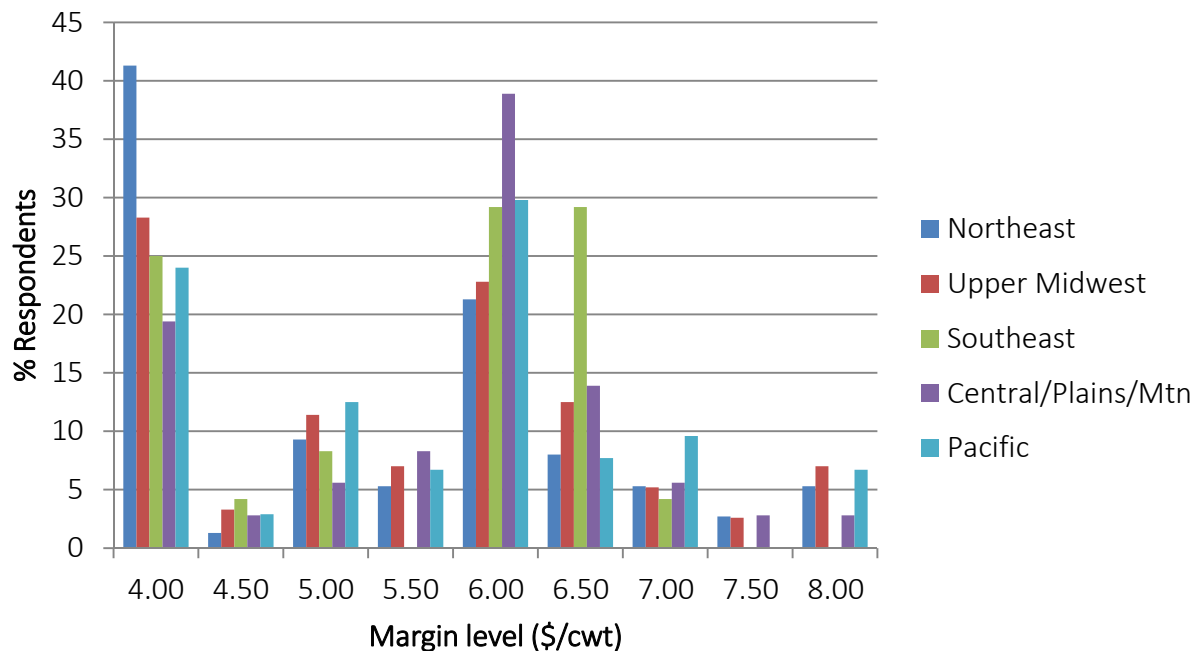


Operators with smaller herds were more likely to indicate they would choose \$4.00/cwt coverage level (Figure 18).

**Figure 18. MPP-Dairy Coverage Level Likely to be Chosen in Most Years – By Herd Size**

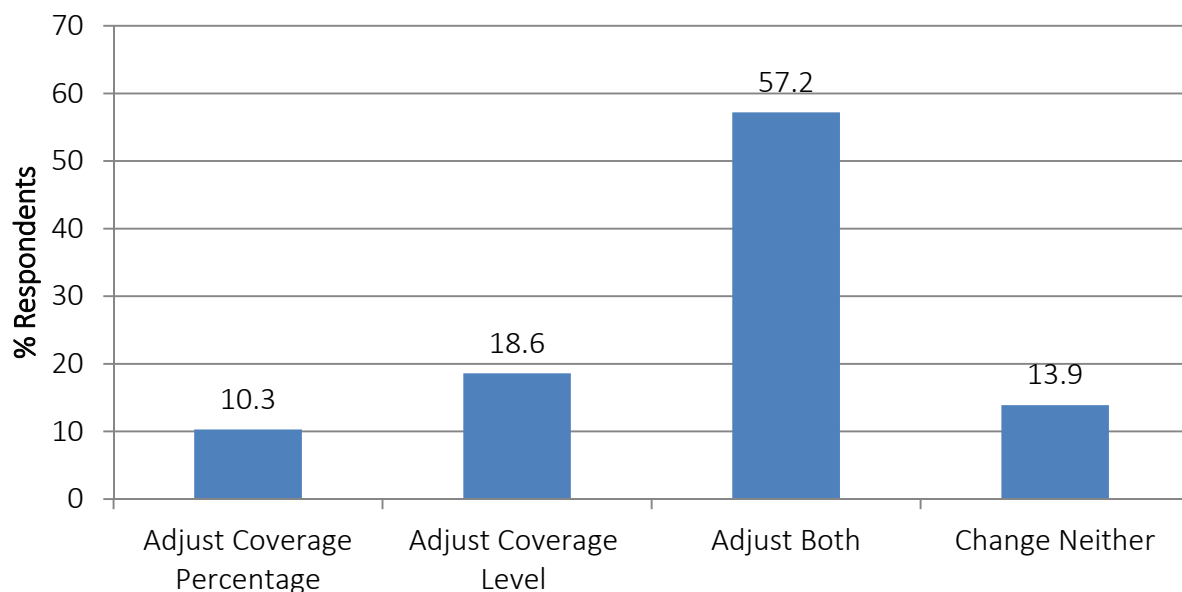


**Figure 19. MPP-Dairy Coverage Level Likely to be Chosen in Most Years – By Region**



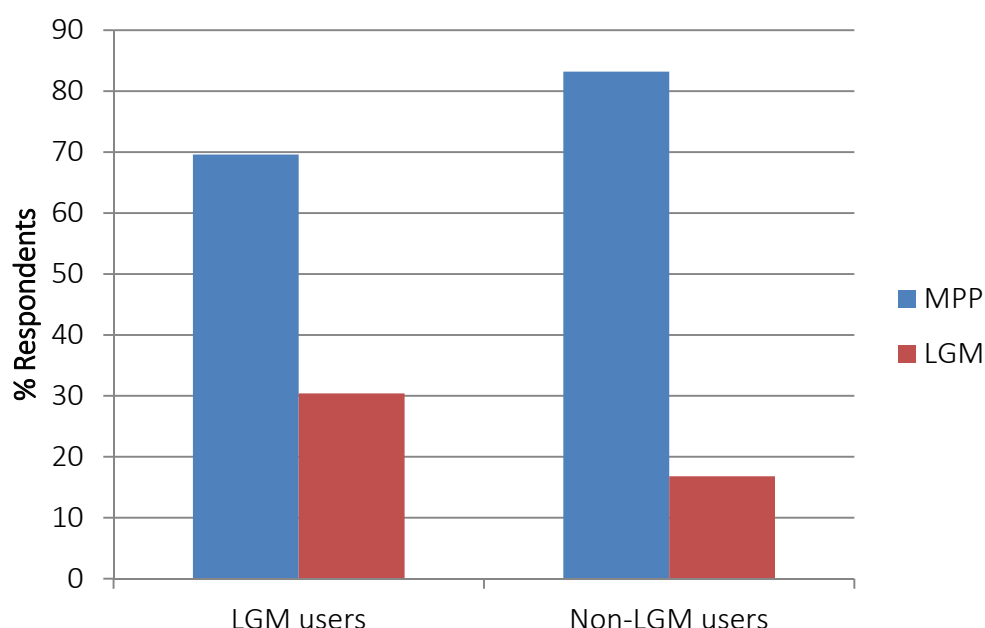
Dairy producers in Northeast were more likely to indicate they would choose \$4.00/cwt coverage level in most years. For Central/Plains/Mtn producers focal coverage level was \$6.00.cwt, while Southeast producers were more likely to report \$6.50/cwt coverage level (Figure 19). Most producers indicated they would change either coverage level or coverage percentage annually (Figure 20).

**Figure 20. MPP-Dairy Election Choices Changed Annually**



Livestock Gross Margin insurance for Dairy (LGM-Dairy) has not been widely adopted for a host of reasons including limited funding for premium subsidies. The 2014 Farm Bill mandated that dairy farmers could not participate in both MPP-Dairy and LGM-Dairy. Survey participants were asked which they would choose if they had to make a one-time decision. The overwhelming majority of respondents indicated they would choose MPP-Dairy (Figure 21).

**Figure 21. MPP-Dairy vs. LGM-Dairy - One-Time Irreversible Choice**



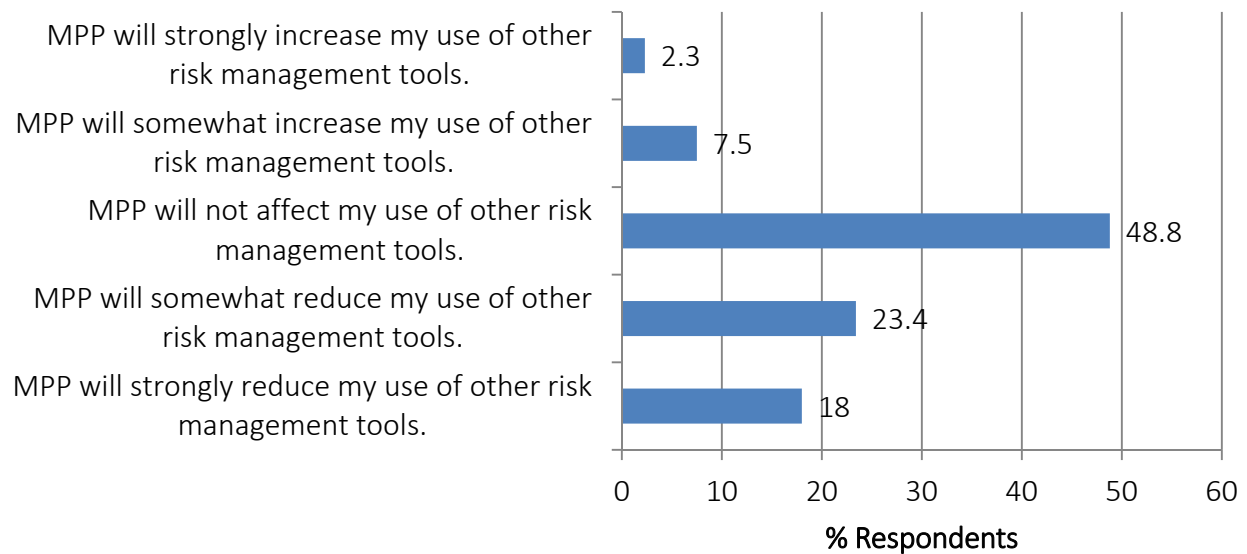
The 2014 Farm Bill stipulates that once dairy producer first registers for MPP-Dairy, he or she cannot use LGM-Dairy for the life of the MPP program. However, the decision to register for MPP-Dairy can be postponed and does not need to be made in 2014. Nevertheless, these results indicate that over the next few years, LGM-Dairy is likely to lose a majority of its current users.

### ***MPP-Dairy and Other Risk Management Tools***

MPP-Dairy is designed specifically to reduce margin risk, and does not address other risks on a dairy farm, such as production risk or animal health risks. MPP-Dairy could potentially be utilized as a substitute for currently existing risk management tools, such as dairy futures and options contracts. We asked dairy producers how likely their participation in MPP-Dairy was to affect their use of other risk management tools. Almost half replied there would be no effect and just over 10 percent indicated MPP-Dairy may in fact increase their use of other risk management tools. What is concerning, however, is that over 40 percent indicated MPP-Dairy would reduce their use of other risk management tools (Figure 22).

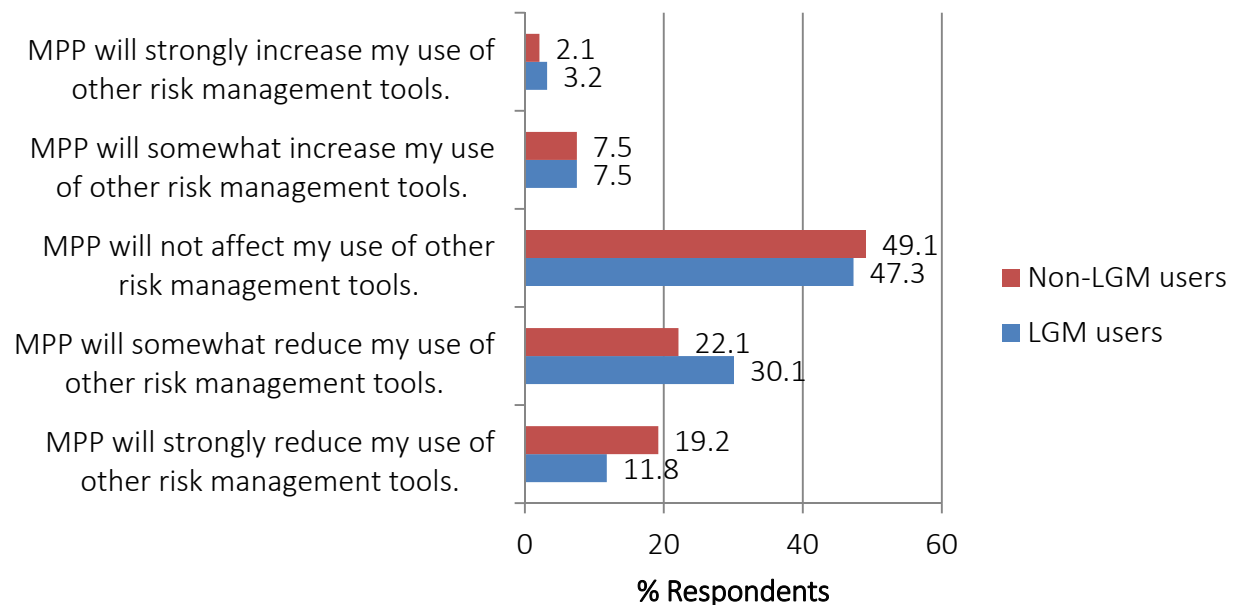


**Figure 22. MPP-Dairy Participation and Crowding-Out of Other Risk Management Tools**

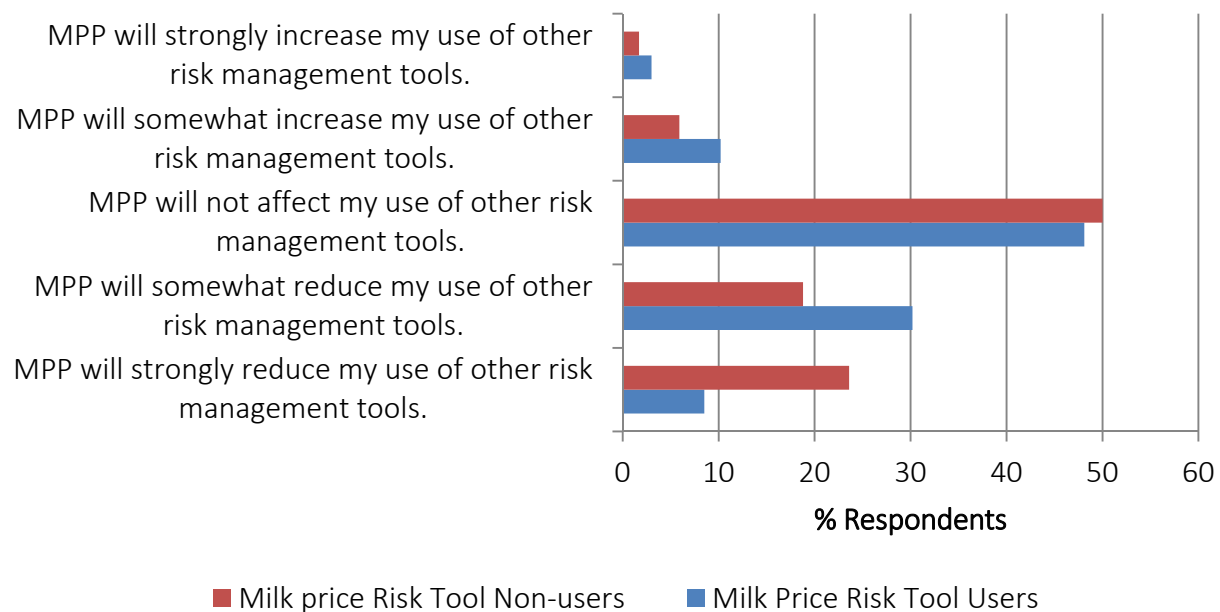


Since LGM-Dairy is one of the ‘other tools’ and MPP-Dairy and LGM-Dairy cannot be used concurrently, we examined how results differ among LGM-Dairy users and non-users (Figure 23). The results confirm the crowding-out is not driven by LGM-Dairy usage.

**Figure 23. Likelihood of MPP to affect use of other risk management tools – by LGM-Dairy Usage**



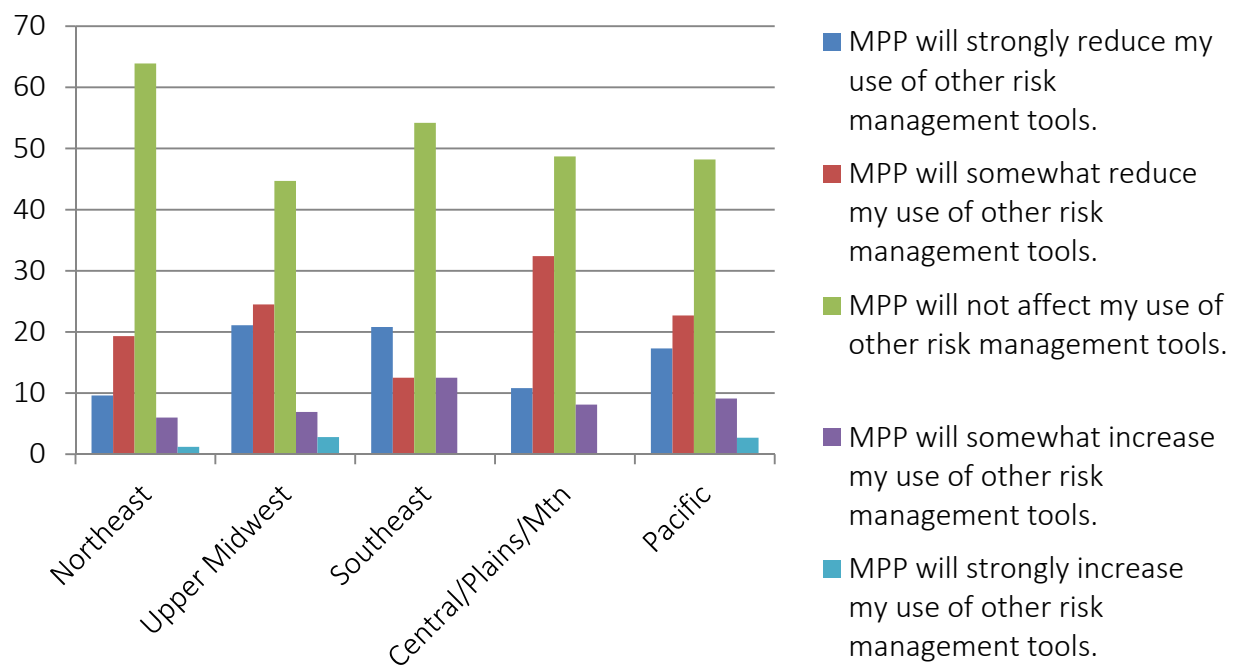
**Figure 24. Likelihood of MPP to affect use of other risk management tools – by Milk Contracts Usage**



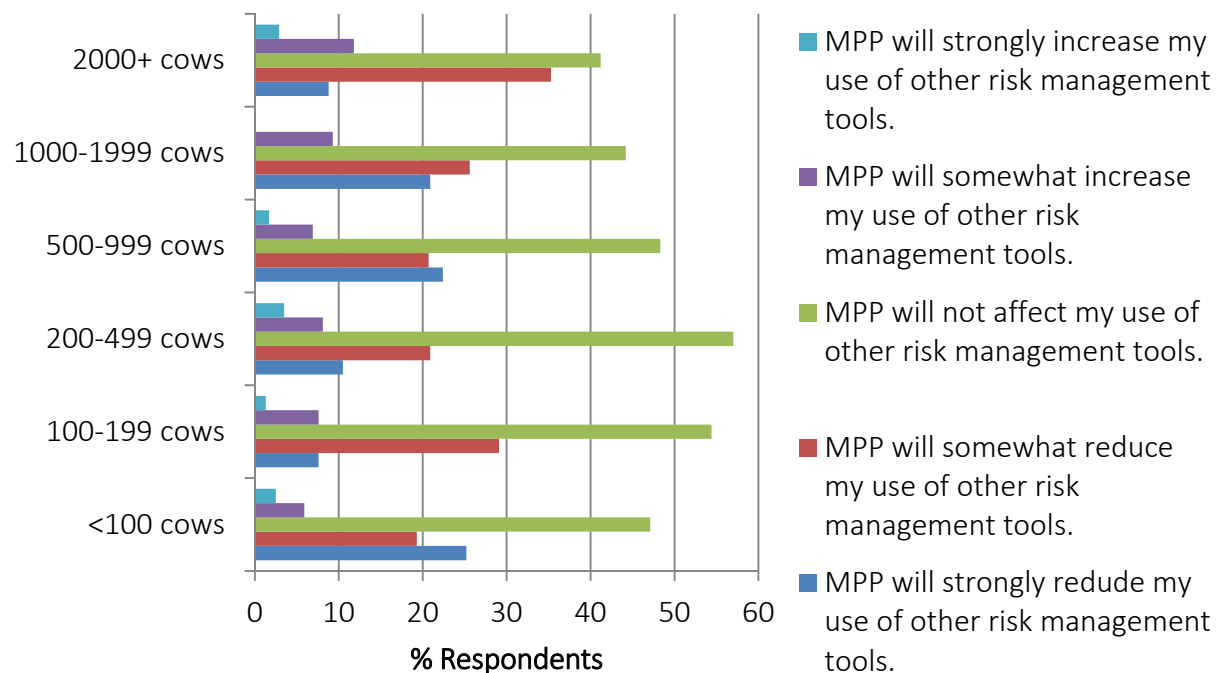
The other reason why majority of producers may have answered they expect no effect of MPP-Dairy on their use of other risk management tool may be because they do not even use dairy risk management instruments. To check if those demographics are driving our results, we re-tabulated the answers separately for those producers which have used milk contracts in the past, and those which have not. We find that the percent of dairy producers who expect to reduce their use of other risk management instruments is not higher among milk contract users, relative to the control group.

Will crowding out be more prevalent in some regions than other? And would producers with large herds pull back on using private risk management tools more than those with small herds? Producers from Upper Midwest were the most likely to report strong reduction in other risk management tools while expected crowding-out is the lowest in Northeast (Figure 25). Large herd operators were most likely to indicate MPP-Dairy would ‘somewhat’ reduce their use of other risk management tools. ‘Strong’ reduction is more frequently reported by farmers with 500-999 or 1000-1999 cows.

**Figure 25. MPP-Dairy Participation and Crowding-Out of Other Risk Management Tools – By Region**



**Figure 26. MPP-Dairy Participation and Crowding-Out of Other Risk Management Tools – By Herd Size**



## *Conclusions*

There are several major findings emerging from this research. First, education efforts during the MPP-Dairy registration period in 2014 will be critical, as majority of dairy producers are just now starting to pay attention to MPP-Dairy. Outreach efforts should be targeted to smaller dairies and educational tools used should seek to present a clear and intuitive explanation of the program. Second, while dairy producers in western states have more pronounced concerns about MPP-Dairy basis and the absence of any kind of market stabilization mechanisms, they are still indicating willingness to participate that is higher than in other regions. This could perhaps be explained by the difference in typical dairy farm size in different regions. Perhaps smaller and larger farms look at MPP-Dairy with different vantage points. Smaller farms did not have to pay anything to participate in the Milk Income Loss Contract (MILC) program, and the payments received sometimes exceeded \$1.00/cwt or even \$2.00/cwt when milk prices were much below the program trigger. MPP-Dairy presents a paradigm shift, and all participants are required to pay premiums for all coverage levels above the catastrophic, \$4.00/cwt protection. That may make some smaller farms skeptical about the MPP-Dairy program. On the other hand, larger farms were for all practical purposes excluded from MILC, and even LGM-Dairy had constraints that made it a poor choice for really large operations. Producers in this category perhaps feel they have now been given a much deeper access than they had in the past, and may be quicker to adopt MPP-Dairy despite the concerns they may have. Overall, survey results indicate it should not be a surprise if MPP-Dairy participation rate for 2015 coverage were to be around 50% of U.S. dairy herds accounting for 60% of U.S. milk production.

The second theme that emerges from these answers concerns fragility of MPP-Dairy design. Newton, Thraen and Bozic (2013) suggested that fixed premiums, in conjunction with ability to change coverage levels annually, may lead to ‘adverse gaming’, where coverage decisions are made not only based on risk management needs, but also forecasted margins and expected net returns to MPP-Dairy participation. Over 80 percent of MPP-Dairy survey respondents indicated they would indeed alter their coverage level or coverage percentage choices annually. The other concern, raised in Wolf et al. (2013) regards crowding-out of dairy futures and options by MPP-Dairy. Survey results indicate 41 percent of current users of milk contracts anticipate MPP-Dairy participation would reduce their use of private risk management tools. Finally, Nicholson and Stephenson (2014) predict that MPP-Dairy may reduce net farm income volatility at the expense of the long-run average milk price. In our survey, over 25 percent of dairy producers indicated they fear MPP-Dairy may distort market signals to farmers, and even larger fraction would desire stronger government involvement through market stabilization instruments. In contrast, by far the most dominant concern was that MPP-Dairy will bring too much government involvement. To the extent that modeled expansion decisions in Nicholson and Stephenson (2014) are driven by backward-looking or short-term expectations and realized net farm income, widespread concerns about MPP-Dairy may in fact partially mitigate the adverse market-level effects of the program on average margins. It may at first be counterintuitive, but it is still logical to conclude that the more concerns producers have about MPP-Dairy, the less they would be willing to engage in major expansions – thus partially offsetting potentially distorting effects of MPP-Dairy on average farm profitability.

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