The Margin Protection Program for Dairy in the 2014 Farm Bill

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Introduction:

The Margin Protection Program for Dairy (MPP-Dairy) was authorized in the Food, Farm and Jobs Bill, aka "2014 Farm Bill". The new program was established in August 2014 and will run through December 31, 2018. The bill effectively repeals the Dairy Export Incentive Program and the Milk Income Loss Contract (MILC) program while establishing the new MPP-Dairy program and a Dairy Product Donation Program (DPDP). Producers are permitted to participate in the new program, or the previously existing LGM-Dairy program, but not both at the same time. The purpose of this publication is three-fold, (1) provide an overview of how MPP-Dairy works, (2) provide some historical perspective on how a similar program might have worked had it been available over the last several years, and (3) help frame the participation decision that dairy producers will make in the coming years.

How does the program work?

The MPP-Dairy program is designed to guarantee what is referred to in the farm bill as an Actual Dairy Production Margin. In reality, this is actually an estimated margin (milk price minus a feed cost index). The milk price used in the calculation of the Actual Margin is the monthly US All Milk Price. The average feed cost calculation used is a bit more complex and includes corn, soybean meal, and alfalfa hay prices[2]. The feed cost index is the sum of the average monthly corn price per bushel received by farmers multiplied by a factor of 1.0728, the monthly soybean meal price per ton in Central Illinois multiplied by a factor of 0.00735, and the average price received by farmers for alfalfa hay per ton multiplied by a factor of 0.0137. The milk price minus the feed cost index becomes the actual margin for the month. This is probably best explained by viewing the computation in the adjacent box (Figure 1), which assumes a milk price of $24 per cwt, a corn price of $4 per bushel, a Soybean Meal Price of $400 per ton, and an Alfalfa Hay price of

Figure 1: Example Actual Margin Calculation

US All Milk Price	$24.00
Corn: $4.00 x 1.0728 = $4.29 Soybean Meal: $400 x 0.00735 = $2.94 Alfalfa Hay: $200 x 0.0137 = $2.74	
Estimate Average Feed Cost	$9.97
Actual Dairy Production Margin	$14.03

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[2] Monthly US All Milk, corn, and alfalfa hay prices are available from USDA-NASS Agricultural Prices. The Central Illinois Soybean Meal price is available from USDA-AMS Market News Monthly. Historical data are available at the Understanding Dairy Markets Website at http://future.aae.wisc.edu/.

$200 per ton. Based on these assumed prices, actual margin for this hypothetical month would have been $14.03, as can be seen in Figure 1.

The MPP-Dairy program would provide payments to participating dairy producers on covered milk production when this margin falls below their chosen coverage level during a two-month period. The two-month periods, or couplets, defined in the 2014 Farm Bill are: Jan-Feb, Mar-Apr, May-June, July-Aug, Sept-Oct, and Nov-Dec. For example, the average actual margin for January and February would have to be below the producer defined coverage level to trigger a payment. Then next trigger would be based on the average of the March and April margins relative to the chosen coverage level. A payment would not be triggered if the average margin fell below the producer defined coverage level for February and March. The only six timeframes that payments can be triggered on are the six two-month couplets each year.

Producers actually have some choices to make concerning margin level. The available margin levels range from $4.00 to $8.00 in $0.50 increments. Enrollment in the program is $100 per year and this essentially gets a producer in the program at the $4.00 coverage level. If this is the level that is chosen, producers receive a payment of $4 minus the actual margin for that couplet for two-months of their covered milk production. If the actual margin is negative, payment is calculated as though it were zero. However, producers also have the option of paying increasing premiums to move up to higher coverage levels on an annual basis. Table 1 below shows the available coverage levels and their associated premiums per cwt of milk covered. Note that premium levels are higher once producers cover more than 4 million pounds, but the first 4 million pounds can be covered at the lower premium rate. As a quick estimate on scale, at 20,000 lbs of milk per cow, this is roughly a 200 cow herd. Obviously, the margin example in the previous box would not yield a payment at any of these coverage levels as the actual margin was considerably higher than $8.00.

Table 1: Margin Premiums by Coverage Level and Pounds Covered

Coverage Level	**Premium per CWT* (First 4 million lbs)**	**Premium per CWT (After 4 million lbs)**
$4.00	None	None
$4.50	$0.010	$0.020
$5.00	$0.025	$0.040
$5.50	$0.040	$0.100
$6.00	$0.055	$0.155
$6.50	$0.090	$0.290
$7.00	$0.217	$0.830
$7.50	$0.300	$1.060
$8.00	$0.475	$1.360

*Premiums are discounted by 25% for calendar years 2014 and 2015 for all coverage levels except $8.00

Finally, producers must decide how much milk they want to cover, and again, there are multiple options. Each dairy operation will have an established production history that is equal to the highest level of milk marketings in the years 2011, 2012, and 2013. There is language that allows the secretary to adjust production history in subsequent years based on national average production as well as language that allows for the establishment of production history for new

dairy operations that have been in operation less than one year. Once this production history has been established, participating dairy operations choose a percentage of coverage between 25% and 90%, in 5% increments (25%, 30%, 35%, …, 90%) on their production history. Like the coverage level threshold, the percentage of coverage is also chosen on an annual basis. For example, a dairy producer could potentially choose to cover up to 90% of their production history at up to the $8.00 coverage level.

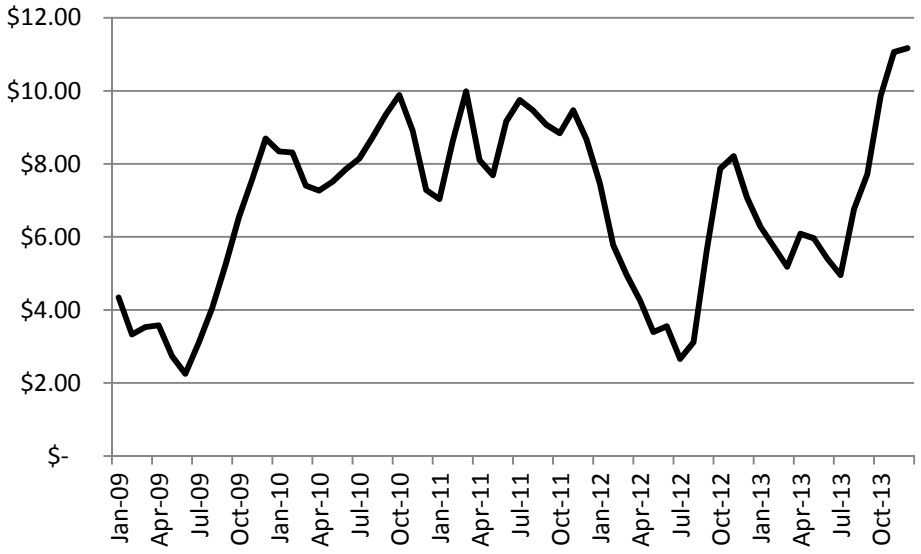
How would a program like this have worked in the past?

In order to give perspective on the margins offered through the MPP-Dairy, it is worthwhile to consider these margins from the perspective of recent history. Figure 2 charts the historical actual monthly margin, using the same formula as will be used by MPP-Dairy during the 5-year period from 2009-2013. By examining the history of this margin, one can ascertain how often payments would have been triggered in the past. While historical data is irrelevant to the likelihood of future margins, it does provide some perspective on how the margin has moved in the past. Examination of this data suggests that the margins offered through the new program are relatively attractive from a historical perspective.

In a sense, the $4 coverage level, which has no premium and requires only the $100 annual enrollment fee, is largely a catastrophic insurance policy. It provides some level of protection, but producers must self-insure quite a bit of margin loss because actual margins were well above $4 at the time of this writing. I would also point out that margins fell below this $4 level over two different time periods over the last 5 years. The first time was from February to July of 2009, primarily due to extremely low milk prices. Second, actual margins fell below $4 from May to August 2012, largely due to rapidly rising feed prices.

As producers consider the purchase of higher coverage levels, those higher coverage levels can also be examined from a historical perspective. In reality, from 2009 to 2013, the actual margin was below the $8 threshold quite often; 38 out of the 60 months examined or 63.3% of the time. In fact, the average monthly margin from 2009-2013 was $6.83, which is $1.17 less than the $8 coverage level.

Figure 2: Historical Actual Margin if Calculated Monthly from 2009-2013



While it may be useful to examine these margins from a historical perspective, it is equally important to know that history is not always an indication of what will happen in the future. There have been multiple times when these coverage levels would have been triggered in the past, but that does not mean that they will be triggered in the future. As producers consider the first round of enrollment decisions for MPP-Dairy, milk prices and feed costs are such that payments are not likely in the immediate future. However, I would also stress that the intent of this program is to provide compensation to dairy producers when margins change. Furthermore, enrollment in a program like this is a risk management strategy that may provide compensation when milk prices decrease, feed price increase, or some combination of the two.

A Simple Illustration

It is likely worthwhile to walk through a simple scenario of participation to demonstrate how the program might work in practice. As an easy illustration, we will consider a producer who chooses the $8.00 coverage level and 90% coverage. For easy calculation, we will also assume that the 90% level for that producer equates to exactly 1,200,000 lbs of milk production per year. Since this level of covered production is less than 4 million lbs, the producer pays the lower premium level shown in Table 1 of $0.475 per cwt. In this case the producer would pay total premium for the year in the amount of $5,700 (1,200,000 lbs @ $0.475 per cwt). The producer would also pay the $100 annual enrollment fee for a total of $5,800.

Once the producer is enrolled for the year, market conditions determine if any payment is to be received on their covered production for any of the two-month couplets. For illustration, we will assume that the actual margin for January-February in the covered year exceeded the $8.00 coverage level and no payment was received. However, in order to show how payments would be triggered, we will further assume that during the two-month period March-April, the average margin was $6.00 per cwt. In this case the producer would be entitled to payment on one-sixth (2 months) of their covered production in the amount of $2 per cwt. In this case, the producer would receive a payment for March-April in the amount of $4,000 (200,000 lbs @ $2). The same calculations and potential payments would apply to May-June, July-August, September-October, and November-December of that covered year.

Additional Considerations for Participation

MPP-Dairy has a number of features that producers have the opportunity to utilize. Premiums for higher coverage levels remain constant during the life of the 2014 Farm Bill. Selection of coverage levels and percent of coverage are made on an annual basis and provides an opportunity for producers to adjust their participation based on the perceived likelihood of market conditions reaching the trigger levels. Producers can choose high coverage levels and coverage percentages when margins appear to have a good chance of being triggered and choose lower coverage levels and percentages when margins appear unlikely to be reached. In fact, since premiums are fixed until the end of 2018, it is possible that milk and feed prices could change such that producers could be offered the opportunity to purchase coverage when payments are very likely to exceed premiums. Producers should be opportunistic and strategic about choosing coverage levels since the program allows them that opportunity.

Producers should also carefully study the premium costs by coverage level as there are several items worth noting. First, since the $4 coverage level is offered at zero premium, the only cost

for choosing the $4 coverage level is the $100 per year enrollment fee. The primary reason a producer would not choose to enroll at the $4 level would be in order to continue to participate in LGM-Dairy. Producers who participate in LGM-Dairy can move to MPP-Dairy later, but once a producer enrolls in MPP-Dairy, they are expected to continue their enrollment through 2018.

Secondly, producers should examine the premium costs for coverage levels exceeding $4. Producers can coverage up to 4 million pounds of milk per year at a $6.50 coverage level for less than ten cents per cwt. It is likely that many producers will choose to pay some premium for higher coverage levels, especially as market conditions change in the next few years. This choice should be based on reasonable expectations of margins and the risk preferences of the individual producer.

Finally, producers need to be aware of the differences between the MPP-Dairy and the existing LGM-Dairy as they will have to choose between the two. LGM-Dairy is a more market oriented program because available margins and premiums will evolve with changes in the futures prices for milk, corn, and soybean meal. For MPP-Dairy, available margins and premiums are fixed for the life of the program. In times when margins are high, LGM-Dairy will likely be more attractive as producers can lock in larger margins. In times when margins are lower (more narrow), the MPP-Dairy will likely be the more attractive alternative. As the regulations are written, dairy producers could utilize the LGM-Dairy program in the short-run and shift to the MPP-Dairy program at a later sign-up period.

Summary and Conclusions

While current dairy margins are such that the offered coverage levels would not likely trigger payments, producers need to look at the MPP-Dairy from a long-term perspective. MPP-Dairy will be available from fall 2014 through the end of 2018 with the ability to change coverage levels and percentages of coverage on an annual basis. The program effectively offers the opportunity to establish a minimum margin level over more than 4 years and essentially "locks in" the premium costs for doing so. With the new Margin Protection Program, premiums are the same on milk covered during 2015 as they are on milk covered in 2018. This is very attractive as milk, corn, and soybean meal futures aren't even available that far out.

Both milk and feed prices have been highly variable over the last several years and present significant market risk to dairy producers. MPP-Dairy provides an opportunity to offset some of that risk through guaranteeing a margin of milk price above a feed cost index. Producers should carefully consider participation, while at the same time considering other risk management opportunities such as contracting, futures and options, and LGM-Dairy.