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# Comparison of ARRM versus SRRP Proposal

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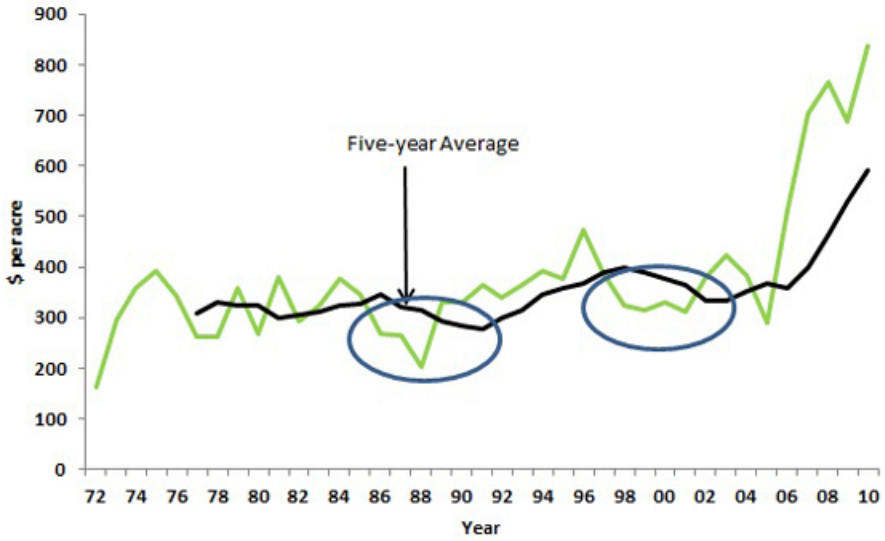
Farm groups have suggested a number of commodity program designs for the next farm bill. This paper compares simulated payments from two programs. One is the Aggregate Risk and Revenue Management (ARRM) program sponsored by Senators Brown, Thune, Durbin, and Lugar (see here). The other is the Systemic Risk Reduction Program (SRRP) proposed by the American Farm Bureau Federation (see here).

ARRM and SRRP have differing objectives. ARRM is designed to provide protection in cases of multi-year revenue declines and limits payments in any given year. It is designed to have minimal overlap with crop insurance payments. SRRP is designed to make large payments in years of large losses. SRRP takes many of its design from the Group Risk Income Plan (GRIP), a crop insurance product that indemnifies county yields.

To provide a concrete example, payments from ARRM and SRRP are simulated for corn from 1977 through 2010 in Logan County, Illinois. Logan County is in central Illinois and has average corn yield of 180 bushels per acre from 1996 through 2010.

ARRM and SRRP payments are compared to crop revenue for the average farm in Logan County. Figure 1 shows crop revenue for each year from 1972 through 2010. Also shown is the five-year average of revenue. For example, crop revenue in 1977 is $261 per acre and the average of crop revenue from 1972 through 1976 is $310 per acre.

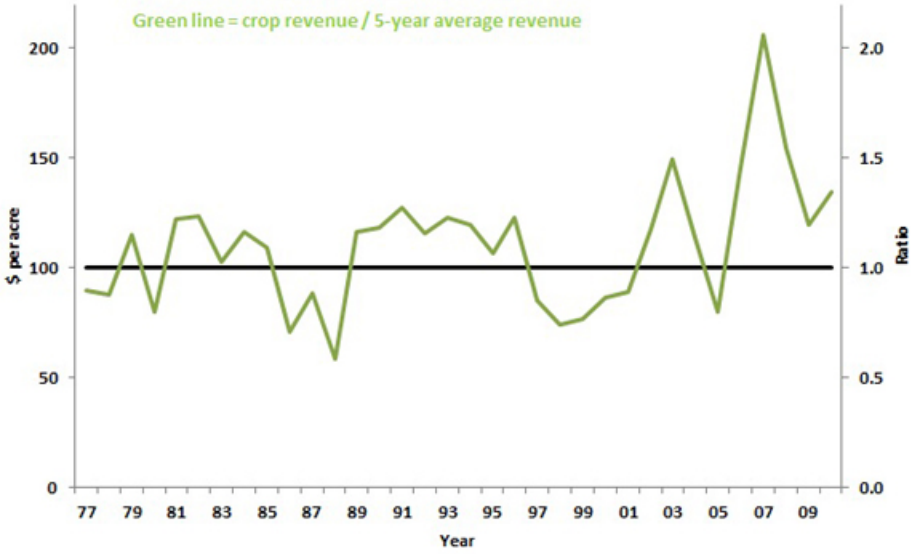
**Figure 1. Crop Revenue for Corn in Logan County, Illinois.**




Years in which the current year's crop revenue is below the five-year average are likely years in which financial stress occurs. Two extended periods of current year's revenue below the five year average stand out: 1) the mid-to-late 1980s and 2) the late 1990s and early 2000s (denoted by circles in Figure 1). Both of these periods were periods of financial stress within agriculture.

Figure 1 is modified to aid in comparisons. The black five-year average line is straightened and placed at the value of one. The current year's crop revenue then is placed relative to the five year average, as shown in Figure 2. In Figure 2, when the green line is above one, the current year's revenue is above the five-year average. Conversely, when the green line is below one, the current year's revenue is below the five-year average and vice versa.

**Figure 2. Crop Revenue Compared to Five-Year Average, Logan County, Illinois.**




**ARRM Payments**

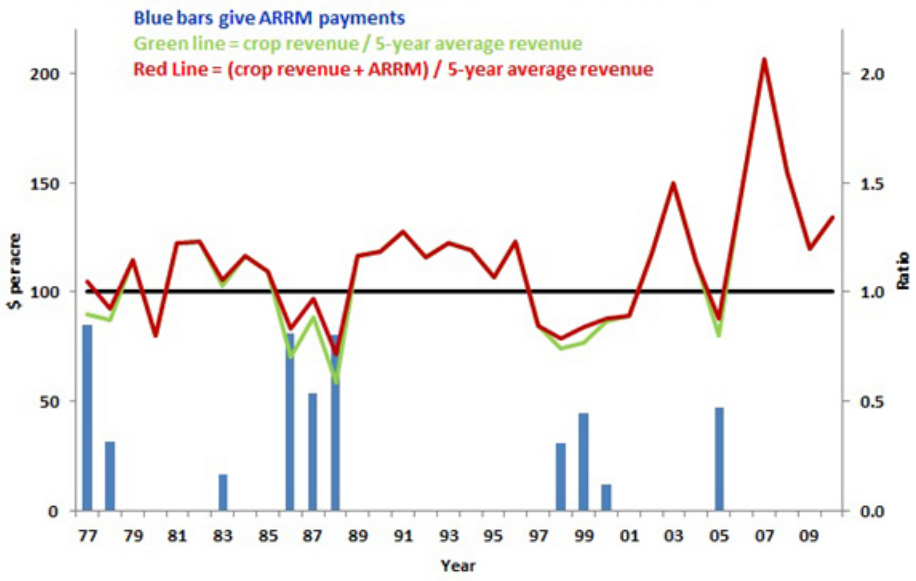
ARRM payments are simulated based on the following:

1. ARRM makes payments when revenue is below benchmark revenue,
2. Benchmark revenue equals 90% of the Olympic average of the previous five-years of revenue,
3. Benchmark revenue cannot move up or down by more than 10 percent per year,
4. Revenue equals the Crop Reporting District (CRD) yield times the harvest price for crop insurance,
5. The ARRM payment cannot exceed 15 percent of benchmark revenue,
6. Yields used in calculating revenue are CRD yields,
7. Prices are harvest prices for crop insurance, and
8. The farm needs to show a loss before receiving a payment.

Each historical ARRM payment is adjusted to 2011 conditions to reflect increases in yields and current price levels.

Figure 3 shows simulated ARRM payments. Over the 1977 through 2010 period, ARRM payments average $14.21 per acre when stated in 2011 terms. Payments occur in 26 percent of years, with payments being made in 1977, 1978, 1983, 1986, 1987, 1988, 1998, 1999, 2000, and 2005. ARRM payments generally occur in years in which current year revenue is below the five-year average.

**Figure 3. Simulated ARRM Payments for Corn in Logan County, Illinois.**




**SRRP Proposal**

The basics of SRRP follow GRIP. The AFBF proposal left a number of details to be decided. Herein, SRRP is modeled as follows:

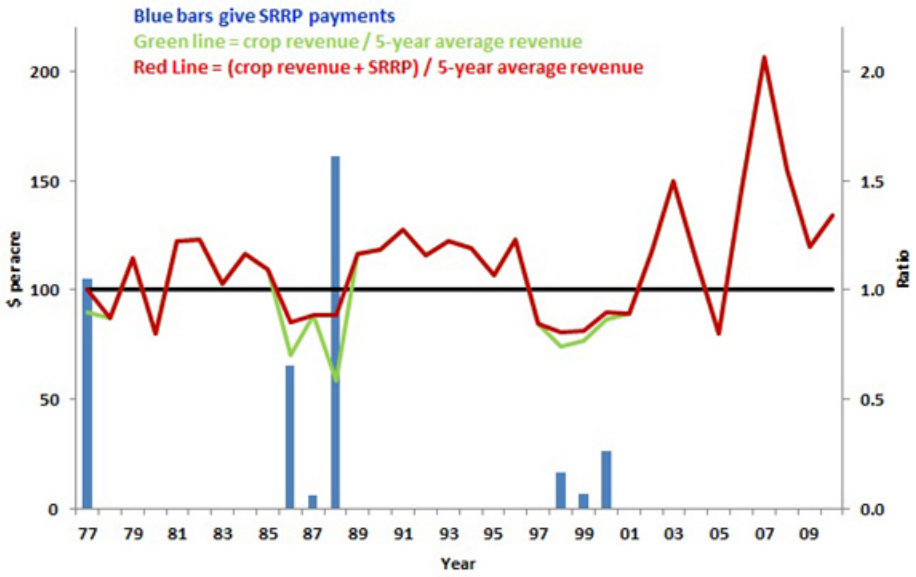
1. SRRP makes payments when revenue is below benchmark revenue,
2. Benchmark revenue equals 80% of the expected yield for a county as determined for Group policies times a five-year Olympic average of harvest prices,
3. Revenue equals harvest price used for crop insurance times county yield,
4. County yields are used in calculating benchmark revenue and revenue,
5. Prices are harvest prices for crop insurance, and
6. There is no upper limit on SRRP payments.

Historical SRRP payments are stated in terms of 2011 conditions.

Figure 4 shows simulated SRRP payments for corn in Logan County, Illinois. Over the 1977 through 2010

period, SRRP payments average $11.41 per acre. Payments occur in 18 percent of years, with payment being made in 1977, 1986, 1987, 1988, 1998, 1999, and 2000. Compared to ARRM, the SRRP makes fewer payments. SRRP is designed to be a deep loss program. As a result, SRRP would have made a large payment in 1988 of $161 per acre.

**Figure 4. Simulated SRRP Payments for Corn in Logan County, Illinois.**




## Comparison of ARRM and SRRP

ARRM payments occur more frequently than SRRP payments. SRRP has a small number of years of large payments. Several observations:

1. Because SRRP is a deep loss program, it will make much larger payments in years of large yield declines, such as occurred in 1988. Given the current design of crop insurance programs, drought years also will result in large crop insurance payments. Hence there will be overlap between SRRP and crop insurance payments, leading to a case in which crop revenue, SRRP payments, and crop insurance payments exceeds five-year average revenue. This will either necessitate a redesign of crop insurance in which crop insurance payments wrap around SRRP, as suggest in the AFBF proposal. Or it will result in farmers taking lower coverage levels because of the protection offered by SRRP. In either case, the SRRP proposal has a substitution effect with crop insurance.
2. ARRM will provide more support in case of multiple years of price declines. For example, ARRM in Logan County would have made payments of $29 per acre form 1998 through 2000, a period of low prices. This compares to $17 per acre for SRRP.

## Summary

ARRM and SRRP are two different type programs. ARRM will provide more, smaller payments than SRRP, and provide more support during periods of multiple year revenue declines. SRRP will make infrequent but large payments, and is essentially a disaster program.