



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

**The Pricing Performance of Market Advisory Services in
Corn and Soybeans Over 1995-2004: A Non-Technical
Summary**

by

Scott H. Irwin, Darrel L. Good, Joao Martines-Filho and
Ryan M. Batts



The Pricing Performance of Market Advisory Services in Corn and Soybeans Over 1995-2004: A Non-Technical Summary

by

Scott H. Irwin, Darrel L. Good, Joao Martines-Filho and Ryan M. Batts ¹

April 2006

AgMAS Project Research Report 2006-03

¹ Scott H. Irwin is the Laurence J. Norton Professor of Agricultural Marketing in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign. Darrel L. Good is a Professor in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign. Joao Martines-Filho is a Professor in the Escola Superior de Agricultura Luiz de Queiroz (ESALQ) at the University of São Paulo, Brazil and former Manager of the AgMAS and *farmdoc* Projects in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign. Ryan M. Batts is a graduate research assistant with the AgMAS Project in the Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign. The authors gratefully acknowledge the research assistance of Greg Price and Tom Jackson, former AgMAS Project Managers, and Nicole Aulerich, Tracy Brandenberger, Silvina Cabrini, Evelyn Colino, Lewis Hagedorn, Mark Jirik, Robert Merrin, Wei Shi, Brian Stark and Rick Webber, current and former Graduate Research Assistants for the AgMAS Project. Invaluable assistance with estimating on-farm storage costs was provided by Kevin Dhuyvetter, Department of Agricultural Economics, Kansas State University, Lowell Hill, Department of Agricultural and Consumer Economics at the University of Illinois at Urbana-Champaign, Marvin Paulsen, Department of Agricultural Engineering at the University of Illinois at Urbana-Champaign, and Dirk Maier, Department of Agricultural and Biological Engineering, Purdue University. Helpful comments on earlier versions of this research report for the 1995-2003 crop years were received from members of the AgMAS Project Review Panel and seminar participants at several universities.

DISCLAIMER

The advisory service marketing recommendations used in this research represent the best efforts of the AgMAS Project staff to accurately and fairly interpret the information made available by each advisory service. In cases where a recommendation is vague or unclear, some judgment is exercised as to whether or not to include that particular recommendation or how to implement the recommendation. Given that some recommendations are subject to interpretation, the possibility is acknowledged that the AgMAS track record of recommendations for a given program may differ from that stated by the advisory service, or from that recorded by another subscriber. In addition, the net advisory prices presented in this report may differ substantially from those computed by an advisory service or another subscriber due to differences in marketing assumptions, particularly with respect to the geographic location of production, cash and forward contract prices, fill (execution) prices for futures and options positions, expected and actual yields, storage charges and government programs.

This material is based upon work supported by the Cooperative State Research, Education and Extension Service, U.S. Department of Agriculture, under Project Nos. 98-EXCA-3-0606 and 00-52101-9626. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the authors and do not necessarily reflect the view of the U.S. Department of Agriculture.

The Pricing Performance of Market Advisory Services in Corn and Soybeans Over 1995-2004: A Non-Technical Summary

Abstract

The purpose of this research report is to summarize the pricing performance of professional market advisory services for the 1995-2004 corn and soybean crops. On average, the results show that the frequency of advisory programs pricing in the top-third of the corn price range over 1995-2004 is modest, between 17 and 25%. By far the largest average frequency occurs in the middle third of the corn price range, ranging from 58 to 63%. Price range results for soybeans are similar to the results for corn. Average differences between 50/50 advisory revenue and benchmarks range from 5 to \$7 per acre for market benchmarks and 8 to \$12 per acre for farmer benchmarks. The average advisory return relative to the farmer benchmarks is about three percent of average farmer benchmark revenue. Even though this return is small and mainly from corn, it nonetheless represents a non-trivial increase in net farm income per acre for grain farms in central Illinois. The AgMAS research report by Irwin et al. (2006) contains complete pricing performance results. In particular, additional results show that consideration of risk weakens performance results in some cases and that it is difficult to predict the pricing performance of advisory programs based on past performance.

The Pricing Performance of Market Advisory Services in Corn and Soybeans Over 1995-2004: A Non-Technical Summary

Introduction

A general perception exists among market observers that farmers perform poorly in managing price risk. More specifically, it is a common belief that farmers substantially underperform the market, which is reflected by the oft-repeated adage that, “Farmers market two-thirds of their crops in the bottom third of the price range.” There is considerable evidence that many farmers turn to market advisory services in an effort to improve their performance in managing price risk. For a subscription fee, agricultural market advisory services provide specific pricing advice to farmers, such as when and what amount to hedge in the futures market or sell in the cash market.

The academic literature provides farmers with a limited basis for evaluating the performance of market advisory services. There is a need to develop an ongoing track record of the performance of market advisory services to assist farmers in identifying successful alternatives for marketing and price risk management. The Agricultural Market Advisory Service (AgMAS) Project was initiated in 1994 with the goal of providing such information.^{1,2}

The purpose of this research report is to summarize the pricing performance of professional market advisory services for the 1995-2004 corn and soybean crops. The results for 1995-2003 were released in earlier AgMAS research reports, while the results for the 2004 crop year are new. At least 23 advisory programs are included in the evaluations for each commodity and crop year. While the sample of advisory services is non-random, it is constructed to be generally representative of the majority of advisory services offered to farmers. Two indicators of pricing performance are presented in this summary report. The first indicator is the proportion of advisory programs in the top-, middle- and bottom third of the price range. The second indicator is the average price of advisory programs relative to benchmarks. Both market and farmer benchmarks are considered in the evaluations. Complete details on data collection, computation of net advisory prices, benchmarks and pricing performance tests can be found in the full AgMAS research report by Irwin et al. (2006).

¹ Dr. Darrel L. Good and Dr. Scott H. Irwin of the University of Illinois at Urbana-Champaign jointly direct the Project. Correspondence with the AgMAS Project should be directed to: AgMAS Project Manager, 406 Mumford Hall, 1301 West Gregory Drive, University of Illinois at Urbana-Champaign, Urbana, IL 61801; voice: (217)333-2792; fax: (217)333-5538; e-mail: agmas@uiuc.edu. The AgMAS Project also has a website that can be found at the following address: <http://www.farmdoc.uiuc.edu/agmas/>.

² Funding for the AgMAS project is provided by the following organizations: Illinois Council on Food and Agricultural Research; Cooperative State Research, Education, and Extension Service, U.S. Department of Agriculture; Economic Research Service, U.S. Department of Agriculture; Risk Management Agency, U.S. Department of Agriculture; Initiative for Future Agriculture and Food Systems, U.S. Department of Agriculture; and the Aurene T. Norton Trust.

Market Advisory Service Recommendations

In order to evaluate the returns to the marketing advice generated by advisory services, the AgMAS Project purchases a subscription to each of the programs offered by a service.³ The information is received electronically via websites, e-mail or satellite service (DTN). Staff members of the AgMAS Project read the daily information provided by each advisory program. As a result, "real-time" recommendations are obtained.

After AgMAS staff collects the stream of recommendations for a particular crop year, all of the (filled) recommendations are aligned in chronological order. The advice for a given crop year is considered to be complete for each advisory program when cumulative cash sales of the commodity reach 100%, all futures positions covering the crop are offset, all option positions covering the crop are either offset or expire and the advisory program discontinues giving advice for that crop year.

Explicit marketing assumptions are applied to the track records to produce a consistent and comparable set of results across the different advisory programs. These assumptions are intended to accurately depict "real-world" marketing conditions facing a representative central Illinois corn and soybean farmer. Several key assumptions are: i) with a few exceptions, the marketing window for a crop year runs from September before harvest through August after harvest, ii) on-farm or commercial physical storage costs, as well as interest opportunity costs, are charged to post-harvest sales, iii) brokerage costs are subtracted for all futures and options transactions and iv) Commodity Credit Corporation (CCC) marketing loan recommendations made by advisory programs are followed wherever feasible. Based on these and other assumptions, the net price received by a subscriber to a market advisory program is calculated for the 1995-2004 corn and soybean crops.

The next step in evaluating pricing performance is specification of objective standards of performance. These objective standards typically are referred to as "benchmarks." It is commonplace to compare performance to benchmarks in other economic contexts, such as financial investments. Some of the best-known stock investment benchmarks are the Dow-Jones Industrials Index, S&P 500 Index and the Wilshire 5000 Index.

Two different types of benchmarks are developed for the performance evaluations. Efficient market theory implies that the return offered by the market is the relevant benchmark. In the context of this study, a market benchmark should measure the average price offered by the market over the marketing window of a representative farmer who follows advisory program recommendations. Both a 24-month and a 20-month market benchmark are specified in order to test the sensitivity of performance results to different market benchmark assumptions. Behavioral market theory suggests that the average return actually achieved by market participants as an appropriate benchmark. In the context of the present study, a behavioral

³ The term "advisory program" is used because several advisory services have more than one distinct marketing program.

benchmark should measure the average price actually received by farmers for a crop. Given the uncertainties involved in measuring the average price received by farmers, two alternative farmer benchmarks are specified. The market and farmer benchmarks are computed using the same assumptions applied to advisory program track records.⁴

Net Advisory Prices and Benchmarks for 1995 - 2004

Net advisory prices and benchmarks for the 1995-2004 crop years are reported in Tables 1 and 2. In order to obtain a consistent set of net advisory prices and benchmarks for the entire sample period, commercial storage costs are assumed. It is not possible to present parallel results assuming on-farm variable costs of storage because the AgMAS Project first computed net advisory prices and benchmarks under this alternative storage cost assumption for the 2000 crop year. See the previously mentioned AgMAS research report by Irwin et al. (2006) for 2000-2004 results that assume on-farm variable costs of storage. Also note that some of the market advisory services included in the tables are not evaluated for all 10 crop years.

Table 1 shows the average advisory price for corn ranges between \$1.99 per bushel in 2001 and \$3.03 per bushel in 1995 (based on commercial storage costs). Range statistics reveal that net advisory prices for corn vary substantially within individual crop years. The most dramatic example is 1995, where the minimum is \$2.29 per bushel and the maximum is \$3.90 per bushel. Even in years with less market price volatility, it is not unusual for the range of prices across advisory programs to be near a dollar per bushel. The four alternative benchmark prices for corn are shown at the bottom of Table 1. The variation in benchmark prices from year-to-year is similar to that of average net advisory prices. However, there are substantial differences in benchmark prices for a particular crop year. For example, the 24-month market benchmark in 1998 is \$2.24 per bushel, while the farmer benchmark using market prices is only \$1.92 per bushel.

As reported in Table 2, the average advisory price for soybeans ranged from \$5.24 per bushel in 2002 to \$7.27 per bushel in 1996 (based on commercial storage costs). Similar to corn, the range of individual net advisory prices within a crop year is substantial. The most dramatic example is 2003, where the range in advisory prices is just under \$4 per bushel. The four alternative benchmark prices for soybeans are shown at the bottom of Table 2. The variation in soybean benchmark prices from year-to-year is similar to that of average net advisory prices. Once again, there are substantial differences in benchmark prices for a particular crop year.

Since many Corn Belt farmers grow both corn and soybeans, it also is useful to examine a combination of the results for the corn and soybean marketing programs. In order to do this, gross revenue is calculated for a central Illinois farmer who follows both the corn and soybean marketing advice of a given program. It is assumed that the representative farmer splits acreage equally (50/50) between corn and soybeans and achieves corn and soybean yields equal to the actual yield for each crop year. The 50/50 advisory revenues are computed on a per acre basis

⁴ Please see the appendix to this report for a detailed discussion about the appropriate use of net advisory prices and benchmarks.

and compared with the revenue a central Illinois farmer could have received based on benchmark prices for both corn and soybeans. Advisory revenue per acre is calculated only for those programs that offer both corn and soybean marketing advice.

Table 3 contains the combined corn and soybeans revenue results (based on commercial storage costs). The lowest average advisory revenue, \$287 per acre, occurred in 2001, while the highest average advisory revenue, \$377 per acre, occurred in 2004. Given the results for corn and soybeans, the large range of individual advisory revenues within a crop year is not surprising. Nonetheless, it is startling to see the possible economic impact of following the best versus the worst performer in a given crop year. For example, in four of the ten crop years (1995, 1999, 2000 and 2004) the range in advisory revenue exceeds \$100 per acre.

Performance Evaluation Results for 1995-2004

Before considering the performance evaluation results, two important issues need to be discussed. First, the results presented in this section of the report address the performance of market advisory programs *as a group*. In other words, average pricing performance across all programs is considered. This is a different issue than the pricing performance of a particular advisory program. Simply put, it is inappropriate to make performance inferences for an individual advisory program based on aggregate results. Second, farmers subscribe to market advisory programs for a variety of reasons. For example, marketing information and market analysis are the two highest rated uses of market advisory programs by farmer-subscribers (Pennings et al., 2004). While the quality of marketing information and market analysis is likely to be positively correlated with the returns to marketing recommendations, this does not necessarily have to be the case. It is possible that advisory programs provide valuable information and analysis to farmer-subscribers, yet fail to exhibit superior pricing performance.

Price Range Performance

The first indicator of pricing performance is the proportion of advisory programs in the top-, middle- and bottom third of the price range. This indicator measures performance relative to the range of pricing opportunities available during each crop year. As noted in the introduction to this report, a commonly held and oft-repeated perception about farm marketing performance is that most farmers sell the bulk of their crop in the bottom-third of the price range. Given the widespread attention given to this measure of performance, it is a useful place to begin examination of the pricing performance of market advisory services.

The typical approach to defining the top-, middle- and bottom-third of the price range is illustrated by the left “box” in Figure 1. Labeled as “Conventional,” price ranges in this formulation are computed by simply dividing the range between the high and low prices for the 12-month marketing year (September-August) into thirds. Using the 2003 crop year for soybeans as an example, the marketing year high is \$10.41 per bushel and the low is \$5.64 per bushel. The top-, middle- and bottom-third of the price range are computed by dividing the overall range of prices ($\$10.41 - \$5.64 = \$4.77$) into three approximately equal parts. While this method is simple to compute, it has several drawbacks. First, only spot market prices for the 12-month marketing year are considered, and hence, forward contracting opportunities before

harvest are not considered. Second, post-harvest spot prices are not adjusted for physical storage and interest opportunity costs, and hence, all spot prices in the 12-month marketing year are implicitly assumed to be equivalent regardless of timing. Third, computed price ranges are assumed to be approximately equal. It is well-known that commodity price distributions are highly skewed to the right. In other words, commodity price movements tend to be “spiky,” which implies that large price moves occasionally occur but they do not persist for a long period of time. The implication is that the conventional approach may misrepresent the amount of time that market price spends in different price ranges, and from a practical standpoint, misrepresent the chance that a producer could take advantage of pricing opportunities.

A superior approach to defining the top-, middle- and bottom-third of the price range is illustrated by the right “box” in Figure 1. Labeled as “Alternative,” this approach uses the entire 24-month marketing window to represent pricing opportunities. In addition, post-harvest prices are adjusted for commercial storage costs and price ranges are time-weighted. Again using the 2003 crop year for soybeans as an example, the first step is to sort all of the daily pre-harvest, harvest and post-harvest prices for the 24-month marketing window (September 2002 - August 2004) from high to low. All post-harvest prices are adjusted for commercial storage costs (interest and physical storage). Note that prices and storage costs are exactly the same as those used to construct the 24-month market benchmark for the 2003 crop year. The second step is to compute percentiles of the daily price distribution. The third step is to determine the bottom, middle-, and top-third of the price range based on the 0, 33rd, 66th and 100th percentiles of the daily price distribution. As illustrated in Figure 1, this alternative method can yield price ranges that differ markedly from the conventional approach. For example, the top-third of the price range under the conventional approach is \$8.82 to \$10.41 per bushel compared to \$7.28 to \$10.05 per bushel under the alternative approach. When interpreting price ranges from the alternative approach it is helpful to remember that the ranges reflect an equal number of days over the 24-month marketing window. Hence, the market spent approximately one-third of the time over September 2002 - August 2004 in each of the three price ranges. However, the price range during the bottom one-third of the days was only \$4.74 to \$5.09 per bushel, while the price range during the top one-third of the days was much larger at \$7.28 to \$10.05 per bushel.

The alternative approach to computing price ranges is applied to each crop year over 1995-2004 for both corn and soybeans. In order to test the sensitivity of performance results to the definition of the marketing window, price ranges are computed for both 24- and 20-month marketing windows. The windows, prices and storage costs are exactly the same as those used in constructing the 24- and 20-month market benchmarks. Note that marketing loan benefits are not added to prices for the 1998-2004 crop years because the payments could affect the distribution of prices in those years.

Net advisory prices (minus marketing loan benefits) are plotted in Figure 2 along with boxes representing 24-month price ranges for each crop year over 1995-2004. The top panel shows the results for corn and the bottom panel shows the results for soybeans. The changing relative proportions in the boxes illustrate the varied nature of pricing opportunities through time. In crop years with sharp upward price movements (1995 corn, 2003 soybeans) the top one-third of the price range is many times larger than the bottom one-third. Just the opposite pattern tends to be observed in years with large price declines (1997 corn and soybeans). Both panels

show the interesting result that net advisory prices in a given crop year can be above the highest single day price or below the lowest single day price. As an example, the lowest single price for the 2003 crop year in soybeans is \$4.74 per bushel (after adjusting for commercial storage costs) and the lowest net advisory price is \$3.69 per bushel. The reason that advisory prices can be “out of the box” is simply due to gains and losses on futures and options positions.

The frequency of net advisory prices (minus marketing loan benefits) falling in the top-, middle- and bottom-third of price range over 1995-2004 is presented in Table 4. Considering corn first (Panel A: Table 4), there is substantial variation in the frequencies across marketing years for either the 24- or 20-month marketing window. For example, the frequency in the top-third of the price range for the 24-month marketing window in corn varies between 0 and 50%. The frequency in the bottom-third of the price range for the 24-month marketing window has a similar range, between 0 and 44%. Despite the variation across crop years, there does not appear to be any discernable trend in the proportions for either benchmark over the 10 crop years. Some sensitivity is observed in the results for a given crop year across the two marketing windows, particularly for the top-third of the price range. As an example, the proportion for the top-third of the price range in 2000 is 4% with the 24-month marketing window and 52% with the 20-month window. Nevertheless, the 1995-2004 averages for each price range are fairly close across the two marketing window definitions. On average, the results show that the chance of advisory programs pricing in the top-third of the price range is modest, between 17 and 25% in corn. By far the largest average frequency occurs in the middle third of the price range, ranging from 58 to 63%. The average frequency of advisory program performance falling in the bottom-third of the price range, between 17 and 20%, is similar to the average frequency of falling in the top-third.

Price range results for soybeans (Panel B: Table 4) are similar to the results for corn. There is a large variation in the frequencies across marketing years for the 24- and 20-month marketing windows but there is no obvious trend in the proportions over time. Results for a given crop year again vary across the two marketing windows, particularly for the top-third of the price range. As an example, the proportion for the top-third of the price range in 1996 is 38% with the 24-month marketing window and 13% with the 20-month window. Like corn, the 1995-2004 averages for each price range are fairly close across the two marketing window definitions. On average, the results show that the chance of advisory programs pricing in the top-third of the price range is modest, between 17 and 19% in soybeans. The largest average frequency occurs in the middle third of the price range, ranging from 67 to 69%. The average frequency of advisory program performance falling in the bottom-third of the price range varies between 12 and 16%.

The price range performance results can be difficult to interpret because theory does not help determine whether the 17% chance of advisory programs falling in the top-third of the 24-month price range in corn is “high” or “low.” The only alternative is to compare advisory program performance to other groups. Farmers are an obvious target for comparison. Frequencies for the farmer benchmarks developed in this study are therefore computed over 1995-2004. The frequency of farmer benchmark prices (minus marketing loan benefits) falling in the top-third of the price range over 1995-2004 averages 10% in corn and 18% in soybeans across all four possible comparisons (24- and 20-month marketing windows and two versions of

the farmer benchmark).⁵ The average frequency in corn is somewhat lower than that of advisory programs (21%) but the same as in soybeans (18%). Longer-term evidence on this question is provided by Hagedorn et al. (2005), who estimate frequencies of farmer benchmark prices for corn and soybeans falling in the top-, middle- and bottom-third of the price range over 1973-2003 using nearly identical methods as the present study. They report that the frequency of farmer benchmark prices (minus marketing loan benefits) falling in the top-third of the price range over 1973-2003 averages 15% in corn and 22% in soybeans across four comparisons (24- and 20-month marketing windows and the same two versions of the farmer benchmark). These frequencies differ only marginally from those of market advisory programs over 1995-2004. Caution obviously should be used in making comparisons across the two studies because of the large difference in sample periods. Nonetheless, the weight of the evidence suggests that the average performance of market advisory programs relative to the pricing opportunities provided by the market is modest at best.

Average Price Performance

The second indicator of pricing performance is the difference between the average price of advisory programs and the market or farmer benchmarks. This indicator takes into account both the direction and magnitude of differences from the benchmarks. Average prices for advisory programs and benchmarks in corn and soybeans over 1995-2004 as well as average differences are shown in Table 5. Average differences from market benchmarks for corn (panel A: Table 5) range from 2 to 5¢ cents per bushel.⁶ Average differences from farmer benchmarks for corn are larger, ranging from 9 to 11¢ cents per bushel. Average differences from market benchmarks for soybeans over 1995-2004 (panel B: Table 5) are substantial, ranging from 14 to 16¢ per bushel. In contrast, average differences from farmer benchmarks for soybeans over 1995-2004 are smaller, equaling 4¢ per bushel for both farmer benchmarks. Average differences for 50/50 advisory revenue range from 5 to \$7 per acre for market benchmarks over 1995-2004 and 8 to \$12 per acre for farmer benchmarks (Table 6). Note that the average differences can mask considerable variability across the benchmarks within a crop year and across crop years. A dramatic example of this occurred in 2003 for soybeans (Panel B: Table 5), where the average difference from the 24-month market benchmark is +\$0.27 per bushel, while the average difference for the farmer benchmark with market prices is -\$1.48 per bushel.

An important consideration from an economic decision-making perspective is the size of average returns versus the farmer benchmarks. The average advisory return relative to the farmer benchmarks is \$8 to \$12 per acre, or about three percent of average farmer benchmark

⁵ The frequency of farmer benchmark prices (minus marketing loan benefits) falling in the middle-third of the price range over 1995-2004 averages 53% in corn and 63% in soybeans across all four possible comparisons. The frequency of farmer benchmark prices falling in the bottom-third of the price range over 1995-2004 averages 38% in corn and 20% in soybeans across all four possible comparisons. The complete set of frequencies for the farmer benchmarks in corn and soybeans is available from the authors upon request.

⁶ Differences are calculated as advisory price minus benchmark price. So, a positive difference indicates an advisory price above the benchmark price and *vice versa*.

revenue. Even though returns are small and mainly from corn, they nonetheless represent a non-trivial increase in net farm income (defined as returns to farm operator management, labor and capital), which averages \$61 per acre for grain farms in central Illinois over 1995-2004 (e.g., Lattz, Cagley and Raab, 2005).⁷ The comparison does not account for yearly subscription costs, which is not a major problem because subscription costs are quite small relative to revenue. Subscription costs average only 20¢ per acre for a 2,000 acre farm and 80¢ per acre for a 500 acre farm. A more serious issue is fully accounting for the cost of implementing, monitoring and managing the marketing strategies recommended by advisory programs. Such costs are difficult to measure, but may well be substantial (Tomek and Peterson, 2001).

Overall, the test results with respect to market benchmarks generally indicate significant average return performance in corn, soybeans and 50/50 advisory revenue. Results with respect to the farmer benchmarks indicate significant performance only with respect to the farmer benchmark with USDA prices in corn. Additional results (see Irwin et al., 2006) indicate that average pricing results are relatively insensitive to re-stating differences in percentage terms or applying on-farm variable storage costs. However, performance results are relatively sensitive to the marketing loan strategy assumed for market benchmarks.

Reliability of Performance Results

From a practical, decision-making perspective, a key consideration is the reliability of performance results. In other words, do the performance results for market advisory programs (as a group) over 1995-2004 provide a reliable guide to the future? The availability of only 10 crop years may lead some to argue that the sample is too “small” or “sparse” to draw conclusions about future pricing performance. There are several reasons why this is not likely to be the case. First, Anderson (1974) explores the reliability of agricultural return-risk estimates based on sparse data sets and finds that even as few as three or four observations can be useful for decision-making. This is corroborated by practical experience in other areas of agricultural decision-making. For example, a typical presentation of university yield trials includes only current year crop yields and two-year or three-year averages if available. Despite the small samples, this type of yield trial data is widely used by farmers in making variety selections.

Second, even though the number of crop years is somewhat limited, at least 23 advisory programs are tracked for each crop year. Pooling results across advisory programs and crop years increases available information on the pricing performance of advisory programs as a group. The observed dependence of returns across programs lessens the positive benefit of pooling but does not eliminate it.

⁷ Net farm income is defined specifically as, “...the value of farm production, less total operating expenses and depreciation, plus gain or loss on machinery or buildings sold. Net farm income includes the return to the farm and family for unpaid labor, the interest on invested capital, and the returns to management.” (Lattz, Cagley and Raab, 2005, p.3) The average net farm income reported in the text is based on northern and central Illinois grain farms with soil ratings from 86 to 100.

Third, the 1995-2004 crop years contain a surprisingly wide range of market conditions and price levels. This can be seen in Figure 3, which shows the average monthly spot market price of corn and soybeans for central Illinois over September 1973-August 2005. Visual comparison of the AgMAS sample period to the entire time period suggests the AgMAS sample is broadly representative of the movement of corn and soybean prices in the long-run. In fact, both price series actually are more volatile during the AgMAS sample period. The standard deviation of monthly spot corn prices is \$0.66 per bushel over September 1995-August 2005 compared to \$0.53 per bushel over the entire September 1973-August 2005 time period. The standard deviation of monthly spot soybean prices is \$1.37 per bushel over September 1995-August 2005 compared to \$1.12 per bushel over the entire time period.

The bottom-line is that market conditions are sufficiently variable over the 1995-2004 crop years to allow the “true” pricing performance of market advisory programs to be estimated with reasonable confidence.⁸ As with any statistical analysis, there is always the chance that some results are due to random chance rather than true differences in the performance of advisory programs and benchmarks.

Summary and Conclusions

The purpose of this research report is to summarize the pricing performance of professional market advisory services for the 1995-2004 corn and soybean crops. The first indicator of pricing performance examined in this summary report is the proportion of advisory programs in the top-, middle- and bottom third of the price range. On average, the results show that the frequency of advisory programs pricing in the top-third of the corn price range over 1995-2004 is modest, between 17 and 25%. By far the largest average frequency occurs in the middle third of the corn price range, ranging from 58 to 63%. Price range results for soybeans are similar to the results for corn. The frequency of advisory programs pricing in the top-third of the soybean price is between 17 and 19% and the largest average frequency occurs in the middle third of the soybean price range, ranging from 67 to 69%. This evidence suggests that the average performance of market advisory programs relative to the pricing opportunities provided by the corn and soybean markets is modest at best.

The second indicator is the difference between the average price of advisory programs and the market or farmer benchmarks. Average differences from market benchmarks for corn range from 2 to 5¢ cents per bushel. Average differences versus farmer benchmarks for corn are larger, ranging from 9 to 11¢ cents per bushel. Average differences from market benchmarks for soybeans are substantial, ranging from 14 to 16¢ per bushel. In contrast, average differences from farmer benchmarks for soybeans are smaller, equaling 4¢ per bushel for both farmer benchmarks. Average differences for 50/50 advisory revenue range from 5 to \$7 per acre for market benchmarks and 8 to \$12 per acre for farmer benchmarks. The average advisory return relative to the farmer benchmarks is about three percent of average farmer benchmark revenue.

⁸ It should be emphasized that this conclusion is limited to the pricing performance of market advisory programs as a group. Individual program pricing performance is estimated with less precision.

Even though this return is small and mainly from corn, it nonetheless represents a non-trivial increase in net farm income per acre for grain farms in central Illinois.

Please note that the AgMAS research report by Irwin et al. (2006) contains complete pricing performance results. In particular, additional results show that consideration of risk weakens performance results in some cases and that it is difficult to predict the pricing performance of advisory programs based on past performance.

References

- Anderson, J.R. "Sparse Data, Estimational Reliability, and Risk-Efficient Decisions." *American Journal of Agricultural Economics*, 55(1974): 564-572.
- Hagedorn, L.A., S.H. Irwin, D.L. Good and E.V. Colino. "Does the Performance of Illinois Corn and Soybean Farmers Lag the Market?" *American Journal of Agricultural Economics*, 87(2005):1271-1279.
- Irwin, S.H., D.L. Good., J. Martines-Filho, and R.M. Batts. "The Pricing Performance of Market Advisory Services in Corn and Soybeans Over 1995-2004." AgMAS Project Research Report 2006-02, University of Illinois at Urbana-Champaign, April 2006.
(<http://www.farmdoc.uiuc.edu/agmas/reports/index.html>)
- Lattz, D.H., C.E. Cagley and D.D. Raab. "Summary of Illinois Farm Business Records for 2004." Circular 1388-05, University of Illinois Extension, 2005.
- Pennings, J.M.E., O. Isengildina, S.H. Irwin, and D.L. Good. "The Impact of Market Advisory Service Recommendations on Producers' Marketing Decisions." *Journal of Agricultural and Resource Economics*, 29(2004):308-327.
- Tomek, W.G. and H.H. Peterson. "Risk Management in Agricultural Markets: A Review." *Journal of Futures Markets*, 21(2001):853-985.

Table 1. Pricing Results for 41 Market Advisory Programs, Corn, 1995-2004 Crop Years, Commercial Storage Costs

Market Advisory Program	1995 Net Advisory Price	1996 Net Advisory Price	1997 Net Advisory Price	1998 Net Advisory Price	1999 Net Advisory Price	2000 Net Advisory Price	2001 Net Advisory Price	2002 Net Advisory Price	2003 Net Advisory Price	2004 Net Advisory Price
--\$ per bushel (harvest equivalent)--										
Ag Alert for Ontario	N/A	2.46	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ag Financial Strategies	N/A	N/A	N/A	N/A	N/A	N/A	1.80	1.80	1.95	2.22
Ag Market Professional (cash only)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2.18
Ag Market Professional (hedge)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1.96
Ag Profit by Hjort	3.08	2.49	2.00	2.05	1.89	N/A	N/A	N/A	N/A	N/A
Ag Review	2.59	2.76	2.57	2.25	2.12	2.03	2.17	2.37	2.38	2.46
AgLine by Doane (cash only)	3.15	2.65	2.33	2.22	2.08	2.18	1.96	2.03	2.41	2.29
AgLine by Doane (hedge)	N/A	2.61	2.29	2.32	2.13	2.26	1.98	2.05	2.38	2.25
AgResource	3.90	3.12	2.07	2.21	2.49	2.78	1.61	2.27	2.67	2.65
Agri-Edge (cash only)	3.07	2.62	2.15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Agri-Edge (hedge)	3.15	3.10	2.35	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Agri-Mark	3.62	2.73	2.13	1.97	2.03	2.06	N/A	N/A	N/A	N/A
AgriVisor (aggressive cash)	3.30	2.83	2.43	2.25	2.12	2.23	1.98	2.30	2.24	2.39
AgriVisor (aggressive hedge)	3.10	2.58	2.41	2.05	1.99	2.23	1.98	2.30	2.25	2.48
AgriVisor (basic cash)	2.72	2.65	2.34	2.16	2.10	2.21	1.96	2.30	2.24	2.39
AgriVisor (basic hedge)	2.90	2.63	2.33	2.03	2.07	2.21	1.92	2.30	2.25	2.39
Allendale (futures & options)	N/A	2.75	2.38	2.09	2.10	1.91	1.99	1.94	2.21	2.37
Allendale (futures only)	2.46	2.08	2.55	2.36	2.20	2.17	2.01	2.01	2.19	2.29
Brock (cash only)	2.74	2.70	2.33	2.10	2.09	1.98	1.88	2.42	2.28	2.24
Brock (hedge)	2.29	2.39	2.64	2.40	2.03	2.29	1.87	2.43	2.24	2.19
Cash Grain	N/A	N/A	N/A	N/A	2.06	2.06	N/A	N/A	N/A	N/A
Co-Mark	N/A	N/A	N/A	N/A	N/A	2.03	2.05	2.11	2.21	N/A
Freese-Notis	2.95	2.87	2.22	2.23	1.78	2.07	1.81	2.11	2.30	2.29
Grain Field Marketing	N/A	N/A	N/A	N/A	N/A	N/A	2.00	2.12	2.20	2.25
Grain Field Report	3.19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grain Marketing Plus	N/A	N/A	N/A	N/A	N/A	1.79	2.03	2.01	N/A	N/A
Harris Weather/Elliott Advisory	3.16	2.28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
North American Ag	3.22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Northstar Commodity	N/A	N/A	N/A	N/A	N/A	N/A	1.93	2.05	2.29	2.23
Pro Farmer (cash only)	3.16	2.64	2.19	2.09	1.66	1.91	1.94	2.00	2.15	2.03
Pro Farmer (hedge)	3.05	2.67	2.28	2.19	1.69	1.83	1.91	1.91	2.09	2.12
Progressive Ag	N/A	2.53	2.26	1.93	1.93	2.12	2.48	2.19	2.44	2.70
Prosperous Farmer	2.91	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Risk Management Group (cash only)	N/A	N/A	N/A	N/A	2.10	2.20	2.03	2.18	2.14	2.09
Risk Management Group (futures & options)	N/A	N/A	N/A	N/A	1.97	2.19	1.99	2.35	2.21	2.03
Risk Management Group (options only)	N/A	N/A	N/A	N/A	1.98	2.16	2.00	2.19	2.20	2.15
Stewart-Peterson Advisory Reports	2.90	2.46	2.09	2.02	1.90	1.81	2.04	2.10	2.19	2.46
Stewart-Peterson Strictly Cash	2.92	2.68	2.32	2.28	1.95	1.94	N/A	N/A	N/A	N/A
Top Farmer Intelligence	3.17	2.44	2.15	2.12	2.10	2.38	2.20	2.02	2.14	2.27
Utterback Marketing Services	N/A	N/A	2.74	2.51	2.08	2.39	2.11	2.09	2.07	2.64
Zwicker Cycle Letter	3.15	2.56	2.40	2.03	N/A	N/A	N/A	N/A	N/A	N/A
Descriptive Statistics:										
<i>Average</i>	3.03	2.63	2.32	2.17	2.02	2.13	1.99	2.15	2.24	2.30
<i>Median</i>	3.08	2.64	2.33	2.16	2.07	2.16	1.98	2.11	2.23	2.27
<i>Minimum</i>	2.29	2.08	2.00	1.93	1.66	1.79	1.61	1.80	1.95	1.96
<i>Maximum</i>	3.90	3.12	2.74	2.51	2.49	2.78	2.48	2.43	2.67	2.70
<i>Range</i>	1.61	1.04	0.74	0.58	0.83	0.99	0.87	0.63	0.72	0.74
<i>Standard Deviation</i>	0.33	0.22	0.18	0.15	0.16	0.21	0.15	0.16	0.14	0.19
Market Benchmarks										
<i>24-month average</i>	2.90	2.65	2.33	2.24	2.05	2.09	2.00	2.10	2.23	2.19
<i>20-month average</i>	3.07	2.66	2.27	2.12	1.97	2.01	1.94	2.09	2.22	2.15
Farmer Benchmarks										
<i>USDA prices</i>	3.06	2.50	2.23	1.97	1.93	1.95	1.95	2.11	2.22	2.17
<i>Market Prices</i>	3.32	2.42	2.17	1.92	1.89	1.93	1.91	2.08	2.25	1.95

Notes: Net advisory prices and benchmark prices are stated on a harvest equivalent basis. A crop year is a two-year marketing window from September of the year previous to harvest through August of the year after harvest. N/A denotes "Not Applicable," since the indicated program did not exist or was not evaluated for the given crop year.

Table 2. Pricing Results for 40 Market Advisory Programs, Soybeans, 1995-2004 Crop Years, Commercial Storage Costs

Market Advisory Program	1995 Net Advisory Price	1996 Net Advisory Price	1997 Net Advisory Price	1998 Net Advisory Price	1999 Net Advisory Price	2000 Net Advisory Price	2001 Net Advisory Price	2002 Net Advisory Price	2003 Net Advisory Price	2004 Net Advisory Price
---\$ per bushel (harvest equivalent)---										
Ag Alert for Ontario	N/A	7.37	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ag Financial Strategies	N/A	N/A	N/A	N/A	N/A	N/A	5.33	4.77	5.95	5.77
Ag Market Professional (cash only)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.11
Ag Market Professional (hedge)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	6.14
Ag Profit by Hjort	6.77	7.13	6.16	5.26	5.34	N/A	N/A	N/A	N/A	N/A
Ag Review	6.59	7.37	6.19	5.11	4.68	5.23	5.34	5.27	3.69	6.18
AgLine by Doane (cash only)	6.59	7.39	6.32	5.65	5.45	5.46	5.42	5.36	6.48	5.87
AgLine by Doane (hedge)	N/A	N/A	N/A	5.60	5.45	5.32	5.35	5.48	6.43	6.08
AgResource	6.92	7.29	6.47	6.17	7.10	6.83	5.74	5.19	6.44	7.45
Agri-Edge (cash only)	6.70	7.28	6.06	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Agri-Edge (hedge)	6.62	7.18	6.25	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Agri-Mark	7.94	7.18	6.68	5.71	5.60	5.60	N/A	N/A	N/A	N/A
AgriVisor (aggressive cash)	6.38	7.28	6.33	5.55	5.48	5.35	5.48	5.26	6.79	6.24
AgriVisor (aggressive hedge)	6.97	7.40	6.14	5.77	5.40	5.29	5.48	5.26	6.79	6.24
AgriVisor (basic cash)	6.42	7.06	6.35	5.55	5.48	5.31	5.46	5.26	6.79	6.24
AgriVisor (basic hedge)	6.78	7.46	6.14	5.79	5.40	5.25	5.46	5.26	6.79	6.24
Allendale (futures only)	6.21	7.30	6.67	5.90	5.64	5.68	5.70	5.00	5.42	5.53
Brock (cash-only)	6.27	7.20	6.31	5.65	5.68	5.23	5.54	5.28	5.97	6.12
Brock (hedge)	5.66	6.99	6.93	6.58	6.33	5.41	5.62	5.00	5.89	6.08
Cash Grain	N/A	N/A	N/A	N/A	5.99	5.40	N/A	N/A	N/A	N/A
Co-Mark	N/A	N/A	N/A	N/A	N/A	5.53	5.59	5.30	6.83	N/A
Freese-Notis	6.40	7.13	6.15	5.81	5.32	5.46	5.47	5.24	5.71	5.85
Grain Field Marketing	N/A	N/A	N/A	N/A	N/A	N/A	5.35	5.79	6.74	5.62
Grain Field Report	6.84	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grain Marketing Plus	N/A	N/A	N/A	N/A	N/A	5.23	5.34	5.41	N/A	N/A
Harris Weather/Elliott Advisory	6.85	6.80	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
North American Ag	6.44	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Northstar Commodity	N/A	N/A	N/A	N/A	N/A	N/A	5.57	5.44	6.61	6.26
Pro Farmer (cash only)	6.69	7.31	6.29	5.74	5.51	5.28	5.48	5.30	6.60	5.78
Pro Farmer (hedge)	6.78	7.49	6.47	5.85	5.81	5.41	5.32	4.80	6.39	5.81
Progressive Ag	N/A	7.80	6.65	5.71	5.68	5.00	5.82	6.15	7.67	6.66
Prosperous Farmer	6.51	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Risk Management Group (cash only)	N/A	N/A	N/A	N/A	5.51	5.53	5.39	5.37	5.50	5.97
Risk Management Group (futures & options)	N/A	N/A	N/A	N/A	5.70	5.46	5.22	5.28	5.39	6.00
Risk Management Group (options only)	N/A	N/A	N/A	N/A	5.51	5.51	5.21	5.39	5.49	5.82
Stewart-Peterson Advisory Reports	6.09	7.37	6.22	6.36	6.00	5.45	5.77	4.86	5.86	6.12
Stewart-Peterson Strictly Cash	6.28	7.13	6.33	5.96	5.42	5.24	N/A	N/A	N/A	N/A
Top Farmer Intelligence	6.20	6.84	6.08	6.32	6.23	5.76	5.23	5.01	6.06	5.91
Utterback Marketing Services	N/A	N/A	6.99	6.13	6.14	5.27	4.89	4.59	7.34	5.82
Zwicker Cycle Letter	6.89	7.67	6.59	5.76	N/A	N/A	N/A	N/A	N/A	N/A
Descriptive Statistics:										
<i>Average</i>	6.59	7.27	6.38	5.82	5.67	5.44	5.45	5.24	6.22	6.07
<i>Median</i>	6.59	7.28	6.32	5.77	5.51	5.40	5.46	5.26	6.43	6.08
<i>Minimum</i>	5.66	6.80	6.06	5.11	4.68	5.00	4.89	4.59	3.69	5.53
<i>Maximum</i>	7.94	7.80	6.99	6.58	7.10	6.83	5.82	6.15	7.67	7.45
<i>Range</i>	2.28	1.00	0.93	1.47	2.42	1.83	0.93	1.55	3.99	1.92
<i>Standard Deviation</i>	0.42	0.23	0.26	0.34	0.45	0.33	0.20	0.31	0.80	0.37
Market Benchmarks										
<i>24-month average</i>	6.26	7.08	6.30	5.86	5.50	5.42	5.34	4.98	5.95	5.90
<i>20-month average</i>	6.39	7.21	6.22	5.64	5.30	5.38	5.21	5.10	6.35	5.95
Farmer Benchmarks										
<i>USDA prices</i>	6.59	7.17	6.17	5.18	5.39	5.29	5.55	5.41	7.27	5.69
<i>Market Prices</i>	6.77	7.12	6.08	5.05	5.37	5.23	5.49	5.40	7.70	5.49

Notes: Net advisory prices and benchmark prices are stated on a harvest equivalent basis. A crop year is a two-year marketing window from September of the year previous to harvest through August of the year after harvest. N/A denotes "Not Applicable," since the indicated program did not exist or was not evaluated for the given crop year.

Table 3. Revenue Results for 40 Market Advisory Programs, 1995-2004 Crop Years, Commercial Storage Costs

Market Advisory Program	1995 50/50 Advisory Revenue	1996 50/50 Advisory Revenue	1997 50/50 Advisory Revenue	1998 50/50 Advisory Revenue	1999 50/50 Advisory Revenue	2000 50/50 Advisory Revenue	2001 50/50 Advisory Revenue	2002 50/50 Advisory Revenue	2003 50/50 Advisory Revenue	2004 50/50 Advisory Revenue
	---\$ per acre (harvest equivalent)---									
Ag Alert for Ontario	N/A	359	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Ag Financial Strategies	N/A	N/A	N/A	N/A	N/A	N/A	270	256	292	363
Ag Market Professional (cash only)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	368
Ag Market Professional (hedge)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	348
Ag Profit by Hjort	326	355	283	282	280	N/A	N/A	N/A	N/A	N/A
Ag Review	292	382	324	293	282	285	298	311	288	395
AgLine by Doane (cash only)	326	373	310	304	298	301	284	288	343	372
AgLine by Doane (hedge)	N/A	N/A	N/A	310	302	305	284	293	340	373
AgResource	377	407	295	316	371	381	264	301	367	448
Agri-Edge (cash only)	323	369	291	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Agri-Edge (hedge)	327	403	310	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Agri-Mark	382	375	304	287	297	295	N/A	N/A	N/A	N/A
AgriVisor (aggressive cash)	330	385	317	303	302	303	287	305	334	390
AgriVisor (aggressive hedge)	331	369	311	294	289	301	287	305	334	400
AgriVisor (basic cash)	297	366	311	297	300	300	285	305	334	390
AgriVisor (basic hedge)	315	374	306	293	296	299	282	305	334	390
Allendale (futures only)	277	327	334	321	312	306	294	277	304	362
Brock (cash-only)	295	373	310	295	304	281	280	315	322	374
Brock (hedge)	255	344	346	340	315	309	281	308	317	368
Cash Grain	N/A	N/A	N/A	N/A	310	290	N/A	N/A	N/A	N/A
Co-Mark	N/A	N/A	N/A	N/A	N/A	291	295	292	332	N/A
Freese-Notis	310	385	298	308	271	293	274	291	319	371
Grain Field Marketing	N/A	N/A	N/A	N/A	N/A	N/A	286	306	330	361
Grain Field Report	333	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Grain Marketing Plus	N/A	N/A	N/A	N/A	N/A	265	287	287	N/A	N/A
Harris Weather/Elliott Advisory	332	331	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
North American Ag	327	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Northstar Commodity	N/A	N/A	N/A	N/A	N/A	N/A	286	291	335	377
Pro Farmer (cash only)	329	371	299	296	266	276	284	285	322	345
Pro Farmer (hedge)	324	377	310	307	276	273	278	264	313	354
Progressive Ag	N/A	374	313	284	292	286	334	320	369	431
Prosperous Farmer	310	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Risk Management Group (cash only)	N/A	N/A	N/A	N/A	301	305	289	299	301	356
Risk Management Group (futures & options)	N/A	N/A	N/A	N/A	295	302	282	310	305	351
Risk Management Group (options only)	N/A	N/A	N/A	N/A	291	301	282	301	305	358
Stewart-Peterson Advisory Reports	300	358	291	306	297	272	299	281	312	395
Stewart-Peterson Strictly Cash	306	370	309	316	287	277	N/A	N/A	N/A	N/A
Top Farmer Intelligence	319	345	292	313	318	325	298	278	311	371
Utterback Marketing Services	N/A	N/A	354	337	315	314	283	273	329	403
Zwicker Cycle Letter	332	373	322	292	N/A	N/A	N/A	N/A	N/A	N/A
Descriptive Statistics:										
<i>Average</i>	319	369	311	304	299	298	287	294	324	377
<i>Median</i>	324	372	310	304	297	299	284	296	322	371
<i>Minimum</i>	255	327	283	282	266	265	264	256	288	345
<i>Maximum</i>	382	407	354	340	371	381	334	320	369	448
<i>Range</i>	128	80	71	58	105	116	70	64	81	102
<i>Standard Deviation</i>	27	19	17	15	20	22	13	16	20	25
Market Benchmarks										
<i>24-month average</i>	304	366	310	311	297	294	285	284	317	363
<i>20-month average</i>	317	371	304	296	286	286	277	285	324	361
Farmer Benchmarks										
<i>USDA prices</i>	320	357	300	274	285	279	286	295	341	356
<i>Market Prices</i>	340	349	293	267	281	277	281	293	352	329

Notes: Net advisory prices and benchmark prices are stated on a harvest equivalent basis. A crop year is a two-year marketing window from September of the year previous to harvest through August of the year after harvest. N/A denotes "Not Applicable," since the indicated program did not exist or was not evaluated for the given crop year.

Table 4. Proportion of Advisory Programs in Top-, Middle-, and Bottom Third of the Price Range, Corn, and Soybeans, 1995 - 2004 Crop Years, Commercial Storage Costs

Crop Year	Number of Programs	Proportion of Programs in Price Range for 24-Month Marketing Window			Proportion of Programs in Price Range for 20-Month Marketing Window		
		Top Third or Above	Middle Third	Bottom Third or Below	Top Third or Above	Middle Third	Bottom Third or Below
			---%---			---%---	
Panel A: Corn							
1995	25	20	76	4	8	76	16
1996	26	12	65	23	8	81	12
1997	25	16	40	44	16	52	32
1998	23	0	78	22	22	65	13
1999	26	4	58	38	12	58	31
2000	27	4	85	11	52	37	11
2001	27	7	74	19	11	70	19
2002	27	44	33	22	56	30	15
2003	26	50	27	23	50	31	19
2004	27	11	89	0	19	81	0
1995-2004 Average		17	63	20	25	58	17
Panel B: Soybeans							
1995	25	36	60	4	16	80	4
1996	24	38	63	0	13	79	8
1997	23	21	58	21	21	75	4
1998	22	0	82	18	27	73	0
1999	25	32	48	20	56	32	12
2000	26	8	62	31	15	73	12
2001	26	4	35	62	12	42	46
2002	26	19	81	0	19	65	15
2003	25	8	88	4	4	92	4
2004	26	8	92	0	8	85	8
1995-2004 Average		17	67	16	19	69	12

Notes: A crop year is a two-year marketing window from September of the year previous to harvest through August of the year after harvest. Average proportions for 1995-2004 are computed over the full set of advisory programs. As a result, averages of individual crop year proportions may not equal the average proportions reported for 1995-2004.

Table 5. Comparison of Average Net Advisory Prices and Benchmark Prices for Corn and Soybeans, 1995 - 2004 Crop Years, Commercial Storage Costs

Crop Year	Number of Programs	Average Net Advisory Price	Market Benchmark		Farmer Benchmark		Difference Between Advisors and Market Benchmark		Difference Between Advisors and Farmer Benchmark	
			24-Month Average	20-Month Average	USDA Prices	Market Prices	24-Month Average	20-Month Average	USDA Prices	Market Prices
			--\$ per bushel (harvest equivalent)--				---¢ per bushel (harvest equivalent)---			
Panel A: Corn										
1995	25	3.03	2.90	3.07	3.06	3.32	14	-4	-3	-29
1996	26	2.63	2.65	2.66	2.50	2.42	-2	-4	12	21
1997	25	2.32	2.33	2.27	2.23	2.17	-1	4	9	15
1998	23	2.17	2.24	2.12	1.97	1.92	-8	5	20	25
1999	26	2.02	2.05	1.97	1.93	1.89	-3	5	9	13
2000	27	2.13	2.09	2.01	1.95	1.93	4	11	18	19
2001	27	1.99	2.00	1.94	1.95	1.91	-2	5	4	8
2002	27	2.15	2.10	2.09	2.11	2.08	4	6	4	6
2003	26	2.24	2.23	2.22	2.22	2.25	1	2	3	-1
2004	27	2.30	2.19	2.15	2.17	1.95	11	15	12	35
1995-2004 Average		2.29	2.28	2.25	2.21	2.18	2	5	9	11
Panel B: Soybeans										
1995	25	6.59	6.26	6.39	6.59	6.77	33	20	1	-17
1996	24	7.27	7.08	7.21	7.17	7.12	19	6	10	14
1997	23	6.38	6.30	6.22	6.17	6.08	8	16	21	30
1998	22	5.82	5.86	5.64	5.18	5.05	-4	18	64	77
1999	25	5.67	5.50	5.30	5.39	5.37	18	37	28	31
2000	26	5.44	5.42	5.38	5.29	5.23	2	6	15	21
2001	26	5.45	5.34	5.21	5.55	5.49	11	23	-10	-4
2002	26	5.24	4.98	5.10	5.41	5.40	26	14	-17	-16
2003	25	6.22	5.95	6.35	7.27	7.70	27	-13	-105	-148
2004	26	6.07	5.90	5.95	5.69	5.49	17	12	38	58
1995-2004 Average		6.00	5.86	5.88	5.97	5.97	16	14	4	4

Notes: Net advisory prices and benchmark prices are stated on a harvest equivalent basis. A crop year is a two-year marketing window from September of the year previous to harvest through August of the year after harvest. Averages for 1995-2004 are computed over the full set of advisory programs. As a result, averages of individual crop year prices or differences may not equal the averages reported for 1995-2004.

Table 6. Comparison of Average 50/50 Advisory Revenue and Benchmark Revenues, 1995 - 2004 Crop Years, Commercial Storage Costs

Crop Year	Number of Programs	Average Net Advisory Price	Market Benchmark		Farmer Benchmark		Difference Between Advisors and Market Benchmark		Difference Between Advisors and Farmer Benchmark	
			24-Month Average	20-Month Average	USDA Prices	Market Prices	24-Month Average	20-Month Average	USDA Prices	Market Prices
			---\$ per acre (harvest equivalent)---							
1995	25	319	304	317	320	340	15	2	-1	-21
1996	24	369	366	371	357	349	2	-2	11	19
1997	23	311	310	304	300	293	1	7	11	18
1998	22	304	311	296	274	267	-6	8	30	38
1999	25	299	297	286	285	281	2	13	14	18
2000	26	298	294	286	279	277	4	11	18	21
2001	26	287	285	277	286	281	1	9	1	5
2002	26	294	284	285	295	293	11	9	-1	1
2003	25	324	317	324	341	352	6	-1	-17	-29
2004	26	377	363	361	356	329	15	17	22	48
1995-2004 Average		318	313	311	309	306	5	7	8	12

Notes: Net advisory revenues and benchmark revenues are stated on a harvest equivalent basis. A crop year is a two-year marketing window from September of the year previous to harvest through August of the year after harvest. Averages for 1995-2004 are computed over the full set of advisory programs. As a result, averages of individual crop year revenues or differences may not equal the averages reported for 1995-2004.

Figure 1. Conventional and Alternative Methods of Determining Top-, Middle-, and Bottom Third of the Price Range, Soybeans, 2003 Crop Year (No Marketing Loan Benefits Included)

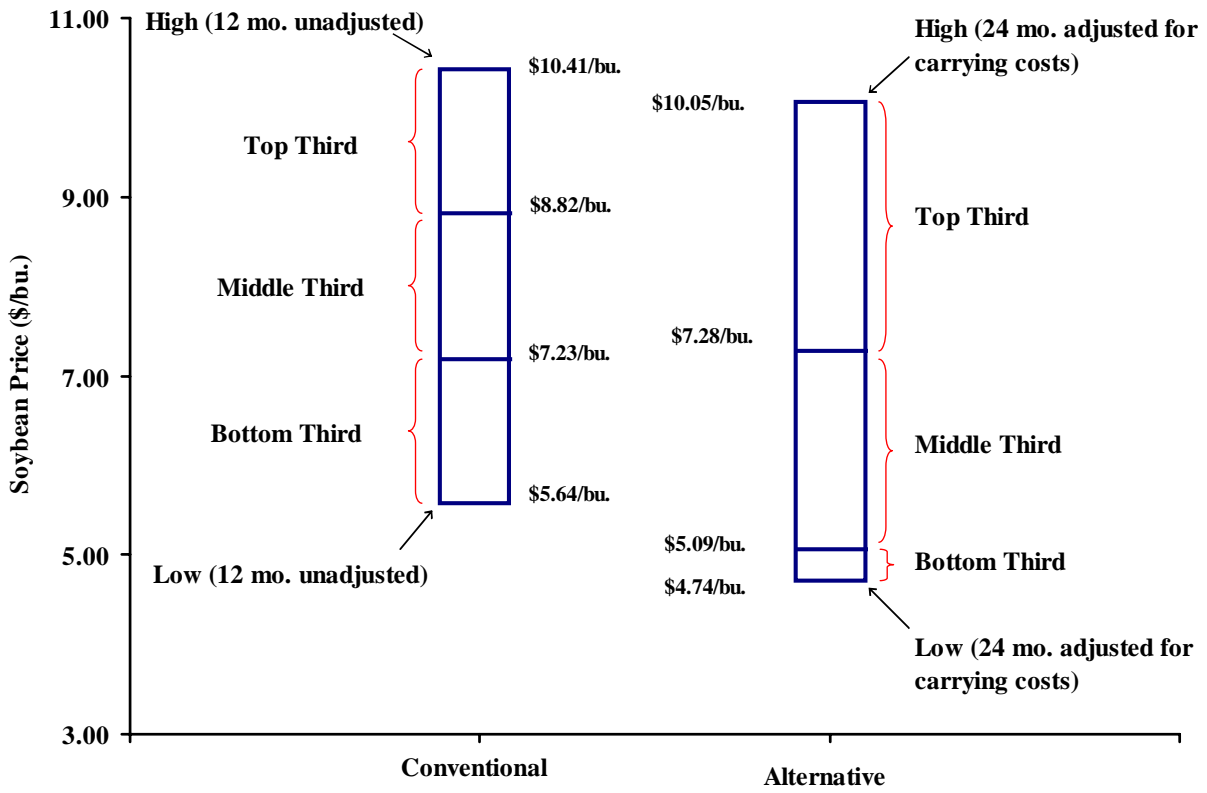
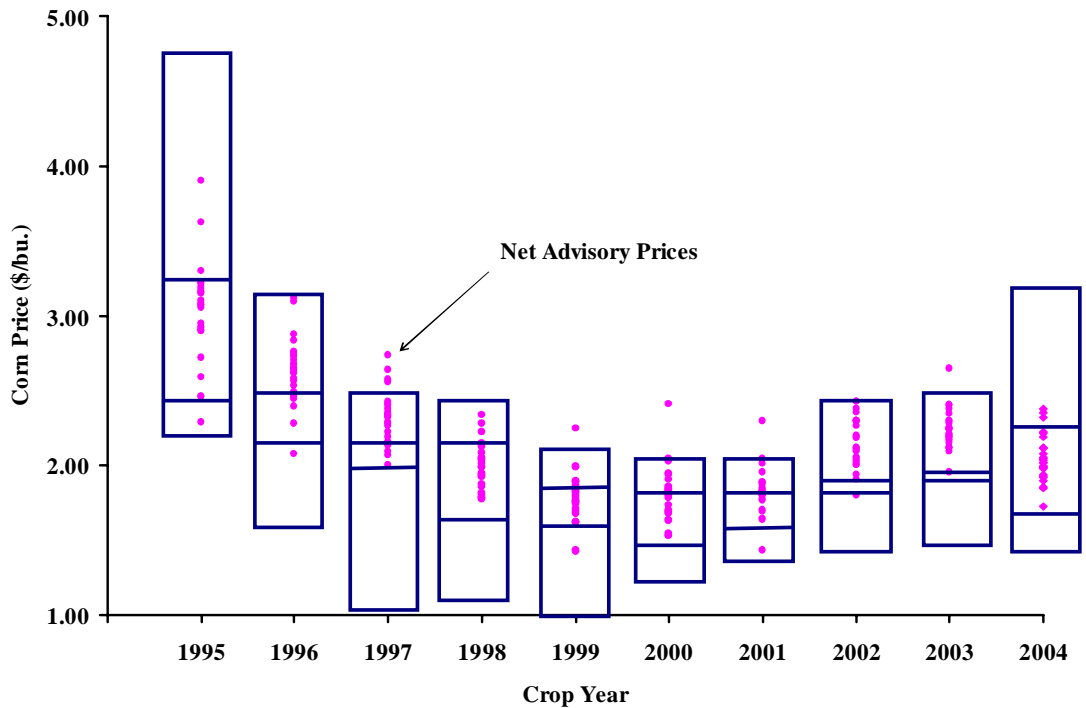


Figure 2. Net Advisory Prices and Top-, Middle-, and Bottom Third Price Ranges for 24-Month Marketing Window, Corn, and Soybeans, 1995 - 2004 Crop Years, Commercial Storage Costs (No Marketing Loan Benefits Included)

Panel A: Corn



Panel B: Soybeans

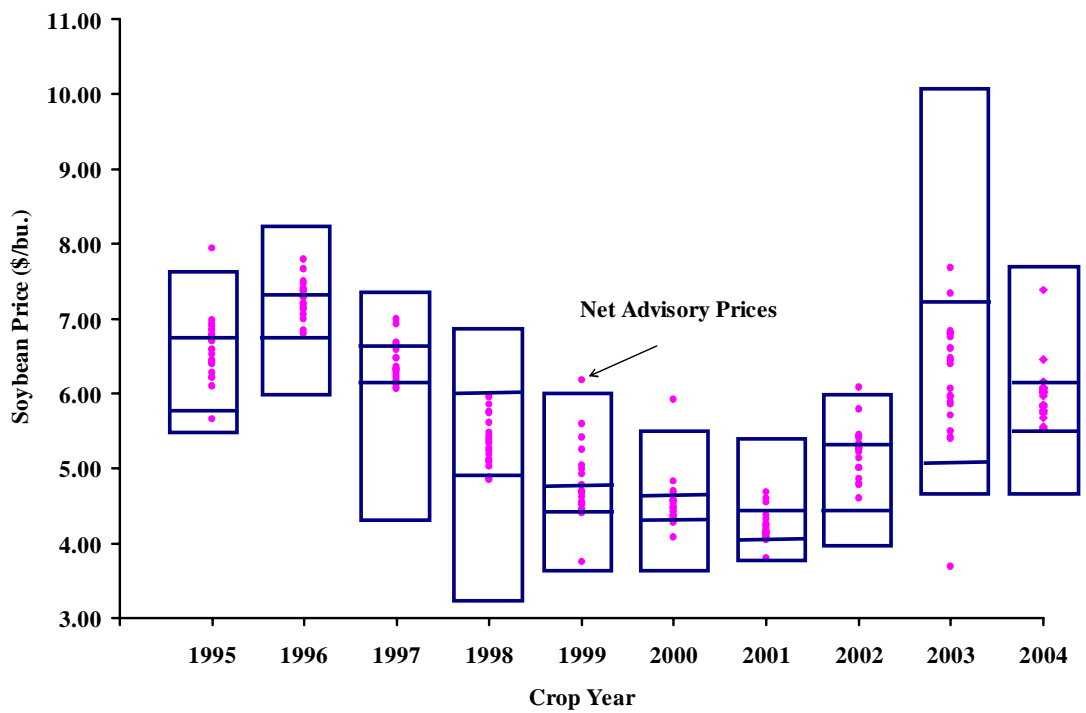
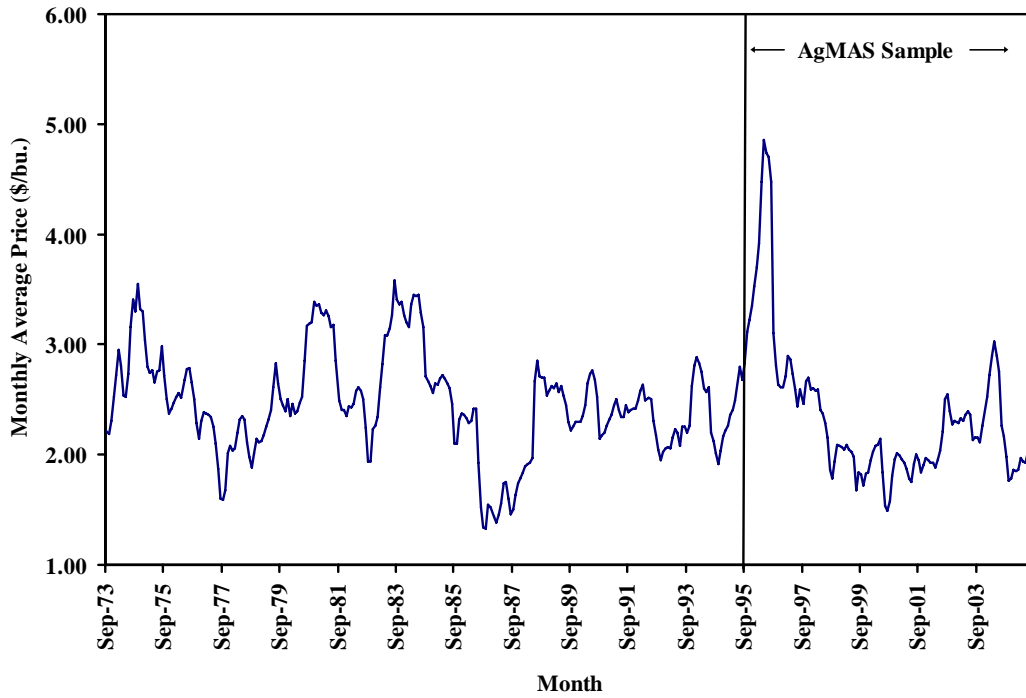
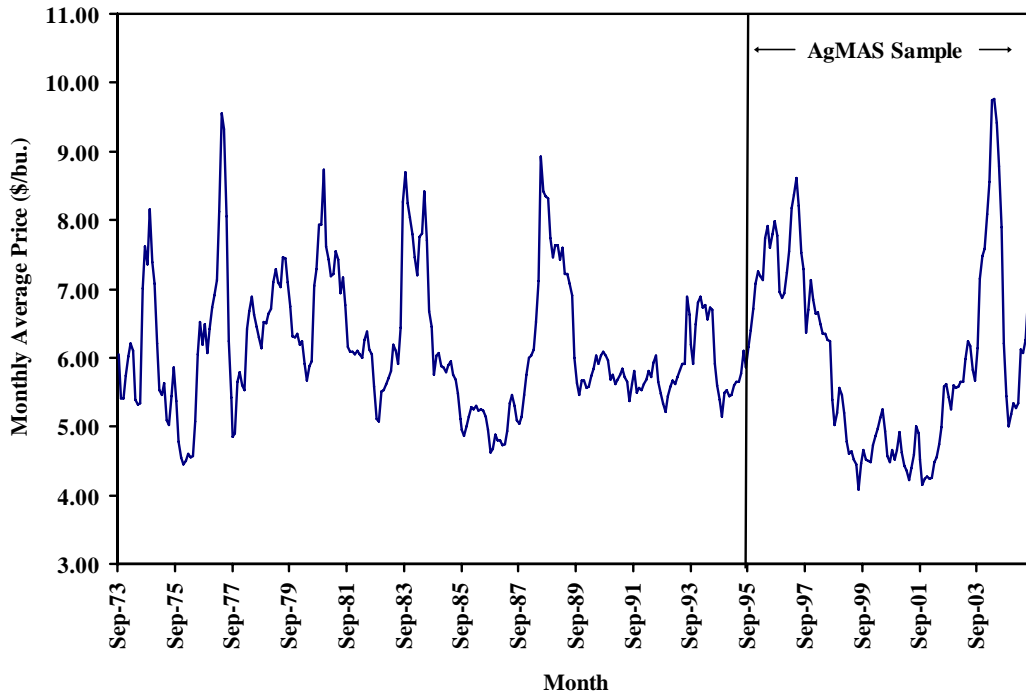


Figure 3. Average Monthly Spot Market Price of Corn and Soybeans, Central Illinois, September 1973 - August 2004

Panel A: Corn



Panel B: Soybeans



Appendix: A Cautionary Note on the Use of AgMAS Net Advisory Prices and Benchmarks

The net advisory prices and benchmarks computed by the AgMAS Project are designed to reflect “real-world” marketing conditions and assure that net advisory service prices and benchmarks are computed on a rigorously comparable basis. This latter point is especially important, as performance evaluations must compare “apples to apples” and not “apples to oranges.” Comparison problems may arise if prices computed by an individual farmer, or another market advisory service, are compared to AgMAS net advisory prices and benchmarks.

First, and foremost, AgMAS net advisory prices and benchmarks are stated on a harvest equivalent basis. This means that spot cash prices for post-harvest sales are adjusted for storage costs, which include physical storage charges, shrinkage charges and interest opportunity costs. The impact of this assumption is illustrated in the top panel of Figure A1 for corn and the bottom panel for soybeans. The top line in each chart shows the 2004 harvest cash price for each crop (corn: \$1.82 per bushel; soybeans: \$5.02 per bushel). The bottom line reflects a cash sale at the same harvest price one to eleven months after harvest, with the cash price adjusted for commercial costs of storage. As a specific example, consider a six-month storage horizon for corn. In this case, the cash price of the sale six-months after harvest is assumed to be \$1.82 per bushel, the same as the harvest cash price (equivalent to saying cash prices do not change over the six-month storage period). However, the harvest equivalent price for the sale six months after harvest is only \$1.59 per bushel after adjusting for commercial storage costs. Thus, the difference between unadjusted and adjusted post-harvest prices in this example is 23¢ per bushel, a substantial difference by any standard. The magnitude of the difference is larger for longer storage horizons and for soybeans relative to corn. Note also that the difference will not be as large if on-farm variable costs of storage are assumed instead of commercial costs.

This discussion should make clear the potential pitfalls in comparing the unadjusted average cash price for an individual farmer or another market advisory service to the harvest equivalent advisory prices and benchmarks computed by the AgMAS Project. If such a comparison is made, it is not difficult to imagine a scenario where it is mistakenly concluded that the performance of the farmer or market advisory service is superior to the advisory services, market benchmarks and farmer benchmarks included in the AgMAS Project.

Second, AgMAS evaluations assume a particular geographic location. Specifically, the evaluation is designed to reflect conditions facing a representative central Illinois corn and soybean farmer. This means comparisons made by farmers or advisory services in other areas of the US may not be valid, because yields and basis patterns may be quite different. The differences in yields and basis patterns could have a substantial impact on prices computed for farmers or advisory services in another area. The resulting bias could be either up or down relative to AgMAS advisory prices and benchmarks, depending on local conditions.

Third, wherever feasible, marketing loan recommendations from advisory programs are followed by the AgMAS Project. Consequently, marketing loan payments or benefits are incorporated into net advisory prices. Market and farmer benchmark prices also include marketing loan payments or benefits. Hence, it would not be appropriate to compare prices for

individual farmers or another market advisory service if marketing loan payments or benefits are not included in the prices or included in some other way.

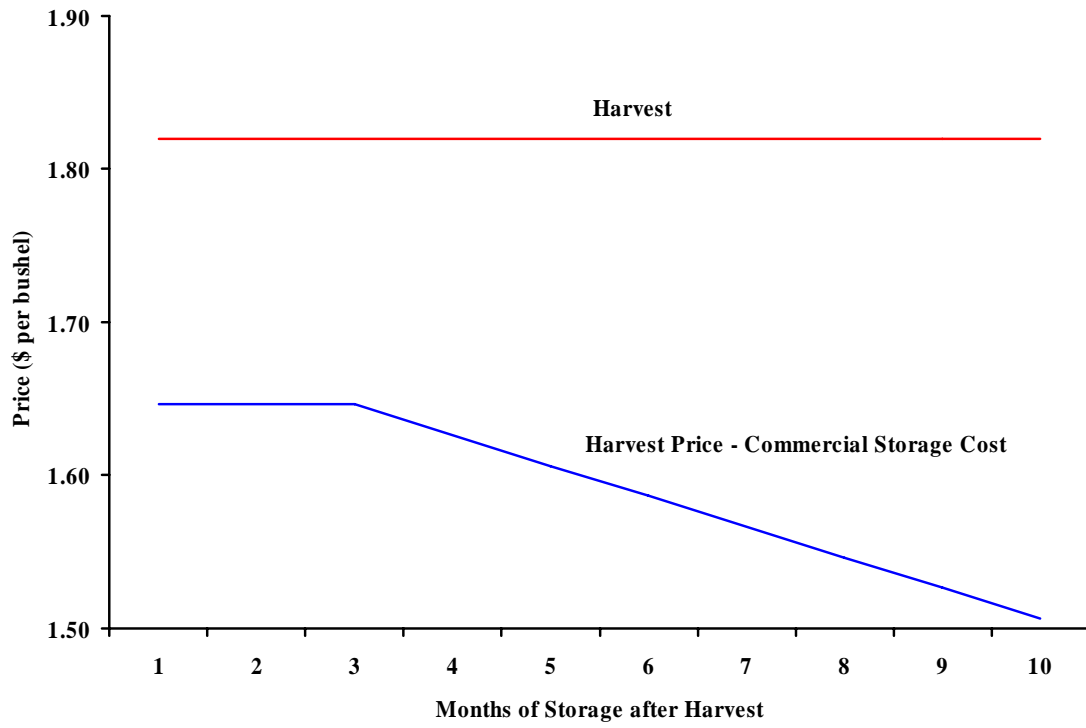
Fourth, the marketing recommendations attributed to each advisory program represent the best efforts of the AgMAS Project staff to accurately and fairly interpret the information made available by each program. In cases where a recommendation is vague or unclear, some judgment is exercised as to whether or not to include that particular recommendation or how to implement the recommendation. Given that some recommendations are subject to interpretation, the AgMAS track record of recommendations for a given program may differ from that stated by the advisory program, or from that recorded by another subscriber.

Fifth, net advisory prices may differ substantially from those computed by an advisory program or another subscriber due to differences in fill (execution) prices for futures and options positions. All reported fill prices are cross-checked against the price range of the relevant futures or options contract on the same date. If the fill price for any type of order is within the daily range, it is entered as the executed price for the recommended transaction. If the fill price for a market order is outside the daily range, the settlement price for same day is recorded as the executed price. If the fill price for a limit-price, sell-stop or buy-stop order is outside the daily range, then the recommended transaction is not included in the track record. In addition, price targets for limit-price, sell-stop and buy-stop orders are cross-checked against the daily price range of the relevant futures or options contract on the reported fill date. If the price target and associated fill price (generally the same) are within the daily price range, then the reported fill price is used. If the price target is not in the daily range, then the recommended transaction is not included in the track record.

In sum, it is inappropriate to directly compare prices for individual farmers or another market advisory service to AgMAS net advisory prices or benchmarks unless the same assumptions are used. To make valid comparisons, AgMAS assumptions regarding, storage costs, yield, basis, marketing loans, track records and fill prices have to be applied.

Figure A1. Storage Cost Comparison for Corn and Soybeans, Central Illinois, 2004 Crop Year

Panel A: Corn



Panel B: Soybeans

