Profitability & Effectiveness of the Federal Crop Insurance Program

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With the continuing growth of the Federal Crop Insurance program in recent years, the cost for delivering the program has come under increasing scrutiny from both Congress and the Administration. Due to the unique characteristics of the public-private partnership and the shortcomings in the way in which the government accounts for program expenditures, a systematic evaluation of the profitability and effectiveness of private sector delivery is vital to the public debate. To address this need, NCIS engaged the services of Grant Thornton LLP to prepare an annual review of the program's performance using information collected from the approved insurance providers ("AIP") participating in the program. In addition to documenting the most recent year's results, the Grant Thornton report also provides a long-term perspective on delivery costs and profitability, examines the cost of private sector delivery in comparison to the government's expense reimbursements, and benchmarks the crop insurance program against the Property & Casualty ("P&C") insurance industry. The objective of this exercise is to provide a reliable, comprehensive, and transparent measure of the profitability and cost effectiveness of the public-private partnership.

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This article provides a brief overview of the 2010 Grant Thornton report. The report compares MPCI experience on an industry-wide basis for reinsurance years 1992 through 2009, to P&C industry experience from A.M. Best on a calendar year basis over the same period. Since results can fluctuate widely from year to year, the long-term perspective provided by the Grant Thornton report is essential in any comparison of the performance of the two programs.

Federal Crop Insurance Program

The Federal Crop Insurance program, commonly known as MPCI, has been offered to U.S. farmers since the 1930s. Originally available only through the Federal government, the program has operated for the past three decades as a public-private partnership between members of NCIS and the Federal Crop Insurance Corporation ("FCIC"). The basic terms of this relationship are set forth in a Standard Reinsurance Agreement ("SRA") signed by FCIC and each AIP. The SRA establishes the terms under which FCIC provides reinsurance and subsidies on eligible crop insurance contracts sold by each AIP. Day to day management of the program is the responsibility of the Risk Management Agency ("RMA") of the U.S. Department of Agriculture. In crop year 2009, the MPCI program:

- Provided coverage on 264 million acres of eligible acreage of major U.S. crops;[1]
- Insured liability of $79.6 billion;
- Generated total premiums of $8.9 billion (of which $5.4 billion were premium subsidies); and
- Distributed $5.2 billion in indemnity payments.[2]

As a Congressionally authorized insurance program subsidized by the U.S. Treasury, FCIC and RMA have the responsibility of ensuring that the profitability of the MPCI program is reasonable in relation to the financial risk incurred by the participating AIPs. In addition, the government

[1] http://www.rma.usda.gov/pubs/rme/aboutrma.pdf as of 10-15-2009.
[2] http://www3.rma.usda.gov/apps/sob/current_week/sobrpt2007-2010.pdf as of 10-12-2010.

has a duty to taxpayers to ensure that the program is delivered to insured farmers in a cost effective manner. The Grant Thornton report examines how effectively the program has performed in meeting these objectives.

Use of the Property & Casualty Industry as a Benchmark

The MPCI program has many similarities to other lines of insurance in the broader P&C industry. These similarities make it possible to use the P&C industry as a benchmark for evaluating the profitability and efficiency of the MPCI program. The most recent Grant Thornton report improves on previous analyses by also comparing the MPCI program to two comparable segments of the P&C industry, Homeowners and Private Passenger Auto Physical Damage. These two lines of insurance are similar to MPCI in the sense that both provide property coverage to individuals rather than businesses and have low litigation expenses.

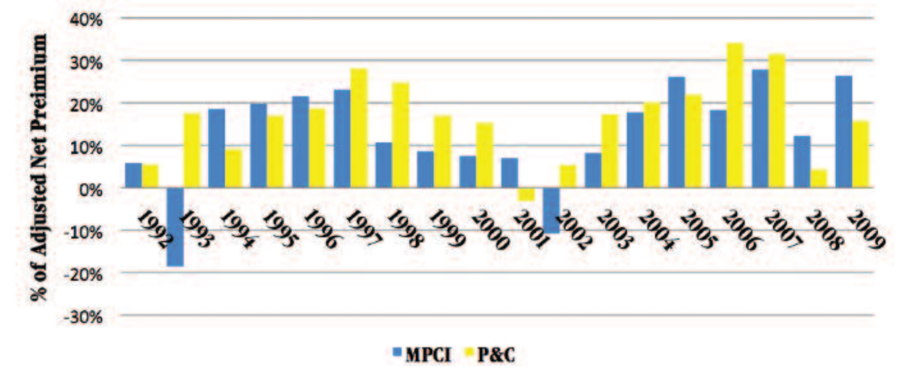
Despite its similarity to P&C insurance, the MPCI program is unique in certain respects that need to be taken into consideration in any comparison between the programs. For example, AIPs have no control over the rates charged to policyholders and are instead required to charge the rates set by RMA. AIPs are also required to accept all eligible producers and, as a result, have no ability to select the risks they would like to insure. P&C insurers, on the other hand, have the ability to set their own rates in order to more accurately reflect differences in risk. P&C insurers also have the ability, with some exceptions, to choose whether or not to accept each risk or to modify the coverage offered to the insured. In addition, P&C insurers can increase rates in future years in order to recoup losses from prior years. The ability to diversify against risk is another key difference. Extreme weather conditions in a particular year can cause the crop insurance industry to be highly unprofitable, whereas P&C insurers have a much greater ability to diversify their risk across states and lines of insurance. This lack of control over rates and underwriting decisions along with the limited ability of AIPs to diversify makes the profitability of the MPCI program much more uncertain than that of the broader P&C industry. This greater operational risk of the MPCI program needs to be recognized in comparisons of the two programs.

Another difference that needs to be taken into account is the relative size of the MPCI and P&C industries. The Grant Thornton report addresses this difference by measuring the profitability and expense of each program as a ratio to each program's premium. By comparing profitability to the revenue from which it was generated, the analysis can rely on publicly available information and avoids the use of arbitrary assumptions and allocation procedures required for other measures of profitability, such as return on equity.

One final issue that arises in comparing profits and expenses to premium across the two industries is that premiums are established on a different basis for the MPCI program than for the P&C industry. P&C industry premiums, in general, are set at a level high enough to cover 1) the expected losses, 2) company expenses, including loss adjustment, company overhead, and agent commissions, and 3) a small loading for the insurer's profit. MPCI premiums, on the other hand, are intended to cover only the expected losses with no loading for company expenses or profit. Instead, a separate A&O reimbursement is paid to cover each AIP's anticipated operating costs. Since the MPCI and P&C premiums are not on a consistent basis, a direct comparison of the ratios of profit or expense to premium for the two industries would not be appropriate.

Restating the premium for the two programs on a consistent basis can be done in one of two ways. One approach would be to include A&O reimbursements as part of the MPCI premium, while the other would be to exclude expenses from the P&C premium. Under the first approach, the adjusted premiums are a mixture of expected indemnities and expenses. In the second approach, the adjusted premiums represent the benefits provided to policyholders

Figure 1. **Comparison of Pretax Net Income as a Percentage of Adjusted Retained Premiums or Net Earned Premiums**



Source: 2010 Grant Thornton Update, Exhibit 1, MPCI Pretax Net Income after Quota Share/Adjusted Retained Premium; Exhibit 2, P&C Pretax Net Income/Adjusted Net Earned Premium

by the program, in other words, the expected indemnity payments. The first approach distorts the comparison because P&C expenses are a much larger portion of the premium than are MPCI industry expenses. The second approach avoids this distortion and has the further advantage that the performance of the program is measured in relation to the benefits delivered to policyholders. Grant Thornton uses the more meaningful second approach as the basis for comparing the two programs.

Profitability Comparison

For the P&C industry, profits are defined as industrywide Pretax Net Income after reinsurance. For the MPCI program, Pretax Net Income consists of the net underwriting gain or loss after quota share plus any net gain or loss on the A&O reimbursement. Since the A&O reimbursement is insufficient to cover the full cost of program delivery in most years (as discussed below), AIPs absorb any shortfall as a reduction in their profits. Even with this taken into account, the true profitability of the crop insurance industry is overstated by the Grant Thornton report in that the cost of commercial reinsurance is excluded.

As previously discussed, the profitability comparison between the two industries is based on the ratio of profits to premium. For the MPCI program, profitability is measured by the ratio of Pretax Net Income to Retained Premium.[3] For the P&C industry, profitability is measured by the ratio of Pretax Net Income to Adjusted Net Earned Premium ("NEP"), where the denominator is Net Earned Premium less the expense loading. As discussed above, the removal of the expense loading from the P&C premium ensures that the P&C and MPCI returns are stated on a consistent basis, with denominators of each ratio representing the expected indemnities under each program.

Using this methodology, the Grant Thornton report calculates the long-term profitability of each program on an unweighted basis as well as weighted by the premiums earned in each year. Regardless of which measure is used, the MPCI program is less profitable than the P&C industry. Over the period from 1992 to 2009, the weighted average profitability of the P&C industry was 17.3 percent of Adjusted Net Earned Premiums as compared to 16.0 percent of Adjusted Retained Premium for the MPCI program. On an unweighted basis, the average profitability of the P&C industry over the same period was 16.7 percent as compared to 12.8 percent for the MPCI program.

In comparing results over time, the P&C industry was more profitable in ten of the eighteen years. The MPCI program realized a net loss in 1993 (due to spring floods in the Midwest) and 2002 (due to drought in portions of the Great Plains). The P&C industry experienced its only annual net loss in 2001, the year of the attack on the World Trade Center towers in New York City. Even in that year, the P&C industry loss was only a small percent of premium. See Figure 1 for a presentation of these results on an annual basis.

Any comparison of the profitability of the two programs also needs to consider the degree of risk for the participating companies. Financial theory suggests that investors are willing to take greater risks if they have an opportunity for greater rewards. Risk can be measured in terms of the annual standard deviations of the returns for both programs. Based on Grant Thornton's analysis, the MPCI program has been riskier than the P&C industry over the period from 1992 to 2009. The weighted standard deviation for the MPCI program is 10.2 percent, which exceeds the 9.9 percent value observed for the P&C industry. Likewise, on an unweighted basis, the standard deviation for the MPCI program is 12.4 percent, which is again greater than the 9.8 percent value for the P&C industry. The greater risk of the MPCI program is inherent in its structure. As previously discussed, the P&C industry has greater control over its own ratemaking and underwriting activities, while MPCI companies are required to adhere to the ratemaking decisions and policy provisions established by RMA, regardless of underwriting loss experience.

In summary, the MPCI program is both less profitable and riskier than the P&C industry in general. Even though AIPs are exposed to greater risks than P&C insurers, they are not being compensated with greater financial rewards for taking that risk.

Efficiency Comparison

The second major objective of the Grant Thornton report was to evaluate the cost of delivering the MPCI program in relation to the P&C industry. Although there are similarities in the types of expenses incurred by both businesses, expenses incurred by MPCI companies are unique in the insurance industry and involve some costs not usually incurred in other insurance lines, such as loss adjustment training for a wide variety of crops.

The MPCI expense ratio is defined as Total Expenses divided by Gross Premiums. The three major expense com-

[3] 2005-2009 adjusted for Quota Share.

ponents are loss adjustment, commissions, and all other expenses, the last of which includes company overhead and operating costs. Since P&C industry premiums include a large loading for expenses while MPCI premiums do not, the P&C expense ratio is defined as Total Expenses divided by Direct Premiums Written net of Expenses ("Adjusted DPW") in order to restate the premiums on a consistent basis with MPCI premiums.

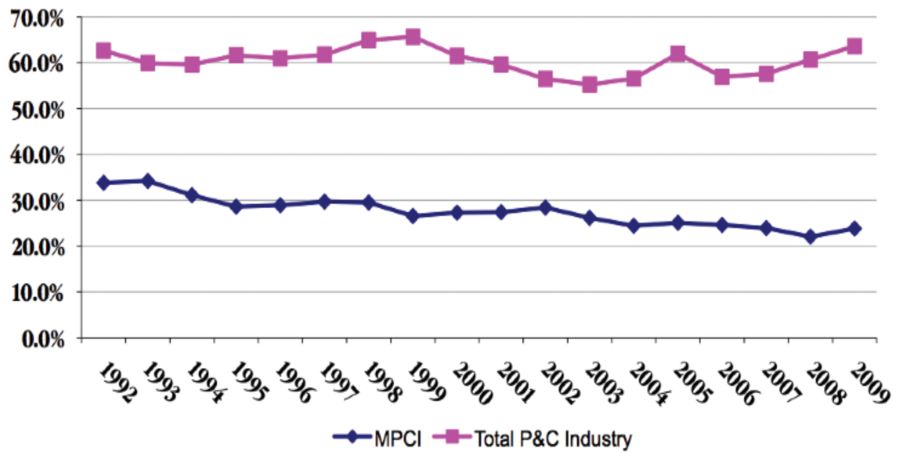
Figure 2 shows that the MPCI program expense ratio has been well below the P&C industry expense ratio in every year from 1992 through 2009. The average expense ratio for the MPCI program was only 27.5 percent over the period as compared to 60.4 percent for the P&C industry. This indicates that AIPs are able to deliver the MPCI program to policyholders at a much lower cost-to-benefit ratio than the P&C industry in general.

Figure 2 also shows that the expense ratio for the MPCI program has declined significantly over time. Since 1993, the highest expense ratio was 34.2 percent, and this ratio has not exceeded 25.1 percent since 2005. The decline in the MPCI expense ratio is consistent with the improved efficiency of the industry as program participation has increased dramatically in the past two decades. Farmer participation in the program was less than 10 percent in 1980 and has grown to over 80 percent in 2009.[4] The decline in expenses has occurred even under stringent governmental requirements for insurers to provide service to all eligible producers regardless of cost. Due to this requirement, AIPs are precluded from taking many actions that other types of insurers use to contain costs and enhance economic viability. While this requirement may significantly increase overall program costs, it does support the social goal of making crop insurance available to all eligible farmers.

Figure 3 compares the 5-year averages (2005-2009) for each of the three major expense components. MPCI expense ratios are compared to two selected P&C lines and the total P&C industry. This analysis addresses the concern that a comparison of expenses to the total P&C industry might

[4] Grant Thornton 2010 update report.

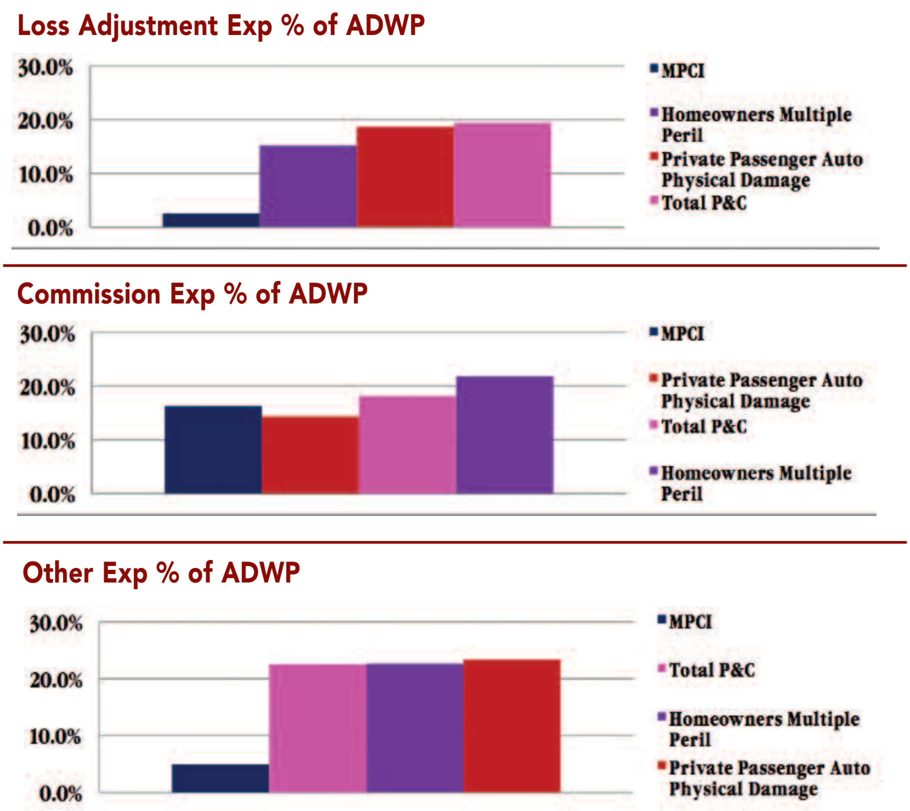
Figure 2. **Total Expense to Premium Ratio MPCI vs. Property & Casualty**



Sources: **Expenses:** 1992-1998: PwC 1999 Update Exhibit 4 and Deloitte 2004 Report Exhibit 5.1; 1999-2009: Surveys of NCIS member companies

A&O Reimbursements: 1992-2006: MPCI data from RMA charts, August 14, 2007 as provided by NCIS; 2007-2009: Surveys of NCIS member companies

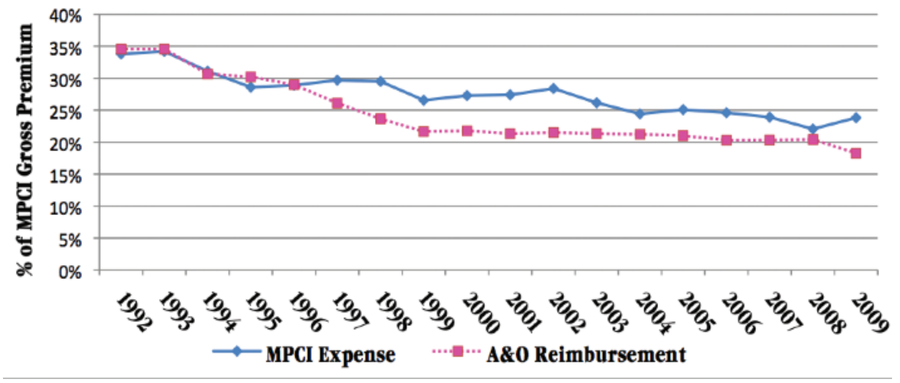
Figure 3. **5-Year Average (2005-2009)**



Sources: **Homeowners Multiple Peril, Private Passenger Automobile Physical Damage, and Total P&C (Total All Lines):** 2005-2009: A.M. Best's Aggregates & Averages 2010, pages 380, 383, 385

MPCI: 2005-2009: Surveys of NCIS member companies not be appropriate due to the inclusion of insurance products intended for commercial customers. Homeowners Multiple Peril and Private Passenger Automobile Physical Damage were selected for this comparison due to their similarity to MPCI. All three coverages insure property for individuals rather than large commercial enterprises, and have low litigation expenses. The results shown here indicate that the loss adjustment and other expense ratios for MPCI are significantly lower than either of the two P&C lines and the P&C industry in total. The commission expense ratio for Private Passenger Automobile Physical Damage line is slightly less than MPCI, while the MPCI commission ratio is below that for Homeowners and the P&C industry as a whole.

Figure 4. **MPCI Expenses vs. A&O Reimbursements**



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A&O Reimbursements: 1992-2006: MPCI data from RMA charts, August 14, 2007 as provided by NCIS; 2007-2009: Surveys of NCIS member companies

A&O Reimbursements

Grant Thornton also confirmed that the A&O reimbursements received by AIPs continue to be insufficient to cover all of their costs. As shown in Figure 4, AIPs incurred total expenses in 2008 equal to 22.1 percent of gross premium as compared to A&O reimbursements of 20.4 percent, leading to a shortfall of approximately 1.6 percent of premium, or $160.8 million. In 2009, AIPs incurred expenses of 23.8 percent of premium while A&O reimbursements fell to 18.3 percent of premiums, resulting in a much larger shortfall of approximately 5.5 percent, or $476.1 million. The inadequacy of the A&O reimbursements is absorbed by the AIPs as a reduction in their pre-tax net income.

Figure 4 illustrates that A&O reimbursements have consistently fallen below actual expenses in recent years even with significate reductions in expense ratios achieved by AIPs over time through increased efficiency. However, renegotiations of the SRA and the passage of the Agricultural Research, Extension, and Education Reform Act of 1998 have sharply reduced A&O reimbursements over time. For this reason, A&O reimbursements have fallen short of covering industry expenses in every year since 1997, with the shortfall exceeding $100 million in every year since 1998. Unreimbursed expenses exceeded $200 million in 2002, 2006 and 2007, and exceeded $475 million in 2009.

2011 Standard Reinsurance Agreement

With the recent renegotiation of the SRA, underwriting gains are anticipated to be less in future years than under the old agreement. These changes became effective on July 1, 2010, the start of the 2011 reinsurance year. Major changes included a sharp reduction in underwriting gain potential in certain states, modest changes in gain and loss potential in other states, and the introduction of an upper limit on the amount of A&O reimbursements to be paid to companies participating in the program. Since these changes are entirely prospective in nature, they have no impact on historical results through the 2009 reinsurance year shown in the report.

Crop insurance continues to be a difficult business in which to operate, but the crop insurance industry continues to meet these challenges in order to deliver the program in a cost-effective manner to all eligible producers.

Conclusion

The results of the 2010 Grant Thornton Update are consistent with those from prior years. The MPCI program is not as profitable, yet exposes AIPs to greater risk than P&C insurance in general. The P&C industry has had only a single year in its history, 2001, in which the industry as a whole lost money (largely due to the extraordinary losses related to September 11th). In contrast, the crop insurance industry as a whole has experienced losses in two of the 18 years between 1992 and 2009 (1993 and 2002). The delivery cost for the MPCI program as measured by the ratio of expenses to adjusted premium continues to be substantially below that for the P&C industry, but total A&O reimbursements have fallen short of industry expenses for every year since 1997. Loss adjustment and all other expenses for MPCI are much lower than those for Homeowners and Private Passenger Auto Physical Damage in relation to adjusted premium. MPCI commissions are below those for Homeowners but slightly greater than Private Passenger Auto Physical Damage. Crop insurance continues to be a difficult business in which to operate, but the crop insurance industry continues to meet these challenges in order to deliver the program in a cost-effective manner to all eligible producers.