MARKETING AND CROP INSURANCE: A PORTFOLIO APPROACH TO RISK
MANAGEMENT FOR ILLINOIS CORN AND SOYBEAN PRODUCERS

BY

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THESIS

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ABSTRACT

Little research has focused on understanding how crop insurance and preharvest pricing interact so as to reduce risk or increase returns more than either if used separately. Farm-level historical simulations from 1976 through 2008 were used to analyze several marketing strategies that use both preharvest pricing and revenue based crop insurance products for corn and soybean producers in four regions of Illinois. Results indicate preharvest pricing and revenue based crop insurance, when used together, can significantly reduce risk, and in some cases increase returns. Results also indicate mechanical (passive) preharvest pricing strategies outperform dynamic (active) preharvest pricing strategies by decreasing risk and in some cases increasing returns.

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1   INTRODUCTION

Agricultural producers face a multitude of risks in modern agriculture. Grain marketing and crop insurance are two strategies producers can use to manage a portion of their risks, but little research has been devoted to understanding the interactions between marketing and crop insurance and how they can be used together effectively. This research develops several portfolio marketing strategies made up of both marketing and revenue based crop insurance products for Illinois corn and soybean producers to analyze their efficiency and performance.

1.1   Background

1.1.1   Institutional

The landscape of the agricultural industry has undergone many changes through time. An example of how agricultural production has changed is number and size of farms. In 1960 there were 159,000 farms in Illinois with an average size of 193 acres, by 2008 the number of farms in Illinois had dropped to 75,900 but the average size of farms had increased to 352 acres (USDA-NASS, Illinois, 2010). Corn and soybean production, has also made advances through time. In 1960 the average US corn yield was 54.7 bushels per acre (23.5 bushels per acre for soybeans) (USDA-NASS, 2010). By 2008 average corn yield had more than doubled to 153.9 bushels per acre (39.7 bushels per acre for soybeans) (USDA-NASS, 2010).

The types of risks faced by grain producers have changed very little. Grain producers have always faced, among others, weather and pest risks that can affect yields as well as price risks that can affect revenue (Barry, 1984; Fleisher, 1990). One aspect of agricultural production

that has changed greatly is the number of options that are available to grain producers to manage and/or transfer risks. Complex instruments have evolved to manage and mitigate the risks of agricultural production.

A significant risk that producers face is gross revenue risk. In grain production, gross revenue can be defined as yield times price. Gross revenue risk includes both yield and price risks. Many instruments are currently available for grain producers to mitigate gross revenue risk. Crop insurance allows agricultural producers to, at least partially, transfer price, yield and/or revenue risk (Kramer, 1983; Barnett, 2000). Private forward and futures and options markets allow producers to hedge price risk (Peck, 1985).

1.1.2 Research

The importance of gross revenue on overall farm profitability has been widely debated in the literature. Previous research has been devoted to understanding what managerial activity contributes most to overall farm profitability (Sonka et al. 1983, Nivens et al. 2002). Other research focused on determining the importance of price on farm profitability (Wisner et al. 1998, Zulauf and Irwin 1998, Hagedorn et al. 2005) Only Wisner et al. (1998) found price to have a measurable importance to farm profitability. Most previous research concluded that in order to maintain a profitable operation, managerial time and money should not be heavily concentrated on price but instead on technology adoption and lowering costs of production as well as other managerial tasks. Producers, however, still focus managerial time and money on managing gross revenue risk using marketing strategies (Cunningham et al. 2007) and therefore gross revenue risk remains a popular subject of research. Two important strategies producers use to manage gross revenue risk are marketing and crop insurance. Much past research has focused on either marketing (among many others: Goodwin and Schroeder, 1994; Schroeder et al., 1998;

Pennings et al., 2004; Cabrini et al., 2007) or on crop insurance (among many others: Miranda, 1991; Wang et al., 1998; Chambers and Quiggin, 2002; Schnitkey et al., 2003; Sherrick et al., 2004; Barnett et al., 2005). Relatively little research exists on the effects of using crop insurance and marketing together (among few others: Hart and Babcock, 2004; Pritchett et al., 2004; Rios and Patrick, 2007).

1.2   Thesis Objective and Hypothesis

The purpose of this thesis is to analyze the interactions between revenue based crop insurance and marketing in corn and soybean production. The type of marketing analyzed is marketing in which producers price a portion of expected production before harvest, henceforth referred to as "preharvest pricing." The key question addressed by this analysis is: Can preharvest pricing and revenue based crop insurance, used together, increase efficiency either by increasing returns or decreasing risk, relative to only using one or the other? The hypothesis is that marketing and crop insurance, if used together, can reduce risk or increase returns more than either separately.

To test the efficiency of using preharvest pricing and revenue based crop insurance together, two effects are isolated. These are: the activeness and the aggressiveness of preharvest pricing. A mechanical preharvest pricing strategy prices bushels at, or very near, the same time each year regardless of market conditions. An active, or dynamic, strategy varies the timing of preharvest pricing events based on year-specific market conditions. An aggressive strategy prices more bushels during the preharvest period than a nonaggressive strategy.

To measure the effect of the activeness and the aggressiveness of preharvest pricing, four additional hypotheses are stated as follows:

Can an aggressive preharvest pricing strategy reduce risk relative to a similar but nonaggressive strategy or other alternative strategies? The hypothesis is that an aggressive preharvest pricing strategy with revenue based crop insurance can reduce risk relative to a nonaggressive strategy and other alternative strategies with revenue based crop insurance.

Can an aggressive preharvest pricing strategy increase returns relative to a similar but nonaggressive strategy or other alternative strategies? The hypothesis is that an aggressive preharvest pricing strategy with revenue based crop insurance can increase returns relative to a nonaggressive strategy and the other alternative strategies with revenue based crop insurance.

Can an active preharvest pricing strategy reduce risk relative to a mechanical strategy or other alternative strategies? The hypothesis is that an active preharvest pricing strategy with revenue based crop insurance can reduce risk relative to a mechanical strategy and a benchmark strategy with revenue based crop insurance.

Can an active preharvest pricing strategy increase returns relative to a mechanical strategy or other alternative strategies? The hypothesis is that an active preharvest pricing strategy with revenue based crop insurance can increase returns relative to a mechanical strategy and the other alternative strategies with revenue based crop insurance.

1.3   Overview

Chapter 2 begins with a summary of recent research relevant to the topic of this thesis. It is separated into three sections. The first summarizes prior literature dedicated to producer behavior and attitudes with respect to preharvest pricing and research that measures the performance of different preharvest pricing strategies. The second section summarizes previous research on the costs, benefits, and hypothesized deficiencies of US crop insurance and theorized

optimal producer behavior in the presence of crop insurance. The third summarizes literature on using crop insurance and marketing together.

Chapter 3 presents the data, methodology, and key assumptions made to perform the analysis. It is divided in six sections. First the methodology used to build the model is presented. The second section contains a discussion of the data, its source and how it was used in the analysis. The key assumptions are discussed in the third section. Following the discussion of key assumptions is a discussion and explanation of each of the alternative preharvest pricing strategies used to test the hypotheses and example calculations for each alternative pricing strategy included in the analysis. The methodology used to rank performance of the marketing strategies is discussed in the fifth section. In the final section the tests used to determine the statistical significance of differences in the results are presented.

Chapter 4 presents the results. The results are disaggregated by crop and region and presented in separate sections followed by a summary of each crop, followed by a discussion of the results and also an analysis of the sensitivity of the results to various assumptions, both implicit and explicit.

Chapter 5 provides a summary of the research, draws conclusions from the results, provides implications and limitations of the conclusions, and suggestions for future research.

2   LITERATURE REVIEW

This chapter summarizes the existing body of knowledge about crop insurance, agricultural marketing, and using crop insurance with preharvest pricing. It is divided into three parts: agricultural marketing, crop insurance, and crop insurance with forward marketing. The structure highlights the nature of this study, which is to understand if combining two complex tools, crop insurance and preharvest pricing, can make them more attractive to producers by enhancing revenue or reducing risk more than either of them separately.

2.1   Previous Work – Marketing

Agricultural marketing and income variability has always been a popular subject of research. This trend has increased recently with declining governmental production and price control policies in agriculture starting with the 1996 "Freedom to Farm Act." This section is a collection of the literature, presented in chronological order, that analyze actual producer marketing and managerial behavior as well as empirical studies that theorize optimal producer behavior. Also included is research that analyzes the performance of and producer's opinions of market advisory services.

In 1983, Sonka et al. evaluated Illinois Farm Business Farm Management (FBFM) farm level data from Illinois commercial cash grain producers over the period 1976-1983 to document economic return variability across a homogenous group of producers and assess the managerial characteristics that separated the superior performing producers from those that did not perform as well. Since overall managerial performance is the reflection of integration of many distinctly

different types of tasks, Sonka et al. used a logit model to isolate characteristics that most affected the net returns per acre. Sonka found that the return variability across the similar firms of the FBFM dataset was easily documented but could not consistently predict the managerial characteristics that separated superior performing firms from inferiorly performing ones. Sonka et al. indicate that further research is needed to quantitatively define superior managerial characteristics.

Goodwin and Schroeder (1994) evaluate survey data from a sample of Kansas grain and livestock producers to determine if producers' participation in educational programs related to risk management or human capital accumulation have an effect on producers' decision to use forward pricing strategies. Goodwin and Schroeder, using tobit and probit models, find producers who are most likely to forward price are those that are younger, attend marketing and risk management seminars, and are well-educated. Producers who manage more input intensive operations and those that are highly leveraged are also more likely to forward price.

A commonly held belief is the purpose of forward pricing by grain producers is risk reduction and enhancement of net returns. Wisner et al. (1998) test the hypothesis that forward pricing expected production before harvest can consistently generate higher net returns than cash sales at harvest without increasing revenue variability. Wisner et al. develop model farms representative of Iowa and Ohio corn and soybean farms and simulate the returns of a simple cash sale at harvest, futures based and options based strategies, and strategies using both futures and options. Wisner et al. reject their hypothesis for all strategies using only futures. The strategies using futures only generated higher mean returns, but they were not statistically significant. However, they did find that strategies using both futures and options and some using options only can achieve statistically significant higher net returns to model farms.

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Citing the efficient market hypothesis, Zulauf and Irwin (1998) disagree with the findings of Wisner et al. (1998) that preharvest marketing with futures and/or options can consistently generate improved net revenues. Zulauf and Irwin used previous research and the academic theories current to the time to perform an empirical analysis to determine their results. Zulauf and Irwin find it may be possible to generate returns from the futures market but the only people able to do so consistently have either superior access to market information or superior analytical ability of which crop producers typically have neither. Zulauf and Irwin find that crop producers who will be the most successful will be those who allocate more capital to lowering cost of production rather than better marketing. Using forward markets as a source of information (e.g. basing storage decisions on market signals) rather than a hedging tool may generate greater positive returns than attempting to enhance price received with forward markets.

Schroeder et al. (1998) investigate the divergence of producer marketing behavior from empirically optimal marketing strategies outlined by research and extension economists. Using producer survey data, Schroeder et al. determine in what areas and to what degree producer perceptions of marketing strategies differ from extension economists' perceptions. The specific areas of marketing strategies examined are market timing, futures market efficiency, and goals of risk management. Schroeder et al. find that producer and extension perceptions of most marketing behavior are very similar. However Schroeder et al. find that sometimes the perceptions revealed by producers and extension economists differ from research economists. Producers and extension economists tend to believe that there exist preharvest marketing strategies that increase net returns. This claim is refuted by many research economists who cite the application of the efficient market hypothesis to agricultural futures markets. One area where producer perceptions diverge from extension economists is the goals of risk management.

Producers tend to attribute a higher value of the risk management goals of marketing than extension economists believe producers do. The research of Schroeder et al. helps explain some of the divergence of producer marketing behavior from theoretically optimal behavior outlined in marketing research and recommend solutions to help reduce the divergence of producer behavior from theoretically optimal behavior. They recommend educational seminars be designed to facilitate better communication among producers, extension and research economists to insure current research is appropriate and relevant to real-world applications and the results of the research are efficiently disseminated to all involved parties.

Patrick et al. (1998) examine forward marketing attitudes and behavior of grain producers. They use survey data from a sample of large-scale Midwestern corn and soybean producers to determine producer participation rates in forward markets and producers' perception of the value of price enhancement and risk management aspects of forward marketing. Patrick et al. find producer hedging participation rates to be much lower than was suggested in previous market research literature. Producers tend to perceive price enhancement and price protection aspects of forward marketing as more effective than commonly hypothesized by theoretical literature.

Startwelle et al. (1998) analyze survey data from Kansas, Texas and Iowa grain and livestock producers to predict individual characteristics of producers that significantly affect their choice of marketing strategy. Marketing strategies included in the study are cash market, forward contract and futures and options based. Startwelle et al. conclude the factors that have the greatest effect on grain marketing strategy selection are "years of experience, risk attitude, on-farm storage practices, and preferences for alternative types of futures and cash market

information." (Startwelle et al. , 1998) The authors could not find any individual characteristics that had a significant impact on livestock marketing strategy selection.

Kenyon (2001) conducted a producer survey each year from 1991-1998 in late January/ early February to measure how well Virginia corn and soybean producers could forecast harvest prices. Kenyon found that on average, producers missed the actual price of corn by $0.41 and soybeans by $0.67. The range of responses was over $1.00 per bushel and the distributions were skewed toward higher prices. They also consistently underestimated the probability of significantly large price changes between January and harvest.

To assess the importance of marketing, Nivens et al. (2002) measure the impact of various management practices on farm profitability. The management practices included in their study are price, costs of production, yield, planting intensity, and technology adoption (represented as less tillage in this study). Nivens et al. used a 10-year data set (1990-1999) of Kansas grain producers from Kansas Management Analysis, and Research Service (KMAR). The data set contains financial and production information for each farm and was supplemented with Kansas farm facts from the Kansas Department of Agriculture. Nivens et al. find that managing costs and technology adoption are the most important factors of farm profitability. In order to outperform other firms in the industry, grain producers should focus managerial capital on cost and technology adoption rather than yield and price.

How agricultural producers' use recommendations from marketing advisory services (MAS) to make marketing decisions is not well understood. Using survey data, Pennings et al. (2004) extrapolate which characteristics of MAS are most important to producers and what impact MAS recommendations have on producers' pricing decisions. According to Pennings et

al. factors most important to producers are producers' perceived performance of the MAS, the way the MAS recommendations are communicated to producers and the similarity between producers' and MAS marketing goals. One factor that does not have a strong impact on "producers' decision to act on MAS recommendations is risk attitude" (Pennings et al. , 2004). The authors conclude that this indicates producers who use market advisory services, do so for the price-enhancing aspects of MAS rather than risk management.

Market observers commonly express a belief that agricultural producers frequently underperform the market with regard to their marketing performance. This claim has weak substantiation in current research and academic literature. Hagedorn et al. (2005) compared the performance of Illinois corn and soybean producers' marketing activity to a market benchmark to measure producers' marketing performance. The authors find that farmer prices received fell in the top- or middle-third of the price range for a majority of the years in the study. Hagedorn et al. also note that during normal crop years, price received by producers fell below the average price offered by the market. Farmers, the authors found, market too much of their production in the latter part of the marketing year when prices are typically at their lowest. If producers were to shift a more significant portion of their marketing activity to the pre-harvest period, producers may be able to significantly improve income. In short crop years, producers substantially outperformed the average price offered, but a short crop year is an *ex post* observation so producers cannot plan their preharvest marketing based on it.

Cabrini et al. (2007) continue the research of market advisory services (MAS). Cabrini et al. develops measures of the performance and style of MAS. The authors categorize MAS by the following factors: "the intensity of futures and options use, degree of activeness in marketing, and seasonality of sales" (Cabrini et al. 2007). The MAS that are able to obtain a higher average

price are ones that trade very actively and make large directional bets on price movements. Previous research hypothesized only those who possessed superior information or analytical ability are able to consistently outperform the market. These results support that hypothesis, but Cabrini et al. caution that their results are sensitive to the inclusion of one high performing MAS.

Some interpretations of the efficient market hypothesis applied to agricultural markets say that, in aggregate, producers cannot consistently generate higher net returns from marketing strategies using futures and options. Instead of constructing a theoretical model to determine what farmers should do, Cunningham et al. (2007) analyzed how producers actually market commodities and measured their performance. The authors collected all wheat transaction data between 1992 and 2001 at three Oklahoma elevators. Cunningham et al. tested to see if producers using an active marketing strategy outperformed those using a mechanical one. The authors define active marketing style as those that change timing each year; passive strategies are defined as those that market at or around the same time each year. Cunningham et al. find no positive correlation between activeness of marketing and net price received. Within their data, the authors could not find any individual producer who constantly achieved higher returns.

Zulauf et al. (2008) explained the difference in perceptions about the importance of price to profitability. Agricultural producers generally believe that price plays a more important role in farm profitability than do agricultural research economists. Zulauf et al. assert that the conflict arises from different time horizons examined by the two parties. Farmers tend to look at the effect of price on farms through time while most research analyzes differences between farms at one point in time. The effects of price through time observed by farmers are likely relationships between supply and demand rather than superior marketing ability.

The preceding summaries are representative of the current state of knowledge in the area of agricultural marketing. A common theme of the past research summarized here is that it is difficult to measure the performance and characterize the purpose of marketing. Some researchers find that marketing and price is not as important to overall farm profitability as other managerial tasks, but producers seem to disagree both directly in survey responses and through their actions by focusing managerial time and money on marketing. Past research suggests that marketing can decrease income variability, but there is not a consensus in the literature of the degree to which income variability can be decreased. Most research indicates that more marketing should occur earlier in the marketing year (Hagedorn et al., 2005), but this practice has not been widely adopted by producers (Patrick et al., 1998, Cunningham et al., 2007).

2.2   Previous Work – Revenue based crop insurance

Federal crop insurance began in 1938 with the establishment of the Federal Crop Insurance Corporation (FCIC) to shift a majority of the risks of agricultural production from producers to the public (Kramer, 1983). Under the original FCIC, crop insurance was only available for wheat and limited geographically. The original program only covered yield risks. New crops were slowly added (corn in 1944 and soybeans in 1955) and availability was expanded across regions, but the program was hampered by poor actuarial performance (Barnett, 2000). The program evolved through sweeping legislative changes in 1980 (Federal Crop Insurance Act), 1994 (Federal Crop Insurance Reform Act), 1996 (Federal Agricultural Improvement and Reform Act), 2000 (Agricultural Risk Protection Act) and 2002 (Farm Security and Rural Investment Act). Over this period, over 100 new crops were added, geographic availability was vastly increased with at least one crop insurable in 99% of the Nation's counties (Barnett, 2000), revenue and group products were added, and subsidies were

increased to encourage participation. The stated goal of these legislative changes was to provide a "safety net" for agricultural producers without relying on *ad hoc* disaster payments (Goodwin, 2001).

Of all the changes in the crop insurance program between its introduction in 1938 and the present program today, adding products to cover revenue risk may be one of the most important. Revenue based crop insurance was first successfully introduced for corn and soybeans in the United States in 1996. Originally, there were two revenue based products: Income Protection (IP) and Crop Revenue Coverage (CRC). Two additional products were added later: Revenue Assurance (RA) in 1997 and Group Risk Income Protection (GRIP) in 1999. Participation rates of revenue based products have been increasing rapidly since their introduction. Between 1996 and 2009, percentage of acres insured with revenue based products increased from 14.1% in 1996 to 82.6% in 2009 for corn and from 8.0% to 77.9% in soybeans (USDA, RMA 2010). No other revenue based product has achieved the widespread adoption of CRC. In 1996, CRC accounted for 13.9% of total insured acres, by 2009 it had risen to 60.4% in corn and from 8.0% to 48.9% in soybeans (USDA, RMA 2010). Participation rates for revenue based insurance products and CRC in Illinois have mirrored the national trends.

This section contains a collection, in chronological order, of literature dedicated to understanding crop insurance and its costs and benefits, hypothesized deficiencies in the current framework of US crop insurance, and theorized optimal producer behavior in the presence of crop insurance.

Miranda (1991) built a theoretical framework using a selection of 102 western Kentucky soybean producers to analyze how the introduction of an area-yield crop insurance product

(AYP) would affect the actuarial soundness of the U.S. crop insurance program and to determine the optimal coverage level of an AYP for producers. Miranda finds one of the most important aspects to contribute to the actuarial soundness of an AYP is the definition of boundaries. The boundaries must include areas that are homogenous with respect to soil and microclimate conditions. Producers must be free to buy up coverage levels of an AYP well above what is currently allowed for individual products in order to reach optimal coverage levels. If the above conditions are met, AYPs can significantly reduce systemic risk and eliminate moral hazard, adverse selection, and asymmetric information problems inherent in individual yield products. Miranda concedes that AYPs will not be able to reduce nonsystemic (yield basis) risk as well as individual products. However, the author believes that this disadvantage will be far outweighed by lower administrative costs of AYP since AYP essentially eliminates moral hazard, adverse selection, and asymmetric information common in IYP.

Similar to Miranda (1991), Wang et al. (1998) analyze area yield insurance products (AYP). Wang et al. find the optimal design of AYP to encourage producer participation and maximize producer welfare. Wang et al. use a numerical optimization of expected utility and simulate returns to a representative Iowa corn farm. Given yield trigger maximum restrictions observed in 1991 by Wang et al. (75% for individual and 90% for area yield products), the authors find that individual products (IYP) outperform AYPs in terms of producer welfare. However, if these triggers were to be relaxed, AYPs would surpass IYPs. The use of IYPs decrease the amount of yield basis risk faced by producers compared to AYPs, but IYPs are subject to higher administrative costs due to adverse selection and moral hazard problems. AYPs are more actuarially sound and therefore administratively cheaper which result in reduced premium loads for producers.

Chambers and Quiggin (2002) eliminate the assumption made in past area-yield research that yield is exogenous to insurance decisions and analyze optimal producer behavior when area-yield insurance is present. Chambers and Quiggin hypothesize that since farmers have, at very least, some degree of control over yields, their production decisions will be endogenous to their crop insurance decisions. Using state-space, portfolio selection, and other finance based frameworks to model producer behavior, the authors conclude that area-yield insurance products may be redundant to a portfolio of other risk management tools currently available. Chambers and Quiggin also discuss the conditions that could lead area-yield insurance to facilitate riskier behavior by producers.

Spatially, Illinois has a wide range of yield variability. Schnitkey et al. (2003) modeled the impact of five crop insurance products, across varying coverage levels, on gross revenues. The insurance policies evaluated are; actual production history (APH), Revenue Assurance with base price option (RA-BP), Crop Revenue Coverage (CRC), Group Risk Plan (GRP), and Group Risk Income Plan (GRIP). The authors evaluate the insurance products in terms of values-at-risk, net costs, and certainty equivalent returns. Schnitkey et al. find that even though group policies (GRP, GRIP) often result in indemnities higher than premium costs, they fail to reduce risk in the tails of the distributions as much as individual revenue products (RA-BP, CRC). However, individual revenue products tend to reduce mean revenues more than group based products. Revenue products are top performing when ranked by certainty equivalent returns and low frequency VaRs. The authors also confirm the widely held hypothesis that crop insurance performs better at risk reduction in areas with higher yield variability.

Sherrick et al. (2004) analyze survey data from producers who farm at least 160 acres in Illinois, Indiana, and Iowa to determine the factors that influence producers' use of crop

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insurance. The characteristics included in the study were: level of business risk, risk management options, debt use, age and education, tenure, expected yield, farm size (acres and expansion intentions), and livestock enterprises and nonfarm income. Sherrick et al. find that crop insurance usage is higher among larger producers, those who are less tenured, older, more highly leveraged, and higher perceived yield risk.

Using data from Illinois corn and soybean producers, Hauser et al. (2004) examine the linkages and interactions between risk management programs that are currently available to producers. The risk management programs are broken into three categories: publicly funded programs [e.g., counter-cyclical (CC) payments], semi-private (e.g., crop insurance), and private (e.g., futures/options). Hauser et al. find little redundancy between present crop insurance programs and CC payments due to the former's strong ties to prices and yields while the latter has been decoupled. The authors conclude that the CC payment program does not represent a strong substitute for crop insurance policies. The authors caution that their results are very sensitive to their choice of market revenue calculation and measurement.

Barnett et al. (2005) analyzed farm-level yield data from a sample of 66,686 corn farms located in the Corn Belt and 3,152 sugar beet farms in the upper Midwest to determine if area yield insurance products (GRP) could compete with individual yield insurance products (IYP). This work is significantly different from previous work due to Barnett et al.*'s* inclusion of the actual GRP indemnity function instead of a theoretical indemnity function used by most prior research. The data Barnett et al. use is more geographically diverse than was used in previous research. Even though some assumptions were made that were biased toward IYPs, Barnett et al. find that for some regions (Illinois, Minnesota, Kentucky, Iowa, Kansas, Ohio, and Indiana), GRP provides risk reductions that meet or exceed the risk reductions of IYPs. Geographic areas

included in the study where GRP was not as effective as IYPs were Nebraska, Texas, and Michigan. Similarly to previous studies, Barnett et al. find that areas with the most homogeneity across producers are the areas where GRP will be the most effective. Barnett et al. also recognize that while GRP policies are able to greatly reduce systemic risk, individual yield basis risk still remains. The degree of yield basis risk varies across producers and can be represented by each producer's yield correlation to their county.

Despite much debate about its overall effectiveness and efficiency, the current US crop insurance program has become an important and valuable tool for producer risk management. Increased subsidization of premiums and the introduction of new insurance products has increased producer participation rates and improved the actuarial performance of the program. If this trend continues along with continued legislative pressure to replace *ad hoc* disaster payments with a "safety net" for producers, the importance of crop insurance as a risk management tool for producers will grow.

2.3   Previous Work – Marketing with revenue based crop insurance

The oft-repeated pitch by insurance salesmen is that by using revenue based crop insurance with preharvest marketing, producers can generate higher returns while lowering risk. Very little research has been devoted to studying the relationship between crop insurance and preharvest hedging and whether they can reduce risk while improving returns. Summarized below, in chronological order, are the few papers that represent the current state of knowledge about the relationships between crop insurance and preharvest marketing.

Dhuyvetter and Kastens (1999) were among the first researchers to study the effects of hedging on crop insurance. Dhuyvetter and Kastens used historical data from Kansas wheat

producers from 1973 to 1995 to model the risk reducing impact of crop insurance and preharvest marketing on expected revenues to find a theoretical optimal strategy. Insurance scenarios included in the analysis were: no insurance, Catastrophic (CAT), Actual Production History (APH), and Crop Revenue Coverage (CRC). Within their sample data, Dhuyvetter and Kastens found CRC and APH reduced income variability the most. Hedging did not reduce risk significantly and when preharvest hedging was combined with insurance, the advantage of CRC over APH was reduced. The authors caution that since they used a historical study, the optimal risk management strategy may change in the future under different market environments.

Coble et al. (2000) using an analytical and numerical model, research the optimal futures and option ratios when crop insurance is also present. They analyze both yield and revenue insurance products to measure the effects of insurance on hedging. The authors find yield insurance to be a compliment to hedging, increasing hedging levels. Coble et al. also find revenue insurance to be a substitute to preharvest hedging. They observed optimal hedging demand to be lower when a revenue insurance product was present compared to the same coverage level of yield insurance.

Maul (2003) conducted an analysis very similar to Coble et al. (2000) to determine how the presence of yield and revenue insurance effects hedging demand. In contrast to Coble et al., Maul constructed numerical simulations by combining data from French wheat farmers with crop insurance products offered in the United States. Maul's findings are very similar to Coble et al. He finds that futures and yield insurance are compliments while futures and revenue insurance are substitutes. Maul also concludes that the positions taken with the inclusion of options in a hedging strategy result in more of a speculative position than when only futures are used.

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Hart and Babcock (2004) construct three risk management scenarios, cash sale at harvest, cash sale at harvest with 75% of expected production hedged on the futures market at regular intervals throughout harvest and no insurance, cash sale at harvest with 75% hedge with Crop Revenue Coverage (CRC). The authors model each of the strategies for corn producers in five Iowa counties over the period 1976 to 1999 and rank the strategies on the basis of average returns, certainty equivalent returns, and risk premiums. Hart and Babcock found that of the three strategies modeled, the 75% hedge with CRC outperformed the others for the period studied. They conclude that if a producer is going to preharvest market, CRC will help manage the risk.

Pritchett et al. (2004) modeled returns to a model Indiana corn farm to assess the performance of several marketing and insurance strategies. The returns were ranked using mean net returns and returns at the 5% value-at-risk (VaR) and compared to a benchmark strategy of cash sales at harvest with no insurance. Pritchett et al. found that downside revenue protection was provided by the strategies involving revenue insurance and those which combined price and yield protection. None of the scenarios Pritchett et al. model significantly improve net returns.

Rios and Patrick (2007) continue the work of Pritchett et al. (2004) by adding additional Indiana counties and add certainty equivalents (CEs) as a criterion used to rank strategies. Rios and Patrick also improve on the preharvest marketing scenario used by Pritchett et al. Rios and Patrick introduce mechanical hedging to the model where a percentage of expected production was hedged at constant intervals. Rios and Patrick conclude that while preharvest marketing alone resulted in higher CEs, it lowered net farm revenues. The strategies that used preharvest marketing with crop insurance products with revenue protection were consistently among the top performing in the study.

Previous research that analyzes the use of marketing and crop insurance together come to conflicting conclusions. The earlier research (1999-2003) finds yield and preharvest pricing to be compliments and revenue and preharvest pricing to be substitutes. More recent research (2004-2007) finds there to be some complimentary benefits between preharvest pricing and revenue based insurance products. Hart and Babcock (2004) and Rios and Patrick (2007) all find there to be some risk management benefits of using revenue insurance with preharvest pricing. However, no previous research finds any significant net revenue gains from using preharvest pricing and revenue based crop insurance together. Most previous research used a preharvest pricing model that priced all expected production at one point (e.g., March 15 or June 1; Pritchett et al., 2004; Rios and Patrick, 2007).

2.4   Summary

The importance of gross revenue on farm profitability has been widely debated (Sonka et al. 1983, Wisner et al. 1998, Zulauf and Irwin 1998, Nivens et al. 2002, Hagedorn et al. 2005, Zulauf et al. 2008). Producers, however, still focus managerial time and money on managing gross revenue risk (Cunningham et al. 2007). Therefore it is important to understand and analyze how much gross revenue risk can be eliminated with instruments currently available to producers. Two important risk management instruments are crop insurance and marketing. Most past research has focused on either one or the other (Wisner et al. 1998, Zulauf and Irwin 1998, Schnitkey et al. 2003, Barnett et al. 2005, Sherrick et al. 2004). Previous marketing research found revenue variability can be decreased through marketing and many researchers agree that moving more marketing activity to the preharvest period can further decrease revenue variability (Hagedorn et al. 2005). Crop insurance has undergone vast improvements in producer participation and actuarial performance but current research seems to indicated that it is still

underutilized by producers (Kramer 1983, Miranda 1991, Barnett 2000, Sherrick et al. 2004).

Very little research has been devoted to understanding the relationship between crop insurance

and marketing, whether they can be used together in a portfolio approach to risk management,

and whether a portfolio approach to risk management can generate higher returns. Recent

research that has been performed in this area has generally found there to be some income

variability decreases from using insurance and marketing together but were unable to find

significant income increases from any such strategies (Dhuyvetter and Kastens 1999, Hart and

Babcock 2004, Rios and Patrick 2007).

3   DATA AND METHODOLOGY

This chapter discusses the source of the data used as well as the methodology employed to perform the analysis. Also included in this chapter are key assumptions made and the introduction and discussion of the alternative preharvest pricing strategies and insurance products modeled. The chapter starts with a discussion of the general approach selected for the analysis. The data discussed in this section are also presented in Appendix A.

3.1   General Approach Choice

The purpose of this research is to determine how well revenue based crop insurance products used with preharvest pricing manage risk and how returns are affected by alternative combinations of insurance and marketing. This research can be conducted in one of two ways, a parametric simulation approach or a historical approach. A simulation analysis would use yield and price data to parameterize distributions and run a Monte Carlo simulation to choose price and yield draws. The different marketing/insurance strategies would be ranked after applying the price and yield draws made by the simulation. The performance of each strategy could then be compared to the others. Instead of using a parametric simulation to make price and yield draws, a historical analysis uses actual observed prices and yields. To measure the returns and compare each strategy, the historic prices and yields are applied to each strategy. The results of a parametric simulation approach would be sensitive to the assumptions made to parameterize prices and yields. A historical analysis will highlight and rank strategies that would have performed well for actual producers over the time period included in the analysis. For this study,

a historical analysis was selected to avoid making any parametric assumptions that may bias the results.

3.2 Broad Overview of Research

Four regions in Illinois are selected for analysis. They are Northern, Central (high productivity soils), Central (low productivity soils), and Southern. The farms selected to represent these regions are located in La Salle, Sangamon, Vermilion, and Effingham counties, respectively. Actual farm-level corn and soybean yields from each of these counties from 1972 to 2008 and local cash prices at the midpoint of harvest for each year are used to test the performance of six alternative preharvest pricing strategies and four insurance options. The first pricing strategy is a simple cash sale at harvest. The next strategy prices 100% of insured bushels before harvest by pricing equal proportions of expected production at equal intervals throughout the production period (March through September). Instead of preharvest pricing equal proportions at equal intervals, a similar strategy that is included in the analysis, uses price triggers to trigger preharvest pricing events. The target amount to preharvest price is 100% of insured bushels. However if preharvest prices do not trigger enough forward pricings to market 100% of insured bushels, excess production is stored past harvest and priced at equal intervals throughout the rest of the marketing year (November through August of the following year). If a producer is oversold at harvest due to a production shortfall, bushels are bought at the local cash price plus a $0.01 penalty to cover unfulfilled contracts. The final two strategies are identical to the earlier two, but the preharvest pricing targets are 50% of insured bushels instead of 100%. For all strategies, any bushels not priced during the preharvest period are stored and sold in equal intervals in equal amounts throughout the rest of the marketing year (November through August of the following year). A strategy that simulates no forward sales or sales at harvest is also

included. This strategy, "Sell all Postharvest," put all production into storage at harvest and it is sold in equal intervals throughout the postharvest period. Four crop insurance options are included in the analysis. They are: no insurance, Crop Revenue Coverage (CRC), Group Risk Income Protection – Base Price (GRIP-BP), and Group Risk Income Protection – Harvest Price (HP). All preharvest marketing strategies are simulated with all insurance options to generate 24 alternative pricing strategy/insurance product combinations (henceforth referred to as "strategy combinations").

Some previous research devoted to analyzing the interactions between marketing and crop insurance simulated all preharvest pricing happening at one point in time (e.g., March 15 or June 1; Pritchett et al., 2004; Rios and Patrick, 2007). In a study using empirically observed actual producer behavior, Cunningham et al. (2007) divide actual producer behavior into two styles. They are: active and mechanical marketing. The alternative preharvest pricing strategies selected for this analysis are modeled to more closely simulate actual producer behavior as outlined in Cunningham et al. (2007) than other previous research as Pritchett et al. (2004) and Rios and Patrick (2007).

To perform the analysis, the results are aggregated across all the years of the study period. To prevent implicit weighting of recent years over more distant years due to inflation and other factors, a ratio is used. The ratio consisted of actual gross revenue over expected gross revenue. Expected gross revenue is calculated using only information known to the farmer at the time of planting each year. It is a function of expected harvest price and expected yield. Expected gross revenue will be discussed in further detail below. The minimum, maximum, average, and standard deviation are calculated for each region and strategy. Five percent Values at Risk

(VaRs) are also calculated for each region and strategy. The averages are used to measure mean returns, while the VaRs and standard deviation are used to measure the risk.

3.3 Model

3.3.1 Expected Revenue

In order to aggregate the results of each strategy across all years of the study, a ratio of actual revenue to expected revenue is used. The use of a ratio prevents implicit weighting of more recent years over distant ones due to inflation and other factors and also controls for yield changes through time. The expected revenue consists of expected yield, base price, and expected basis.

Expected revenue in year i ($ExpRev_i$) is calculated as

$$ExpRev_i = E(Yield)_i \times [BP_i + E(Basis)_i]$$

where $E(Yield)_i$ is expected yield, BP_i is base price, and $E(Basis)_i$ is expected basis all in year i.

The expected yields, for each year i, are calculated as

$$E(Yield)_i = APH_i + Factor_{crop}$$

where $Factor_{crop}$ is an adjustment to APH. Since APH is a 10-year moving average of yields, it lags actual production. Therefore the $Factor_{crop}$ is used to adjust APH for actual producer expectations. The estimated factor is 10 bushels per acre for corn and 2.5 for soybeans. Actual production history (APH), in year i, is calculated with the following formula

$$APH_i = Average(Yield_{i-1...i-10})$$

where $Yield_{i-1}$ is yield in year *i-1*... year *i-10*. APH is a ten year rolling average of farm level yields.

Base price, for each year *i,* is calculated as

$$BP_i = Avg(Daily\ Futures\ Prices_{Feb,i})$$

where *Daily Futures Prices$_{Feb,i}$* are the daily settlement prices for the harvest month futures contract (November for soybeans, December for corn) during the month of February. This is the same method used by the RMA to set crop insurance revenue guarantees.

Expected basis, for each year *i,* is calculated as

$$E(Basis)_i = Avg(HBasis_{i-1}, HBasis_{i-2}, HBasis_{i-3})$$

where *HBasis$_{i-n}$* is harvest basis in year *i-n.* Harvest basis is calculated as

$$HBasis_i = Avg(DailyBasis_{Oct,i}, DailyBasis_{Nov,i})$$

where *DailyBasis$_{m,i}$* is the daily spot basis observations during month *m* and year *i.*

3.3.2 Actual Revenue

Actual revenue consists of four parts. These are preharvest revenue (*PreRev*), harvest revenue (*HRev*), postharvest revenue (*PostRev*), and insurance indemnity (*InsIndm*) minus insurance premium (*InsPrem*) (also called insurance revenue).

Actual revenue, in each year *i,* is calculated as

$$ActualRev_i = PreRev_i + HRev_i + PostRev_i + (InsIndm_i - InsPrem_i)$$

3.3.2.1 Preharvest Revenue

Preharvest revenue is the revenue generated from pricings of expected production that occur before harvest. The preharvest period runs from March to September. Preharvest revenue, for each year *i,* is calculated as

$$PreRev_i = \sum_{sale=1}^{n} \left(PreBuSold_{sale,i} \times FCash_{sale,i} \right)$$

where *Sale* is the sale number. Preharvest pricing events are initiated at various times throughout the preharvest period. The timing of pricing events is determined by decision rules unique to each alternative preharvest pricing strategy. The sale number is an index number (1, 2 … *n)* assigned to each pricing event in chronological order. *PreBuSold$_{sale,i}$* is the number of bushels sold on sale number *n* in year *i* and *FCash$_{sale,i}$* is the local forward cash price on the day sale number *n* occurs in year *i*.

3.3.2.2 Harvest Revenue

Preharvest sales occur before actual production in year *i* is known. Therefore in some years more bushels may be sold during the preharvest period than are produced. This is measured by *BuOverSold$_i$* and is calculated as

$$BuOverSold_i = \left| Min\left\{ 0, Yield_i - \sum_{sale=1}^{n} \left(PreBuSold_{sale,i} \right) \right\} \right|$$

If the total number of bushels sold preharvest is less than or equal to bushels produced, *BuOverSold$_i$* equals 0. If *BuOverSold$_i$* is greater than 0, more bushels were sold preharvest than were produced and the short contracts must be cash settled. Harvest revenue, for each year *i,* is calculated as

$$HRev_i = \begin{cases} HBuSold_i \times Spot_i, & BuOverSold_i = 0 \\ BuOverSold_i \times (Spot_i + P_i), & BuOverSold_i > 0 \end{cases}$$

$HBuSold_i$ is the number of bushels sold at harvest multiplied by local spot price ($Spot_i$) the on the day of the midpoint of harvest. If $BuOverSold_i$ is greater than 0, the short contracts are cash settled at the local spot price ($Spot_i$) plus the local basis plus a penalty (P_i).

3.3.2.3 Postharvest Revenue

If not all production, in year i, is sold during preharvest or harvest periods, the remaining bushels are sold during the postharvest period. The postharvest period runs from harvest in year i, to September in year $i+1$. Postharvest revenue is calculated as

$$PostRev_i = \sum_{psale=1}^{n} \left\{ PostBuSold_{psale,i} \times (Spot_{psale,i} - vStorCost_{psale,i} - FinCost_{psale,i}) \right\} - \sum_{psale=1}^{n} \left\{ PostBuSold_{psale,i} \right\} \times fStorCost_i$$

where *psale* is the sale number. Similarly to sale number in preharvest revenue, *psale* is an index assigned to each pricing event in chronological order. $PostBuSold_{psale,i}$ is the number of bushels sold on sale number n during year i. $Spot_{psale,i}$, $VStorCost_{psale,i}$, $FinCost_{psale,i}$, are local spot cash price, variable cost of storage, and cost of financing, respectively, at the day sale number n occurs in year i. $fStorCost_i$, is the fixed cost of storage in year i.

3.3.2.4 Insurance Revenue

Insurance revenue is calculated as insurance indemnity minus insurance premium. Insurance indemnity and premium calculations are explained below.

Two types of insurance products are used in this research. These are Crop Revenue Coverage (CRC) and Group Risk Income Plan (GRIP) with and without the harvest price option

(GRIP-BP and GRIP-HP, respectively). The indemnity payment for CRC, in year i, is calculated as

$$CRCIndem_i = Max\{0,(Max(BP_i,HP_i) \times APH_i \times CLevel_i) - (HP_i \times Yield_i)\}$$

BP_i and HP_i are base price and harvest price, respectively, in year i. APH_i is the farm level actual production history, $Yield_i$ is actual farm level yield in year i, and $CLevel_i$ is the farmer selected coverage level.

GRIP indemnities are calculated as

No harvest price option (GRIP-BP):

$$GRIPBPIndem_i = Max\left\{0, \frac{[ExpCoYield_i \times BP_i \times CLevel_i] - [CoYield_i \times HP_i]}{[ExpCoYield_i \times BP_i \times CLevel_i]} \times 1.5 \times PLevel_i\right\}$$

With harvest price option (GRIP-HP):

$$GRIPHPIndem_i = Max\left\{0, \frac{[ExpCoYield_i \times Max(BP_i,HP_i) \times CLevel_i] - [CoYield_i \times HP_i]}{[ExpCoYield_i \times Max(BP_i,HP_i) \times CLevel_i]} \times Min\left(1, \frac{HP_i}{BP_i}\right) \times 1.5 \times PLevel_i\right\}$$

$ExpCoYield_i$ and $CoYield_i$ are expected county yield and actual county yield, respectively, in year i. Both $ExpCoYield_i$ and $CoYield_i$ are set by RMA. $PLevel_i$ is farmer selected protection level.

CRC premium is represented by

$$CRCPrem_i = f(State, County, Crop, APH_i, PFactor_i, BP_i, CLevel_i)$$

where *State* and *County* are the county in which the farm is located. *Crop* is corn or soybeans. *PFactor$_i$* is a price factor that represents the option implied price volatility, *BP$_i$* is the base price in year *i,* and *CLevel$_i$* is the farmer selected coverage level in year *i*.

GRIP premium is represented by

$$GRIPPrem_i = f\left(HPO, State, County, Crop, ExpCoYield_i, Vol_i, BP_i, CLevel_i, PLevel_i\right)$$

where *HPO* is equal to 1 if the harvest price option is elected (GRIP-HP) and 0 if not (GRIP-BP). *ExpCoYield$_i$* is the expected county yield, *Vol$_i$* is the option implied price volatility, and *PLevel$_i$* is the farmer selected protection level all in year *i*.

3.3.2.5 Summary

One or more of the terms in the actual revenue calculation may be zero depending on the strategy being modeled. For example, if postharvest marketing is being used and *BuOverSold$_i$*=0, *HRev$_i$* will be zero and all bushels not sold during the preharvest period will be sold at postharvest. All bushels produced in year *i,* must be sold during the marketing year which runs from March of year *i* to September of year *i+1*. Total bushels sold is calculated as

$$Total\ Bushels\ Sold_i = \sum_{sale=1}^{n}\left(PreBuSold_{sale,i}\right) + HBuSold_i + \sum_{psale=1}^{n}\left(PostBuSold_{psale,i}\right) - BuOverSold_i$$

3.3.3   Revenue Ratio

To aggregate the results across the time period analyzed in this study, revenue for each year is calculated as a ratio. The ratio is computed as

$$RevenueRatio_i = \frac{ActualRev_i}{ExpRev_i}$$

The mean, standard deviation, and VaR's are calculated from the ratios (From i=1975 to 2008). The ratio prevents more recent years from being implicitly weighted differently than more distant years due to inflation or other factors.

The use of a ratio controlled for changes of yields through time as well as inflation and other price changes. While noting that some other important effects may have also been inadvertently controlled for by the use of the revenue ratio, the time horizon that received primary focus in this analysis was the portion of the marketing year prior to harvest. This time horizon, preharvest, is when crop insurance contracts are in place and preharvest marketing decisions are made. Inter-marketing year price effects are controlled for and not reflected in the results. Only price effects that occur over the time horizon during which crop insurance contracts are in place and preharvest pricing occurs are included in the results.

3.4   Data

3.4.1   Yield Information

3.4.1.1 Farm Yields

Farm level yield data were obtained from Illinois Farm Business Farm Management (FBFM). Illinois corn and soybean yield data used in the analysis runs from 1972 to 2008. The first four years of the yield data are needed to establish an APH for each farm and therefore are not included in the analysis.

3.4.1.2 County Yields

County yields are needed to calculate insurance indemnities for county level products. County level yield data from 1972 to 2008 were obtained from the United States Department of Agriculture National Agricultural Statistics Service (USDA-NASS). County level yield data is available electronically at http://www.nass.usda.gov/Statistics_by_State/Illinois/index.asp.

In addition to being used to calculate APH, the farm level yields are used to represent actual production in the simulation. Actual production is used to calculate farm level insurance product indemnities. County yield data are used to calculate county level insurance product indemnities.

3.4.2   Price Information

3.4.2.1 Futures Prices

Futures price data obtained from the CME Group are used in the analysis. Specifically, daily futures settlement prices from the nearby December futures contract for corn and November contract for soybeans from 1976 to 2008 were used. The futures price data were used to calculate base and harvest prices for insurance guarantees, premiums, and indemnities.

Option implied futures volatility data are also used to calculate insurance premiums. Daily option implied harvest month futures volatility data from 1990 to 2008 were acquired from the Commodity Research Bureau. Prior to 1990 the data were not available and were estimated. The technique and assumptions used to estimate the data are discussed below.

3.4.2.2 Spot/Forward Prices

Cash spot and forward bid prices are collected by the Illinois Ag Marketing Service and reported daily for each of the seven crop reporting districts in Illinois. Farmdoc compiles the data and reports weekly forward bid and cash spot price data each Thursday. The Thursday forward bid and cash spot price data for the years 1976 through 2008 were obtained from Farmdoc.

The price data are used to establish the sales price on the date bushels were priced in the simulation. During the preharvest period the local forward cash price data are used to establish the sales price. During harvest and the postharvest period the local spot price is used.

3.4.3   Other Information

3.4.3.1 Cost of Financing

Under several of the preharvest pricing strategies modeled in this analysis, part of production is held in inventory after harvest during years where production exceeded forward marketed bushels. It is important to simulate the opportunity costs and cost of storage to be able to compare the risk and returns to different strategies. The rate selected to calculate the opportunity cost was the average fixed interest rates on farm loans. The interest rates are estimated by surveys of agricultural credit conditions at commercial banks and published quarterly by the Board of Governors of the Federal Reserve System for each Federal Reserve district. The Federal Reserve Board of Governors' report is available electronically at http://www.federalreserve.gov/releases/e15/.

3.4.3.2 Harvest Progress

The timing and speed of harvest varies greatly spatially as well as temporally. Accurately representing the harvest date was important to this analysis because at harvest producers make significant marketing decisions. Assigning one harvest date to all model farms for all years analyzed would reduce the validity of the results. The Illinois division of the National Agricultural Statistics Service (USDA-NASS) publishes weekly crop progress and condition reports that include harvest progress estimates, disaggregated by region, for the months during which the majority of harvest occurs. These reports were used to estimate the midpoint of harvest by region for each year for corn and soybeans. Since the reports are released weekly, vary rarely does the actual midpoint of harvest fall on a day the report is released. Therefore the dates of the last report before and the first report after harvest progress reaches fifty percent were regressed against the harvest progress percentage complete in those reports to estimate the day fifty percent was reached. The crop progress reports are available electronically at

http://www.nass.usda.gov/Statistics_by_State/Illinois/Publications/Crop_Progress_&_Condition/index.asp.

3.5   Assumptions

3.5.1   *Cost of Storage*

In addition to the cost of financing the costs of storing bushels postharvest were estimated. The cost of storage was assumed to be constant over the period studied. A fixed cost of storage was estimated as well as a variable cost. The fixed cost is a onetime charge per bushel while the variable cost is per bushel per month. The fixed storage cost covers the stored bushels from the date they were put into storage (harvest) until January 1st of year *t+1*. The variable storage cost is assessed each month for the balance of bushels in storage from January until all bushels were sold.

3.5.2   *Insurance*

The FarmDoc Crop Insurance Decision Tool was used to estimate insurance premiums. Premium subsidies and load rates were held constant at 2009 levels. The factors that were varied across farms and through time were APH, base price, expected county yield, and price volatility. APH was calculated from farm level yields and base price was calculated from daily harvest month futures prices. Both are discussed above. The estimation of expected county yield and price volatility is discussed below.

GRIP uses expected county yield instead of an APH as used in CRC for insurance guarantees. To estimate expected county yields, county yield data from 1972 to 2008 was regressed against time to estimate a trend line for each county. Expected county yield was assumed to lie on the estimated trend line each year.

Both GRIP and CRC use a price volatility factor to calculate premiums. The volatility factors are calculated from February observations of option implied harvest month futures volatilities. The required option implied futures volatility data were only available from 1990 to 2008 and therefore were estimated for 1976 to 1989. To estimate the required volatility data, the 20-day historic harvest month futures volatility was calculated for each day in the month of February from 1976 to 2008. The 20-day historic futures volatility was compared to the option implied futures volatility over the period 1990 to 2008 (the time period for which option implied futures volatility was available) to determine if any relationship between the two measures could be used to estimate option implied volatilities for the period 1976 to 1989. From 1990 to 2008 on average, the 20-day historic corn (soybean) harvest month futures volatility was 11.49% (7.73%) below the option implied harvest month corn (soybean) futures volatility during the month of February. The r-squared of the regression was close to zero, but the slope was also close to zero therefore an estimate that was inefficient, but unbiased could be generated. The estimate of option implied harvest month futures volatility was generated by adding the average difference (11.49 for corn, 7.73 for soybeans) to the February observations of the 20-day historic harvest month futures volatilities from 1976 to 1989.

The GRIP volatility factor is a simple average of the time adjusted option implied harvest month futures volatility for the last five trading days of February. Since the option implied futures volatility represents the best estimate of expected volatility from when it is calculated until expiration, it is time adjusted to estimate an estimate of expected volatility over the time horizon the insurance contract covers (base price discovery period to harvest price discovery period). The CRC price factor is related to the time adjusted option implied harvest month futures volatility for the last five trading days of February but the exact methodology used to

calculate it could not be recreated in this research. Therefore, CRC price factors were estimated

for each year for corn and soybeans. The simple average of the time adjusted option implied

harvest month futures volatility for the last five trading days of February and the base price were

regressed against the known actual CRC price factors (2001 to 2009) to estimate the relationship.

The equation from this regression was used with the volatility factor and base price to estimate

CRC price factors for the entire period (1976-2008).

3.6   Preharvest Pricing Strategies

Five alternative preharvest pricing strategies are modeled. They are listed below,

followed by brief descriptions and rational for their inclusion. Also included in this section are

detailed descriptions and example calculations for each scenario.

The preharvest pricing strategies that are modeled are:

1. Cash
2. Aggressive Mechanical (AgrMech)
3. Aggressive Dynamic (AgrDyn)
4. Non-aggressive mechanical (NonAgrMech)
5. Non-aggressive dynamic (NonAgrDyn)
6. Sell all postharvest

3.6.1   Explanation of Pricing Strategies

"Cash" is a simple cash sale at harvest. It is included in the analysis as the benchmark

against which to measure the effect of the marketing strategies. The sale date for the cash

scenario is the estimated midpoint of harvest for each year in each region.

The AgrMech strategy uses a static mechanical pricing strategy which prices an equal

percentage of expected production at equal intervals throughout the preharvest period. The

percentage of expected production sold preharvest is aggressive, 100% of insured bushels. Any

excess production that is not sold preharvest, is sold in equal amounts, in equal intervals

throughout the rest of the marketing year. This strategy simulates shifting marketing to earlier in the year without trying to time sales during price rallies and is similar to the passive strategy described in Cunningham et al. (2007).

The AgrDyn strategy sets a target number of bushels to market during the preharvest period. The target bushels, in the AgrMech strategy are equal to the number of bushels preharvest marketed in the AgrMech strategy (100% of insured bushels), but a dynamic pricing strategy is used to time the pricings. The dynamic pricing strategy uses triggers that relate futures prices to base prices to time pricings. Three triggers are used. They are minimum (min), medium (med), and high. The min trigger is 5% above base price. The med trigger is 10% above base price, and the high trigger is 15% above base price. If the nearby harvest month futures price reaches the min trigger (5% above base price), 17% of bushels targeted for preharvest sale are priced. If futures price reaches the med trigger (10% above base price), two times the number of bushels priced at the min trigger (32% of bushels targeted for preharvest sale) are priced. If futures reach the high trigger three times the number of bushels priced at the min trigger (51% of bushels targeted for preharvest sale) are priced. Any bushels not priced preharvest are stored and sold at equal intervals in equal increments throughout the postharvest period. This strategy replicated producers who try to time pricings during price rallies and is similar to the active pricing strategy described in Cunningham et al. (2007).

The NonAgrMech strategy uses the same static mechanical pricing method as the AgrMech strategy. However, instead of 100% of insured bushels priced in the preharvest period as in AgrMech, the NonAgrMech only prices 50% of insured bushels in the preharvest period. Any bushels not marketed preharvest, are stored and sold in equal intervals in equal increments throughout the postharvest period. Since only one variable (the number of bushels preharvest

marketed) is varied between this strategy and the AgrMech, it is possible to analyze how the aggressiveness of preharvest pricing activity affects risk and returns.

The NonAgrDyn strategy uses the same dynamic preharvest pricing strategy as the AgrDyn strategy. The only variable that is not held constant between NonAgrDyn and AgrDyn was the bushels targeted to be priced preharvest. In the NonAgrDyn, the target number of bushels to be preharvest marketed is 50% of insured bushels. Any production not priced preharvest, is sold in equal intervals in equal increments throughout the postharvest period.

"Sell all Postharvest" strategy does not price any expected production preharvest or make cash sales at harvest. All production is put into storage at harvest and sold in equal intervals in equal increments throughout the postharvest period.

All alternative pricing strategies are simulated with no crop insurance, 85% CRC, 90% GRIP-BP, and 90% GRIP-HP (for strategies that use targets calculated with insured bushels, if no insurance is being simulated 85% of APH is the preharvest pricing target). In addition to examining the effects of difference crop insurance selections on each strategy, the design of the strategies allows comparisons across strategies. For example, the only variable changed between AgrMech and NonAgrMech is the number of bushels preharvest marketed. So the effect of this change can be closely analyzed. The only variable changed between AgrMech and AgrDyn is the way the bushels are priced preharvest. So the effect of this change can be closely analyzed. All comparisons are analyzed with and without crop insurance.

3.6.2   *Example Calculations*

Example calculations are made for each alternative pricing strategy below. The examples are calculated for Northern Illinois, La Salle County corn production in 1976. Table 3.1 through

Table 3.6 show the first, second and last preharvest pricing event and the first, second and last postharvest sale, as well as the pre- and postharvest total revenues and final revenues for each example. The expected revenue for this example is $316.31 [$2.72 (base price) plus -0.33 (expected basis) times 133 (expected yield)].

3.6.2.1 Cash

The midpoint of harvest, in 1976, for the Northeast region of Illinois was estimated to have occurred on October 27th. On October 27th the local spot basis was -0.3425 and the December corn futures price was 2.5175 per bushel. For the model farm in La Salle County in 1976, the yield was 132 bushels per acre. Therefore on October 27th, 132 bushels were sold at $2.175 (futures price plus basis) per acre which resulted in harvest revenue of $287.10. The expected revenue for this model farm for 1976 was $316.31 (calculation shown above), therefore the revenue ratio was 0.91.

Table 3.1. Example Calculation, Cash Strategy, La Salle County, 1976

Date of Sale	(1) Local Cash Price	(2) Bushels Sold	(3) Actual Gross	(4) Expected Gross	(5) Revenue Ratio
10/27/1976	$2.1750	132	$287.10	$316.31	0.91

Notes: Actual Gross revenue calculated as (1)×(3). Revenue ratio calculated as (3)/(4).

3.6.2.2 Aggressive Mechanical

Continuing with the same example from the cash strategy, APH for the Northern Illinois model farm (in La Salle County) was 122.5 bushels per acre. When 85% CRC is selected 100% of insured bushels would be 104.13 bushels per acre (coverage level times APH). Therefore 14.88 (104.55 divided by 7 months in the preharvest period) bushels were sold on the first Thursday of each month during the preharvest period (March through September). On the first Thursday in March the first sale occurred, March 4th. On March 4th, the local forward basis was

−0.265 and the December futures price was 2.725. Therefore on March 4th, 14.88 bushels were priced at $2.46 (futures price plus local forward basis) generating a revenue of $36.60. This procedure was used to calculate the revenue from each month in the preharvest period. At the end of the preharvest period, 104.13 bushels were sold generating a revenue of $255.18. Actual production was 132 bushels so 27.87 bushels were put into storage to be sold during the post harvest period (November, 1976 through August 1977). In 1976, the fixed storage cost for corn was estimated as $0.13 per bushel and the variable cost was estimated as $0.02 per month per bushel. The cost of financing was a monthly rate of 0.739%. The midpoint of harvest was estimated to occur on October 27th. The first Thursday following harvest is the date the storage charges were calculated, which was November 4th. On November 4th, 2.79 bushels (27.87 bushels divided by 10 months in the post harvest period) were sold at $2.051 per bushel ($2.215 local cash price minus $0.163 financing cost) generating a revenue of $5.72. This process was repeated for each month of the post harvest period. The final post harvest revenue was $53.30. Final non-insurance revenue for 1976 was $308.42. Estimated insurance premium for 85% CRC in La Salle County for 1976 was $10.60 and there was no indemnity payment. Total revenue with insurance was $297.82 (non-insurance revenue plus insurance indemnity minus premium) and expected revenue for 1976 was $316.31 generating a revenue ratio of 0.94.

Table 3.2. Example Calculation, Aggressive Mechanical Strategy, La Salle County, 1976

Preharvest

Date of Sale	Forward Cash Price		Bushels Sold	Preharvest Revenue[1]
3/4/1976	$2.4600		14.88	$36.60
4/1/1976	$2.3600		14.88	$35.12
…	…		…	…
9/2/1976	$2.5700		14.88	$38.24
Total*				$255.18

Postharvest

Date of Sale	Local Spot Price	Cost of Storage	Bushels Sold	Postharvest Revenue[2]
11/4/1976	$2.2150	$0.164	2.79	$5.72
12/2/1976	$2.2750	$0.151	2.79	$5.92
…	…	…	…	…
8/4/1977	$1.6975	$0.013	2.79	$4.70
Total*				$53.30

Total Revenue

Total Preharvest Revenue	Total Postharvest Revenue	Insurance Revenue[3]	Actual Total Gross Revenue[4]	Expected Gross Revenue[5]	Revenue Ratio[6]
$255.18	$53.24	-$10.60	$297.82	$316.31	0.94

*Total will not equal sum of individual sales displayed because not all sales are shown.
[1]Calculated as Forward Cash Price×Bushels Sold.
[2]Calculated as (Spot Price−Cost of Storage)×Bushels Sold.
[3]Calculated as Insurance Indemnity−Premium.
[4]Calculated as Preharvest Revenue+Postharvest Revenue+Insurance Revenue.
[5]Calculation explained in Section 3.5.1 Expected Revenue.
[6]Calculated as Actual Total Gross Revenue/Expected Gross Revenue.

3.6.2.3 Aggressive Dynamic

CRC (85%) is selected making 104.13 the number of insured bushels. Base price for 1976 was $2.72 therefore the min trigger was $2.856 (5% above base price), med trigger was $2.992 (10% above base price), and high trigger was $3.128 (15% above base price). The first time December corn futures price hit a trigger was on June 9th. On June 9th the futures price was 2.885 which is above the min trigger. So on that date 17.35 bushels were sold (122.5 bushels times 17%) at a price of $2.5975 (local spot price) generating a revenue of $45.07 for that sale. The futures price hit the med trigger on September 7th and 34.71 bushels were sold at $2.69

generating a revenue of $93.37. In 1976 the futures price never hit the high trigger so only 52.06 bushels were sold preharvest out of 104.13 insured bushels available to sell preharvest. Total preharvest revenue was $138.44. Actual production was 132 bushels so 79.94 bushels were put into storage to be sold during the post harvest period (November, 1976 through August 1977). In 1976, the fixed storage cost for corn was estimated as $0.13 per bushel and the variable cost was estimated as $0.02 per month per bushel. The cost of financing was a monthly rate of 0.739%. The midpoint of harvest was estimated to occur on October 27th. The first Thursday following harvest is the date the storage charges were calculated, which was November 4th. On November 4th, 7.99 bushels (79.91 bushels divided by 10 months in the post harvest period) were sold at $2.05 per bushel ($2.215 local cash price minus $0.164 financing cost) generating a revenue of $16.39. This process was repeated for each month of the post harvest period. The final post harvest revenue was $152.84. Final non-insurance revenue for 1976 was $291.13 (preharvest revenue plus harvest revenue plus post harvest revenue). Estimated insurance premium for 85% CRC in La Salle County for 1976 was $10.60 and there was no indemnity payment. Total revenue with insurance was $280.52 (non-insurance revenue plus insurance indemnity minus premium) and expected revenue for 1976 was $316.31 generating a revenue ratio of 0.89.

Table 3.3. Example Calculation, Aggressive Dynamic Strategy, La Salle County, 1976

Preharvest

Date of Sale	Local Spot Price		Bushels Sold	Preharvest Revenue[1]
6/9/1976	$2.5975		17.35	$45.07
9/7/1976	$2.6900		34.71	$93.37
Total				$138.44

Postharvest

Date of Sale	Forward Cash Price	Cost of Storage	Bushels Sold	Postharvest Revenue[2]
11/4/1976	$2.2150	$0.164	7.99	$16.39
12/2/1976	$2.2750	$0.151	7.99	$16.97
…	…	…	…	…
8/4/1977	$1.6975	$0.012	7.99	$13.47
Total*				$152.84

Total Revenue

Total Preharvest Revenue	Total Postharvest Revenue	Insurance Revenue[3]	Actual Total Gross Revenue[4]	Expected Gross Revenue[5]	Revenue Ratio[6]
$138.44	$152.68	-$10.60	$280.52	$316.31	0.89

*Total will not equal sum of individual sales displayed because not all sales are shown.
[1]Calculated as Forward Cash Price×Bushels Sold.
[2]Calculated as (Spot Price−Cost of Storage)×Bushels Sold.
[3]Calculated as Insurance Indemnity−Premium.
[4]Calculated as Preharvest Revenue+Postharvest Revenue+Insurance Revenue.
[5]Calculation explained in Section 3.5.1 Expected Revenue.
[6]Calculated as Actual Total Gross Revenue/Expected Gross Revenue.

3.6.2.4 Nonaggressive Mechanical

This strategy very similar to the aggressive mechanical strategy, the only difference is the number of bushels sold preharvest. In this strategy only 66.25 bushels are sold preharvest as opposed to the 104.13 bushels sold preharvest in the aggressive strategies. Selling 66.25 bushels preharvest generates a total preharvest revenue of $150.11. After harvest 65.75 bushels are put into storage and sold during the postharvest period generating a postharvest revenue of $135.28 for a total non-insurance revenue of $285.25. Estimated insurance premium for 85% CRC in La Salle County for 1976 was $10.60 and there was no indemnity payment. Total revenue with

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insurance was \$274.79 (non-insurance revenue plus insurance indemnity minus premium) and

expected revenue for 1976 was \$316.31 generating a revenue ratio of 0.87.

Table 3.4. Example Calculation, Nonaggressive Mechanical Strategy, La Salle County, 1976

Preharvest

Date of Sale	Forward Cash Price	Bushels Sold	Preharvest Revenue[1]
3/4/1976	\$2.4600	8.75	\$21.53
4/1/1976	\$2.3600	8.75	\$20.65
...	...	...	...
9/2/1976	\$2.5700	8.75	\$22.49
Total*			\$150.11

Postharvest

Date of Sale	Local Spot Price	Cost of Storage	Bushels Sold	Postharvest Revenue[2]
11/4/1976	\$2.2150	\$0.164	7.075	\$14.51
12/2/1976	\$2.2750	\$0.151	7.075	\$15.02
...	...	...	...	...
8/4/1977	\$1.6975	\$0.013	7.08	\$11.92
Total*				\$135.28

Total Revenue

Total Preharvest Revenue	Total Postharvest Revenue	Insurance Revenue[3]	Actual Total Gross Revenue[4]	Expected Gross Revenue[5]	Revenue Ratio[6]
\$150.11	\$135.28	-\$10.60	\$274.79	\$316.31	0.87

*Total will not equal sum of individual sales displayed because not all sales are shown.
[1]Calculated as Forward Cash Price×Bushels Sold.
[2]Calculated as (Spot Price−Cost of Storage)×Bushels Sold.
[3]Calculated as Insurance Indemnity−Premium.
[4]Calculated as Preharvest Revenue+Postharvest Revenue+Insurance Revenue.
[5]Calculation explained in Section 3.5.1 Expected Revenue.
[6]Calculated as Actual Total Gross Revenue/Expected Gross Revenue.

3.6.2.5 Nonaggressive Dynamic

This strategy very similar to the aggressive dynamic strategy, the only difference is the

number of bushels sold preharvest. In this strategy only 66.25 bushels are available to be sold

preharvest as opposed to the 104.13 bushels sold preharvest in the aggressive strategies. Since

the high trigger was not reached in 1976, only 33.13 bushels are sold preharvest generating a total preharvest revenue of $81.44. After harvest 98.88 bushels are put into storage and sold during the postharvest period generating a postharvest revenue of $193.83 for a total non-insurance revenue of $275.27. Estimated insurance premium for 85% CRC in La Salle County for 1976 was $10.60 and there was no indemnity payment. Total revenue with insurance was $264.67 (non-insurance revenue plus insurance indemnity minus premium) and expected revenue for 1976 was $316.31 generating a revenue ratio of 0.84.

Table 3.5. Example Calculation, Nonaggressive Dynamic Strategy, La Salle County, 1976

Preharvest

Date of Sale	Forward Cash Price		Bushels Sold	Preharvest Revenue[1]
6/9/1976	$2.5975		10.21	$26.52
9/7/1976	$2.6900		20.42	$54.92
Total				**$81.44**

Postharvest

Date of Sale	Local Spot Price	Cost of Storage	Bushels Sold	Postharvest Revenue[2]
11/4/1976	$2.2150	$0.164	10.1375	$20.79
12/2/1976	$2.2750	$0.151	10.1375	$21.53
...	...	...	...	...
8/4/1977	$1.6975	$0.013	10.14	$17.08
Total*				**$193.83**

Total Revenue

Total Preharvest Revenue	Total Postharvest Revenue	Insurance Revenue[3]	Actual Total Gross Revenue[4]	Expected Gross Revenue[5]	Revenue Ratio[6]
$81.44	$193.83	-$10.60	$264.67	$316.31	0.84

*Total will not equal sum of individual sales displayed because not all sales are shown.
[1]Calculated as Forward Cash Price×Bushels Sold.
[2]Calculated as (Spot Price−Cost of Storage)×Bushels Sold.
[3]Calculated as Insurance Indemnity−Premium.
[4]Calculated as Preharvest Revenue+Postharvest Revenue+Insurance Revenue.
[5]Calculation explained in Section 3.5.1 Expected Revenue.
[6]Calculated as Actual Total Gross Revenue/Expected Gross Revenue.

3.6.2.6 Sell all Postharvest

Since no production is marketed before or during harvest, all 132 bushels produced in 1976 are put into storage. The first sale occurs on November 11th. On November 11th, 13.2 bushels are sold (132 bushels divided by 10 months in the postharvest period) at the local spot cash price of $2.215 minus cost of financing ($0.164), generating a revenue of $24.08. The remaining bushels are sold at equal intervals throughout the rest of the postharvest period generating a revenue of $252.39. There was no insurance indemnity payment in 1976 and the

CRC premium was $10.60 resulting in an actual total gross revenue of $241.79. Since expected revenue was 316.31, the revenue ratio (actual revenue/expected revenue) was 0.76.

Table 3.6. Example Calculation, Sell all Postharvest Strategy, La Salle County, 1976

Postharvest

Date of Sale	Local Spot Price	Cost of Storage	Bushels Sold	Postharvest Revenue[2]
11/4/1976	$2.2150	$0.164	13.2	$27.08
12/2/1976	$2.2750	$0.151	13.2	$28.03
...	...	...	...	...
8/4/1977	$1.6975	$0.013	13.2	$22.24
Total*				$252.39

Total Revenue

Total Preharvest Revenue	Total Postharvest Revenue	Insurance Revenue[3]	Actual Total Gross Revenue[4]	Expected Gross Revenue[5]	Revenue Ratio[6]
$0.00	$252.39	-$10.60	$241.79	$316.31	0.76

*Total will not equal sum of individual sales displayed because not all sales are shown.
[1]Calculated as (Basis+Futures Price)×Bushels Sold.
[2]Calculated as (Spot Price−Cost of Storage)×Bushels Sold.
[3]Calculated as Insurance Indemnity−Premium.
[4]Calculated as Preharvest Revenue+Postharvest Revenue+Insurance Revenue.
[5]Calculation explained in Section 3.5.1 Expected Revenue.
[6]Calculated as Actual Total Gross Revenue/Expected Gross Revenue.

3.7   Ranking Procedures

3.7.1   Overview

For each region and crop, the results are analyzed by isolating three effects, the effect of the preharvest pricing strategy selection, the effect of the crop insurance product selection, and the effect of both preharvest pricing strategy and insurance product selection. Within those three comparisons two criteria are used to rank the performance of the different marketing strategies/insurance product combinations. The criteria are gross revenue enhancement and risk reduction. The mean of each strategy indicated the gross revenue enhancement of each strategy. The upper tails of the cumulative distribution function for all preharvest pricing

strategy/insurance production combinations are also presented and discussed as an indicator of gross revenue enhancement. Risk reduction is measured by standard deviation as well as 5% Value at Risk (5% VaR).

3.7.2   Gross Revenue Enhancement

Gross revenue enhancement is measured by the mean of the preharvest pricing strategy/insurance product combination. A higher mean is interpreted indicating higher gross revenues to that pricing strategy/insurance product selection combination.

The gross revenue enhancement effect of each strategy is measured by comparing the means of each preharvest pricing strategy (AgrMech, AgrDyn, NonAgrMech, NonAgrDyn) to the mean of the cash benchmark strategy within the same insurance product. The effect of each insurance product is measured by comparing the means of each insurance product (CRC, GRIP-BP, GRIP-HP) to the mean of the no insurance option within the same preharvest pricing strategy. The effect of the combination of preharvest pricing strategy/insurance product selection is measured by comparing the mean of each strategy combination (AgrMech-No Ins, AgrMech-CRC, AgrMech-GRIP-BP,…etc.) to the mean of cash pricing strategy with no insurance.

3.7.3   Risk Reduction

Two measures are used to rank the strategies according to their riskiness. They are standard deviation and 5% VaR. The standard deviation indicates how much annual variation there is from the mean of the distribution. In this analysis, standard deviation indicates how much gross revenues vary from the mean, the lower the standard deviation the less risky the strategy. However, standard deviation does not adequately measure extreme events in the tails of the distribution. Therefore, a second measure of risk is used, 5% VaR. VaR measures only

downside risk and captures extreme events in the lower tail of the distribution (Manfredo and Leuthold, 1999). In this research, the downside risk potential is evaluated by calculating the VaRs at the 5% level. A 5% VaR of 100 is interpreted as having a 5% probability of receiving a gross revenue of less than $100, and conversely having a 95% probability of receiving a gross revenue of greater than $100 (Glory and Baker, 2001).

The effects of preharvest pricing strategy selection, insurance product selection, and preharvest pricing strategy/insurance product combination selection are isolated and analyzed with the same procedure discussed above in gross revenue enhancement section. The only difference is that standard deviation and VaR are compared instead of means.

3.8   Difference Testing

3.8.1   Mean Difference Testing

In this analysis, the results across marketing strategies and insurance products are not independent since the same farm level yield and local price data are used to generate the results. Therefore dependent t-tests for paired samples are used to test if statistically significant differences between means are present. Three relationships are tested.

The first test (1), tests the mean of the each preharvest pricing strategy (AgrMech, AgrDyn, NonAgrMech, or NonAgrDyn) against the mean of the cash strategy. In this test, the means are tested within the same insurance product. For example, the statistical significance of the difference between the mean of the AgrMech strategy with CRC insurance and the mean of the cash only strategy with CRC is tested. The process is repeated by holding the insurance product constant while the strategy is varied and the means were compared to the cash strategy within the same insurance product. Each insurance product is tested in this manner. This test

isolated and measured the statistical significance of only the effect of the preharvest pricing strategy selection by holding insurance product constant.

The second test (2), tests the mean of each insurance product against the mean from the simulation of no insurance. For example, the significance of the difference between means is tested for the mean of the AgrMech strategy with CRC insurance and the mean of the AgrMech with no insurance. The process is repeated by holding the preharvest pricing strategy constant while the insurance product was varied and the means are compared to the no insurance option within the same preharvest pricing strategy. Each preharvest pricing strategy is tested in this manner. This test isolated and measured the statistical significance of only the effect of the insurance product selection by holding preharvest pricing strategy constant.

The third test (3), tested the mean of each insurance product and preharvest pricing strategy against the mean of the cash only pricing strategy with no insurance. For example, the mean of the AgrMech strategy with CRC insurance is tested against the mean of the cash strategy with no insurance. The process is repeated by comparing all preharvest pricing strategy/insurance product combinations to the cash strategy with no insurance. This test measured the statistical significance of the effect of preharvest pricing strategy and insurance product selection.

The null (H_0) and alternative (H_a) hypotheses as well as the calculation of t-statistics are outlined below (Anderson, 1999).

H_0 is stated as: $\quad\quad\quad \overline{x}_a - \overline{x}_b = 0$

H_a as: $\quad\quad\quad\quad\quad \overline{x}_a - \overline{x}_b \neq 0$

Where:

$\overline{x}_a:$ mean of strategy a

$\overline{x}_b:$ mean of strategy b

The t-statistic is calculated as

$$t\text{-}stat = \frac{\overline{x}_{ba} - 0}{s_{ba}}$$

where s_{ba} is standard error and $\overline{x}_{ba}$ is the mean of the difference between strategy b and strategy a.

$\overline{x}_{ba}$ is calculated as

$$\overline{x}_{ba} = \frac{\sum_{i=1976}^{2008} rr_{(a,i)} - rr_{(b,i)}}{N}$$

where $rr_{(a,i)}$ is revenue ratio for strategy a in year i, $rr_{(b,i)}$ is revenue ratio for strategy b in year i, N is sample size (33 observations between 1976 and 2008).

The tests were performed at $\alpha = 0.05$ for all combinations.

3.8.2 *Standard Deviation Difference Testing*

To test if there were statistically significant differences between standard deviations of the marketing strategies/insurance product selection combinations, a two-tailed chi-squared test is used. As with the mean difference testing, three relationships are tested. Test 1, 2, and 3 as described above are used, testing standard deviation instead of mean.

The null and alternative hypotheses as well as the calculation of the test statistic are outlined below (Anderson, 1999).

H_0 is stated as: $\qquad \sigma_a = \sigma_b$

H_a as: $\qquad \sigma_a \neq \sigma_b$

Where:

σ_a : standard deviation of revenue ratios for strategy a

σ_b : standard deviation of revenue ratios for strategy b

The test statistic is calculated as

$$X^2 \ t\text{-}stat = (N-1) \times \left(\frac{\sigma_a}{\sigma_b} \right)^2$$

where N is sample size N-1 is degrees of freedom.

The tests were performed at $\alpha = 0.05$ for all combinations.

3.9 Summary

A historical simulation is selected to analyze whether or not different preharvest pricing strategies can increase gross revenues and/or reduce risk under different insurance options for corn and soybean producers in four regions of Illinois. Five pricing strategies are simulated, Cash, AgrMech, AgrDyn, NonAgrMech, and NonAgrDyn. Revenue ratios (gross revenues divided by expected gross revenue) are calculated for each strategy, year, region, and crop. The strategies are ranked according to means, standard deviations, and 5% VaRs. Results are presented in the next chapter.

4   RESULTS

The previous chapter described the methodology and data used to conduct the analysis. This chapter presents the results of the analysis. It is organized as follows: The first section presents results of the analysis. The results are disaggregated, first by crop, then by region. Results for each region are also displayed in tabular and graphical form. Results are followed by summaries for each region and crop. The next subsection includes a discussion of the results. The final subsection presents an analysis of the sensitivity of the results using Sangamon County corn production as an example.

Three statistical measures are used to represent the results. They are: mean, standard deviation and 5% Value at Risk (VaR). The mean represents gross revenue enhancement potential of the strategy combinations. A higher mean indicates higher expected gross revenue to that strategy combination, however mean ignores risk (Richardson, 2001). The second measure is standard deviation. Standard deviation measures the riskiness of the strategy combination. Lower standard deviation indicates lower risk. However, standard deviation does not adequately weight large events that may occur in the lower tail of the distributions. Another measure of risk was also used, 5% Value at Risk (VaR). VaR measures only downside risk and captures extreme events in the lower tail of the distribution (Manfredo and Leuthold, 1999).

The results for each region, in tabular form, are disaggregated by pricing strategy and crop insurance product. The mean, standard deviation, and 5% Value at Risk are reported for each strategy combination.

The mean and standard deviation of all strategy combinations are plotted with the cash pricing strategy with no insurance in the center in the graphical presentation of results. Mean is on the y-axis and standard deviation on the x-axis. Any strategy combinations that fall in the lower-right quadrant (lower mean and higher standard deviation than cash with no insurance) are inferior to Cash/No Insurance. Strategies that fall in the upper-right quadrant (higher mean/higher standard deviation) or lower-left quadrant (lower mean/higher standard deviation) are not definitively better or worse than the benchmark. Strategy combinations that fall in the upper-right or lower-left quadrant may be preferred over Cash/No Insurance by some producers based on their risk preference so it cannot be conclusively said that they are superior or inferior. Strategy combinations that fall in the upper-left quadrant are superior to Cash/No Insurance. If no means (standard deviations) are statistically significantly different than Cash/No Insurance, strategy combinations that fall in the left (top) half of the graph are considered superior to Cash/No Insurance.

4.1   Corn

4.1.1   *Northern Illinois – La Salle County*

The results for La Salle County are presented in Table 4.1, disaggregated by pricing strategy and insurance product. The cash strategy with no insurance has an average of 0.91, a standard deviation of 0.20 and a 5% VaR of 0.61. The average of gross revenues for Cash/No Insurance is $351. Means of other strategies are not statistically different than the Cash/No Insurance strategy combination. Under no insurance, the mechanical strategies perform better than the cash strategy by all three measures (although mean and standard deviation are not statistically different). The dynamic strategies have a higher mean, but higher standard deviations (though not statistically different) and lower VaRs. The aggressive strategies outperform, or at

least tie, the nonaggressive strategies with no insurance by all three measures. The sell all at postharvest strategy underperforms all other marketing strategies by all statistical measures used. Electing CRC does not change the rankings of the marketing strategies. However, it does increase mean and VaR and decrease standard deviation. Using GRIP-BP and GRIP-HP instead of no insurance also increases mean and VaR and decreases standard deviation without changing the rankings among marketing strategies.

No strategy combination is top ranked in all three categories (mean, standard deviation, and 5% VaR). Therefore one strategy combination cannot be said to be superior to all others. When ranked by standard deviation, Aggressive Mechanical/GRIP-HP is top ranked. When ranked by VaR, Aggressive Mechanical/CRC is top ranked. However, there is one strategy that is inferior to all others, Sell all Postharvest/No Insurance.

The mean and standard deviation of all strategy combinations are plotted in Figure 4.1. Six strategies, with standard deviations statistically different than Cash/No Insurance, fall in the left half of the mean-standard deviation scatter plot. They are [measures reported as (standard deviation, mean)]: Cash/GRIP-BP (0.15, 0.95); Aggressive Mechanical/ CRC (0.12, 0.94), GRIP-BP (0.14, 0.97), GRIP-HP (0.11, 0.96); Nonaggressive Mechanical/GRIP-BP (0.15, 0.94), GRIP-HP (0.14, 0.94) (no means were statistically significant, only standard deviations).

Table 4.1. Revenue Ratios Descriptive Statistics by Insurance Product, Corn, La Salle County

Descriptive Statistics by Insurance Product	Cash	Mechanical		Dynamic		Sell all
		Aggressive	Non-aggressive	Aggressive	Non-aggressive	Postharvest
			Revenue Ratio			
No Insurance						
Average	0.91	0.94	0.91	0.92	0.91	0.88
Standard Deviation	0.20	0.18	0.19	0.24	0.24	0.25
5% VaR	0.61	0.68	0.66	0.58	0.58	0.58
CRC*						
Average	0.92	0.94	0.92	0.93	0.91	0.88
Standard Deviation	0.17	0.12[a b c]	0.15[c]	0.20	0.20	0.22[a]
5% VaR	0.71	0.79	0.74	0.64	0.64	0.64
GRIP-BP**						
Average	0.94	0.97	0.94	0.95	0.93	0.90
Standard Deviation	0.15[b c]	0.14[c]	0.15[c]	0.20[a]	0.19[a]	0.21[a]
5% VaR	0.75	0.76	0.73	0.68	0.68	0.66
GRIP-HP***						
Average	0.94	0.96	0.94	0.95	0.93	0.90
Standard Deviation	0.16	0.11[a b c]	0.14[b c]	0.19	0.19	0.21[a]
5% VaR	0.78	0.78	0.75	0.69	0.69	0.66

[a]Statistically different than Cash strategy at P less than or equal to 0.05.

[b]Statistically different than No Insurance at P less than or equal to 0.05.

[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.1. Mean-Standard Deviation Scatter Plot, Corn, La Salle County
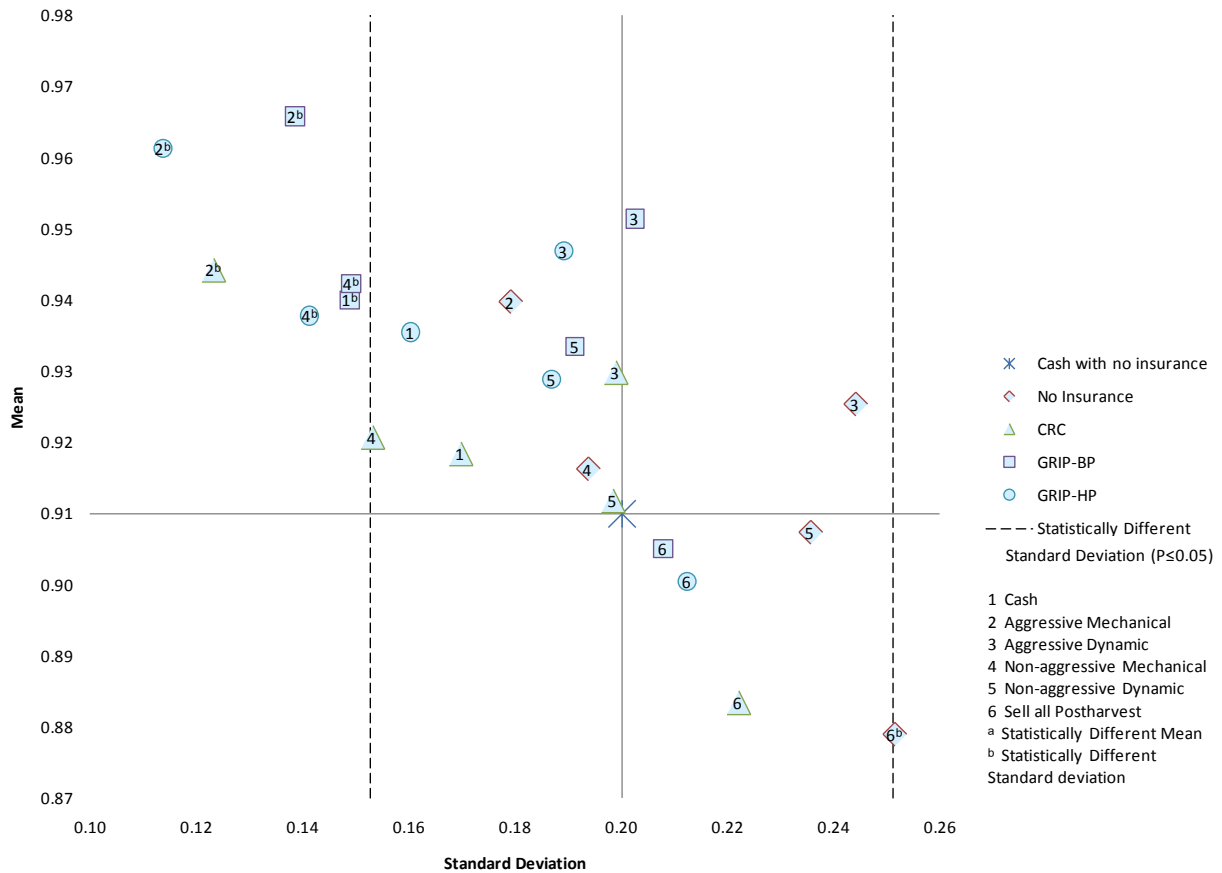
4.1.2 Central Illinois (High Productivity) – Sangamon County

The results for Sangamon County are presented in Table 4.2. They are disaggregated by pricing strategy and insurance product. The cash strategy with no insurance has a mean of 0.89, a standard deviation of 0.15, and a VaR of 0.68. The mean of actual revenues for Cash/No Insurance is $376. With no insurance, the mechanical strategies outperform the cash strategies by all three measures. The dynamic strategies have higher means than the cash strategy but they also have higher standard deviations and lower VaRs indicating higher risk. When using the mechanical strategy, the aggressive strategy outperforms the nonaggressive one. With the dynamic strategy the nonaggressive strategy has a lower standard deviation and higher VaR than the aggressive one, but the aggressive strategy has a higher mean. The sell all postharvest

strategy underperforms all other strategies with no insurance. Adding CRC reduces means from no insurance but also lowers, or at least ties, standard deviations for all marketing strategies. VaRs for all strategies except Nonaggressive Dynamic and Sell all Postharvest are increased from no insurance when CRC is added. With CRC, the rankings across marketing strategies remain unchanged from no insurance. With GRIP-BP and GRIP-HP, all means and VaRs are higher than the same marketing strategies with no insurance. Standard deviations are all lower except Cash/GRIP-HP which has a higher standard deviation than Cash/No Insurance. The rankings across marketing strategies with GRIP-BP and GRIP-HP remain similar to No Insurance.

Aggressive Mechanical/GRIP-HP is superior to all other strategy combinations by all three measures. There is not one strategy that ranks at the bottom by all three measures, but the Sell all Postharvest pricing strategy with all insurance options is consistently underperforming.

The mean and standard deviation of all strategy combinations are plotted in Figure 4.2. Five strategy combinations are located in the upper-right quadrant with statistically significant means and standard deviations. They are (listed by pricing strategy): Aggressive Mechanical/CRC (0.09, 0.93), GRIP-BP (0.09, 0.97), GRIP-HP (0.09, 0.97); and Nonaggressive Mechanical/GRIP-BP (0.10, 0.94).

Table 4.2. Revenue Ratios Descriptive Statistics by Insurance Product, Corn, Sangamon County

Descriptive Statistics by Insurance Product	Cash	Mechanical		Dynamic		Sell all
		Aggressive	Non-aggressive	Aggressive	Non-aggressive	Postharvest
			Revenue Ratio			
No Insurance						
Average	0.89	0.94[ac]	0.91	0.92	0.90	0.87
Standard Deviation	0.15	0.11[ac]	0.13	0.19	0.18	0.20[ac]
5% VaR	0.68	0.76	0.73	0.63	0.65	0.64
CRC*						
Average	0.88	0.93[a c]	0.90	0.91	0.89	0.86
Standard Deviation	0.15	0.09[a c]	0.12	0.17	0.17	0.20[a c]
5% VaR	0.70	0.80	0.74	0.64	0.64	0.63
GRIP-BP**						
Average	0.92[b c]	0.97[a b c]	0.94[b c]	0.95[b]	0.93[b]	0.90[b]
Standard Deviation	0.11	0.09[c]	0.10[c]	0.16[a]	0.15[a]	0.17[a]
5% VaR	0.75	0.84	0.80	0.74	0.73	0.72
GRIP-HP***						
Average	0.92	0.97[a c]	0.94[c]	0.95[c]	0.93	0.90
Standard Deviation	0.16	0.09[a c]	0.12	0.16	0.16	0.19[c]
5% VaR	0.72	0.86	0.80	0.73	0.73	0.72

[a]Statistically different than Cash strategy at P less than or equal to 0.05.

[b]Statistically different than No Insurance at P less than or equal to 0.05.

[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.2. Mean-Standard Deviation Scatter Plot, Corn, Sangamon County

Legend:
- ✳ Cash with no insurance
- ◇ No Insurance
- △ CRC
- ☐ GRIP-BP
- ○ GRIP-HP
- − − − · Statistically Different Standard Deviation (P≤0.05)

1 Cash
2 Aggressive Mechanical
3 Aggressive Dynamic
4 Non-aggressive Mechanical
5 Non-aggressive Dynamic
6 Sell all Postharvest
a Statistically Different Mean
b Statistically Different Standard deviation

4.1.3 *Central Illinois (Low Productivity) – Vermilion County*

In Vermilion County, as presented in Table 4.3, Cash/No Insurance has a mean of 0.87, standard deviation of 0.25, and VaR of 0.50. The average revenue is $285. With no insurance, the mechanical strategies have higher means than the cash and dynamic strategies. The mechanical strategies also have higher standard deviations and lower VaRs than the cash strategy indicating they are more risky than cash sales at harvest. The dynamic strategies have higher means than the cash strategy but lower VaRs and higher standard deviations also indicating they are more risky than the cash sales. The nonaggressive strategies are less risky than the aggressive ones, but the aggressive strategies have higher means. Adding CRC, GRIP-BP, or GRIP-HP decreases riskiness and increases mean relative to no insurance, but also changes the rankings

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across marketing strategies. With any of the insurance products, the cash pricing strategy is no longer the least risky. The mechanical marketing strategies are both less risky and have higher means than the cash strategy and perform better than the dynamic strategies. The aggressive strategies also perform better than the nonaggressive ones.

One strategy combination did not outperform all others in all measures, but Aggressive Mechanical is top ranked by both risk measures (standard deviation and VaR) when CRC insurance is used and top ranked by returns (mean) when GRIP-HP is elected. One strategy combination is not inferior to all others by all measures, but all the lowest ranked combinations are observed when no insurance is elected.

The mean and standard deviation of all strategy combinations are plotted in Figure 4.2. Five strategy combinations, with means and standard deviations that are statistically different from Cash/No Insurance (0.25, 0.87), are located in the upper-left quadrant. They are (listed by pricing strategy): Cash/GRIP-HP (0.18, 0.94); Aggressive Mechanical/CRC (0.14, 0.96), GRIP-HP (0.17, 0.98); Nonaggressive Mechanical/GRIP-HP (0.17, 0.96).

Table 4.3. Revenue Ratios Descriptive Statistics by Insurance Product, Corn, Vermilion County

Descriptive Statistics by Insurance Product	Cash	Mechanical		Dynamic		Sell all
		Aggressive	Non-aggressive	Aggressive	Non-aggressive	Postharvest
			Revenue Ratio			
No Insurance						
Average	0.87	0.91	0.89	0.90	0.88	0.85
Standard Deviation	0.25	0.26	0.25	0.29	0.27	0.29
5% VaR	0.50	0.40	0.45	0.35	0.41	0.42
CRC*						
Average	0.91	0.96[c]	0.93[c]	0.94[c]	0.92	0.90
Standard Deviation	0.19[b c]	0.14[b c]	0.16[b c]	0.20[b]	0.20[b]	0.22
5% VaR	0.66	0.77	0.73	0.61	0.61	0.61
GRIP-BP**						
Average	0.93[b c]	0.97[b c]	0.95[b c]	0.96[b c]	0.94[b c]	0.91[b]
Standard Deviation	0.20	0.23	0.22	0.25[a]	0.23	0.24
5% VaR	0.64	0.50	0.57	0.50	0.54	0.52
GRIP-HP***						
Average	0.94[b c]	0.98[b c]	0.96[b c]	0.97[b c]	0.95[b c]	0.92[b]
Standard Deviation	0.18[b c]	0.17[b c]	0.17[b c]	0.20[b]	0.20	0.22[a]
5% VaR	0.64	0.71	0.68	0.63	0.63	0.61

[a]Statistically different than Cash strategy at P less than or equal to 0.05.

[b]Statistically different than No Insurance at P less than or equal to 0.05.

[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.3. Mean Standard Deviation Scatter Plot, Corn, Vermilion County
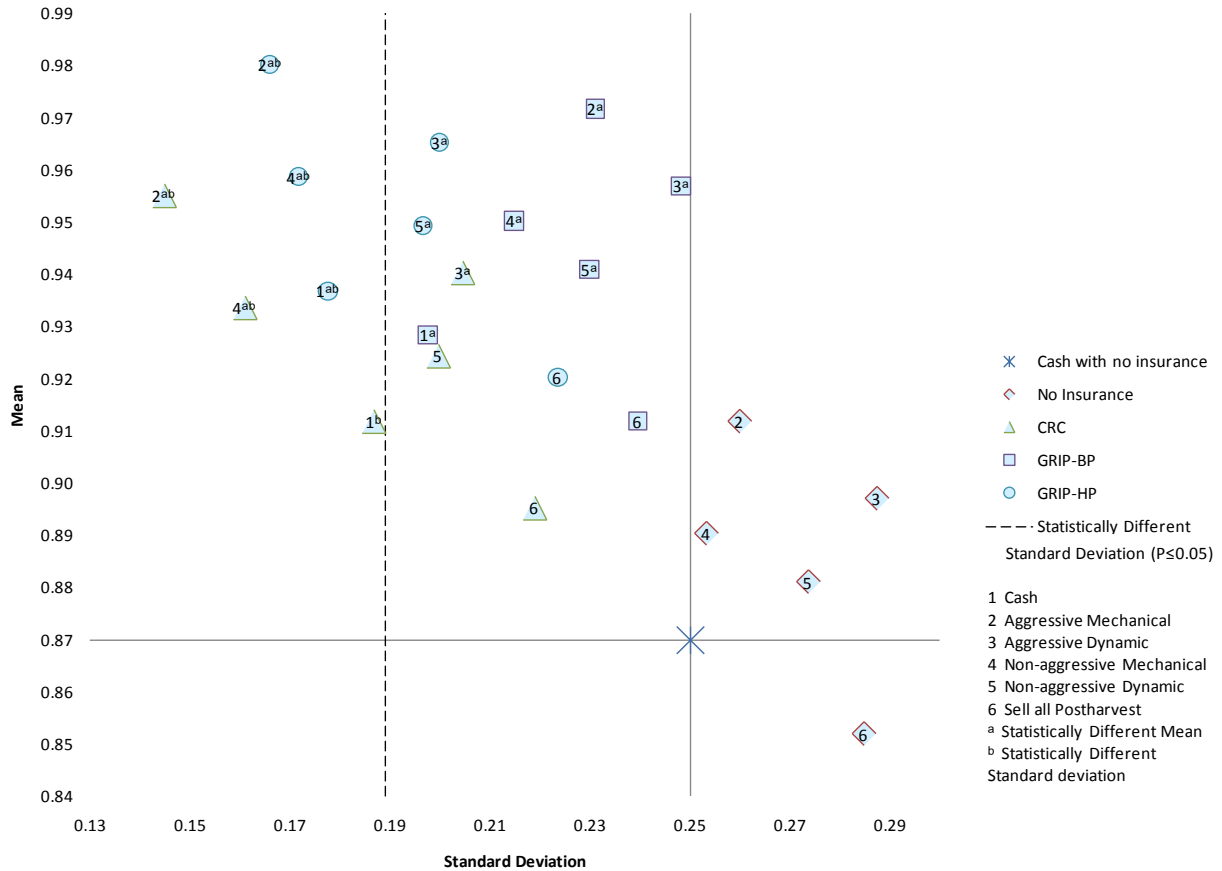
4.1.4 Southern Illinois – Effingham County

Results for Effingham County are presented in Table 4.4. The mean is 0.87, standard deviation is 0.26, and VaR is 0.47 for Cash/No Insurance. The mean of gross revenues, for Cash/No Insurance, is $236 in Effingham County. Similarly to Vermilion County, the means of all the marketing strategies, except Sell all Postharvest, are higher than cash when no insurance is selected, but these strategies also have higher standard deviations. However, they have higher VaRs than the cash strategy as well. The mechanical strategies outperform the dynamic ones, and the aggressive strategies outperform the nonaggressive ones. The Sell all Postharvest strategy underperformed all other strategies with no insurance. When CRC, GRIP-BP, or GRIP-HP is added means and VaRs are higher and standard deviations than with no insurance. The mean and

VaR rankings across marketing strategies when the insurance product is held constant do not change across the different insurance options. However, with CRC and GRIP-BP the cash pricing strategy has the lowest standard deviation of marketing strategies within the same insurance product.

No one strategy combination is superior to all others when ranked by all three measures. However the top ranking strategy combinations all use the Aggressive Mechanical pricing strategy. Sell all Postharvest/No Insurance is inferior to all other strategy combinations. Marketing strategies used with no insurance consistently underperform the rest of the strategy combinations.

When the mean and standard deviation of all strategy combinations are plotted (Figure 4.4), only one strategy combination, with both mean and standard deviation statistically different from Cash/No Insurance, falls in the upper-left quadrant. That strategy combination is Aggressive Mechanical/GRIP-HP (0.19, 0.99).

Table 4.4. Revenue Ratios Descriptive Statistics by Insurance Product, Corn, Effingham County

Descriptive Statistics by Insurance Product	Cash	Mechanical Aggressive	Mechanical Non-aggressive	Dynamic Aggressive	Dynamic Non-aggressive	Sell all Postharvest
			Revenue Ratio			
No Insurance						
Average	0.87	0.93[ac]	0.91	0.91	0.90	0.87
Standard Deviation	0.26	0.29	0.30	0.33[ac]	0.33[ac]	0.34[ac]
5% VaR	0.47	0.57	0.52	0.47	0.44	0.42
CRC*						
Average	0.90	0.95[a c]	0.93	0.93	0.92	0.89
Standard Deviation	0.19[b c]	0.20[b]	0.22[b]	0.26[a]	0.26[a]	0.28[a]
5% VaR	0.70	0.75	0.71	0.64	0.64	0.64
GRIP-BP**						
Average	0.94	1.00[a c]	0.97[c]	0.98[c]	0.97[c]	0.94
Standard Deviation	0.19[b c]	0.20[b]	0.22[b]	0.25[a]	0.25[a]	0.27[a]
5% VaR	0.64	0.67	0.66	0.65	0.65	0.62
GRIP-HP***						
Average	0.94	0.99[a c]	0.97[c]	0.98[c]	0.96[c]	0.93
Standard Deviation	0.20	0.19[b c]	0.21[b]	0.24[b]	0.25	0.27[a]
5% VaR	0.62	0.68	0.65	0.64	0.64	0.61

[a] Statistically different than Cash strategy at P less than or equal to 0.05.

[b] Statistically different than No Insurance at P less than or equal to 0.05.

[c] Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.4. Mean-Standard Deviation Scatter Plot, Corn, Effingham County
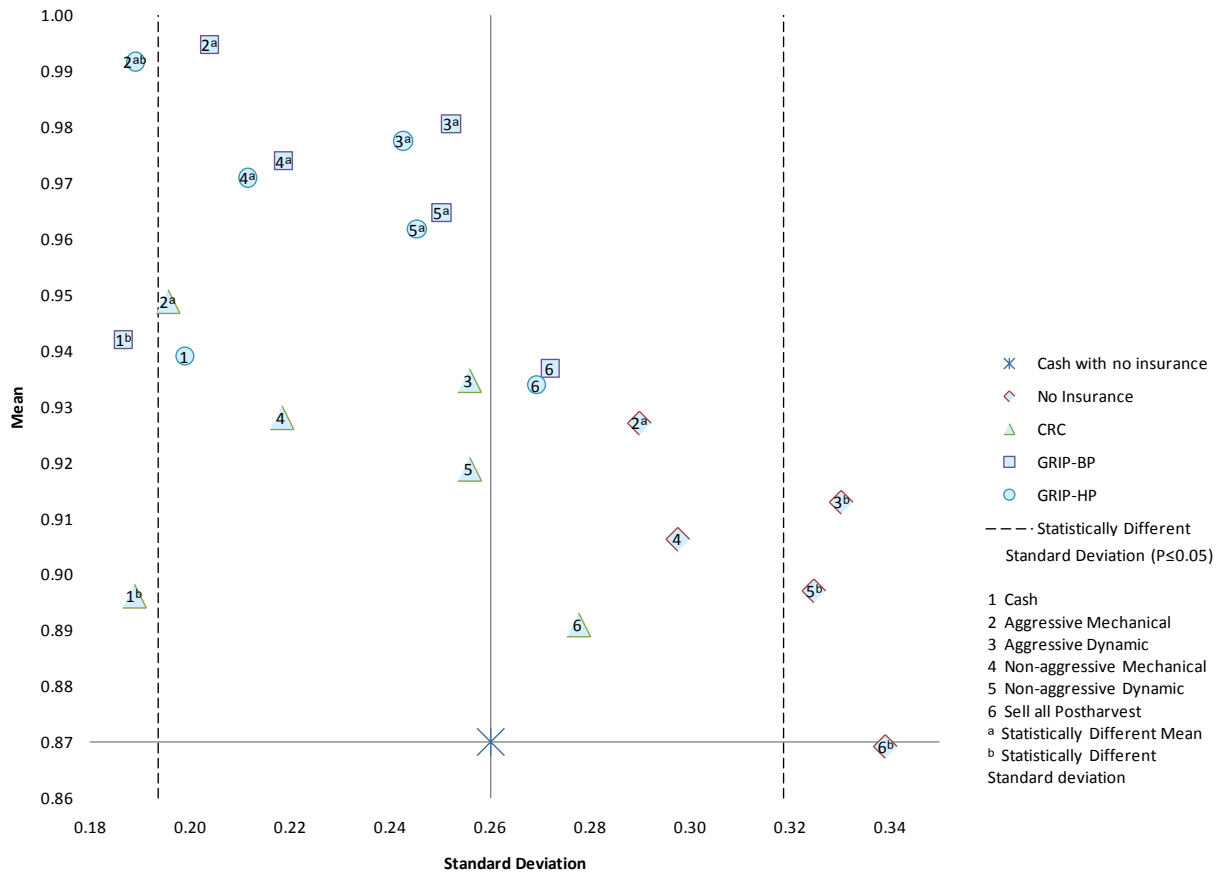
4.1.5 Summary of Corn

All top performing strategy combinations use the Aggressive Mechanical pricing strategy with some form of insurance. Using GRIP-BP or -HP resulted in higher gross revenues. For risk reduction, measured by standard deviation and 5% VaR, there is no clear winner between GRIP-BP, GRIP-HP, and CRC when used with the Aggressive Mechanical pricing strategy. Across all regions, the Sell all Postharvest pricing strategy when insurance was not used resulted in lower means and VaRs and higher standard deviations. The Sell all Postharvest pricing strategy when used with any of the insurance products also performed consistently lower than the other marketing strategies.

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4.2   Soybeans

4.2.1   Northern Illinois – La Salle County

Results for La Salle County are presented in Table 4.5. The mean of Cash/No Insurance is 0.94, standard deviation is 0.15, and VaR is 0.73. The mean of gross revenue for Cash/No Insurance is $270. No means are statistically different for any pricing strategy/insurance combination. With no insurance, only one standard deviation is statistically different than the cash pricing strategy. The only strategy, under no insurance, with a standard deviation that is statistically different than cash is Sell all Postharvest. The Sell all Postharvest pricing strategy has a higher standard deviation and a lower VaR but a mean that is higher than the cash strategy. The mechanical strategies have higher means, lower standard deviations, and higher VaRs than cash and perform better than the dynamic strategies. The dynamic strategies outperform the cash strategy by means but have lower VaRs and higher standard deviations than, indicating they are more risky. The addition of CRC results in higher means, lower standard deviations, and higher VaRs relative to no insurance without any change in the rankings across marketing strategies within CRC. With GRIP (BP and HP), means are reduced relative to no insurance but standard deviation is also lower and VaR higher indicating a tradeoff between risk and returns. However, when one of the GRIP products is used, the cash pricing strategy becomes the pricing strategy with the lowest risk (lower standard deviation and higher VaR). The mechanical strategies still have higher means than cash strategy and the rankings among the rest of the marketing strategies remains unchanged.

Since no means were statistically different from the benchmarks, the strategy combinations were only evaluated by risk. The Aggressive Mechanical/CRC is superior to all other strategies measured by both risk measures (standard deviation and VaR). The Sell all

Postharvest pricing strategy with no insurance and all insurance products is inferior to all the other combinations.

Figure 4.5 presents the standard deviation and mean of all strategy combinations plotted. Since there are no means that are statistically different than Cash/No Insurance, strategy combinations in the left half of the graph are the superior combinations. The only strategy combination, with a statistically different standard deviation, located in the left half of the scatter plot is Aggressive Mechanical/CRC (0.11, 0.96).

Table 4.5. Revenue Ratios Descriptive Statistics by Insurance Product, Soybeans, La Salle County

Descriptive Statistics by Insurance Product	Cash	Mechanical		Dynamic		Sell all
		Aggressive	Nonaggressive	Aggressive	Nonaggressive	Postharvest
			Revenue Ratio			
No Insurance						
Average	0.94	0.96	0.96	0.96	0.95	0.95
Standard Deviation	0.15	0.14	0.15	0.18	0.18	0.21[a c]
5% VaR	0.73	0.75	0.75	0.69	0.69	0.68
CRC*						
Average	0.94	0.96	0.96	0.96	0.95	0.95
Standard Deviation	0.13	0.11[c]	0.13	0.16	0.16	0.19[a c]
5% VaR	0.77	0.83	0.78	0.71	0.70	0.69
GRIP-BP**						
Average	0.92	0.95	0.94	0.94	0.94	0.93
Standard Deviation	0.12	0.13	0.14	0.17[a]	0.16[a]	0.18[a]
5% VaR	0.76	0.73	0.73	0.67	0.67	0.67
GRIP-HP***						
Average	0.92	0.95	0.94	0.94	0.94	0.93
Standard Deviation	0.13	0.12	0.13	0.16	0.16	0.20[a c]
5% VaR	0.75	0.77	0.73	0.66	0.66	0.66

[a]Statistically different than Cash strategy at P less than or equal to 0.05.
[b]Statistically different than No Insurance at P less than or equal to 0.05.
[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.5. Mean-Standard Deviation Scatter Plot, Soybeans, La Salle County
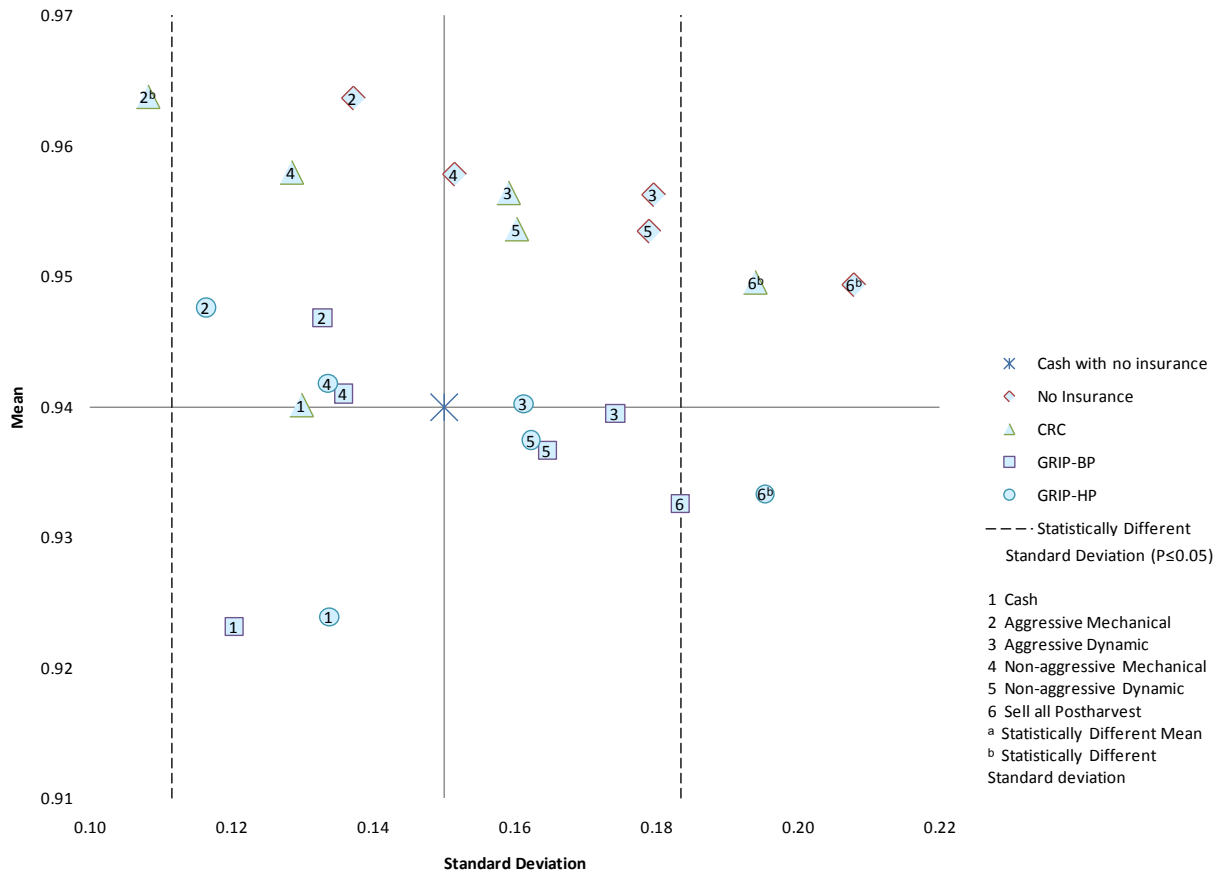
4.2.2 Central Illinois (High Productivity) – Sangamon County

Results for Sangamon County are presented in Table 4.6. The Cash/No Insurance strategy combination has a mean of 0.97, a standard deviation of 0.16, and a VaR of 0.79. The mean of gross revenues in Sangamon County with Cash/No Insurance is $290. No means are statistically different than the benchmark strategy combinations. The mechanical strategies have higher means, lower standard deviations, and higher VaRs than the cash strategy. The dynamic strategies have slightly higher means but higher, or the same, standard deviations and lower VaRs. The aggressive strategies perform better than the nonaggressive ones. Sell all Postharvest has a higher mean than the cash strategy, but a higher, and statistically different, standard deviation and a lower VaR. Adding CRC reduces means and VaRs relative to the same pricing

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strategy with no insurance but decreases standard deviation slightly for some marketing strategies. Adding GRIP (BP and HP) also decreases means and VaRs relative to no insurance, but slightly decreases standard deviation. Adding CRC, GRIP-BP, or GRIP-HP does not affect the ranking of marketing strategies across the same insurance product.

Strategy combinations using the Aggressive Mechanical pricing strategy performed the best but there is not one combination that is superior. When ranked by standard deviation using CRC with the Aggressive Mechanical pricing strategy performs the best, but when ranked by VaR electing no insurance performs the best. Using the Sell all Postharvest pricing strategy with any of the insurance options reduces risk the least.

Figure 4.6 presents the means and standard deviations of all strategy combinations plotted. Since no means are statistically different than the Cash/No Insurance benchmark, any strategy combinations located in the left half of the scatter plot are assumed to be superior to the benchmark. There are four strategy combinations in the left half. They are (listed by pricing strategy): Aggressive Mechanical/No Insurance (0.12, 0.99), CRC (0.11, 0.97), GRIP-BP (0.12, 0.98), GRIP-HP (0.11, 0.97).

Table 4.6. Revenue Ratios Descriptive Statistics by Insurance Product, Soybeans, Sangamon County

		Mechanical		Dynamic		Sell all
Descriptive Statistics by Insurance Product	Cash	Aggressive	Nonaggressive	Aggressive	Nonaggressive	Postharvest
				Revenue Ratio		
No Insurance						
Average	0.97	0.99	0.99	0.99	0.98	0.98
Standard Deviation	0.16	0.12[a c]	0.15	0.16	0.17	0.22[a c]
5% VaR	0.79	0.85	0.80	0.74	0.73	0.72
CRC*						
Average	0.95	0.97	0.97	0.97	0.96	0.96
Standard Deviation	0.15	0.11[a c]	0.15	0.16	0.17	0.22[a c]
5% VaR	0.76	0.83	0.78	0.73	0.72	0.71
GRIP-BP**						
Average	0.96	0.98	0.97	0.97	0.97	0.96
Standard Deviation	0.13	0.12[c]	0.14	0.16	0.16	0.20[a c]
5% VaR	0.79	0.81	0.79	0.73	0.73	0.72
GRIP-HP***						
Average	0.95	0.97	0.96	0.96	0.96	0.96
Standard Deviation	0.15	0.11[a c]	0.14	0.15	0.16	0.20[a c]
5% VaR	0.77	0.81	0.77	0.72	0.71	0.70

[a]Statistically different than Cash strategy at P less than or equal to 0.05.

[b]Statistically different than No Insurance at P less than or equal to 0.05.

[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.6. Mean-Standard Deviation Scatter Plot, Soybeans, Sangamon County
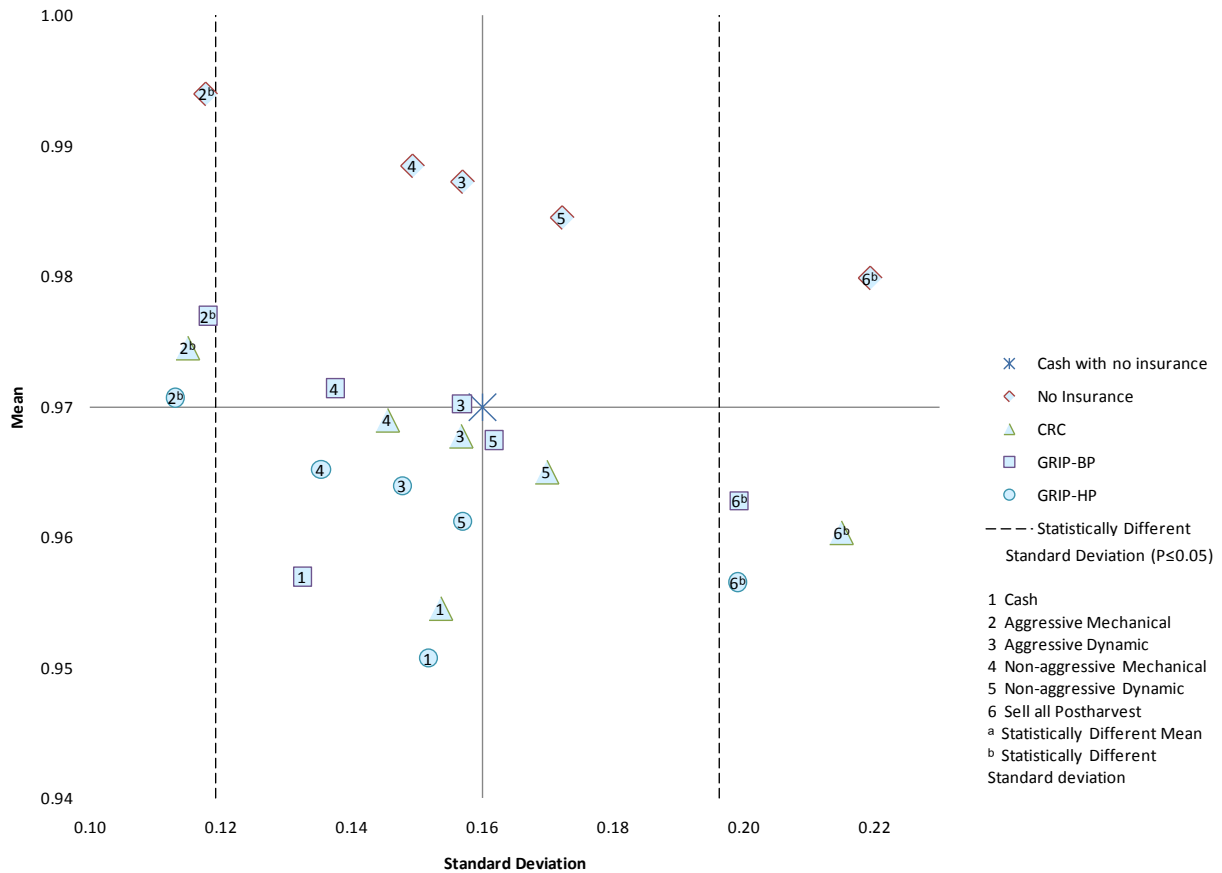
4.2.3 Central Illinois (Low Productivity) – Vermilion County

The results for Vermilion County are presented in Table 4.7. The Cash/No Insurance

strategy combination has a mean of 0.95, a standard deviation of 0.22, and a VaR of 0.56. The

mean of gross revenues for Vermilion County using the cash strategy with no insurance is $245.

No means are statistically different than the Cash/No Insurance strategy combination. With no

insurance, the mechanical marketing strategies outperform cash only marketing by mean,

standard deviation, and VaR. The dynamic marketing strategies have higher means and VaRs,

but also have higher standard deviations compared to the cash pricing strategy. The sell all

postharvest strategy has a higher mean but also a higher standard deviation and lower VaR than

the cash strategy. When CRC, GRIP-BP, or GRIP-HP are added, means increase, standard

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deviations decrease and VaRs increase relative to the no insurance option. The rankings across marketing strategies do not change when the other insurance products are added.

Similarly to Northern Illinois, Aggressive Mechanical/CRC is the superior strategy combination when analyzing the risk reduction potential of the strategy combinations. Cash pricing strategy with no insurance is inferior to all other strategy combinations.

For all pricing strategy/insurance product combinations, mean and standard deviation are plotted in Figure 4.7. Since no means were statistically different than the Cash/No Insurance combination, any strategy combination located in the left half of the scatter is assumed to be superior to Cash/No Insurance. The 10 strategy combinations that are located in the left half of the scatter, listed by pricing strategy, are: Cash/CRC (0.16, 0.98), GRIP-BP (0.15, 0.96), GRIP-HP (0.15, 0.96); Aggressive Mechanical/CRC (0.14, 1.00), GRIP-HP (0.14 ,0.98), Aggressive Dynamic/GRIP-HP (0.16, 0.97); Nonaggressive Mechanical/CRC (0.15, 0.99), GRIP-BP (0.16, 0.98), GRIP-HP (0.15, 0.97); Nonaggressive Dynamic/GRIP-HP (0.16, 0.97).

Table 4.7. Revenue Ratios Descriptive Statistics by Insurance Product, Soybeans, Vermilion County

Descriptive Statistics by Insurance Product	Cash	Mechanical		Dynamic		Sell all
		Aggressive	Nonaggressive	Aggressive	Nonaggressive	Postharvest
			Revenue Ratio			
No Insurance						
Average	0.95	0.98	0.97	0.97	0.96	0.96
Standard Deviation	0.22	0.21	0.22	0.23	0.23	0.26
5% VaR	0.56	0.60	0.61	0.59	0.59	0.54
CRC*						
Average	0.98	1.00	0.99	0.99	0.99	0.98
Standard Deviation	0.16[b c]	0.14[b c]	0.15[b c]	0.17[b]	0.17	0.21[a]
5% VaR	0.75	0.81	0.76	0.70	0.69	0.68
GRIP-BP**						
Average	0.96	0.99	0.98	0.98	0.98	0.97
Standard Deviation	0.15[b c]	0.17	0.16[b c]	0.18	0.17[b]	0.19[a b]
5% VaR	0.73	0.65	0.69	0.68	0.72	0.67
GRIP-HP***						
Average	0.96	0.98	0.97	0.97	0.97	0.96
Standard Deviation	0.15[b c]	0.14[b c]	0.15[b c]	0.15[b c]	0.16[b c]	0.19[a b]
5% VaR	0.71	0.74	0.75	0.75	0.72	0.68

[a]Statistically different than Cash strategy at P less than or equal to 0.05.

[b]Statistically different than No Insurance at P less than or equal to 0.05.

[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.7. Mean-Standard Deviation Scatter Plot, Soybeans, Vermilion County
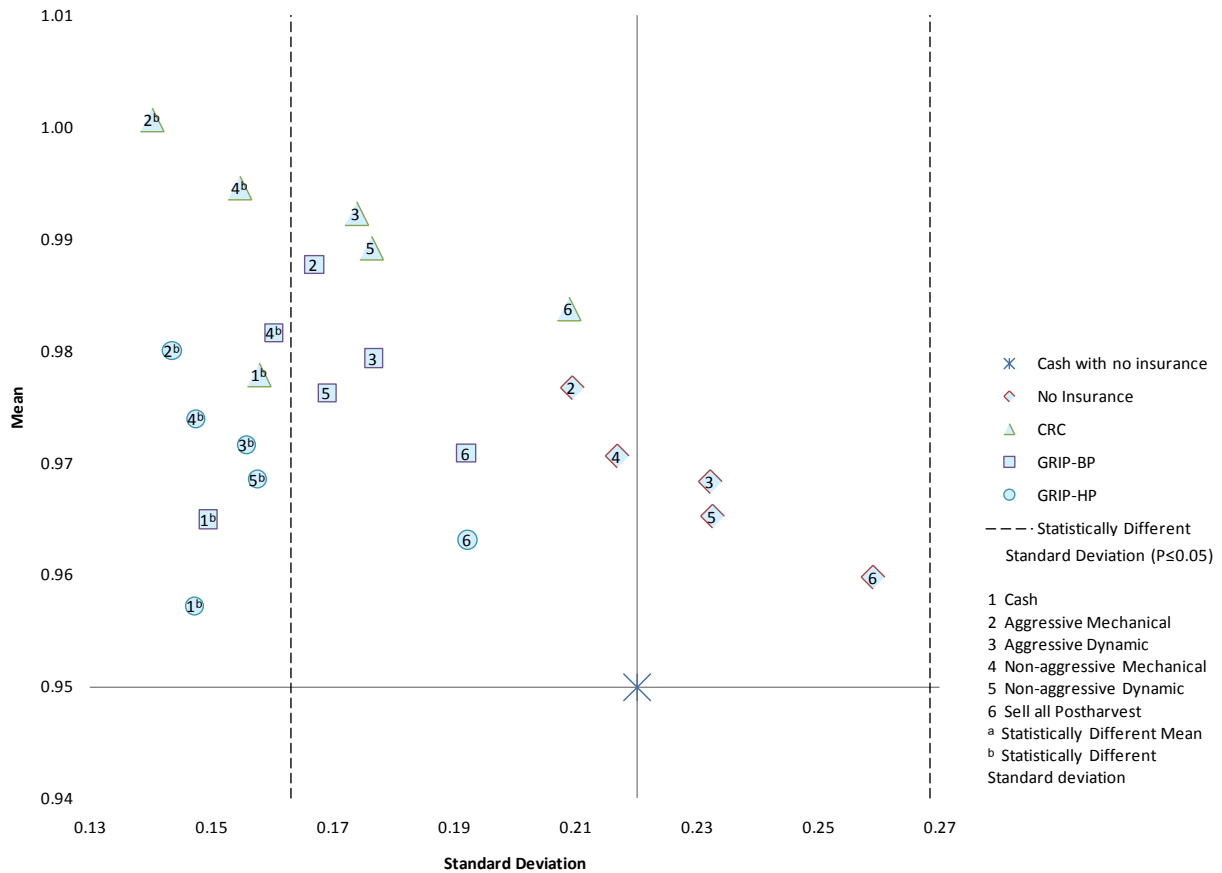
4.2.4   Southern Illinois – Effingham County

The results for Effingham County are reported in Table 4.8. The Cash/No Insurance strategy combination has a mean of 0.95, a standard deviation of 0.21, and a VaR of 0.62. The mean gross revenue in Effingham County using the cash pricing strategy with no insurance is $204. With no insurance, the cash pricing strategy has the lowest standard deviation but also the lowest mean. The mechanical marketing strategies have higher means and VaRs relative to the cash and dynamic marketing strategies. The aggressive marketing strategies outperform the cash strategy when ranked by mean and VaR but not standard deviation. The Aggressive Mechanical strategy also outperforms the Nonaggressive Mechanical strategy by all three measures but the Aggressive Dynamic pricing strategy has the same mean and VaR as the Nonaggressive

Dynamic pricing strategy. The Sell all Postharvest pricing strategy has a higher mean than the cash strategy but has a slightly lower VaR and a significantly higher standard deviation. The means of the majority of marketing strategies do not change when CRC, GRIP-BP, or GRIP-HP is added but the standard deviations are lower and VaRs higher relative to no insurance. The rankings within the same insurance product across marketing strategies do not change relative to No Insurance when the other insurance products are added.

Similarly to Northern Illinois, Aggressive Mechanical/CRC is the superior strategy combination when analyzing the risk reduction potential of the strategy combinations measured by both VaR and standard deviation. Cash pricing strategy with no insurance is inferior to all other strategy combinations.

Figure 4.8 presents the means and standard deviations of all strategy combinations. Since no means are statistically different than Cash/No Insurance (0.21, 0.95), strategy combinations located in the left half of the graph are considered to be superior to the benchmark. Two strategy combinations fall outside the range of statistically significant differences in the left half of the scatter plot. They are: Aggressive Mechanical/CRC (0.15, 0.98), GRIP-HP (0.15, 0.97).

Table 4.8. Revenue Ratios Descriptive Statistics by Insurance Product, Soybeans, Effingham County

Descriptive Statistics by Insurance Product	Cash	Mechanical		Dynamic		Sell all Postharvest
		Aggressive	Nonaggressive	Aggressive	Nonaggressive	
			Revenue Ratio			
No Insurance						
Average	0.95	0.98	0.97	0.97	0.97	0.96
Standard Deviation	0.21	0.22	0.23	0.25	0.24	0.27[a c]
5% VaR	0.62	0.70	0.68	0.63	0.63	0.61
CRC*						
Average	0.95	0.98	0.97	0.97	0.97	0.96
Standard Deviation	0.16	0.15[b c]	0.17[b]	0.18[b]	0.19	0.23[a]
5% VaR	0.74	0.82	0.75	0.71	0.71	0.70
GRIP-BP**						
Average	0.95	0.98	0.97	0.97	0.97	0.96
Standard Deviation	0.17	0.18	0.18	0.19	0.19	0.22[a]
5% VaR	0.73	0.73	0.71	0.68	0.69	0.69
GRIP-HP***						
Average	0.95	0.97	0.97	0.96	0.97	0.96
Standard Deviation	0.16	0.15[b c]	0.16[b]	0.16[b]	0.17	0.21[a]
5% VaR	0.73	0.77	0.74	0.73	0.70	0.69

[a]Statistically different than Cash strategy at P less than or equal to 0.05.

[b]Statistically different than No Insurance at P less than or equal to 0.05.

[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.8. Mean-Standard Deviation Scatter Plot, Soybeans, Effingham County
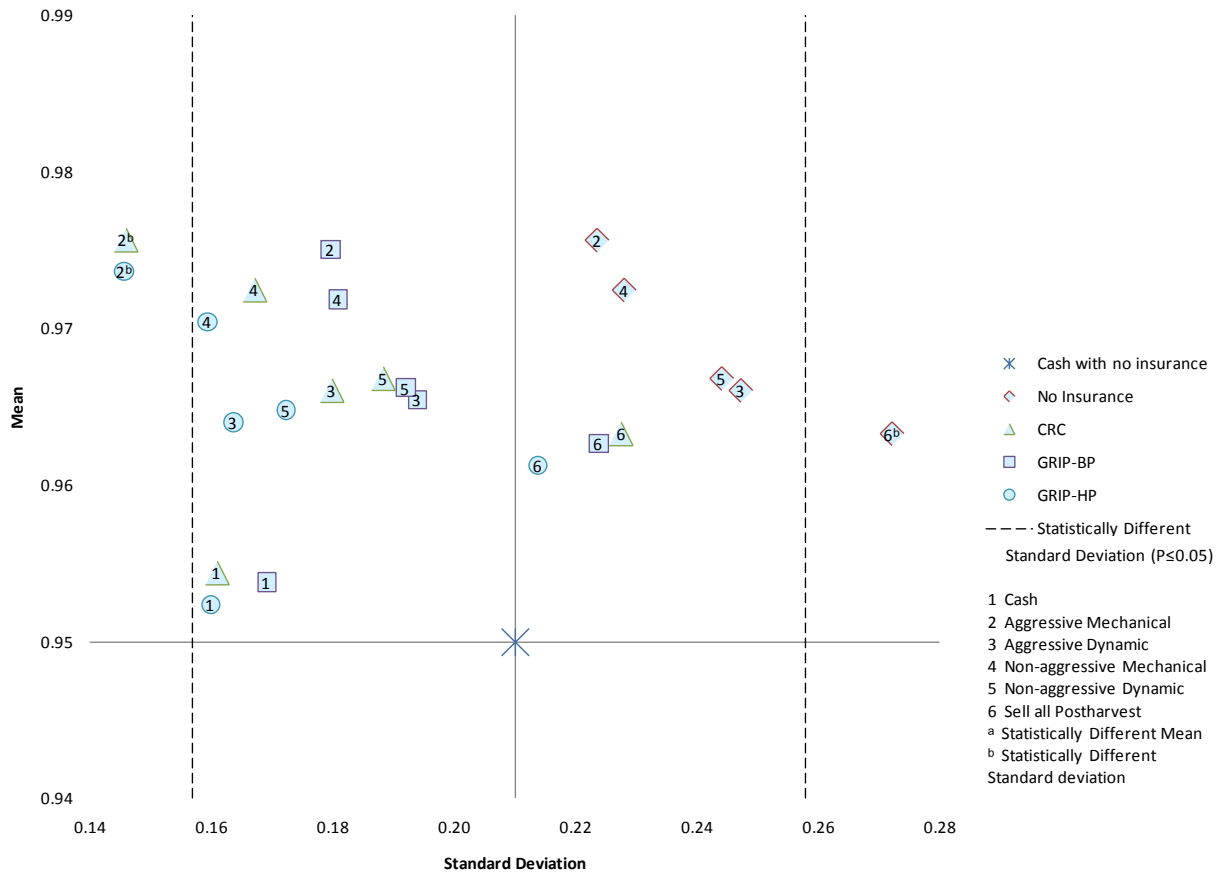
4.2.5   *Summary of Soybeans*

No means are statistically different than any of the benchmarks for any region. With one

exception, Central Illinois (High Productivity), Aggressive Mechanical/CRC was superior to all

other strategy combinations in all regions. In Central Illinois (High Productivity) the Aggressive

Mechanical pricing strategy with no insurance has the highest VaR but the Aggressive

Mechanical pricing strategy with CRC insurance has the lowest standard deviation.

4.3   **Sensitivity of Results**

This section discusses the sensitivity of the results to: dynamic pricing triggers, insurance

premiums, number of bushels priced in the preharvest period, storing and selling any bushels not

sold during the preharvest period during the postharvest period, and storage costs. Also included in this section is a figure that graphically presents results disaggregated by year and pricing strategy. Central Illinois (high productivity soils) – Sangamon County corn is selected for the sensitivity analysis. The results of a Central Illinois (high productivity soils) model farm are also presented with a crop comprised of equal proportions of corn and soybeans.

4.3.1   *Dynamic Pricing Strategy Triggers*

The dynamic preharvest pricing strategies used three triggers: minimum (min), medium (med), and high. When the nearby harvest month futures price reached one of the triggers, a pricing event was triggered. When the futures price reached the min trigger 17% of bushels targeted for preharvest sale were priced. If futures price reached the med trigger 32% (17×2) of bushels targeted for preharvest sale were priced. If futures price reached the high trigger 51% (17×3) of bushels targeted for preharvest sale were priced. To test the sensitivity of the results to the percentages priced at each of these triggers, they were reversed. In this test, at the min trigger 51%, at the med trigger 32%, and at the high trigger 17% of bushels targeted for preharvest sale were priced. The results of this test are presented in Table 4.9. The rankings across marketing strategies or insurance products were not affected. The means, standard deviations, and 5% VaRs of the dynamic marketing strategies were generally lower but not significantly.

Table 4.9. Revenue Ratios Descriptive Statistics by Insurance Product, Corn, Sangamon County, with Reversed Dynamic Triggers

Descriptive Statistics by Insurance Product	Cash	Mechanical		Dynamic		Sell all Postharvest
		Aggressive	Non-aggressive	Aggressive	Non-aggressive	
			Revenue Ratio			
No Insurance						
Average	0.89	0.94[ac]	0.91	0.91	0.89	0.87
Standard Deviation	0.15	0.11[ac]	0.13	0.18	0.17	0.20[ac]
5% VaR	0.68	0.76	0.73	0.61	0.65	0.64
CRC*						
Average	0.88	0.93[a c]	0.90	0.90	0.89	0.86
Standard Deviation	0.15	0.09[a c]	0.12	0.16	0.16	0.20[a c]
5% VaR	0.70	0.80	0.74	0.64	0.64	0.63
GRIP-BP**						
Average	0.92[b c]	0.97[a b c]	0.94[b c]	0.94[b]	0.92[b]	0.90[b]
Standard Deviation	0.11	0.09[c]	0.10[c]	0.15[a]	0.14	0.17[a]
5% VaR	0.75	0.84	0.80	0.71	0.74	0.72
GRIP-HP***						
Average	0.92	0.97[a c]	0.94[c]	0.95[c]	0.93	0.90
Standard Deviation	0.16	0.09[a c]	0.12	0.15	0.16	0.19[c]
5% VaR	0.72	0.86	0.80	0.73	0.73	0.72

[a]Statistically different than Cash strategy at P less than or equal to 0.05.
[b]Statistically different than No Insurance at P less than or equal to 0.05.
[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

4.3.2 Insurance Premiums

For CRC, a one percentage decrease in insurance premium results in a 2.90% increase in mean revenue ratio (averaged across all marketing strategies), -0.27% decrease in standard deviation, and a 3.77% increase in 5% VaR. With GRIP-BP (GRIP-HP), a one percentage decrease in premiums results in a 3.16% (3.90%) increase in mean revenue ratio, 0.82% (0.62%) increase in standard deviation, and a 3.69% (4.81%) increase in 5% VaR. The rankings across insurance products did not change and neither did rankings across marketing strategies within the same insurance product.

4.3.3   Target Number of Bushels Priced Preharvest

The figures below (Figure 4.9 through Figure 4.13) show the changes to mean, standard deviation, and 5% VaR as the target number of bushels to price preharvest (as a percentage of APH) goes from 0% to 200%. Figure 4.11 and Figure 4.14 are value–variance frontiers (E-V frontiers). The E-V frontiers show the possible portfolios that can be constructed by varying target number of bushels from 0% (bottom right tail of the E-V) to 200% (top right tail). The minimum variance portfolio is represented by a point on the E-V. All portfolios on the curve above the minimum variance make up the mean-variance efficient set. Any portfolios on the mean-variance efficient set could be selected by any rational producer based on his or her risk preference. Pricing 200% of APH during the preharvest period in practice would be a highly speculative position if possible at all. Preharvest pricing well in excess of 100% of APH is not included as a suggestion for producers, but rather to illustrate how revenues would behave between two the extremes (0% to 200%).

Figure 4.9 and Figure 4.10 show the mechanical preharvest pricing strategy first with no insurance then with CRC, respectively. The means are monotonically increasing as the target number of bushels priced preharvest increase from 0% to 200% with both no insurance and CRC. The standard deviation reaches a minimum around 85% with no insurance (95% with CRC) and increases in both directions. The 5% VaR increases from 0% until it reaches a maximum around 130% with no insurance and 100% with CRC, and then decreases. Figure 4.11 presents the E-V frontier for the mechanical preharvest pricing strategy with no insurance and CRC. With no insurance the minimum variance portfolio occurs when 87% of APH is priced during the preharvest period. With CRC, the minimum variance portfolio occurs when 93% of APH is priced during the preharvest period. When CRC is selected, no rational producer would

price less than 93% of APH. As long as it is higher than 93%, the actual number of bushels priced preharvest depends on the risk preference of the individual producer.

Figure 4.12 and Figure 4.13 show the dynamic preharvest pricing strategy with no insurance then with CRC, respectively. For the dynamic strategy, the mean is monotonically increasing from 0% to 200% for no insurance and CRC. The standard deviation reaches a minimum around 60% with no insurance (70% with CRC) and increases in both directions. 5% VaR appears to be constant from 20% until approximately 160% and falls off below and above these values, respectively, for no insurance. With CRC, 5% VaR appears constant from 10% to 80% then decreases between 80% and 100% and remains constant through 200%. Figure 4.14 presents the E-V frontier for the dynamic preharvest pricing strategy with no insurance and CRC. With CRC, the minimum variance portfolio occurs when 65% of APH is targeted to be priced during the preharvest period. With no insurance the minimum variance portfolio occurs when 61% of APH is targeted to be priced during the preharvest period. When CRC is selected, no rational producer would target less than 65% of APH to price during the preharvest period. As long as it is higher than 65%, the actual number of bushels targeted to be priced during the preharvest period is made based on the specific risk preference of the individual producer.

Figure 4.9. Mean, Standard Deviation, and 5% VaR for Sangamon County Corn, Mechanical Strategy with No Insurance
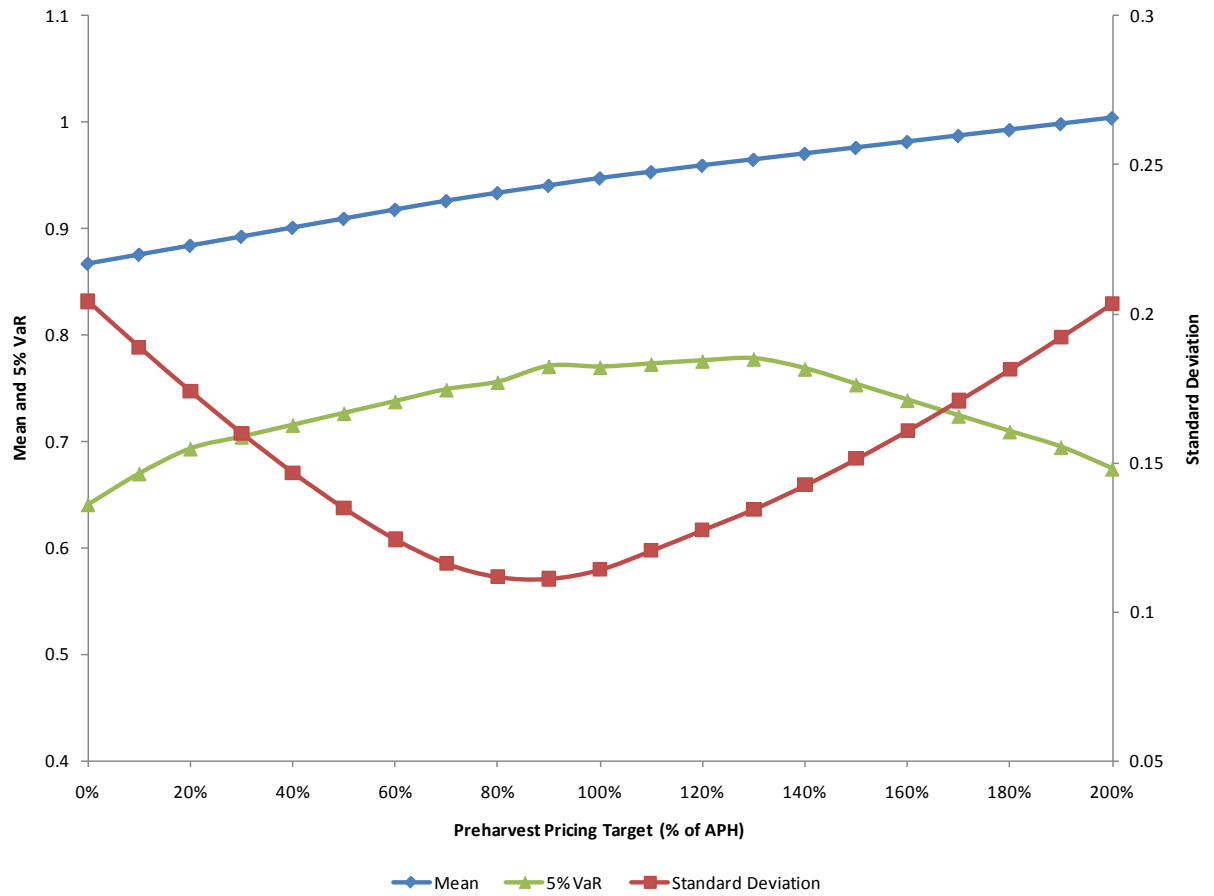
Figure 4.10. Mean, Standard Deviation, and 5% VaR for Sangamon County Corn, Mechanical Strategy with CRC
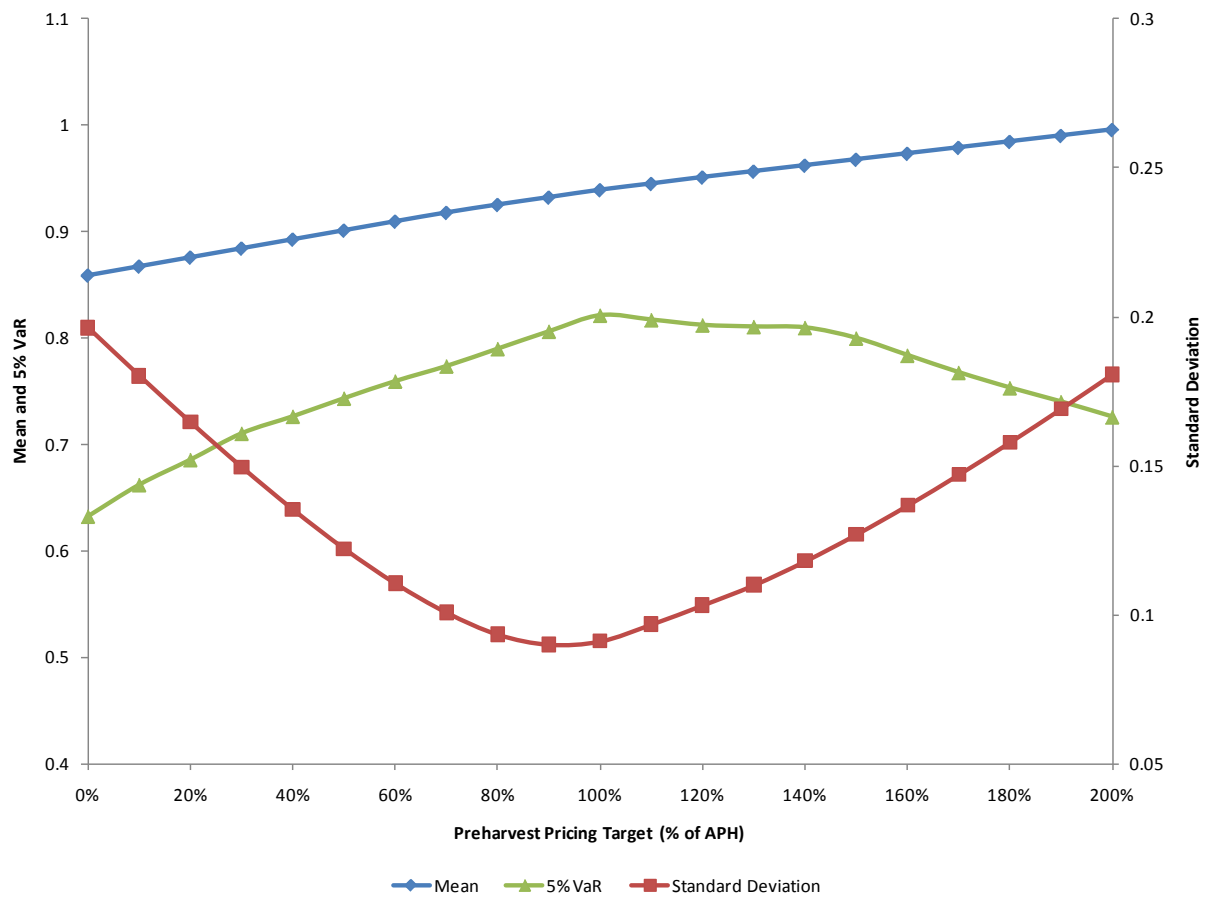
Figure 4.11. Expected Value-Variance Frontier, Mechanical Pricing Strategy with No Insurance and CRC, Sangamon County, Corn
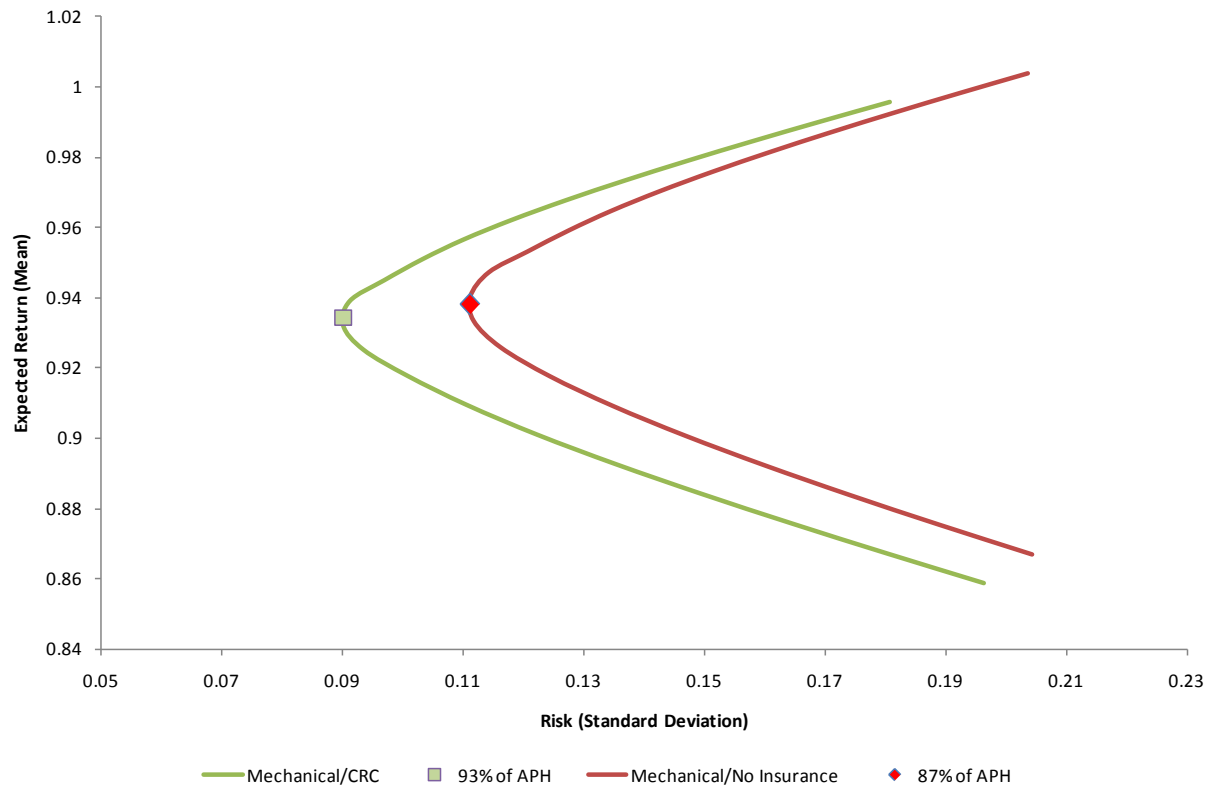
Figure 4.12. Mean, Standard Deviation, and 5% VaR for Sangamon County Corn, Dynamic Strategy with No Insurance
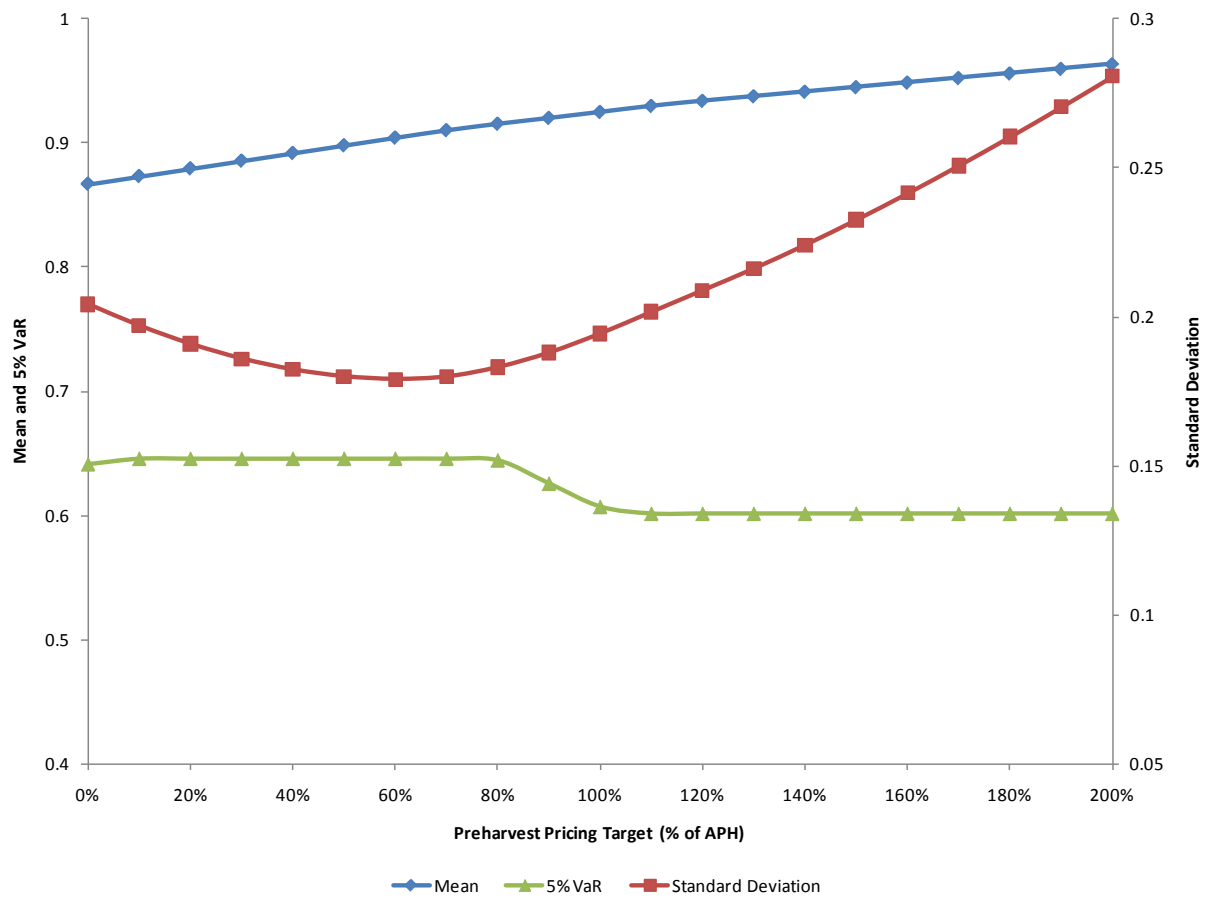
Figure 4.13. Mean, Standard Deviation, and 5% VaR for Sangamon County Corn, Dynamic Strategy with CRC
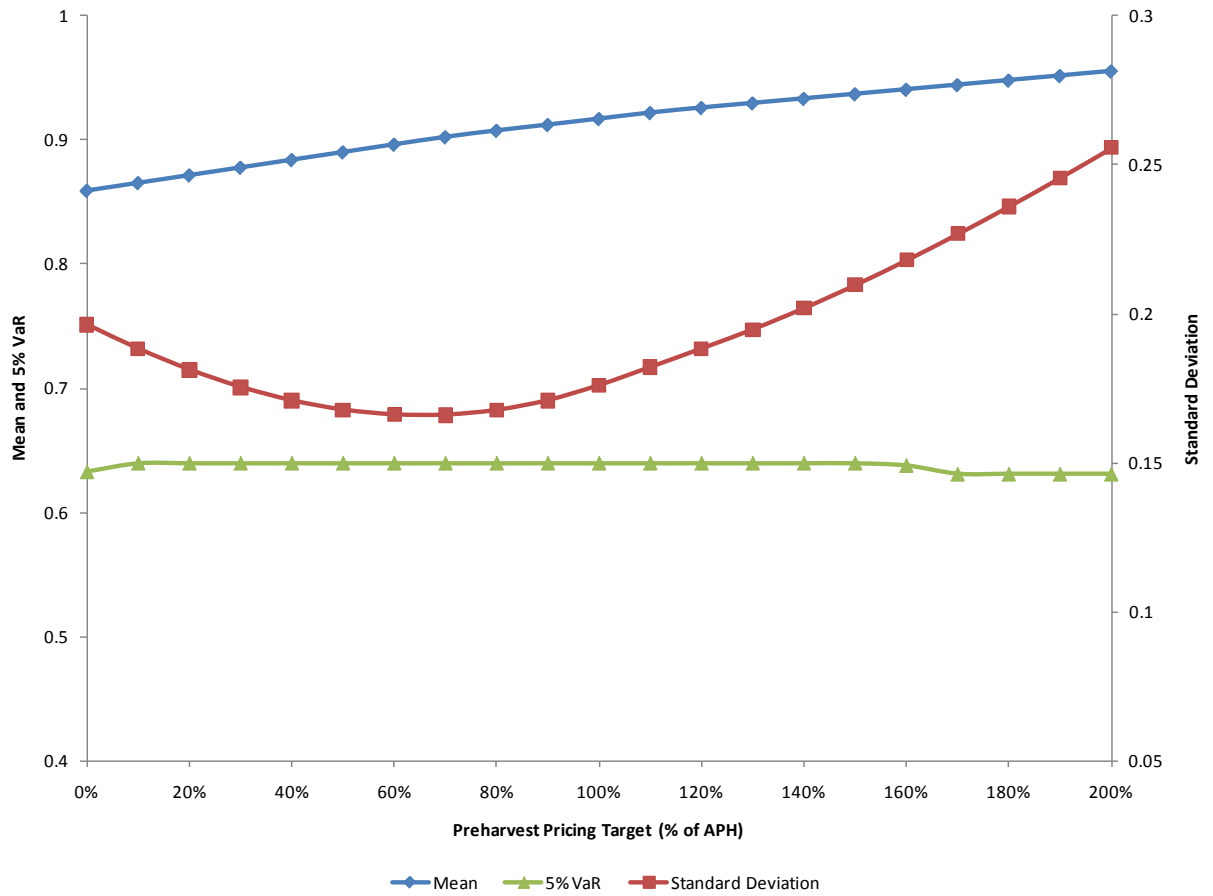
Figure 4.14. Expected Value-Variance Frontier, Dynamic Pricing Strategy with No Insurance and CRC, Sangamon County, Corn
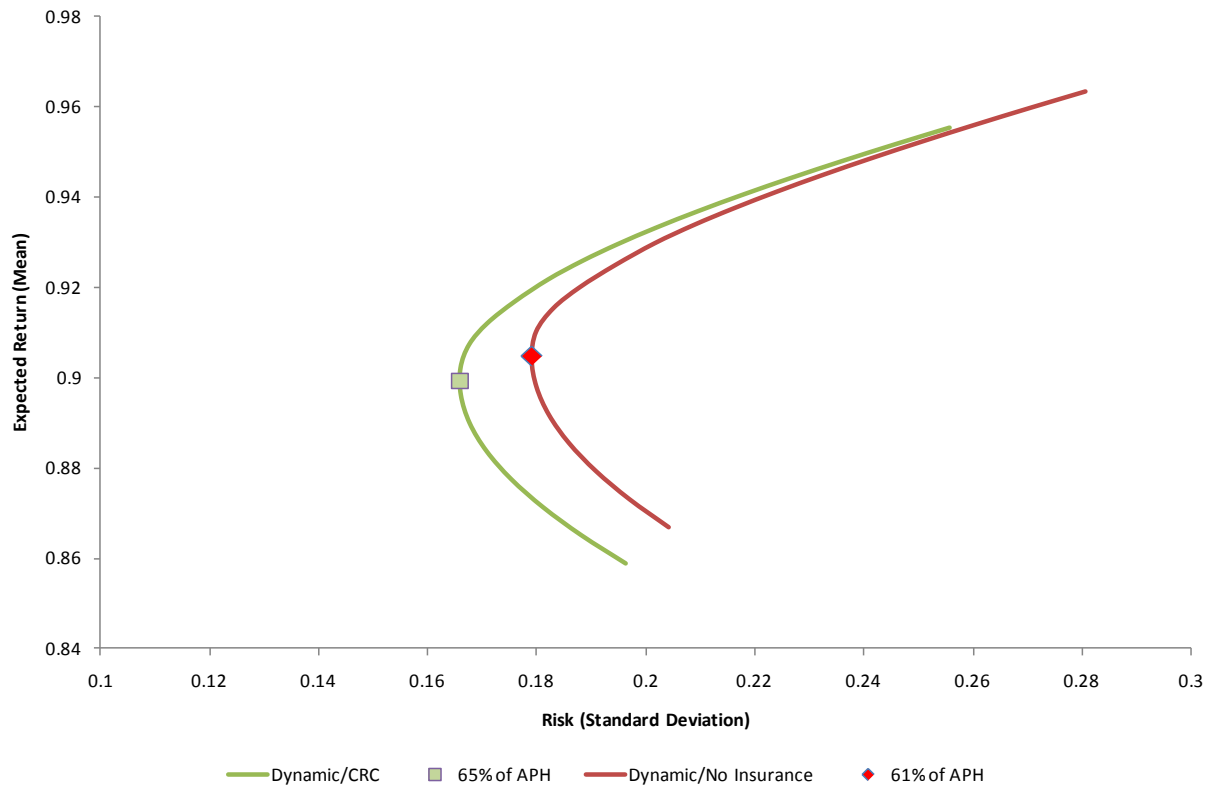
4.3.4   Storing Excess Production Past Harvest

If bushels not sold during the preharvest period are sold at harvest instead of storing and selling throughout the postharvest period, means and VaRs increase and standard deviations decrease for all aggressive mechanical and dynamic and nonaggressive mechanical and dynamic. The performance of the nonaggressive strategies improve more than the aggressive strategies, but not enough to change the rankings between the two categories. The dynamic strategies are improved more by this change than the mechanical strategies, but not enough to change the rankings between these two categories either.

4.3.5 Costs of Storage

When testing the sensitivity of the results to the cost of storage, all costs of storage were varied by the same percentage. This includes the initial cost of storage, the variable cost of storage, and the cost of financing. The effect of reducing the cost of storage has very similar effects to selling all bushels at harvest that are not sold during the preharvest period. The performance of the nonaggressive strategies improved at a rate higher than the aggressive strategies and the rate of improvement of the dynamic strategies was higher as the costs of storage were lowered. The improvements in performance of the strategy combinations did not change rankings until the costs of storage were lowered more than 50%.

4.3.6 Results by Year

Figure 4.15 presents the revenue ratios deviation from 1, by year, for the cash, aggressive mechanical, aggressive dynamic, and sell all postharvest marketing strategies with 85% CRC insurance.

Figure 4.15. Revenue Ratio Deviations from 1, by Year, Sangamon County Corn with 85% CRC
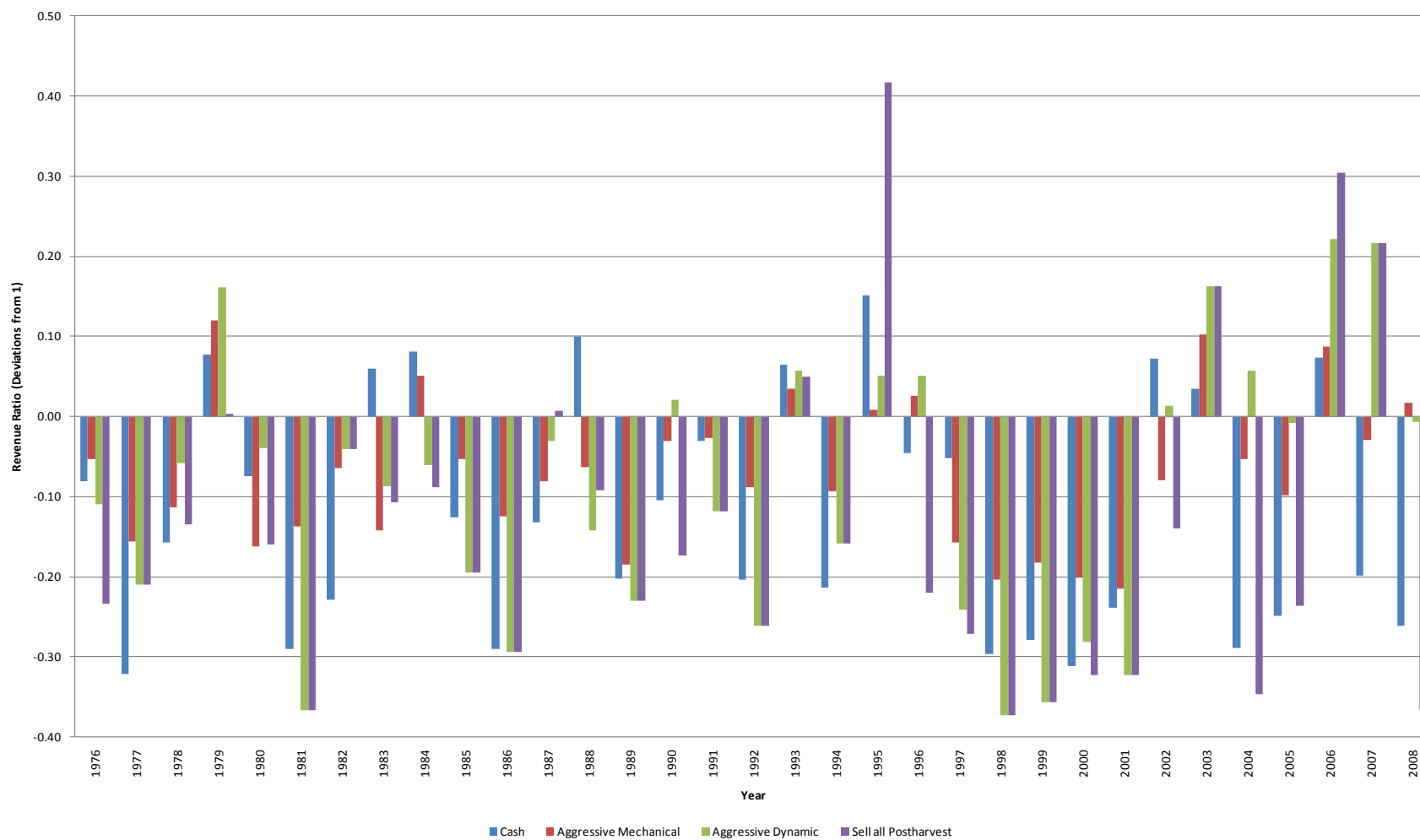
4.3.7 Corn and Soybeans Combined

Table 4.9 and Figure 4.16 present results for the Sangamon County model farm simulated with 50% corn and 50% soybeans. The results when growing equal proportions of corn and soybeans more closely resemble the Sangamon County corn model farm than the soybean model farm. The close resemblance to corn is due to higher means and standard deviations with corn than with soybeans. Aggressive Mechanical is the top performing pricing strategy and GRIP (-BP and -HP) perform better than no insurance or CRC.

Table 4.10. Corn and Soybeans, Central Illinois (High Productivity) - Sangamon County, Revenue Ratios Descriptive Statistics by Insurance Product

Descriptive Statistics by Insurance Product	Cash	Mechanical		Dynamic		Sell all
		Aggressive	Non-aggressive	Aggressive	Non-aggressive	Postharvest
			Revenue Ratio			
No Insurance						
Average	0.92	0.96[ac]	0.94	0.94	0.93	0.91
Standard Deviation	0.14	0.09[ac]	0.12	0.16	0.16	0.19[ac]
5% VaR	0.73	0.82	0.77	0.67	0.67	0.67
CRC*						
Average	0.91	0.94[a]	0.92	0.93	0.92	0.90
Standard Deviation	0.13	0.08[a c]	0.11	0.15	0.15	0.18[a c]
5% VaR	0.73	0.81	0.76	0.67	0.67	0.67
GRIP-BP**						
Average	0.93	0.97[a]	0.95	0.95	0.94	0.92
Standard Deviation	0.10[b c]	0.08[c]	0.09[c]	0.14[a]	0.13[a]	0.15[a]
5% VaR	0.78	0.84	0.80	0.77	0.76	0.74
GRIP-HP***						
Average	0.93	0.97[a c]	0.95	0.95	0.94	0.92
Standard Deviation	0.14	0.08[a c]	0.10[a]	0.14	0.14	0.17
5% VaR	0.76	0.84	0.79	0.75	0.75	0.73

[a]Statistically different than Cash strategy at P less than or equal to 0.05.
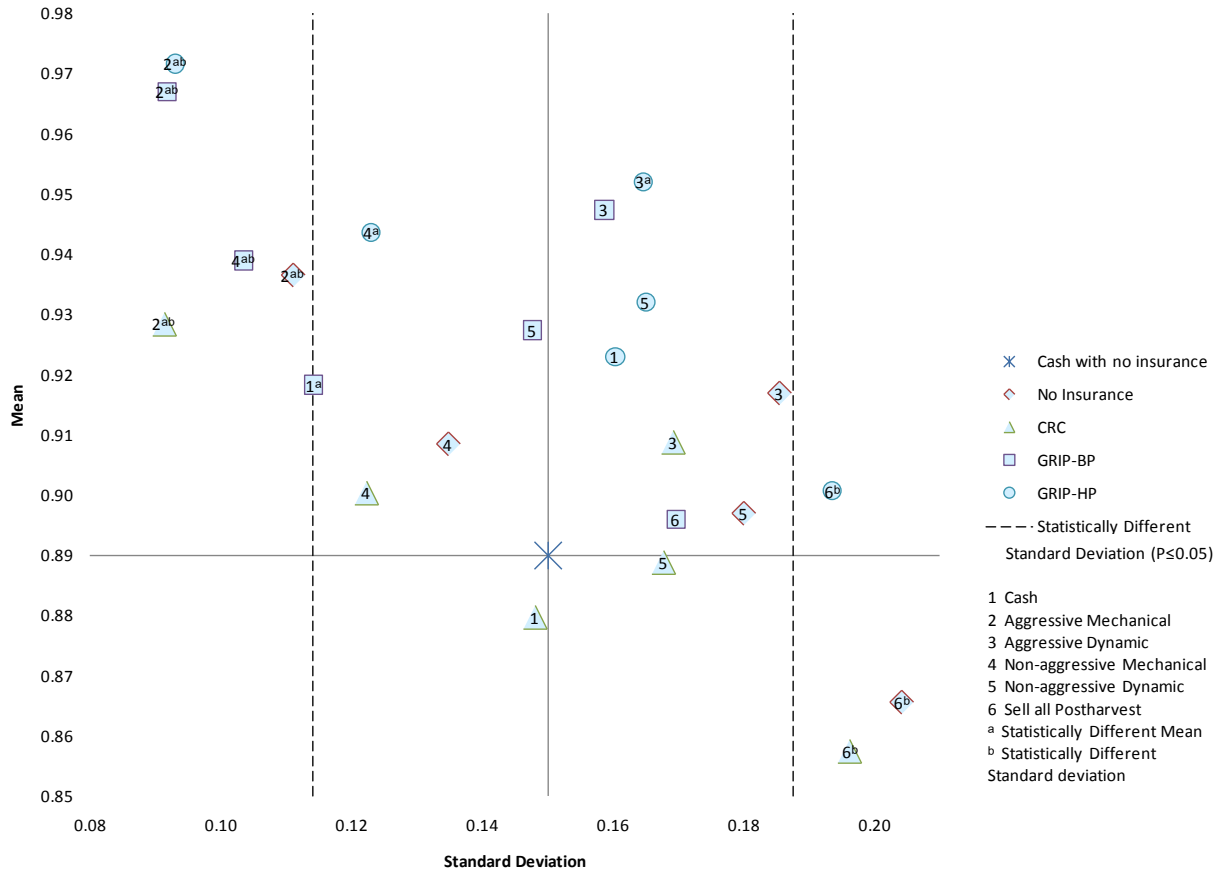[b]Statistically different than No Insurance at P less than or equal to 0.05.
[c]Statistically different than Cash strategy with No Insurance at P less than or equal to 0.05.

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Figure 4.16. Mean-Standard Deviation Scatter plot, Corn and Soybeans, Sangamon County
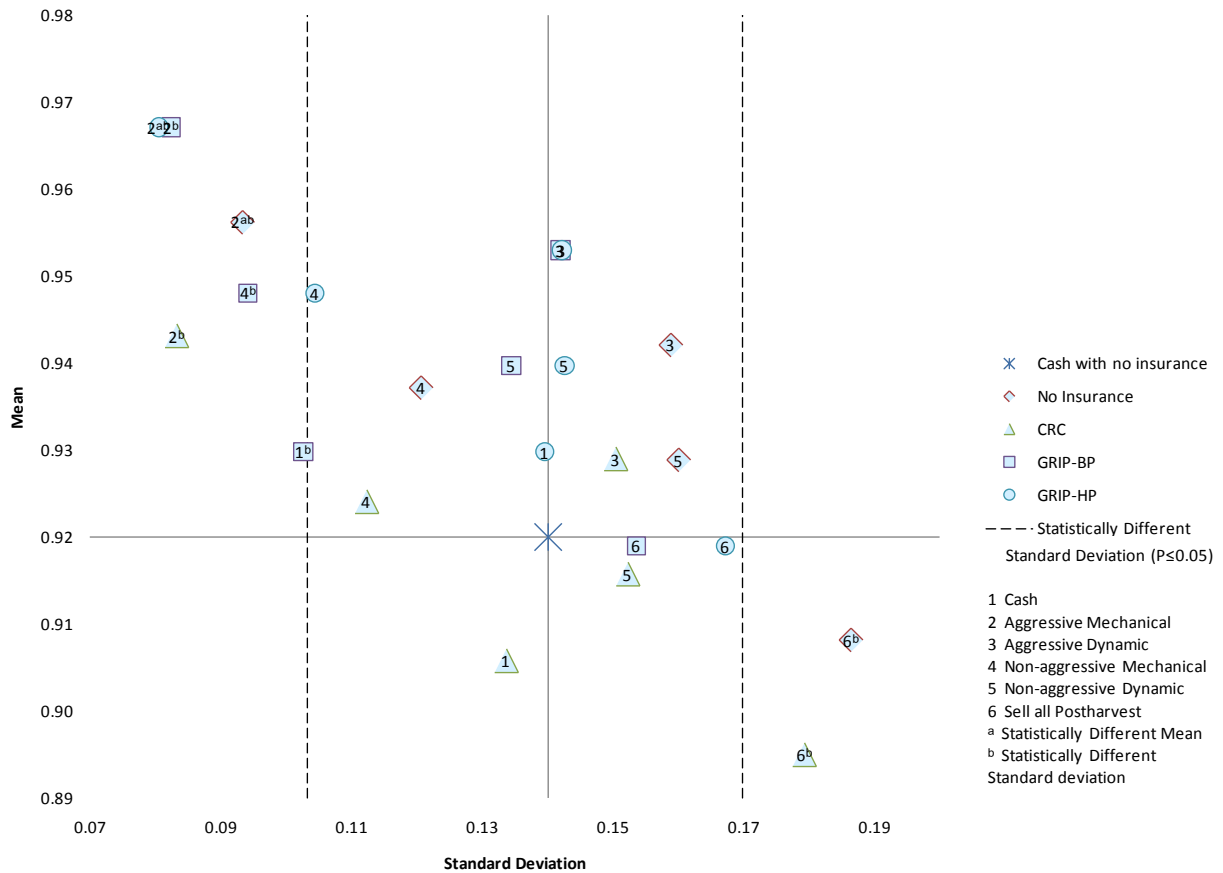
4.4 Discussion of Results

Storing production to sell during the postharvest period tends to be the lowest performing pricing strategy in the analysis even if an insurance product is elected. The dynamic pricing strategies, the nonaggressive pricing strategies, and cash sales at harvest tend to underperform the Aggressive Mechanical pricing strategy with all insurance products modeled. Northern Illinois was the only region that did not have any statistically different means for corn, but no region had statistically different means for soybeans. Across both crops and all regions, the Aggressive Mechanical pricing strategy tends to be the top performing.

With soybeans, when using the Aggressive Mechanical pricing strategy CRC tends to outperform GRIP. For corn, GRIP outperforms CRC. This can be explained by the differences in farm correlation to county between corn and soybeans. The corn model farms have average yield correlations to county yields of 0.94, 0.96, 0.91, and 0.93 for Northern, Central (high productivity soils), Central (low productivity soils), and Southern respectively. The average farm correlation to county yield for corn is 0.93. The soybean model farms have average correlations to county yields of 0.83, 0.91, 0.87, and 0.97 Northern, Central (high productivity soils), Central (low productivity soils), and Southern respectively. The average farm correlation to county yields for soybeans is 0.87. The lower farm yield correlation to county for soybean producers indicated higher yield basis risk when using an area-yield insurance product as GRIP-BP or GRIP-HP. Higher yield basis risk makes area yield insurance products less effective at reducing gross revenue risk. Average net cost of GRIP-BP and GRIP-HP insurance products (insurance premium minus insurance indemnity) was -15.53 and -14.53, respectively, for corn model farms opposed to -1.21 and 1.34, respectively, for soybean model farms.

Average net cost of insurance was much higher with soybeans than with corn. The differences in premiums between corn and soybean model farms also explain, at least partially, why no averages were statistically different than benchmark strategies with soybeans but many were with corn. In corn, only one region (Northern) did not have any statistically different means. Northern Illinois also had significantly higher net costs of insurance than the other regions for corn. The average premiums, indemnities, and net costs of insurance for each crop, region, and insurance product are presented in Table 4.11.

Table 4.11. Average Premium and Indemnity and Net Cost of Insurance by Region and Insurance Product

Crop	Region	CRC* Average Premium	CRC* Average Indemnity	CRC* Net Cost of Insurance[+]	GRIP-BP** Average Premium	GRIP-BP** Average Indemnity	GRIP-BP** Net Cost of Insurance[+]	GRIP-HP*** Average Premium	GRIP-HP*** Average Indemnity	GRIP-HP*** Net Cost of Insurance[+]
Corn		-----$/Acre-----			-----$/Acre-----			-----$/Acre-----		
	Northern Illinois	10.51	10.38	0.13	14.99	23.96	-8.97	21.26	27.23	-5.98
	Central Illinois (High Productivity)	11.10	6.56	4.54	13.21	28.69	-15.48	16.26	31.48	-15.22
	Central Illinois (Low Productivity)	10.42	24.02	-13.59	10.71	31.69	-20.98	15.45	37.42	-21.96
	Southern Illinois	12.56	17.03	-4.47	13.50	30.19	-16.70	17.80	32.74	-14.94
Soybeans										
	Northern Illinois	7.89	9.33	-1.44	17.56	15.82	1.74	19.96	16.75	3.21
	Central Illinois (High Productivity)	8.10	3.26	4.85	17.13	15.97	1.17	20.81	15.88	4.94
	Central Illinois (Low Productivity)	7.81	16.80	-8.99	16.94	23.19	-6.25	19.33	21.95	-2.62
	Southern Illinois	8.80	8.34	0.45	14.69	16.18	-1.49	17.86	18.02	-0.16

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option, 90% coverage level, 100% protection level

[+]Insurance premium minus insurance indemnity

Overall, the dynamic pricing strategies consistently underperform the mechanical pricing strategies. This is, at least, partially explained by the number of bushels actually priced during the preharvest period. The nature of the dynamic strategies (price must reach a trigger in order for a pricing event to be triggered during the preharvest period) means that in many years not all bushels targeted for preharvest pricing are actually priced (e.g., if futures price does not reach all of the triggers) and in some years no bushels are priced during the preharvest period (e.g., if futures price does not reach any trigger). In contrast, the mechanical strategies always price the number of bushels targeted for preharvest sale. Figure 4.17 presents the number of bushels priced during the preharvest period with the aggressive mechanical and aggressive dynamic pricing strategy, each year for Sangamon County corn. The number of bushels actually priced during the preharvest period can be very different between the aggressive mechanical pricing strategy and the aggressive dynamic pricing strategy even though both strategies target the same number of bushels to price during the preharvest period.

Figure 4.17. Number of Bushels Priced During the Preharvest Period, by Year with Aggressive Mechanical and Aggressive Dynamic Pricing Strategy, Sangamon County Corn
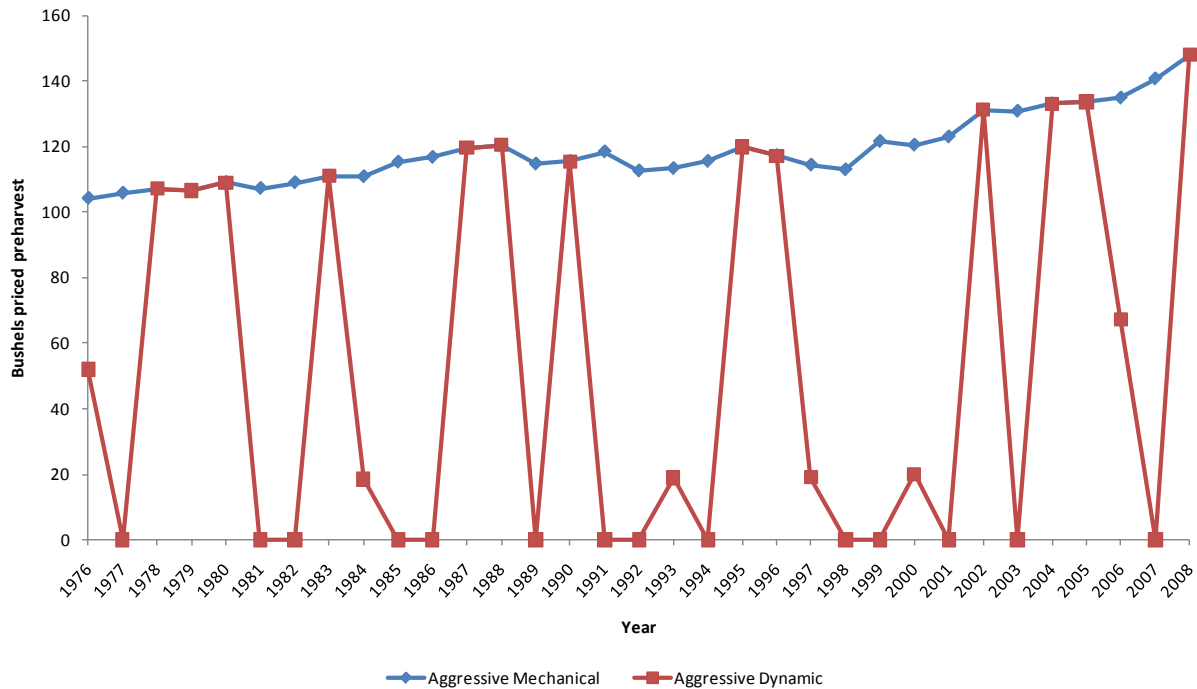
The yield coefficients of variation (CV) for regions with high productivity soils [Northern and Central (high productivity)] are significantly different from regions with low productivity soils [Central (low productivity) and Southern]. Table 4.12 presents the farm level and county level yield CVs by region for corn and soybeans. Farm level CVs for regions with low productivity soils are higher than their respective county CVs. The differences between farm level and county level CVs for the low productivity regions explain why results for low productivity regions were lower than those of high productivity regions.

Table 4.12. Farm Level and County Level Coefficients of Variation by Region, Corn and Soybeans

Region	Corn		Soybeans	
	Farm	County	Farm	County
Northern	0.2393	0.2080	0.1446	0.1384
Central (HP)	0.1619	0.1902	0.1376	0.1409
Central (LP)	0.3061	0.2058	0.2340	0.1755
Southern	0.3365	0.2625	0.2479	0.2056
Average	0.2609	0.2167	0.1910	0.1651

5   SUMMARY AND CONCLUSIONS

5.1   Summary

The objective of this thesis is to analyze the relationships that exist between preharvest pricing and revenue based crop insurance. Specifically, the following hypotheses were tested:

Can preharvest pricing and revenue based crop insurance used together increase efficiency, increase returns and decrease risk, more than either of them used separately?

Can an aggressive preharvest pricing strategy with revenue based crop insurance reduce risk relative to a nonaggressive strategy and the benchmark strategies tested in this analysis? Can the aggressive preharvest pricing strategy increase returns relative to the nonaggressive strategy and the benchmark strategies tested in this analysis?

Can an active preharvest pricing strategy reduce risk relative to a passive pricing strategy and the benchmark strategies tested in this analysis? Can an active preharvest pricing strategy increase returns relative to a passive strategy or the benchmark strategies tested in this analysis?

Much research has been devoted to analyzing the utilization and performance of marketing by grain producers (Goodwin and Schroeder, 1994; Patrick et al., 1998; Nivens et al., 2002; Zulauf et al., 2008; etc.). The literature seems to suggest that more marketing should occur earlier in the marketing year (Hagedorn et al., 2005) but this practice has not been widely adopted by producers (Patrick et al., 1998, Cunningham et al., 2007). The current US crop insurance program has become an important marketing tool for US grain producers and the adoption of revenue based crop insurance products has been increasing since their introduction

(USDA, RMA 2010). Much research has been devoted to analyzing US crop insurance products (Miranda, 1991; Chambers and Quiggin, 2002; Sherrick et al., 2004; Barnett et al., 2005; etc.). However very little analysis has been performed to determine how crop insurance and forward marketing can be used together to synthesize a portfolio approach to risk management and the results of such a portfolio approach. The most recent research finds there to be some additional risk reduction from using forward marketing with revenue based crop insurance (Hart and Babcock, 2004; Patrick et al., 2004, Rios and Patrick, 2007) but finds little evidence of income enhancement from this strategy and does not include any group insurance products.

By performing a historical analysis of actual farm level data from corn and soybean producers in four Illinois regions, this research simulates several forward marketing strategies with revenue based crop insurance products to determine how much these strategies can reduce gross revenue variability and enhance gross revenues. This research differs from previous research and builds on the existing body of knowledge because a nonparametric modeling technique using actual yields and prices from Illinois grain producers is used instead of employing a parametric modeling approach as Patrick et al. (2004) and Rios and Patrick (2007). This research also expands the analysis to include soybeans. In addition to crop revenue coverage (CRC) this research includes the group revenue insurance products Group Risk Income Protection (Base Price) (GRIP-BP) and Group Risk Income Protection (Harvest Price) (GRIP-HP). One of the focal points of this research was to develop and include a decision model to emulate actual producer hedging behavior instead of just modeling theoretical optimal behavior as in previous research such as Hart and Babcock (2004) modeled or a onetime preharvest hedging event such as Patrick et al. (2004) and Rios and Patrick (2007) modeled.

Four regions in Illinois were selected for analysis. They were Northern, Central (high productivity soils), Central (low productivity soils), and Southern. Corn and soybeans were both analyzed. Farm level yield data representing each region were selected. Data from La Salle County was selected to represent Northern Illinois, Sangamon was selected to represent Central Illinois (high productivity soils), Vermilion was selected to represent Central Illinois (low productivity soils), and Effingham was selected to represent Southern Illinois. The time period of the analysis was 1976 through 2008. Marketing strategies modeled were: Cash, Aggressive Mechanical (AgrMech), Aggressive Dynamic (AgrDyn), Nonaggressive Mechanical (NonAgrMech), Nonaggressive Dynamic (NonAgrDyn), and Sell all Postharvest. The mechanical strategies priced equal portions of expected production at equal intervals throughout the preharvest period. Mechanical strategies simulated theoretically optimal preharvest pricing strategies where a portion of marketing is shifted earlier in the marketing year (Hagedorn et al., 2005). The dynamic strategies, using only information known to the producer at the time the decision was made, attempted to time preharvest pricing events during price rallies. The dynamic strategies were developed to emulate how actively marketing producers actually price expected production preharvest (Cunningham et al., 2007). Aggressive strategies preharvest priced 100% of expected production, while nonaggressive strategies only priced 50% of expected production preharvest. The cash strategy was a simple cash sale of all production at harvest. Sell all Postharvest held all production in storage and was sold at equal intervals in equal increments throughout the postharvest period. Four insurance options were modeled. They were: No Insurance, CRC, GRIP-BP, and GRIP-HP.

For each model farm each year, expected revenue was calculated. The expected revenue is calculated using only information known to the producer at the time planting decisions were

made of that year. Expected revenue is a function of the average of harvest basis from the three previous years, actual production history plus an adjustment, and the average of harvest month futures prices during the month of February.

Actual revenue is calculated for each model farm, each year, for each pricing strategy insurance product combination. Actual revenue was calculated as the sum of preharvest revenue, harvest revenue, postharvest revenue, and insurance revenue. Revenue calculations varied based on pricing strategy and insurance coverage. Preharvest revenue was a function of number of bushels sold, local forward basis, and harvest month futures price. Harvest revenue is a function of bushels sold at harvest, local spot basis, and harvest month futures price. Postharvest revenue is a function of bushels sold postharvest and local cash price. Insurance revenue is calculated as insurance indemnity minus insurance premium. Insurance indemnity and premium vary based on insurance product selected, farm and crop but are a function of county, APH, base price, harvest price, and yield (county yield for group products).

To aggregate the data across all years of the study, a ratio is computed, the revenue ratio. The revenue ratio is calculated as actual revenue over expected revenue. The revenue ratio is used to prevent years that were more distant from being implicitly weighted differently than more recent years due to inflation or other factors.

All marketing strategies are paired with each insurance option creating 24 individual pricing strategy/insurance combinations (strategy combinations). Cash/No Insurance is used as the benchmark and is compared to the other strategy combinations to determine their performance. Three measures are calculated from results of each of the 24 strategy combinations. They are: mean, standard deviation, and 5% Value at Risk (VaR). Mean is used to measure the

income enhancement potential of the strategy combination. Standard deviation and VaR are used to measure the riskiness of the strategy combination. Statistical tests are employed to measure the statistical significance of differences between the strategy combinations and benchmarks. For the statistical tests, three strategy combinations are used as benchmarks. The first is Cash/No Insurance. The second is the cash pricing strategy with the same insurance product as the strategy combination being tested. The third is no insurance with the same pricing strategy of the strategy combination being tested.

For corn no means for Northern Illinois are statistically different than the benchmarks, but several are for the remaining regions. The Aggressive Mechanical pricing strategy has the highest means that are statistically different from the benchmarks when used with one of the insurance products (CRC, GRIP-BP, or GRIP-HP). When ranked by standard deviations and VaRs, the Aggressive Mechanical pricing strategy again occupies all the top ranks when used with one of the insurance products.

For soybeans no means are statistically different from the benchmarks. With one exception, Sangamon County, the Aggressive Mechanical pricing strategy when used with CRC is the top performing by both measures of risk (standard deviation and VaR). In Sangamon County the Aggressive Mechanical pricing strategy has a higher VaR when no insurance is selected than when CRC is selected.

For both corn and soybeans the Aggressive Mechanical pricing strategy does not perform as well without insurance and the cash strategy does not perform as well without the Aggressive Mechanical pricing strategy. In most cases, the Aggressive Dynamic strategy is riskier (higher standard deviation, lower VaR) than the cash strategies with the same insurance product, but the

mean is slightly higher indicating a risk return tradeoff. The nonaggressive strategies tend to perform better than the cash strategies, but not as well as the aggressive strategies with the same insurance product selected. The Sell all Postharvest strategy is consistently the bottom performing strategy whichever insurance option is selected.

The results indicate that preharvest pricing and revenue based crop insurance products exhibit complimentary attributes. Using revenue based crop insurance with aggressive preharvest pricing can lower risk and generate higher returns than using either of them individually. Aggressive preharvest pricing strategies generate higher returns and lower risk than cash sales at harvest, storing all production and selling postharvest, and identical but less aggressive preharvest pricing strategies. As modeled in this analysis, producers who actively price expected production during the preharvest period cannot generate higher returns or lower risk relative to selling expected production at equal intervals throughout the preharvest period.

The following hypotheses cannot be rejected:

Marketing and crop insurance, if used together, can reduce risk or increase returns more than either of them used separately.

An aggressive preharvest pricing strategy with revenue based crop insurance can reduce risk relative to a similar but nonaggressive pricing strategy and the benchmark strategies tested in this analysis.

An aggressive preharvest pricing strategy with revenue based crop insurance can increase returns, in some cases, relative to a similar but nonaggressive pricing strategy and the benchmark strategies tested in this analysis.

The following hypotheses are rejected:

An active preharvest pricing strategy with or without revenue based crop insurance can reduce risk relative to a mechanical pricing strategy or the benchmark strategies tested in this analysis.

An active preharvest pricing strategy with or without revenue based crop insurance can increase returns relative to a mechanical pricing strategy or the benchmark strategies tested in this analysis.

5.2   Implications

This research provides corn and soybean producers valuable information for selecting a risk management strategy. A significant portion of expected production should be marketed before harvest. A passive pricing strategy should be favored over trying to time pricings during price rallies and, with few exceptions, adding revenue based crop insurance to any pricing strategy will increase returns and decrease risk.

5.3   Limitations and Further Research

The results will be very helpful to corn and soybean producers when they are making their hedging and crop insurance decisions. However, this analysis uses a historical simulation approach and the conclusions drawn from it may lose significance if substantial structural changes occur to corn and soybean markets or production. Insurance premiums in this analysis are generated using current rating procedures and subsidy rates. If premium rating procedures or subsidies are greatly changed, the conclusions may lose significance as well. This analysis also focuses on Illinois corn and soybean production, the conclusions may not be valid in other grain producing regions.

An additional limitation of this analysis is that it may implicitly understate basis risk. Elevator posted bids, forward and spot, are collected by the Illinois Ag Marketing Service and reported daily. These spot/forward prices are aggregated by region and reported weekly by Farmdoc. Weekly regional prices, which are used in this analysis, are an imperfect proxy for local spot prices because there are inter-regional factors that may widen or narrow the basis between the bids posted at a local elevator and the weekly regional price data reported by Farmdoc that are not captured in the weekly regional prices. However due, in part, to the time span covered by this analysis more accurate local price data is not available and therefore an imperfect proxy, weekly regional price data, was used with the possibility of increased basis risk.

This analysis primarily focuses on the time horizon between when crop insurance decisions are made and harvest. This time period, preharvest, is when crop insurance contracts are in effect and preharvest pricing decisions are made. The revenue ratio controlled for inter-marketing year effects of yield and price changes. However, controlling for inter-marketing year price changes may also underweight some years where large structural changes to price/yield relationships may have occurred (e.g. 2008).

Suggestions for future research in this area include adding other geographical areas, including more preharvest pricing strategies, and a parametric simulation. The design of the dynamic pricing strategies is intended to more closely simulate actual producer pricing behavior by including pricings at more than one point in time during the preharvest period. However, in many years the futures price never reaches any of the triggers and therefore no bushels are priced during the preharvest period. In future research, a "fail safe" trigger to change the decision rules late in the preharvest period if no bushels have been priced would increase the consistency with which bushels targeted for preharvest pricing are actually sold could be included. The inclusion

of a "fail safe" trigger would more closely simulate actual producer behavior and provide

additional insights to dynamic (active) pricing strategies.

APPENDIX A   DATA

Table A.1. Corn Farm Yields, APHs, County Yields and Expected County Yields, 1972-2008

Northern Illinois-La Salle County

Year	Farm Yield*	APH	County Yield**	Expected County Yield
		---------bushels/acre---------		
1972	125		110.0	99.5
1973	128		106.0	101.4
1974	95		85.0	103.3
1975	142		121.0	105.2
1976	132	123	103.0	107.1
1977	134	124	114.0	108.9
1978	122	126	111.0	110.8
1979	148	125	133.0	112.7
1980	109	128	111.0	114.6
1981	147	126	130.0	116.4
1982	149	128	136.0	118.3
1983	125	131	95.0	120.2
1984	148	130	123.0	122.1
1985	159	136	140.0	124.0
1986	166	137	135.0	125.8
1987	144	141	133.0	127.7
1988	54	142	77.0	129.6
1989	157	135	136.0	131.5
1990	144	136	125.0	133.4
1991	78	139	92.0	135.2
1992	158	132	149.0	137.1
1993	151	133	130.0	139.0
1994	200	136	172.0	140.9
1995	127	141	115.0	142.7
1996	132	138	142.0	144.6
1997	127	134	131.0	146.5
1998	156	133	149.0	148.4
1999	144	143	142.0	150.3
2000	173	142	152.0	152.1
2001	175	145	159.0	154.0
2002	153	154	136.0	155.9
2003	178	154	162.0	157.8
2004	208	157	179.0	159.7
2005	140	157	139.0	161.5
2006	201	159	182.0	163.4
2007	212	166	186.0	165.3
2008	231	174	192.0	167.2

Descriptive Statistics

Average Yield:	148		133	
Standard Deviation of Yield:	35.39		27.74	

Farm Yield to County Yield Correlation: 0.94

*Source: Illinois FBFM

**Source: USDA-NASS

Table A.2. Corn Farm Yields, APHs, County Yields and Expected County Yields, 1972-2008

	Central Illinois (High Productivity)-Sangamon County			
Year	Farm Yield*	APH	County Yield**	Expected County Yield
	---------bushels/acre---------			
1972	139		125.0	110.3
1973	137		118.0	112.3
1974	131		101.0	114.3
1975	137		126.0	116.3
1976	146	136	117.0	118.3
1977	134	138	122.0	120.3
1978	125	137	113.0	122.3
1979	161	136	141.0	124.3
1980	133	139	110.0	126.3
1981	165	138	147.0	128.3
1982	158	141	144.0	130.3
1983	111	143	91.0	132.3
1984	164	140	136.0	134.3
1985	171	143	161.0	136.3
1986	186	147	164.0	138.3
1987	149	151	151.0	140.3
1988	103	152	87.0	142.3
1989	149	150	141.0	144.3
1990	156	149	147.0	146.3
1991	170	151	149.0	148.4
1992	178	152	172.0	150.4
1993	178	154	156.0	152.4
1994	185	161	177.0	154.4
1995	158	163	129.0	156.4
1996	175	161	160.0	158.4
1997	160	160	143.0	160.4
1998	168	161	151.0	162.4
1999	155	168	145.0	164.4
2000	185	168	174.0	166.4
2001	171	171	161.0	168.4
2002	170	171	152.0	170.4
2003	209	170	194.0	172.4
2004	207	174	192.0	174.4
2005	183	176	169.0	176.4
2006	199	178	174.0	178.4
2007	203	181	199.0	180.4
2008	208	185	184.0	182.4

Descriptive Statistics

Average Yield:	163		147	
Standard Deviation of Yield:	26.33		27.88	

Farm Yield to County Yield Correlation: 0.96

*Source: Illinois FBFM
**Source: USDA-NASS

Table A.3. Corn Farm Yields, APHs, County Yields and Expected County Yields, 1972-2008

Central Illinois (Low Productivity)-Vermilion County

Year	Farm Yield*	APH	County Yield**	Expected County Yield
		---------bushels/acre---------		
1972	125		118.0	104.2
1973	122		114.0	105.8
1974	52		85.0	107.5
1975	149		124.0	109.1
1976	76	112	116.0	110.7
1977	121	105	106.0	112.3
1978	123	108	122.0	113.9
1979	158	110	138.0	115.5
1980	35	116	84.0	117.1
1981	128	107	126.0	118.8
1982	130	109	136.0	120.4
1983	61	109	90.0	122.0
1984	103	103	128.0	123.6
1985	153	108	151.0	125.2
1986	110	109	130.0	126.8
1987	148	112	149.0	128.4
1988	53	115	82.0	130.0
1989	133	108	131.0	131.7
1990	125	105	134.0	133.3
1991	44	114	80.0	134.9
1992	177	106	163.0	136.5
1993	125	111	136.0	138.1
1994	162	117	158.0	139.7
1995	91	123	102.0	141.3
1996	122	117	130.0	142.9
1997	131	118	130.0	144.6
1998	128	116	130.0	146.2
1999	133	124	157.0	147.8
2000	155	124	136.0	149.4
2001	164	127	156.0	151.0
2002	155	139	149.0	152.6
2003	140	137	165.0	154.2
2004	152	138	167.0	155.9
2005	169	137	165.0	157.5
2006	182	145	173.0	159.1
2007	170	151	180.0	160.7
2008	160	155	172.0	162.3

Descriptive Statistics

Average Yield:	126		133	
Standard Deviation of Yield:	38.57		27.33	

Farm Yield to County Yield Correlation: 0.91

*Source: Illinois FBFM
**Source: USDA-NASS

Table A.4. Corn Farm Yields, APHs, County Yields and Expected County Yields, 1972-2008

Southern Illinois-Effingham County

Year	Farm Yield*	APH	County Yield**	Expected County Yield
		---------bushels/acre---------		
1972	80		79.0	82.7
1973	86		85.0	84.4
1974	58		67.0	86.0
1975	99		106.0	87.7
1976	42	81	73.0	89.4
1977	96	73	102.0	91.1
1978	85	77	107.0	92.8
1979	128	78	123.0	94.5
1980	61	84	87.0	96.2
1981	124	82	108.0	97.9
1982	116	86	115.0	99.6
1983	19	90	36.0	101.3
1984	59	83	68.0	103.0
1985	87	83	114.0	104.7
1986	135	82	132.0	106.3
1987	146	91	136.0	108.0
1988	64	96	73.0	109.7
1989	125	94	118.0	111.4
1990	108	94	113.0	113.1
1991	94	98	99.0	114.8
1992	108	95	133.0	116.5
1993	93	94	122.0	118.2
1994	90	102	129.0	119.9
1995	109	105	115.0	121.6
1996	90	107	102.0	123.3
1997	95	103	104.0	124.9
1998	110	97	134.0	126.6
1999	73	102	94.0	128.3
2000	117	97	136.0	130.0
2001	139	98	141.0	131.7
2002	73	102	100.0	133.4
2003	141	99	151.0	135.1
2004	164	104	171.0	136.8
2005	118	111	119.0	138.5
2006	137	112	145.0	140.2
2007	165	117	153.0	141.9
2008	170	124	171.0	143.5

Descriptive Statistics

Average Yield:	103		112	
Standard Deviation of Yield:	34.59		29.52	

Farm Yield to County Yield Correlation: 0.93

*Source: Illinois FBFM

**Source: USDA-NASS

Table A.5. Soybean Farm Yields, APHs, County Yields and Expected County Yields, 1972-2008

Northern Illinois-La Salle County

Year	Farm Yield*	APH	County Yield**	Expected County Yield
		---------bushels/acre---------		
1972	41		35.5	35.3
1973	41		37.0	35.7
1974	36		30.0	36.0
1975	47		40.5	36.4
1976	42	41	32.0	36.8
1977	51	41	40.0	37.1
1978	35	43	35.0	37.5
1979	51	42	43.5	37.9
1980	50	43	40.0	38.2
1981	43	44	43.5	38.6
1982	44	44	40.0	39.0
1983	38	44	40.0	39.3
1984	42	44	38.0	39.7
1985	49	44	45.0	40.0
1986	48	45	43.5	40.4
1987	48	45	43.5	40.8
1988	30	45	27.0	41.1
1989	52	44	44.5	41.5
1990	46	44	43.5	41.9
1991	38	44	36.0	42.2
1992	52	44	45.0	42.6
1993	51	44	45.5	43.0
1994	59	46	51.0	43.3
1995	40	47	41.0	43.7
1996	43	46	40.5	44.1
1997	50	46	45.5	44.4
1998	50	46	47.5	44.8
1999	40	48	45.0	45.2
2000	50	47	45.0	45.5
2001	47	47	46.0	45.9
2002	48	48	45.0	46.2
2003	34	48	34.0	46.6
2004	58	46	51.0	47.0
2005	45	46	47.0	47.3
2006	56	47	53.0	47.7
2007	46	48	46.0	48.1
2008	47	47	48.0	48.4

Descriptive Statistics

Average Yield:	46		42	
Standard Deviation of Yield:	6.60		5.81	

Farm Yield to County Yield Correlation: 0.83

*Source: Illinois FBFM
**Source: USDA-NASS

Table A.6. Soybean Farm Yields, APHs, County Yields and Expected County Yields, 1972-2008

Central Illinois (High Productivity)-Sangamon County

Year	Farm Yield*	APH	County Yield**	Expected County Yield
	---------bushels/acre---------			
1972	44		40.0	37.0
1973	37		37.0	37.4
1974	32		27.0	37.9
1975	47		40.5	38.3
1976	43	40	39.5	38.7
1977	49	41	43.0	39.1
1978	43	42	39.0	39.6
1979	45	42	44.0	40.0
1980	40	43	38.5	40.4
1981	45	42	44.0	40.8
1982	45	42	44.5	41.3
1983	35	43	33.0	41.7
1984	43	42	38.0	42.1
1985	51	43	49.0	42.5
1986	51	44	48.5	43.0
1987	46	45	41.5	43.4
1988	36	44	31.0	43.8
1989	51	44	48.0	44.2
1990	49	44	45.0	44.7
1991	57	45	48.5	45.1
1992	52	46	48.5	45.5
1993	55	47	47.0	45.9
1994	52	49	49.5	46.4
1995	48	50	42.0	46.8
1996	55	50	46.0	47.2
1997	49	50	44.5	47.6
1998	54	50	49.5	48.0
1999	49	52	46.0	48.5
2000	49	52	48.0	48.9
2001	49	52	48.0	49.3
2002	60	51	51.0	49.7
2003	47	52	48.0	50.2
2004	55	51	54.0	50.6
2005	51	52	53.0	51.0
2006	58	52	54.0	51.4
2007	52	52	51.0	51.9
2008	57	52	51.0	52.3

Descriptive Statistics

Average Yield:	48		45	
Standard Deviation of Yield:	6.62		6.29	

Farm Yield to County Yield Correlation: 0.91

*Source: Illinois FBFM

**Source: USDA-NASS

Table A.7. Soybean Farm Yields, APHs, County Yields and Expected County Yields, 1972-2008

Central Illinois (Low Productivity)-Vermilion County

Year	Farm Yield*	APH	County Yield**	Expected County Yield
	---------bushels/acre---------			
1972	42		35.5	33.2
1973	33		33.5	33.7
1974	30		25.5	34.1
1975	44		37.5	34.6
1976	30	37	35.0	35.0
1977	42	36	37.5	35.5
1978	39	37	37.0	35.9
1979	40	37	39.0	36.4
1980	29	38	35.5	36.9
1981	36	37	36.5	37.3
1982	38	37	41.0	37.8
1983	35	36	37.5	38.2
1984	33	36	35.0	38.7
1985	56	37	48.5	39.2
1986	27	38	35.0	39.6
1987	41	38	40.0	40.1
1988	18	37	26.0	40.5
1989	45	35	39.5	41.0
1990	38	36	39.5	41.4
1991	22	37	32.0	41.9
1992	52	35	45.0	42.4
1993	43	37	45.0	42.8
1994	54	38	48.0	43.3
1995	44	40	40.5	43.7
1996	49	38	44.5	44.2
1997	47	41	45.0	44.6
1998	44	41	41.5	45.1
1999	46	44	45.0	45.6
2000	52	44	45.0	46.0
2001	57	45	51.0	46.5
2002	51	49	49.0	46.9
2003	33	49	37.0	47.4
2004	49	48	52.0	47.8
2005	54	47	51.0	48.3
2006	56	48	54.0	48.8
2007	49	49	55.0	49.2
2008	40	49	49.0	49.7

Descriptive Statistics

Average Yield:	42		41	
Standard Deviation of Yield:	9.73		7.23	

Farm Yield to County Yield Correlation: 0.87

*Source: Illinois FBFM
**Source: USDA-NASS

Table A.8. Soybean Farm Yields, APHs, County Yields and Expected County Yields, 1972-2008

Southern Illinois-Effingham County

Year	Farm Yield*	APH	County Yield**	Expected County Yield
	---------bushels/acre---------			
1972	28		28.0	27.4
1973	26		27.0	27.8
1974	26		22.5	28.2
1975	35		32.0	28.6
1976	36	29	32.0	29.0
1977	26	30	33.5	29.4
1978	29	30	30.5	29.8
1979	35	29	36.0	30.2
1980	27	30	31.5	30.6
1981	37	30	33.5	31.0
1982	38	30	35.0	31.4
1983	10	31	15.0	31.8
1984	27	30	21.5	32.3
1985	31	30	39.0	32.7
1986	41	29	40.0	33.1
1987	31	30	33.5	33.5
1988	17	30	22.0	33.9
1989	36	29	33.5	34.3
1990	26	29	32.0	34.7
1991	33	29	34.0	35.1
1992	40	29	37.0	35.5
1993	26	29	36.5	35.9
1994	32	31	38.5	36.3
1995	35	31	35.5	36.7
1996	39	32	34.5	37.1
1997	42	31	36.5	37.6
1998	36	32	39.5	38.0
1999	36	34	34.0	38.4
2000	45	34	40.0	38.8
2001	44	36	43.0	39.2
2002	31	37	33.0	39.6
2003	38	37	40.0	40.0
2004	48	38	50.0	40.4
2005	42	39	39.0	40.8
2006	48	40	48.0	41.2
2007	36	41	36.0	41.6
2008	50	40	46.0	42.0

Descriptive Statistics

Average Yield:	34		35	
Standard Deviation of Yield:	8.44		7.11	

Farm Yield to County Yield Correlation: 0.87

*Source: Illinois FBFM
**Source: USDA-NASS

Table A.9. Corn Expected Harvest Basis, by Region, 1975-2008

	Region			
Year	Northern	Central (High Productivity)	Central (Low Productivity)	Southern
1976	-0.333	-0.356	-0.356	-0.356
1977	-0.325	-0.360	-0.360	-0.360
1978	-0.313	-0.344	-0.344	-0.344
1979	-0.266	-0.294	-0.294	-0.294
1980	-0.251	-0.270	-0.270	-0.270
1981	-0.290	-0.303	-0.303	-0.303
1982	-0.369	-0.380	-0.380	-0.380
1983	-0.335	-0.344	-0.344	-0.344
1984	-0.235	-0.237	-0.237	-0.237
1985	-0.124	-0.119	-0.119	-0.119
1986	-0.096	-0.094	-0.094	-0.094
1987	-0.152	-0.147	-0.147	-0.147
1988	-0.174	-0.166	-0.166	-0.166
1989	-0.212	-0.183	-0.183	-0.183
1990	-0.159	-0.135	-0.135	-0.135
1991	-0.133	-0.118	-0.118	-0.118
1992	-0.094	-0.087	-0.087	-0.087
1993	-0.090	-0.093	-0.093	-0.093
1994	-0.112	-0.118	-0.118	-0.118
1995	-0.145	-0.160	-0.160	-0.160
1996	-0.140	-0.145	-0.145	-0.145
1997	-0.101	-0.101	-0.101	-0.101
1998	-0.078	-0.067	-0.067	-0.067
1999	-0.115	-0.093	-0.093	-0.093
2000	-0.176	-0.146	-0.146	-0.146
2001	-0.201	-0.175	-0.175	-0.175
2002	-0.200	-0.187	-0.187	-0.187
2003	-0.171	-0.149	-0.149	-0.149
2004	-0.152	-0.129	-0.129	-0.129
2005	-0.172	-0.143	-0.143	-0.143
2006	-0.219	-0.201	-0.201	-0.201
2007	-0.242	-0.206	-0.206	-0.206
2008	-0.244	-0.193	-0.193	-0.193

Table A.10. Soybean Expected Harvest Basis, by Region, 1975-2008

	Region			
Year	Northern	Central (High Productivity)	Central (Low Productivity)	Southern
1976	-0.386	-0.378	-0.378	-0.378
1977	-0.363	-0.358	-0.358	-0.358
1978	-0.379	-0.375	-0.375	-0.375
1979	-0.356	-0.353	-0.353	-0.353
1980	-0.364	-0.358	-0.358	-0.358
1981	-0.388	-0.375	-0.375	-0.375
1982	-0.434	-0.424	-0.424	-0.424
1983	-0.438	-0.425	-0.425	-0.425
1984	-0.368	-0.342	-0.342	-0.342
1985	-0.295	-0.261	-0.261	-0.261
1986	-0.233	-0.200	-0.200	-0.200
1987	-0.196	-0.181	-0.181	-0.181
1988	-0.200	-0.173	-0.173	-0.173
1989	-0.221	-0.180	-0.180	-0.180
1990	-0.229	-0.187	-0.187	-0.187
1991	-0.210	-0.180	-0.180	-0.180
1992	-0.179	-0.156	-0.156	-0.156
1993	-0.170	-0.149	-0.149	-0.149
1994	-0.189	-0.164	-0.164	-0.164
1995	-0.226	-0.199	-0.199	-0.199
1996	-0.243	-0.202	-0.202	-0.202
1997	-0.213	-0.177	-0.177	-0.177
1998	-0.167	-0.138	-0.138	-0.138
1999	-0.192	-0.158	-0.158	-0.158
2000	-0.254	-0.200	-0.200	-0.200
2001	-0.307	-0.246	-0.246	-0.246
2002	-0.285	-0.245	-0.245	-0.245
2003	-0.244	-0.220	-0.220	-0.220
2004	-0.216	-0.196	-0.196	-0.196
2005	-0.231	-0.206	-0.206	-0.206
2006	-0.269	-0.254	-0.254	-0.254
2007	-0.317	-0.283	-0.283	-0.283
2008	-0.431	-0.384	-0.384	-0.384

Table A.11. Average Fixed Interest Rates on Farm Loans by Quarter, 1975-2009

Period (Quarter-Year)	Annualized Rate	Period (Quarter-Year)	Annualized Rate	Period (Quarter-Year)	Annualized Rate
	---%---		---%---		---%---
Q4-1975	8.90	Q1-1987	10.90	Q2-1998	9.50
Q1-1976	8.89	Q2-1987	11.00	Q3-1998	9.40
Q2-1976	8.85	Q3-1987	11.30	Q4-1998	9.10
Q3-1976	8.88	Q4-1987	11.30	Q1-1999	9.00
Q4-1976	8.87	Q1-1988	11.10	Q2-1999	9.10
Q1-1977	8.83	Q2-1988	11.20	Q3-1999	9.30
Q2-1977	8.82	Q3-1988	11.70	Q4-1999	9.40
Q3-1977	8.84	Q4-1988	12.00	Q1-2000	9.80
Q4-1977	8.89	Q1-1989	12.50	Q2-2000	10.40
Q1-1978	8.91	Q2-1989	12.40	Q3-2000	10.20
Q2-1978	9.00	Q3-1989	12.20	Q4-2000	9.90
Q3-1978	9.21	Q4-1989	12.00	Q1-2001	9.20
Q4-1978	9.50	Q1-1990	11.90	Q2-2001	8.60
Q1-1979	10.25	Q2-1990	11.90	Q3-2001	8.00
Q2-1979	10.54	Q3-1990	11.90	Q4-2001	7.40
Q3-1979	10.91	Q4-1990	11.80	Q1-2002	7.30
Q4-1979	11.73	Q1-1991	11.40	Q2-2002	7.30
Q1-1980	13.57	Q2-1991	11.20	Q3-2002	7.20
Q2-1980	17.13	Q3-1991	10.90	Q4-2002	6.70
Q3-1980	14.01	Q4-1991	10.10	Q1-2003	6.60
Q4-1980	14.31	Q1-1992	9.80	Q2-2003	6.40
Q1-1981	16.50	Q2-1992	9.60	Q3-2003	6.40
Q2-1981	17.80	Q3-1992	9.20	Q4-2003	6.30
Q3-1981	18.60	Q4-1992	9.10	Q1-2004	6.20
Q4-1981	17.00	Q1-1993	8.90	Q2-2004	6.40
Q1-1982	17.30	Q2-1993	8.80	Q3-2004	6.60
Q2-1982	17.20	Q3-1993	8.60	Q4-2004	6.80
Q3-1982	15.60	Q4-1993	8.50	Q1-2005	7.10
Q4-1982	14.40	Q1-1994	8.50	Q2-2005	7.30
Q1-1983	13.70	Q2-1994	9.00	Q3-2005	7.70
Q2-1983	13.50	Q3-1994	9.40	Q4-2005	8.00
Q3-1983	13.70	Q4-1994	10.00	Q1-2006	8.30
Q4-1983	13.60	Q1-1995	10.30	Q2-2006	8.80
Q1-1984	13.80	Q2-1995	10.20	Q3-2006	8.70
Q2-1984	14.30	Q3-1995	10.20	Q4-2006	8.70
Q3-1984	14.40	Q4-1995	9.90	Q1-2007	8.60
Q4-1984	13.60	Q1-1996	9.60	Q2-2007	8.70
Q1-1985	13.50	Q2-1996	9.70	Q3-2007	8.40
Q2-1985	12.90	Q3-1996	9.70	Q4-2007	7.80
Q3-1985	12.80	Q4-1996	9.60	Q1-2008	6.70
Q4-1985	12.70	Q1-1997	9.70	Q2-2008	7.10
Q1-1986	12.40	Q2-1997	9.70	Q3-2008	6.70
Q2-1986	11.80	Q3-1997	9.70	Q4-2008	6.20
Q3-1986	11.30	Q4-1997	9.60	Q1-2009	6.20
Q4-1986	11.10	Q1-1998	9.50	Q2-2009	6.20

Source: Agricultural Finance Databook, US Federal Reserve Board of Governors

Table A.12. Estimated Midpoint of Corn Harvest, Illinois by Region, 1976-2008

Year	NW	NE	W	C	E	WSW	ESE	SW	SE
					Region				
1976	10/29/1976	10/27/1976	10/27/1976	10/23/1976	10/24/1976	10/24/1976	10/26/1976	10/22/1976	10/26/1976
1977	10/27/1977	10/25/1977	10/23/1977	10/19/1977	10/19/1977	10/15/1977	10/17/1977	10/13/1977	10/21/1977
1978	10/21/1978	10/21/1978	10/18/1978	10/13/1978	10/14/1978	10/21/1978	10/25/1978	10/17/1978	10/18/1978
1979	11/2/1979	11/7/1979	10/23/1979	10/22/1979	10/24/1979	10/26/1979	10/27/1979	10/25/1979	10/26/1979
1980	10/16/1980	10/21/1980	10/9/1980	10/6/1980	10/7/1980	10/5/1980	10/5/1980	9/28/1980	9/23/1980
1981	10/29/1981	10/29/1981	10/23/1981	10/21/1981	10/25/1981	10/20/1981	10/18/1981	10/7/1981	10/6/1981
1982	10/21/1982	10/24/1982	10/19/1982	10/15/1982	10/14/1982	10/17/1982	10/14/1982	10/14/1982	10/10/1982
1983	10/12/1983	10/15/1983	10/9/1983	10/6/1983	10/9/1983	10/5/1983	10/10/1983	10/9/1983	10/13/1983
1984	10/25/1984	10/28/1984	10/28/1984	10/20/1984	10/14/1984	10/26/1984	11/5/1984	11/4/1984	11/4/1984
1985	10/30/1985	10/29/1985	10/24/1985	10/14/1985	10/17/1985	10/16/1985	10/15/1985	10/13/1985	10/13/1985
1986	10/27/1986	10/27/1986	10/20/1986	10/16/1986	10/12/1986	10/13/1986	10/12/1986	10/8/1986	10/10/1986
1987	10/9/1987	10/11/1987	9/25/1987	9/22/1987	9/27/1987	9/22/1987	9/22/1987	9/18/1987	9/22/1987
1988	10/6/1988	10/17/1988	10/3/1988	9/30/1988	10/3/1988	10/3/1988	10/3/1988	10/3/1988	10/6/1988
1989	10/18/1989	10/23/1989	10/10/1989	10/10/1989	10/16/1989	10/11/1989	10/17/1989	10/5/1989	10/8/1989
1990	10/25/1990	10/29/1990	10/19/1990	10/18/1990	10/19/1990	10/22/1990	10/28/1990	10/31/1990	11/7/1990
1991	10/1/1991	10/2/1991	9/29/1991	9/20/1991	8/28/1991	9/23/1991	9/15/1991	9/22/1991	9/15/1991
1992	11/22/1992	11/30/1992	10/26/1992	10/22/1992	10/29/1992	10/18/1992	10/23/1992	10/14/1992	10/19/1992
1993	10/31/1993	11/1/1993	10/27/1993	10/21/1993	10/25/1993	10/25/1993	10/26/1993	10/27/1993	10/28/1993
1994	10/26/1994	10/28/1994	10/18/1994	10/13/1994	10/14/1994	10/16/1994	10/20/1994	10/12/1994	10/23/1994
1995	10/15/1995	10/17/1995	10/17/1995	10/8/1995	10/6/1995	10/9/1995	10/13/1995	10/15/1995	10/16/1995
1996	11/5/1996	11/6/1996	10/25/1996	10/18/1996	10/24/1996	10/17/1996	10/28/1996	10/26/1996	10/28/1996
1997	10/21/1997	10/23/1997	10/14/1997	10/13/1997	10/13/1997	10/12/1997	10/14/1997	10/10/1997	10/14/1997
1998	10/25/1998	10/27/1998	10/15/1998	10/12/1998	10/2/1998	10/6/1998	10/14/1998	10/8/1998	10/9/1998
1999	10/14/1999	10/17/1999	10/8/1999	10/3/1999	10/4/1999	9/27/1999	10/2/1999	9/20/1999	9/26/1999
2000	10/15/2000	10/15/2000	10/2/2000	9/25/2000	9/27/2000	10/1/2000	10/8/2000	9/23/2000	9/30/2000
2001	10/22/2001	10/28/2001	10/11/2001	10/2/2001	10/11/2001	9/29/2001	10/3/2001	9/17/2001	9/21/2001
2002	10/19/2002	10/19/2002	10/10/2002	10/5/2002	10/15/2002	10/13/2002	10/8/2002	10/4/2002	10/1/2002
2003	10/17/2003	10/20/2003	10/14/2003	10/4/2003	10/13/2003	10/8/2003	10/12/2003	10/9/2003	10/11/2003
2004	10/19/2004	10/19/2004	10/4/2004	9/29/2004	10/4/2004	9/29/2004	9/29/2004	9/24/2004	9/26/2004
2005	10/15/2005	10/15/2005	10/9/2005	9/28/2005	10/7/2005	9/22/2005	10/1/2005	9/23/2005	9/25/2005
2006	10/18/2006	10/22/2006	10/4/2006	10/6/2006	10/14/2006	10/1/2006	10/7/2006	9/22/2006	10/2/2006
2007	10/8/2007	10/5/2007	9/27/2007	9/21/2007	9/29/2007	9/16/2007	9/19/2007	9/4/2007	9/11/2007
2008	11/2/2008	11/1/2008	10/29/2008	10/22/2008	10/26/2008	10/26/2008	10/26/2008	10/12/2008	10/16/2008

Table A.13. Estimated Midpoint of Soybean Harvest, Illinois by Region, 1976-2008

	Region								
Year	NW	NE	W	C	E	WSW	ESE	SW	SE
1976	10/4/1976	10/2/1976	10/4/1976	9/30/1976	9/29/1976	9/30/1976	9/28/1976	10/2/1976	9/29/1976
1977	10/16/1977	10/15/1977	10/19/1977	10/17/1977	10/13/1977	10/15/1977	10/14/1977	10/18/1977	10/20/1977
1978	10/10/1978	10/10/1978	10/10/1978	10/2/1978	9/28/1978	10/7/1978	10/6/1978	10/6/1978	10/12/1978
1979	10/7/1979	10/15/1979	10/3/1979	9/29/1979	9/29/1979	10/6/1979	10/3/1979	10/7/1979	10/9/1979
1980	10/6/1980	10/8/1980	10/2/1980	10/1/1980	9/30/1980	10/5/1980	10/1/1980	10/7/1980	10/2/1980
1981	10/13/1981	10/11/1981	10/11/1981	10/11/1981	10/10/1981	10/7/1981	10/15/1981	10/20/1981	10/8/1981
1982	10/6/1982	10/6/1982	10/5/1982	10/3/1982	9/30/1982	10/7/1982	10/3/1982	10/8/1982	10/6/1982
1983	10/5/1983	10/6/1983	10/2/1983	10/2/1983	9/30/1983	10/3/1983	10/4/1983	10/7/1983	10/9/1983
1984	10/7/1984	10/6/1984	11/6/1984	10/4/1984	10/2/1984	11/4/1984	10/14/1984	11/8/1984	11/12/1984
1985	10/18/1985	10/23/1985	10/27/1985	10/6/1985	10/5/1985	10/10/1985	10/3/1985	10/9/1985	10/16/1985
1986	10/24/1986	10/22/1986	10/20/1986	10/16/1986	10/14/1986	10/15/1986	10/7/1986	10/14/1986	10/12/1986
1987	10/5/1987	10/5/1987	10/1/1987	9/27/1987	9/27/1987	9/25/1987	9/20/1987	9/27/1987	9/27/1987
1988	10/3/1988	10/3/1988	10/5/1988	10/1/1988	9/28/1988	10/6/1988	9/30/1988	10/10/1988	10/9/1988
1989	10/8/1989	10/8/1989	10/8/1989	10/4/1989	10/4/1989	10/8/1989	10/11/1989	10/8/1989	10/10/1989
1990	10/18/1990	10/21/1990	10/18/1990	10/16/1990	10/14/1990	10/18/1990	10/19/1990	10/22/1990	10/27/1990
1991	9/29/1991	9/30/1991	10/4/1991	9/28/1991	9/25/1991	10/1/1991	9/26/1991	10/2/1991	9/29/1991
1992	10/15/1992	10/15/1992	9/20/1992	10/1/1992	8/23/1992	8/30/1992	9/23/1992	10/11/1992	10/12/1992
1993	10/14/1993	10/11/1993	10/12/1993	9/30/1993	9/19/1993	10/11/1993	10/6/1993	10/19/1993	10/24/1993
1994	10/11/1994	10/7/1994	10/7/1994	9/30/1994	9/18/1994	10/4/1994	10/5/1994	10/9/1994	10/9/1994
1995	10/8/1995	10/4/1995	10/13/1995	10/4/1995	10/1/1995	10/8/1995	10/5/1995	10/13/1995	10/15/1995
1996	10/21/1996	10/20/1996	10/18/1996	10/11/1996	10/16/1996	10/13/1996	10/19/1996	10/18/1996	10/29/1996
1997	10/7/1997	10/6/1997	10/8/1997	10/3/1997	10/3/1997	10/4/1997	10/3/1997	10/9/1997	10/12/1997
1998	10/17/1998	10/13/1998	10/14/1998	10/4/1998	9/29/1998	10/11/1998	10/8/1998	10/10/1998	10/16/1998
1999	10/12/1999	10/12/1999	10/12/1999	10/9/1999	10/7/1999	10/8/1999	10/5/1999	10/6/1999	10/4/1999
2000	10/7/2000	10/6/2000	10/11/2000	10/5/2000	10/2/2000	10/8/2000	10/8/2000	10/8/2000	10/8/2000
2001	10/15/2001	10/16/2001	10/13/2001	10/1/2001	10/4/2001	10/5/2001	10/1/2001	10/7/2001	10/9/2001
2002	10/9/2002	10/10/2002	10/13/2002	10/8/2002	10/9/2002	10/12/2002	10/7/2002	10/6/2002	10/12/2002
2003	10/6/2003	10/5/2003	10/11/2003	10/4/2003	10/3/2003	10/13/2003	10/10/2003	10/19/2003	10/22/2003
2004	10/6/2004	10/13/2004	10/5/2004	10/1/2004	9/29/2004	10/3/2004	9/28/2004	10/3/2004	10/3/2004
2005	10/7/2005	10/1/2005	10/11/2005	10/4/2005	10/1/2005	10/7/2005	10/2/2005	10/7/2005	10/9/2005
2006	10/9/2006	10/9/2006	10/6/2006	10/7/2006	10/9/2006	10/8/2006	10/9/2006	10/8/2006	10/12/2006
2007	10/4/2007	10/4/2007	10/4/2007	9/28/2007	10/1/2007	10/1/2007	9/28/2007	10/3/2007	10/4/2007
2008	10/9/2008	10/9/2008	10/18/2008	10/14/2008	10/9/2008	10/20/2008	10/11/2008	10/26/2008	10/21/2008

Table A.14. Illinois Corn and Soybean Estimated Storage Costs, 1976-2008

Year	Corn Storage Fees		Soybeans Storage Fees	
	Initial*	Variable**	Initial*	Variable**
	----$/bushel-----		----$/bushel-----	
1976	0.13	0.02	0.13	0.02
1977	0.13	0.02	0.13	0.02
1978	0.13	0.02	0.13	0.02
1979	0.13	0.02	0.13	0.02
1980	0.13	0.02	0.13	0.02
1981	0.13	0.02	0.13	0.02
1982	0.13	0.02	0.13	0.02
1983	0.13	0.02	0.13	0.02
1984	0.13	0.02	0.13	0.02
1985	0.13	0.02	0.13	0.02
1986	0.13	0.02	0.13	0.02
1987	0.13	0.02	0.13	0.02
1988	0.13	0.02	0.13	0.02
1989	0.13	0.02	0.13	0.02
1990	0.13	0.02	0.13	0.02
1991	0.13	0.02	0.13	0.02
1992	0.13	0.02	0.13	0.02
1993	0.13	0.02	0.13	0.02
1994	0.13	0.02	0.13	0.02
1995	0.13	0.02	0.13	0.02
1996	0.13	0.02	0.13	0.02
1997	0.13	0.02	0.13	0.02
1998	0.13	0.02	0.13	0.02
1999	0.13	0.02	0.13	0.02
2000	0.13	0.02	0.13	0.02
2001	0.13	0.02	0.13	0.02
2002	0.13	0.02	0.13	0.02
2003	0.13	0.02	0.13	0.02
2004	0.13	0.02	0.13	0.02
2005	0.13	0.02	0.13	0.02
2006	0.13	0.02	0.13	0.02
2007	0.145	0.025	0.16	0.025
2008	0.145	0.025	0.16	0.025

* Fixed costs are per bushel

** Variable costs are per bushel per month

Table A.15. Corn Crop Insurance Price Volatilities, Base Prices, and Harvest Prices, 1975-2008

Year	GRIP** Volatility	CRC*** Price Factor	Base Price	Harvest Price
			-----$/bushel-----	
1975	0.26*	0.466*	2.72	2.91
1976	0.19*	0.308*	2.72	2.65
1977	0.18*	0.287*	2.73	2.09
1978	0.14*	0.116*	2.27	2.31
1979	0.16*	0.217*	2.59	2.78
1980	0.15*	0.288*	3.12	3.61
1981	0.23*	0.582*	3.77	2.91
1982	0.22*	0.425*	3.00	2.20
1983	0.20*	0.359*	2.88	3.48
1984	0.17*	0.287*	2.86	2.78
1985	0.15*	0.207*	2.66	2.23
1986	0.18*	0.179*	2.11	1.69
1987	0.22*	0.195*	1.69	1.83
1988	0.23*	0.302*	2.17	2.89
1989	0.21*	0.351*	2.71	2.39
1990	0.16	0.196	2.47	2.30
1991	0.17	0.240	2.59	2.51
1992	0.19	0.304	2.70	2.09
1993	0.16	0.184	2.40	2.49
1994	0.17	0.256	2.68	2.16
1995	0.16	0.214	2.57	3.23
1996	0.20	0.394	3.08	2.84
1997	0.19	0.310	2.73	2.81
1998	0.21	0.374	2.84	2.19
1999	0.19	0.252	2.40	2.01
2000	0.22	0.339	2.51	2.04
2001	0.20	0.285	2.46	2.08
2002	0.18	0.215	2.32	2.52
2003	0.18	0.233	2.42	2.26
2004	0.21	0.372	2.83	2.05
2005	0.21	0.283	2.32	2.02
2006	0.23	0.376	2.59	3.03
2007	0.26	0.701	4.06	3.58
2008	0.29	1.003	5.40	4.13

* Caclulated from estimated option implied futures volatility

** Group Risk Income Protection

*** Crop Revenue Coverage

Table A.16. Soybean Crop Insurance Price Volatilities, Base Prices, and Harvest Prices, 1975-2008

Year	GRIP** Volatility	CRC*** Price Factor	Base Price	Harvest Price
			-----$/bushel-----	
1975	0.26*	1.029*	5.76	5.25
1976	0.19*	0.552*	5.09	6.41
1977	0.18*	0.828*	6.97	5.31
1978	0.14*	0.412*	5.76	6.84
1979	0.16*	0.726*	6.97	6.72
1980	0.15*	0.73*	7.29	8.57
1981	0.23*	1.31*	8.26	6.56
1982	0.21*	0.946*	6.76	5.32
1983	0.20*	0.82*	6.33	8.43
1984	0.17*	0.801*	7.11	6.14
1985	0.15*	0.516*	6.06	5.05
1986	0.18*	0.511*	5.15	4.82
1987	0.22*	0.64*	4.71	5.38
1988	0.23*	0.991*	6.43	7.93
1989	0.20*	0.978*	7.24	5.62
1990	0.14	0.445	5.95	6.12
1991	0.15	0.531	6.15	5.60
1992	0.18	0.670	6.06	5.38
1993	0.14	0.429	5.86	6.15
1994	0.15	0.589	6.48	5.41
1995	0.15	0.479	5.85	6.56
1996	0.16	0.771	7.23	7.07
1997	0.17	0.777	6.97	6.82
1998	0.19	0.822	6.64	5.46
1999	0.18	0.504	5.11	4.85
2000	0.21	0.695	5.32	4.72
2001	0.18	0.428	4.67	4.37
2002	0.19	0.449	4.50	5.45
2003	0.16	0.428	5.26	7.32
2004	0.22	0.990	6.72	5.26
2005	0.22	0.783	5.53	5.75
2006	0.23	0.948	6.18	5.93
2007	0.20	1.126	8.09	9.75
2008	0.32	2.661	13.36	9.22

* Caclulated from estimated option implied futures volatility
** Group Risk Income Protection
*** Crop Revenue Coverage

Table A.17. Average Premium and Indemnity and Net Cost of Insurance by Region and Insurance Product.

Crop	Region	CRC*			GRIP-BP**			GRIP-HP***		
		Average Premium	Average Indemnity	Net Cost of Insurance[+]	Average Premium	Average Indemnity	Net Cost of Insurance[+]	Average Premium	Average Indemnity	Net Cost of Insurance[+]
Corn		-----$/Acre-----			-----$/Acre-----			-----$/Acre-----		
	Northern Illinois	10.51	10.38	0.13	14.99	23.96	-8.97	21.26	27.23	-5.98
	Central Illinois (High Productivity)	11.10	6.56	4.54	13.21	28.69	-15.48	16.26	31.48	-15.22
	Central Illinois (Low Productivity)	10.42	24.02	-13.59	10.71	31.69	-20.98	15.45	37.42	-21.96
	Southern Illinois	12.56	17.03	-4.47	13.50	30.19	-16.70	17.80	32.74	-14.94
Soybeans										
	Northern Illinois	7.89	9.33	-1.44	17.56	15.82	1.74	19.96	16.75	3.21
	Central Illinois (High Productivity)	8.10	3.26	4.85	17.13	15.97	1.17	20.81	15.88	4.94
	Central Illinois (Low Productivity)	7.81	16.80	-8.99	16.94	23.19	-6.25	19.33	21.95	-2.62
	Southern Illinois	8.80	8.34	0.45	14.69	16.18	-1.49	17.86	18.02	-0.16

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option, 90% coverage level, 100% protection level

[+]Insurance premium minus insurance indemnity

Table A.18. Corn Premiums and Indemnities by Year and Insurance Product, 1976-2008

	Northern Illinois-La Salle County					
	85% CRC*		90% GRIP-BP**		90% GRIP-HP***	
Year	Premium	Indemnity	Premium	Indemnity	Premium	Indemnity
			--------$/acre--------			
1976	10.60	0.00	11.03	0.00	15.92	0.00
1977	10.10	8.61	11.02	48.98	15.27	37.50
1978	6.97	0.00	8.41	0.00	11.54	0.00
1979	9.10	0.00	10.57	0.00	14.73	0.00
1980	11.20	1.02	12.82	0.00	17.42	0.00
1981	16.11	0.00	18.10	28.00	26.22	21.62
1982	12.31	0.00	14.34	33.79	20.60	24.78
1983	11.39	0.00	13.70	0.00	19.51	63.28
1984	10.29	0.00	12.64	0.00	17.63	0.00
1985	8.64	0.00	11.03	0.00	15.13	0.00
1986	7.26	0.00	9.83	18.03	14.07	14.44
1987	6.49	0.00	8.90	0.00	12.89	0.00
1988	8.66	192.01	11.60	50.95	16.79	143.35
1989	10.54	0.00	14.10	0.00	20.08	0.00
1990	8.36	0.00	11.92	14.90	16.63	13.88
1991	8.91	111.13	12.68	140.51	17.68	136.17
1992	10.00	0.00	13.71	36.28	19.62	28.08
1993	7.83	0.00	11.97	0.00	16.25	0.00
1994	9.62	0.00	13.98	0.00	19.38	0.00
1995	8.42	0.00	13.16	0.00	17.88	57.70
1996	12.21	0.00	17.62	0.00	25.10	0.00
1997	10.45	0.00	15.15	0.00	21.87	3.87
1998	11.25	0.00	16.67	88.25	23.75	68.05
1999	8.82	2.26	13.66	65.23	19.72	54.63
2000	9.94	0.00	15.43	56.00	22.16	45.51
2001	9.10	0.00	14.35	17.12	20.72	14.47
2002	8.08	0.00	13.40	0.00	19.17	16.64
2003	8.30	0.00	14.15	0.00	19.59	0.00
2004	11.40	0.00	18.26	66.14	26.22	47.91
2005	8.70	27.40	14.83	94.16	21.12	81.98
2006	10.96	0.00	18.17	0.00	25.99	0.00
2007	18.47	0.00	30.50	0.00	44.02	0.00
2008	26.23	0.00	47.09	32.44	66.80	24.81
Average	10.51	10.38	14.99	23.96	21.26	27.23
Average Net Cost of Insurance+						
		0.13		-8.97		-5.98

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option,
    90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option,
    90% coverage level, 100% protection level

+Insurance premium minus insurance indemnity

Table A.19. Corn Premiums and Indemnities by Year and Insurance Product, 1976-2008

	85% CRC*		90% GRIP-BP**		90% GRIP-HP***	
Year	Premium	Indemnity	Premium	Indemnity	Premium	Indemnity
			--------$/acre--------			
1976	11.26	0.00	9.57	0.00	12.00	0.00
1977	10.69	40.17	8.66	67.67	10.87	51.80
1978	7.47	0.00	5.92	0.00	7.79	0.00
1979	9.68	0.00	7.95	0.00	10.11	0.00
1980	11.90	0.00	9.07	0.00	11.72	19.14
1981	17.38	0.00	17.63	12.67	21.29	9.78
1982	13.11	10.98	13.27	58.44	16.22	42.85
1983	12.22	34.20	12.29	43.83	15.18	134.83
1984	10.87	0.00	9.49	0.00	12.07	0.00
1985	9.21	0.00	7.74	0.00	10.18	0.00
1986	7.70	0.00	8.19	0.00	10.39	0.00
1987	6.88	0.00	8.65	0.00	10.44	0.00
1988	9.21	76.63	11.26	44.27	13.60	148.67
1989	11.20	0.00	12.62	25.11	15.57	22.15
1990	8.85	0.00	8.93	0.00	11.36	0.00
1991	9.33	0.00	9.49	0.00	12.07	0.00
1992	10.53	0.00	11.39	9.81	14.46	7.59
1993	8.12	0.00	8.42	0.00	10.88	0.00
1994	10.06	0.00	10.91	0.00	13.69	0.00
1995	8.78	0.00	9.25	0.00	11.95	50.24
1996	12.90	0.00	15.74	0.00	19.42	0.00
1997	10.93	0.00	13.02	0.00	16.33	6.08
1998	11.73	21.39	14.87	140.58	18.36	108.41
1999	9.25	30.71	11.73	106.02	14.71	88.79
2000	10.48	0.00	14.17	34.84	17.33	28.32
2001	9.55	2.30	12.32	63.22	15.45	53.46
2002	8.54	0.00	11.09	0.00	14.08	5.23
2003	8.65	0.00	11.00	0.00	13.81	0.00
2004	12.07	0.00	16.75	84.33	20.48	61.09
2005	9.19	0.00	13.20	44.92	16.30	39.11
2006	11.59	0.00	18.01	0.00	21.50	0.00
2007	19.47	0.00	31.62	0.00	37.16	0.00
2008	27.48	0.00	51.63	211.03	59.91	161.40
Average	11.10	6.56	13.21	28.69	16.26	31.48
Average Net Cost of Insurance+						
		4.54		-15.48		-15.22

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option,
    90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option,
    90% coverage level, 100% protection level

+Insurance premium minus insurance indemnity

Table A.20. Corn Premiums and Indemnities by Year and Insurance Product, 1976-2008

	85% CRC*		90% GRIP-BP**		90% GRIP-HP***	
Year	Premium	Indemnity	Premium	Indemnity	Premium	Indemnity
			--------$/acre--------			
1976	10.35	57.54	8.09	0.00	11.89	0.00
1977	10.11	0.00	7.21	90.64	10.81	69.39
1978	7.13	0.00	5.00	0.00	7.82	0.00
1979	9.12	0.00	6.54	0.00	10.05	0.00
1980	11.12	229.59	7.37	42.81	11.36	111.41
1981	16.15	0.00	14.67	60.45	20.69	46.66
1982	12.20	0.00	10.92	42.98	15.78	31.52
1983	11.44	110.92	10.04	4.95	14.46	94.95
1984	10.50	0.00	7.72	0.00	11.88	0.00
1985	8.98	0.00	6.43	0.00	10.07	0.00
1986	7.51	9.42	6.74	35.21	9.89	28.20
1987	6.48	0.00	7.11	0.00	10.03	0.00
1988	8.59	128.77	9.25	28.33	13.04	126.73
1989	10.69	0.00	10.19	13.37	14.68	11.79
1990	8.70	0.00	7.19	0.00	11.06	0.00
1991	9.02	142.19	7.63	189.35	11.74	183.51
1992	10.14	0.00	9.28	0.00	13.62	0.00
1993	7.91	0.00	6.68	0.00	10.30	0.00
1994	9.59	0.00	8.81	0.00	13.21	0.00
1995	8.45	43.50	7.32	0.00	11.29	107.95
1996	12.17	0.00	12.57	45.09	18.12	41.58
1997	10.29	0.00	10.61	0.00	15.58	0.48
1998	11.05	0.23	11.86	148.20	17.09	114.28
1999	8.71	0.00	9.54	6.09	14.01	5.10
2000	9.73	0.00	11.34	100.09	16.38	81.35
2001	8.94	0.00	9.98	16.44	14.67	13.90
2002	7.95	0.00	8.92	0.00	13.09	0.00
2003	8.09	0.00	8.78	0.00	13.17	0.00
2004	11.05	20.61	13.34	91.01	19.26	65.93
2005	8.52	0.00	10.43	0.00	15.04	0.00
2006	10.53	0.00	14.19	0.00	20.08	0.00
2007	17.73	0.00	25.76	0.00	34.52	0.00
2008	24.95	49.73	41.97	130.74	55.22	99.99
Average	10.42	24.02	10.71	31.69	15.45	37.42
Average Net Cost of Insurance[+]						
		-13.59		-20.98		-21.96

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option,
   90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option,
   90% coverage level, 100% protection level

[+]Insurance premium minus insurance indemnity

Table A.21. Corn Premiums and Indemnities by Year and Insurance Product, 1976-2008

Southern Illinois-Effingham County

Year	85% CRC*		90% GRIP-BP**		90% GRIP-HP***	
	Premium	Indemnity	Premium	Indemnity	Premium	Indemnity
	--------$/acre--------					
1976	12.81	75.39	9.77	42.46	13.04	41.36
1977	13.24	0.00	9.36	17.84	12.49	13.66
1978	9.64	0.00	7.22	0.00	9.52	0.00
1979	11.80	0.00	8.80	0.00	11.88	0.00
1980	14.00	39.86	10.54	0.00	14.07	0.00
1981	19.40	0.00	16.68	29.74	21.95	22.96
1982	14.56	0.00	13.00	26.43	17.01	19.38
1983	13.49	198.21	12.20	228.68	16.12	264.68
1984	12.90	37.87	10.58	126.63	14.30	123.09
1985	11.35	0.00	9.54	0.00	12.58	0.00
1986	9.42	0.00	8.63	0.00	11.65	0.00
1987	7.74	0.00	8.25	0.00	10.86	0.00
1988	10.15	50.92	10.76	5.54	14.16	93.14
1989	12.57	0.00	12.63	0.00	16.69	0.00
1990	10.24	0.00	10.05	0.00	13.56	0.00
1991	10.67	0.00	10.69	31.84	14.44	30.86
1992	11.98	0.00	12.10	8.50	16.33	6.58
1993	9.53	0.00	9.96	0.00	13.29	0.00
1994	11.44	38.28	12.09	17.48	16.14	14.09
1995	10.19	0.00	10.97	0.00	14.64	0.00
1996	14.09	24.79	15.88	86.63	20.98	79.88
1997	12.16	0.00	13.70	24.58	18.28	38.45
1998	13.09	0.00	15.05	50.37	19.88	38.84
1999	10.40	61.48	12.36	147.08	16.50	123.18
2000	11.75	0.00	14.20	27.12	18.59	22.04
2001	10.89	0.00	13.01	0.00	17.37	0.00
2002	9.73	35.11	11.91	44.24	16.07	77.57
2003	10.11	0.00	12.30	0.00	16.42	0.00
2004	13.16	0.00	16.84	0.00	22.05	0.00
2005	10.16	0.00	13.44	81.26	17.76	70.75
2006	12.34	0.00	17.32	0.00	22.20	0.00
2007	20.63	0.00	29.42	0.00	38.12	0.00
2008	28.71	0.00	46.10	0.00	58.47	0.00
Average	12.56	17.03	13.50	30.19	17.80	32.74
Average Net Cost of Insurance⁺						
		-4.47		-16.70		-14.94

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option,
    90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option,
    90% coverage level, 100% protection level

Table A.22. Soybean Premiums and Indemnities by Year and Insurance Product, 1976-2008

	Northern Illinois-La Salle County					
	85% CRC*		90% GRIP-BP**		90% GRIP-HP***	
Year	Premium	Indemnity	Premium	Indemnity	Premium	Indemnity
			-------$/acre--------			
1976	6.07	0.00	11.54	0.00	13.17	9.25
1977	8.62	0.00	14.83	34.21	17.11	26.06
1978	6.02	10.60	9.09	0.00	10.80	0.00
1979	8.23	0.00	13.03	0.00	15.23	0.00
1980	8.41	0.00	12.69	0.00	14.96	0.00
1981	11.35	24.30	25.54	2.53	28.49	2.01
1982	8.80	16.79	18.58	40.33	20.97	31.74
1983	8.03	0.00	16.43	0.00	18.65	0.00
1984	8.52	3.36	15.02	34.36	17.42	29.67
1985	6.64	0.00	11.05	0.00	13.03	0.00
1986	5.89	0.00	11.92	0.00	13.76	0.00
1987	6.07	0.00	14.45	0.00	16.23	0.00
1988	8.76	66.55	21.20	39.97	23.64	107.47
1989	9.32	0.00	19.84	33.95	22.52	26.35
1990	6.30	0.00	10.48	0.00	12.45	0.00
1991	6.81	16.07	11.83	53.63	13.94	48.83
1992	7.25	0.00	14.79	0.00	17.07	0.00
1993	6.15	0.00	10.60	0.00	12.58	0.00
1994	7.24	0.00	12.78	0.00	15.07	0.00
1995	6.29	1.57	11.64	0.00	13.72	0.00
1996	8.49	0.00	15.74	0.60	18.38	0.59
1997	8.29	0.00	16.49	0.00	19.12	0.00
1998	8.26	0.00	18.33	13.85	20.93	11.38
1999	5.83	15.21	13.22	0.00	15.25	0.00
2000	6.76	0.00	17.09	9.23	19.28	8.19
2001	5.20	0.00	12.28	0.00	14.16	0.00
2002	5.17	0.00	12.83	0.00	14.65	0.00
2003	5.64	48.47	12.11	0.00	14.15	69.70
2004	8.98	0.00	23.76	26.42	26.68	20.68
2005	7.25	0.00	19.71	0.00	22.13	0.00
2006	8.39	0.00	23.63	0.00	26.35	0.00
2007	10.56	0.00	25.68	0.00	29.14	0.00
2008	20.65	104.93	81.37	233.04	87.73	160.83
Average	7.89	9.33	17.56	15.82	19.96	16.75
Average Net Cost of Insurance+						
		-1.44		1.74		3.21

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option,
    90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option,
    90% coverage level, 100% protection level

+Insurance premium minus insurance indemnity

Table A.23. Soybean Premiums and Indemnities by Year and Insurance Product, 1976-2008

	Central Illinois (High Productivity)-Sangamon County
	85% CRC*		90% GRIP-BP**		90% GRIP-HP***	
Year	Premium	Indemnity	Premium	Indemnity	Premium	Indemnity
			-------$/acre--------			
1976	6.33	0.00	11.22	0.00	13.57	0.00
1977	8.94	0.00	14.44	28.71	17.62	21.87
1978	6.30	0.00	8.38	0.00	11.07	0.00
1979	8.40	0.00	12.50	0.00	15.64	0.00
1980	8.75	0.00	12.03	0.00	15.37	0.00
1981	11.70	0.00	24.99	24.95	29.61	19.81
1982	9.14	5.10	18.14	23.85	21.79	18.77
1983	8.23	9.63	16.09	0.00	19.42	47.68
1984	8.85	0.00	14.64	60.26	18.03	52.04
1985	6.89	0.00	10.52	0.00	13.45	0.00
1986	6.12	0.00	11.71	0.00	14.29	0.00
1987	6.25	0.00	14.31	0.00	16.96	0.00
1988	9.02	16.73	20.87	12.81	24.72	90.31
1989	9.57	0.00	19.53	30.76	23.56	23.88
1990	6.48	0.00	9.78	0.00	12.90	0.00
1991	6.95	0.00	11.32	0.00	14.46	0.00
1992	7.37	0.00	14.59	0.00	17.81	0.00
1993	6.27	0.00	9.90	0.00	13.06	0.00
1994	7.33	0.00	12.26	4.21	15.67	3.52
1995	6.38	0.00	11.17	0.00	14.27	0.95
1996	8.64	0.00	15.30	0.00	19.15	0.00
1997	8.47	0.00	16.23	0.00	19.99	0.00
1998	8.45	0.00	18.17	28.10	21.97	23.11
1999	5.98	0.00	13.11	0.00	16.00	0.00
2000	6.93	3.61	16.91	12.58	20.32	11.16
2001	5.31	0.00	12.19	0.00	14.88	0.00
2002	5.28	0.00	12.75	0.00	15.42	0.00
2003	5.74	0.00	11.84	0.00	14.81	0.00
2004	9.23	2.93	23.82	36.56	28.21	28.61
2005	7.45	0.00	19.76	0.00	23.41	0.00
2006	8.60	0.00	23.55	0.00	27.90	0.00
2007	10.85	0.00	25.59	0.00	30.87	0.00
2008	21.26	69.51	77.81	264.12	90.66	182.28
Average	8.10	3.26	17.13	15.97	20.81	15.88
Average Net Cost of Insurance[+]						
		4.85		1.17		4.94

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option,
    90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option,
    90% coverage level, 100% protection level

[+]Insurance premium minus insurance indemnity

Table A.24. Soybean Premiums and Indemnities by Year and Insurance Product, 1976-2008

	85% CRC*		90% GRIP-BP**		90% GRIP-HP***	
Year	Premium	Indemnity	Premium	Indemnity	Premium	Indemnity
			--------$/acre--------			
1976	6.00	10.66	10.61	0.00	12.18	0.00
1977	8.50	0.00	13.71	39.18	15.85	29.85
1978	6.06	0.00	8.49	0.00	10.12	0.00
1979	8.08	0.00	12.11	0.00	14.22	0.00
1980	8.43	22.32	11.87	0.00	14.08	0.00
1981	11.29	17.69	23.80	63.34	26.67	50.30
1982	8.80	10.22	17.38	19.54	19.71	15.38
1983	8.03	0.00	15.41	0.00	17.61	0.00
1984	8.50	16.07	14.17	54.50	16.50	47.07
1985	6.73	0.00	10.48	0.00	12.44	0.00
1986	5.91	34.83	11.31	24.81	13.08	23.22
1987	6.04	0.00	13.70	0.00	15.44	0.00
1988	8.66	112.16	20.12	47.23	22.55	112.23
1989	9.26	0.00	18.89	75.08	21.58	58.28
1990	6.38	0.00	10.11	0.00	12.06	0.00
1991	6.77	65.99	11.38	87.84	13.51	79.98
1992	7.36	0.00	14.23	0.00	16.45	0.00
1993	6.19	0.00	10.28	0.00	12.26	0.00
1994	7.29	0.00	12.39	0.00	14.69	0.00
1995	6.27	0.00	11.30	0.00	13.41	0.00
1996	8.46	0.00	15.24	0.00	17.90	0.00
1997	8.19	0.00	16.02	0.00	18.66	0.00
1998	8.12	0.00	17.81	71.56	20.45	58.84
1999	5.72	0.00	12.91	0.00	14.92	0.00
2000	6.54	0.00	16.65	13.21	18.90	11.72
2001	5.05	0.00	12.03	0.00	13.91	0.00
2002	5.04	0.00	12.56	0.00	14.43	0.00
2003	5.50	61.22	11.89	0.00	13.97	49.53
2004	8.76	14.56	23.34	26.43	26.31	20.69
2005	7.07	0.00	19.39	0.00	21.86	0.00
2006	8.23	0.00	23.26	0.00	26.07	0.00
2007	10.30	0.00	25.35	0.00	28.96	0.00
2008	20.26	188.78	80.78	242.57	87.30	167.40
Average	7.81	16.80	16.94	23.19	19.33	21.95
Average Net Cost of Insurance[+]						
		-8.99		-6.25		-2.62

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option,
    90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option,
    90% coverage level, 100% protection level

[+]Insurance premium minus insurance indemnity

Table A.25. Soybean Premiums and Indemnities by Year and Insurance Product, 1976-2008

Southern Illinois-Effingham County

Year	85% CRC*		90% GRIP-BP**		90% GRIP-HP***	
	Premium	Indemnity	Premium	Indemnity	Premium	Indemnity
	--------$/acre--------					
1976	6.83	0.00	9.11	0.00	11.12	0.00
1977	9.50	40.86	11.94	10.93	14.67	8.33
1978	7.00	0.00	7.96	0.00	9.91	0.00
1979	9.18	0.00	10.90	0.00	13.52	0.00
1980	9.59	0.00	10.93	0.00	13.61	0.00
1981	12.50	0.00	19.53	18.23	23.70	14.48
1982	9.77	0.00	14.62	8.47	17.80	6.67
1983	8.88	144.87	13.18	91.64	16.02	144.14
1984	9.68	12.83	12.60	123.98	15.55	107.07
1985	7.67	0.00	9.69	0.00	12.07	0.00
1986	6.78	0.00	9.93	0.00	12.19	0.00
1987	6.73	0.00	11.45	0.00	13.88	0.00
1988	9.62	72.48	16.60	36.05	20.15	91.05
1989	10.39	0.00	16.22	58.63	19.73	45.51
1990	7.33	0.00	9.58	0.00	11.92	0.00
1991	7.78	0.00	10.57	6.53	13.17	5.95
1992	8.18	0.00	12.54	0.00	15.41	0.00
1993	7.19	0.00	9.76	0.00	12.15	0.00
1994	8.29	0.00	11.53	5.98	14.36	4.99
1995	7.31	0.00	10.52	0.00	13.10	0.00
1996	9.56	0.00	13.89	0.00	17.24	0.00
1997	9.31	0.00	14.38	0.00	17.74	0.00
1998	9.15	0.00	15.56	18.63	18.99	15.32
1999	6.64	0.00	11.43	19.25	14.03	18.27
2000	7.44	0.00	14.19	0.00	17.28	0.00
2001	5.92	0.00	10.67	0.00	13.09	0.00
2002	5.82	4.33	11.00	0.00	13.42	19.73
2003	6.47	0.00	10.89	0.00	13.50	0.00
2004	9.69	0.00	19.71	0.00	23.90	0.00
2005	7.89	0.00	16.38	0.00	19.87	0.00
2006	9.05	0.00	19.41	0.00	23.56	0.00
2007	11.44	0.00	22.01	0.00	26.76	19.74
2008	21.76	0.00	65.95	135.49	75.90	93.51
Average	8.80	8.34	14.69	16.18	17.86	18.02
Average Net Cost of Insurance[+]						
		0.45		-1.49		-0.16

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection, without harvest price option,
   90% coverage level, 100% protection level

***Group Risk Income Protection, with harvest price option,
   90% coverage level, 100% protection level

[+]Insurance premium minus insurance indemnity

APPENDIX B   CORN RAW RESULTS

Northern Illinois – La Salle County

Table B.1. Corn, La Salle County, Cash Sales at Harvest, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		-----$/acre-----				-----$/acre-----			-----$/acre-----		
1976	-	287.10	-	287.10	(10.60)	(11.03)	(15.92)	287.10	276.50	276.07	271.18
1977	-	243.21	-	243.21	(1.49)	37.96	22.23	243.21	241.72	281.17	265.44
1978	-	241.26	-	241.26	(6.97)	(8.41)	(11.54)	241.26	234.29	232.85	229.72
1979	-	342.25	-	342.25	(9.10)	(10.57)	(14.73)	342.25	333.15	331.68	327.52
1980	-	353.37	-	353.37	(10.18)	(12.82)	(17.42)	353.37	343.19	340.55	335.95
1981	-	346.59	-	346.59	(16.11)	9.90	(4.60)	346.59	330.48	356.49	341.98
1982	-	287.74	-	287.74	(12.31)	19.45	4.18	287.74	275.43	307.20	291.93
1983	-	436.15	-	436.15	(11.39)	(13.70)	43.77	436.15	424.76	422.45	479.92
1984	-	390.98	-	390.98	(10.29)	(12.64)	(17.63)	390.98	380.69	378.34	373.35
1985	-	352.36	-	352.36	(8.64)	(11.03)	(15.13)	352.36	343.72	341.33	337.23
1986	-	242.46	-	242.46	(7.26)	8.20	0.37	242.46	235.20	250.66	242.83
1987	-	226.10	-	226.10	(6.49)	(8.90)	(12.89)	226.10	219.61	217.20	213.21
1988	-	144.13	-	144.13	183.35	39.35	126.56	144.13	327.48	183.48	270.69
1989	-	360.84	-	360.84	(10.54)	(14.10)	(20.08)	360.84	350.30	346.74	340.76
1990	-	312.90	-	312.90	(8.36)	2.98	(2.75)	312.90	304.54	315.88	310.14
1991	-	183.02	-	183.02	102.22	127.83	118.49	183.02	285.24	310.84	301.50
1992	-	328.18	-	328.18	(10.00)	22.57	8.46	328.18	318.18	350.75	336.64
1993	-	380.90	-	380.90	(7.83)	(11.97)	(16.25)	380.90	373.07	368.93	364.65
1994	-	379.59	-	379.59	(9.62)	(13.98)	(19.38)	379.59	369.97	365.61	360.21
1995	-	408.31	-	408.31	(8.42)	(13.16)	39.82	408.31	399.88	395.15	448.12
1996	-	344.52	-	344.52	(12.21)	(17.62)	(25.10)	344.52	332.31	326.90	319.42
1997	-	346.08	-	346.08	(10.45)	(15.15)	(18.00)	346.08	335.63	330.93	328.08
1998	-	304.98	-	304.98	(11.25)	71.58	44.30	304.98	293.73	376.56	349.28
1999	-	244.08	-	244.08	(6.56)	51.57	34.91	244.08	237.52	295.65	278.99
2000	-	314.86	-	314.86	(9.94)	40.57	23.35	314.86	304.92	355.43	338.21
2001	-	320.25	-	320.25	(9.10)	2.77	(6.25)	320.25	311.15	323.02	314.00
2002	-	368.73	-	368.73	(8.08)	(13.40)	(2.53)	368.73	360.65	355.33	366.20
2003	-	391.60	-	391.60	(8.30)	(14.15)	(19.59)	391.60	383.30	377.45	372.01
2004	-	367.12	-	367.12	(11.40)	47.88	21.69	367.12	355.72	415.00	388.81
2005	-	240.10	-	240.10	18.70	79.33	60.86	240.10	258.80	319.43	300.96
2006	-	617.07	-	617.07	(10.96)	(18.17)	(25.99)	617.07	606.11	598.90	591.08
2007	-	646.60	-	646.60	(18.47)	(30.50)	(44.02)	646.60	628.13	616.10	602.58
2008	-	851.24	-	851.24	(26.23)	(14.65)	(41.99)	851.24	825.01	836.58	809.24

Descriptive Statistics

Average	-	351.66	-	351.66	(0.13)	8.97	5.98	351.66	351.53	360.62	357.63
Standard Deviation	-	135.20	-	135.20	38.77	35.30	39.25	135.20	122.82	121.19	117.75
Minimum	-	144.13	-	144.13	(26.23)	(30.50)	(44.02)	144.13	219.61	183.48	213.21
Maximum	-	851.24	-	851.24	183.35	127.83	126.56	851.24	825.01	836.58	809.24
Median	-	344.52	-	344.52	(9.62)	(10.57)	(6.25)	344.52	332.31	341.33	336.64

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.2. Corn, La Salle County, Cash Sales at Harvest, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	316.31	0.91	0.87	0.87	0.86
1977	323.19	0.75	0.75	0.87	0.82
1978	266.18	0.91	0.88	0.87	0.86
1979	314.69	1.09	1.06	1.05	1.04
1980	396.69	0.89	0.87	0.86	0.85
1981	473.60	0.73	0.70	0.75	0.72
1982	363.55	0.79	0.76	0.84	0.80
1983	357.79	1.22	1.19	1.18	1.34
1984	368.35	1.06	1.03	1.03	1.01
1985	369.07	0.95	0.93	0.92	0.91
1986	296.53	0.82	0.79	0.85	0.82
1987	231.70	0.98	0.95	0.94	0.92
1988	302.74	0.48	1.08	0.61	0.89
1989	361.91	1.00	0.97	0.96	0.94
1990	336.96	0.93	0.90	0.94	0.92
1991	366.79	0.50	0.78	0.85	0.82
1992	370.99	0.88	0.86	0.95	0.91
1993	330.94	1.15	1.13	1.11	1.10
1994	374.49	1.01	0.99	0.98	0.96
1995	366.45	1.11	1.09	1.08	1.22
1996	434.86	0.79	0.76	0.75	0.73
1997	379.83	0.91	0.88	0.87	0.86
1998	394.38	0.77	0.74	0.95	0.89
1999	349.51	0.70	0.68	0.85	0.80
2000	354.05	0.89	0.86	1.00	0.96
2001	349.29	0.92	0.89	0.92	0.90
2002	348.39	1.06	1.04	1.02	1.05
2003	368.52	1.06	1.04	1.02	1.01
2004	445.93	0.82	0.80	0.93	0.87
2005	359.41	0.67	0.72	0.89	0.84
2006	399.79	1.54	1.52	1.50	1.48
2007	670.01	0.97	0.94	0.92	0.90
2008	948.65	0.90	0.87	0.88	0.85
Descriptive Statistics					
Average	384.59	0.91	0.92	0.94	0.94
Standard Deviation	124.17	0.20	0.17	0.15	0.16
Minimum	231.70	0.48	0.68	0.61	0.72
Maximum	948.65	1.54	1.52	1.50	1.48
Median	363.55	0.91	0.88	0.92	0.90

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.3. Corn, La Salle County, Aggressive Mechanical Pricing Strategy, Revenues by Year

Year	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
			-----$/acre-----			(Indemnity minus premium) -----$/acre-----				-----$/acre-----	
1976	255.18	-	53.30	308.48	(10.60)	(11.03)	(15.92)	308.48	297.88	297.45	292.56
1977	213.82	-	52.13	265.95	(1.49)	37.96	22.23	265.95	264.46	303.91	288.18
1978	224.15	-	30.09	254.23	(6.97)	(8.41)	(11.54)	254.23	247.26	245.82	242.69
1979	265.55	-	95.56	361.10	(9.10)	(10.57)	(14.73)	361.10	352.00	350.53	346.37
1980	303.91	(0.92)	-	302.99	(10.18)	(12.82)	(17.42)	302.99	292.81	290.17	285.57
1981	331.15	-	82.22	413.38	(16.11)	9.90	(4.60)	413.38	397.27	423.28	408.77
1982	256.08	-	96.94	353.02	(12.31)	19.45	4.18	353.02	340.71	372.47	357.20
1983	317.89	-	41.38	359.27	(11.39)	(13.70)	43.77	359.27	347.88	345.57	403.04
1984	302.09	-	82.76	384.84	(10.29)	(12.64)	(17.63)	384.84	374.55	372.20	367.21
1985	270.03	-	82.39	352.42	(8.64)	(11.03)	(15.13)	352.42	343.78	341.39	337.29
1986	196.76	-	61.13	257.89	(7.26)	8.20	0.37	257.89	250.63	266.09	258.26
1987	183.88	-	42.95	226.83	(6.49)	(8.90)	(12.89)	226.83	220.34	217.93	213.94
1988	290.73	(178.06)	-	112.67	183.35	39.35	126.56	112.67	296.02	152.02	239.23
1989	261.05	-	90.89	351.94	(10.54)	(14.10)	(20.08)	351.94	341.40	337.84	331.86
1990	278.01	-	56.67	334.68	(8.36)	2.98	(2.75)	334.68	326.32	337.66	331.92
1991	283.86	(95.58)	-	188.28	102.22	127.83	118.49	188.28	290.50	316.10	306.76
1992	266.67	-	85.81	352.48	(10.00)	22.57	8.46	352.48	342.48	375.04	360.94
1993	251.75	-	86.37	338.13	(7.83)	(11.97)	(16.25)	338.13	330.30	326.16	321.88
1994	259.35	-	173.34	432.69	(9.62)	(13.98)	(19.38)	432.69	423.07	418.71	413.31
1995	305.50	-	25.91	331.41	(8.42)	(13.16)	39.82	331.41	322.99	318.25	371.23
1996	377.75	-	34.26	412.01	(12.21)	(17.62)	(25.10)	412.01	399.80	394.39	386.91
1997	281.46	-	26.88	308.33	(10.45)	(15.15)	(18.00)	308.33	297.88	293.18	290.34
1998	255.24	-	73.76	329.00	(11.25)	71.58	44.30	329.00	317.75	400.58	373.30
1999	246.55	-	35.31	281.86	(6.56)	51.57	34.91	281.86	275.30	333.43	316.77
2000	233.26	-	84.77	318.03	(9.94)	40.57	23.35	318.03	308.00	358.60	341.38
2001	243.91	-	87.99	331.90	(9.10)	2.77	(6.25)	331.90	322.80	334.67	325.65
2002	279.50	-	43.29	322.78	(8.08)	(13.40)	(2.53)	322.78	314.70	309.38	320.26
2003	278.30	-	109.26	387.57	(8.30)	(14.15)	(19.59)	387.57	379.27	373.42	367.98
2004	345.67	-	122.31	467.98	(11.40)	47.88	21.69	467.98	456.58	515.85	489.66
2005	276.96	-	11.05	288.01	18.70	79.33	60.86	288.01	306.71	367.34	348.87
2006	314.69	-	204.95	519.64	(10.96)	(18.17)	(25.99)	519.64	508.68	501.47	493.65
2007	474.07	-	332.91	806.99	(18.47)	(30.50)	(44.02)	806.99	788.52	776.49	762.97
2008	838.99	-	264.25	1,103.24	(26.23)	(14.65)	(41.99)	1,103.24	1,077.01	1,088.59	1,061.25

Descriptive Statistics

	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
Average	295.87	(8.32)	80.93	368.49	(0.13)	8.97	5.98	368.49	368.36	377.45	374.46
Standard Deviation	111.09	34.71	72.59	173.65	38.77	35.30	39.25	173.65	161.21	164.09	156.32
Minimum	183.88	(178.06)	-	112.67	(26.23)	(30.50)	(44.02)	112.67	220.34	152.02	213.94
Maximum	838.99	-	332.91	1,103.24	183.35	127.83	126.56	1,103.24	1,077.01	1,088.59	1,061.25
Median	276.96	-	73.76	334.68	(9.62)	(10.57)	(6.25)	334.68	326.32	341.39	341.38

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.4. Corn, La Salle County, Aggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	316.31	0.98	0.94	0.94	0.92
1977	323.19	0.82	0.82	0.94	0.89
1978	266.18	0.96	0.93	0.92	0.91
1979	314.69	1.15	1.12	1.11	1.10
1980	396.69	0.76	0.74	0.73	0.72
1981	473.60	0.87	0.84	0.89	0.86
1982	363.55	0.97	0.94	1.02	0.98
1983	357.79	1.00	0.97	0.97	1.13
1984	368.35	1.04	1.02	1.01	1.00
1985	369.07	0.95	0.93	0.93	0.91
1986	296.53	0.87	0.85	0.90	0.87
1987	231.70	0.98	0.95	0.94	0.92
1988	302.74	0.37	0.98	0.50	0.79
1989	361.91	0.97	0.94	0.93	0.92
1990	336.96	0.99	0.97	1.00	0.99
1991	366.79	0.51	0.79	0.86	0.84
1992	370.99	0.95	0.92	1.01	0.97
1993	330.94	1.02	1.00	0.99	0.97
1994	374.49	1.16	1.13	1.12	1.10
1995	366.45	0.90	0.88	0.87	1.01
1996	434.86	0.95	0.92	0.91	0.89
1997	379.83	0.81	0.78	0.77	0.76
1998	394.38	0.83	0.81	1.02	0.95
1999	349.51	0.81	0.79	0.95	0.91
2000	354.05	0.90	0.87	1.01	0.96
2001	349.29	0.95	0.92	0.96	0.93
2002	348.39	0.93	0.90	0.89	0.92
2003	368.52	1.05	1.03	1.01	1.00
2004	445.93	1.05	1.02	1.16	1.10
2005	359.41	0.80	0.85	1.02	0.97
2006	399.79	1.30	1.27	1.25	1.23
2007	670.01	1.20	1.18	1.16	1.14
2008	948.65	1.16	1.14	1.15	1.12
Descriptive Statistics					
Average	384.59	0.94	0.94	0.97	0.96
Standard Deviation	124.17	0.18	0.12	0.14	0.11
Minimum	231.70	0.37	0.74	0.50	0.72
Maximum	948.65	1.30	1.27	1.25	1.23
Median	363.55	0.95	0.93	0.96	0.95

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.5. Corn, La Salle County, Aggressive Dynamic Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				(Indemnity minus premium) ------$/acre------			------$/acre------			
1976	138.44	-	152.84	291.29	(10.60)	(11.03)	(15.92)	291.29	280.69	280.26	275.37
1977	-	-	247.19	247.19	(1.49)	37.96	22.23	247.19	245.70	285.15	269.42
1978	237.07	-	30.09	267.16	(6.97)	(8.41)	(11.54)	267.16	260.19	258.75	255.62
1979	278.09	-	95.56	373.64	(9.10)	(10.57)	(14.73)	373.64	364.54	363.07	358.91
1980	349.57	(0.92)	-	348.65	(10.18)	(12.82)	(17.42)	348.65	338.47	335.83	331.23
1981	-	-	304.24	304.24	(16.11)	9.90	(4.60)	304.24	288.13	314.14	299.63
1982	-	-	359.94	359.94	(12.31)	19.45	4.18	359.94	347.63	379.39	364.12
1983	335.40	-	41.38	376.78	(11.39)	(13.70)	43.77	376.78	365.39	363.08	420.55
1984	51.50	-	290.41	341.91	(10.29)	(12.64)	(17.63)	341.91	331.62	329.27	324.28
1985	-	-	298.85	298.85	(8.64)	(11.03)	(15.13)	298.85	290.21	287.82	283.72
1986	-	-	205.51	205.51	(7.26)	8.20	0.37	205.51	198.25	213.71	205.88
1987	195.75	-	42.95	238.70	(6.49)	(8.90)	(12.89)	238.70	232.21	229.80	225.81
1988	265.33	(178.06)	-	87.27	183.35	39.35	126.56	87.27	270.62	126.62	213.83
1989	-	-	335.52	335.52	(10.54)	(14.10)	(20.08)	335.52	324.98	321.42	315.44
1990	296.59	-	56.67	353.26	(8.36)	2.98	(2.75)	353.26	344.90	356.24	350.51
1991	-	-	166.28	166.28	102.22	127.83	118.49	166.28	268.50	294.10	284.76
1992	-	-	299.13	299.13	(10.00)	22.57	8.46	299.13	289.13	321.69	307.59
1993	44.88	-	301.51	346.38	(7.83)	(11.97)	(16.25)	346.38	338.55	334.41	330.13
1994	-	-	409.17	409.17	(9.62)	(13.98)	(19.38)	409.17	399.55	395.19	389.79
1995	322.63	-	25.91	348.54	(8.42)	(13.16)	39.82	348.54	340.12	335.38	388.36
1996	388.21	-	34.26	422.46	(12.21)	(17.62)	(25.10)	422.46	410.25	404.84	397.36
1997	50.82	-	228.68	279.51	(10.45)	(15.15)	(18.00)	279.51	269.06	264.36	261.51
1998	-	-	266.77	266.77	(11.25)	71.58	44.30	266.77	255.52	338.35	311.08
1999	-	-	226.38	226.38	(6.56)	51.57	34.91	226.38	219.82	277.95	261.29
2000	46.61	-	246.54	293.15	(9.94)	40.57	23.35	293.15	283.21	333.72	316.50
2001	-	-	295.67	295.67	(9.10)	2.77	(6.25)	295.67	286.57	298.44	289.43
2002	311.71	-	43.29	354.99	(8.08)	(13.40)	(2.53)	354.99	346.91	341.59	352.47
2003	-	-	411.79	411.79	(8.30)	(14.15)	(19.59)	411.79	403.49	397.64	392.20
2004	394.00	-	122.31	516.30	(11.40)	47.88	21.69	516.30	504.90	564.18	537.99
2005	313.15	-	11.05	324.20	18.70	79.33	60.86	324.20	342.89	403.52	385.06
2006	167.84	-	413.66	581.50	(10.96)	(18.17)	(25.99)	581.50	570.54	563.33	555.51
2007	-	-	989.52	989.52	(18.47)	(30.50)	(44.02)	989.52	971.05	959.02	945.50
2008	817.02	-	264.25	1,081.28	(26.23)	(14.65)	(41.99)	1,081.28	1,055.05	1,066.62	1,039.28
Descriptive Statistics											
Average	151.65	(5.42)	218.71	364.94	(0.13)	8.97	5.98	364.94	364.81	373.91	370.91
Standard Deviation	188.37	30.99	192.05	196.07	38.77	35.30	39.25	196.07	184.10	185.01	178.51
Minimum	-	(178.06)	-	87.27	(26.23)	(30.50)	(44.02)	87.27	198.25	126.62	205.88
Maximum	817.02	-	989.52	1,081.28	183.35	127.83	126.56	1,081.28	1,055.05	1,066.62	1,039.28
Median	50.82	-	228.68	335.52	(9.62)	(10.57)	(6.25)	335.52	331.62	334.41	324.28

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.6. Corn, La Salle County, Aggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
			Revenue Ratio		
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	316.31	0.92	0.89	0.89	0.87
1977	323.19	0.76	0.76	0.88	0.83
1978	266.18	1.00	0.98	0.97	0.96
1979	314.69	1.19	1.16	1.15	1.14
1980	396.69	0.88	0.85	0.85	0.83
1981	473.60	0.64	0.61	0.66	0.63
1982	363.55	0.99	0.96	1.04	1.00
1983	357.79	1.05	1.02	1.01	1.18
1984	368.35	0.93	0.90	0.89	0.88
1985	369.07	0.81	0.79	0.78	0.77
1986	296.53	0.69	0.67	0.72	0.69
1987	231.70	1.03	1.00	0.99	0.97
1988	302.74	0.29	0.89	0.42	0.71
1989	361.91	0.93	0.90	0.89	0.87
1990	336.96	1.05	1.02	1.06	1.04
1991	366.79	0.45	0.73	0.80	0.78
1992	370.99	0.81	0.78	0.87	0.83
1993	330.94	1.05	1.02	1.01	1.00
1994	374.49	1.09	1.07	1.06	1.04
1995	366.45	0.95	0.93	0.92	1.06
1996	434.86	0.97	0.94	0.93	0.91
1997	379.83	0.74	0.71	0.70	0.69
1998	394.38	0.68	0.65	0.86	0.79
1999	349.51	0.65	0.63	0.80	0.75
2000	354.05	0.83	0.80	0.94	0.89
2001	349.29	0.85	0.82	0.85	0.83
2002	348.39	1.02	1.00	0.98	1.01
2003	368.52	1.12	1.09	1.08	1.06
2004	445.93	1.16	1.13	1.27	1.21
2005	359.41	0.90	0.95	1.12	1.07
2006	399.79	1.45	1.43	1.41	1.39
2007	670.01	1.48	1.45	1.43	1.41
2008	948.65	1.14	1.11	1.12	1.10
Descriptive Statistics					
Average	384.59	0.92	0.93	0.95	0.95
Standard Deviation	124.17	0.24	0.20	0.20	0.19
Minimum	231.70	0.29	0.61	0.42	0.63
Maximum	948.65	1.48	1.45	1.43	1.41
Median	363.55	0.93	0.93	0.93	0.91

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.7. Corn, La Salle County, Nonaggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------			------$/acre------			
1976	150.11	-	135.28	285.38	(10.60)	(11.03)	(15.92)	285.38	274.78	274.35	269.46
1977	125.78	-	132.45	258.23	(1.49)	37.96	22.23	258.23	256.74	296.19	280.45
1978	131.85	-	119.13	250.98	(6.97)	(8.41)	(11.54)	250.98	244.01	242.57	239.44
1979	156.20	-	196.92	353.12	(9.10)	(10.57)	(14.73)	353.12	344.02	342.55	338.39
1980	178.77	-	124.11	302.88	(10.18)	(12.82)	(17.42)	302.88	292.70	290.06	285.46
1981	194.80	-	173.64	368.44	(16.11)	9.90	(4.60)	368.44	352.33	378.34	363.83
1982	150.63	-	205.24	355.87	(12.31)	19.45	4.18	355.87	343.56	375.32	360.05
1983	186.99	-	173.20	360.19	(11.39)	(13.70)	43.77	360.19	348.80	346.49	403.96
1984	177.70	-	185.36	363.06	(10.29)	(12.64)	(17.63)	363.06	352.77	350.42	345.43
1985	158.84	-	171.52	330.36	(8.64)	(11.03)	(15.13)	330.36	321.72	319.33	315.23
1986	115.74	-	120.58	236.32	(7.26)	8.20	0.37	236.32	229.06	244.52	236.69
1987	108.17	-	129.47	237.64	(6.49)	(8.90)	(12.89)	237.64	231.15	228.74	224.75
1988	171.02	(45.17)	-	125.84	183.35	39.35	126.56	125.84	309.20	165.19	252.40
1989	153.56	-	191.62	345.18	(10.54)	(14.10)	(20.08)	345.18	334.64	331.08	325.10
1990	163.53	-	152.50	316.03	(8.36)	2.98	(2.75)	316.03	307.67	319.02	313.28
1991	166.98	-	17.60	184.58	102.22	127.83	118.49	184.58	286.80	312.40	303.06
1992	156.86	-	173.65	330.51	(10.00)	22.57	8.46	330.51	320.51	353.08	338.97
1993	148.09	-	192.67	340.76	(7.83)	(11.97)	(16.25)	340.76	332.93	328.79	324.51
1994	152.56	-	270.45	423.01	(9.62)	(13.98)	(19.38)	423.01	413.39	409.03	403.63
1995	179.70	-	207.08	386.78	(8.42)	(13.16)	39.82	386.78	378.36	373.62	426.60
1996	222.21	-	146.04	368.24	(12.21)	(17.62)	(25.10)	368.24	356.03	350.62	343.14
1997	165.56	-	126.59	292.16	(10.45)	(15.15)	(18.00)	292.16	281.71	277.01	274.16
1998	150.14	-	153.24	303.38	(11.25)	71.58	44.30	303.38	292.13	374.96	347.68
1999	145.03	-	113.99	259.02	(6.56)	51.57	34.91	259.02	252.45	310.59	293.93
2000	137.21	-	164.70	301.92	(9.94)	40.57	23.35	301.92	291.98	342.48	325.27
2001	143.48	-	173.51	316.98	(9.10)	2.77	(6.25)	316.98	307.88	319.75	310.74
2002	164.41	-	150.42	314.83	(8.08)	(13.40)	(2.53)	314.83	306.75	301.43	312.30
2003	163.71	-	233.83	397.54	(8.30)	(14.15)	(19.59)	397.54	389.24	383.39	377.95
2004	203.34	-	211.71	415.04	(11.40)	47.88	21.69	415.04	403.64	462.92	436.73
2005	162.92	-	107.69	270.61	18.70	79.33	60.86	270.61	289.31	349.94	331.47
2006	185.11	-	376.83	561.94	(10.96)	(18.17)	(25.99)	561.94	550.98	543.77	535.95
2007	278.87	-	603.28	882.15	(18.47)	(30.50)	(44.02)	882.15	863.68	851.65	838.13
2008	493.52	-	457.91	951.43	(26.23)	(14.65)	(41.99)	951.43	925.20	936.78	909.44
Descriptive Statistics											
Average	174.04	(1.37)	184.61	357.29	(0.13)	8.97	5.98	357.29	357.16	366.25	363.26
Standard Deviation	65.35	7.86	111.92	163.63	38.77	35.30	39.25	163.63	151.89	152.37	146.33
Minimum	108.17	(45.17)	-	125.84	(26.23)	(30.50)	(44.02)	125.84	229.06	165.19	224.75
Maximum	493.52	-	603.28	951.43	183.35	127.83	126.56	951.43	925.20	936.78	909.44
Median	162.92	-	171.52	330.36	(9.62)	(10.57)	(6.25)	330.36	320.51	342.48	325.27

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.8. Corn, La Salle County, Nonaggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	316.31	0.90	0.87	0.87	0.85
1977	323.19	0.80	0.79	0.92	0.87
1978	266.18	0.94	0.92	0.91	0.90
1979	314.69	1.12	1.09	1.09	1.08
1980	396.69	0.76	0.74	0.73	0.72
1981	473.60	0.78	0.74	0.80	0.77
1982	363.55	0.98	0.95	1.03	0.99
1983	357.79	1.01	0.97	0.97	1.13
1984	368.35	0.99	0.96	0.95	0.94
1985	369.07	0.90	0.87	0.87	0.85
1986	296.53	0.80	0.77	0.82	0.80
1987	231.70	1.03	1.00	0.99	0.97
1988	302.74	0.42	1.02	0.55	0.83
1989	361.91	0.95	0.92	0.91	0.90
1990	336.96	0.94	0.91	0.95	0.93
1991	366.79	0.50	0.78	0.85	0.83
1992	370.99	0.89	0.86	0.95	0.91
1993	330.94	1.03	1.01	0.99	0.98
1994	374.49	1.13	1.10	1.09	1.08
1995	366.45	1.06	1.03	1.02	1.16
1996	434.86	0.85	0.82	0.81	0.79
1997	379.83	0.77	0.74	0.73	0.72
1998	394.38	0.77	0.74	0.95	0.88
1999	349.51	0.74	0.72	0.89	0.84
2000	354.05	0.85	0.82	0.97	0.92
2001	349.29	0.91	0.88	0.92	0.89
2002	348.39	0.90	0.88	0.87	0.90
2003	368.52	1.08	1.06	1.04	1.03
2004	445.93	0.93	0.91	1.04	0.98
2005	359.41	0.75	0.80	0.97	0.92
2006	399.79	1.41	1.38	1.36	1.34
2007	670.01	1.32	1.29	1.27	1.25
2008	948.65	1.00	0.98	0.99	0.96
Descriptive Statistics					
Average	384.59	0.91	0.92	0.94	0.94
Standard Deviation	124.17	0.19	0.15	0.15	0.14
Minimum	231.70	0.42	0.72	0.55	0.72
Maximum	948.65	1.41	1.38	1.36	1.34
Median	363.55	0.91	0.91	0.95	0.91

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.9. Corn, La Salle County, Nonaggressive Dynamic Pricing Strategy, Revenues by Year

Year	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP** (Indemnity minus premium)	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	\-\-\-\-\-$/acre\-\-\-\-\-					\-\-\-\-\-$/acre\-\-\-\-\-				\-\-\-\-\-$/acre\-\-\-\-\-	
1976	81.44	-	193.83	275.27	(10.60)	(11.03)	(15.92)	275.27	264.67	264.24	259.35
1977	-	-	247.19	247.19	(1.49)	37.96	22.23	247.19	245.70	285.15	269.42
1978	139.45	-	119.13	258.58	(6.97)	(8.41)	(11.54)	258.58	251.61	250.17	247.04
1979	163.58	-	196.92	360.50	(9.10)	(10.57)	(14.73)	360.50	351.40	349.93	345.77
1980	205.63	-	124.11	329.73	(10.18)	(12.82)	(17.42)	329.73	319.55	316.91	312.31
1981	-	-	304.24	304.24	(16.11)	9.90	(4.60)	304.24	288.13	314.14	299.63
1982	-	-	359.94	359.94	(12.31)	19.45	4.18	359.94	347.63	379.39	364.12
1983	197.29	-	173.20	370.49	(11.39)	(13.70)	43.77	370.49	359.10	356.79	414.26
1984	30.29	-	307.51	337.81	(10.29)	(12.64)	(17.63)	337.81	327.52	325.17	320.18
1985	-	-	298.85	298.85	(8.64)	(11.03)	(15.13)	298.85	290.21	287.82	283.72
1986	-	-	205.51	205.51	(7.26)	8.20	0.37	205.51	198.25	213.71	205.88
1987	115.14	-	129.47	244.62	(6.49)	(8.90)	(12.89)	244.62	238.13	235.72	231.73
1988	156.07	(45.17)	-	110.90	183.35	39.35	126.56	110.90	294.25	150.25	237.46
1989	-	-	335.52	335.52	(10.54)	(14.10)	(20.08)	335.52	324.98	321.42	315.44
1990	174.46	-	152.50	326.96	(8.36)	2.98	(2.75)	326.96	318.60	329.95	324.21
1991	-	-	166.28	166.28	102.22	127.83	118.49	166.28	268.50	294.10	284.76
1992	-	-	299.13	299.13	(10.00)	22.57	8.46	299.13	289.13	321.69	307.59
1993	26.40	-	319.22	345.62	(7.83)	(11.97)	(16.25)	345.62	337.79	333.65	329.37
1994	-	-	409.17	409.17	(9.62)	(13.98)	(19.38)	409.17	399.55	395.19	389.79
1995	189.78	-	207.08	396.86	(8.42)	(13.16)	39.82	396.86	388.44	383.70	436.68
1996	228.36	-	146.04	374.40	(12.21)	(17.62)	(25.10)	374.40	362.19	356.78	349.30
1997	29.90	-	245.30	275.20	(10.45)	(15.15)	(18.00)	275.20	264.75	260.05	257.20
1998	-	-	266.77	266.77	(11.25)	71.58	44.30	266.77	255.52	338.35	311.08
1999	-	-	226.38	226.38	(6.56)	51.57	34.91	226.38	219.82	277.95	261.29
2000	27.42	-	259.86	287.28	(9.94)	40.57	23.35	287.28	277.34	327.84	310.63
2001	-	-	295.67	295.67	(9.10)	2.77	(6.25)	295.67	286.57	298.44	289.43
2002	183.36	-	150.42	333.77	(8.08)	(13.40)	(2.53)	333.77	325.69	320.37	331.25
2003	-	-	411.79	411.79	(8.30)	(14.15)	(19.59)	411.79	403.49	397.64	392.20
2004	231.76	-	211.71	443.47	(11.40)	47.88	21.69	443.47	432.07	491.35	465.16
2005	184.20	-	107.69	291.90	18.70	79.33	60.86	291.90	310.59	371.23	352.76
2006	98.73	-	499.60	598.33	(10.96)	(18.17)	(25.99)	598.33	587.37	580.16	572.34
2007	-	-	989.52	989.52	(18.47)	(30.50)	(44.02)	989.52	971.05	959.02	945.50
2008	480.60	-	457.91	938.51	(26.23)	(14.65)	(41.99)	938.51	912.28	923.86	896.52
Descriptive Statistics											
Average	89.21	(1.37)	267.20	355.04	(0.13)	8.97	5.98	355.04	354.91	364.00	361.01
Standard Deviation	110.81	7.86	169.29	179.41	38.77	35.30	39.25	179.41	168.00	167.36	162.13
Minimum	-	(45.17)	-	110.90	(26.23)	(30.50)	(44.02)	110.90	198.25	150.25	205.88
Maximum	480.60	-	989.52	989.52	183.35	127.83	126.56	989.52	971.05	959.02	945.50
Median	29.90	-	245.30	326.96	(9.62)	(10.57)	(6.25)	326.96	318.60	325.17	315.44

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table B.10. Corn, La Salle County, Nonaggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	316.31	0.87	0.84	0.84	0.82
1977	323.19	0.76	0.76	0.88	0.83
1978	266.18	0.97	0.95	0.94	0.93
1979	314.69	1.15	1.12	1.11	1.10
1980	396.69	0.83	0.81	0.80	0.79
1981	473.60	0.64	0.61	0.66	0.63
1982	363.55	0.99	0.96	1.04	1.00
1983	357.79	1.04	1.00	1.00	1.16
1984	368.35	0.92	0.89	0.88	0.87
1985	369.07	0.81	0.79	0.78	0.77
1986	296.53	0.69	0.67	0.72	0.69
1987	231.70	1.06	1.03	1.02	1.00
1988	302.74	0.37	0.97	0.50	0.78
1989	361.91	0.93	0.90	0.89	0.87
1990	336.96	0.97	0.95	0.98	0.96
1991	366.79	0.45	0.73	0.80	0.78
1992	370.99	0.81	0.78	0.87	0.83
1993	330.94	1.04	1.02	1.01	1.00
1994	374.49	1.09	1.07	1.06	1.04
1995	366.45	1.08	1.06	1.05	1.19
1996	434.86	0.86	0.83	0.82	0.80
1997	379.83	0.72	0.70	0.68	0.68
1998	394.38	0.68	0.65	0.86	0.79
1999	349.51	0.65	0.63	0.80	0.75
2000	354.05	0.81	0.78	0.93	0.88
2001	349.29	0.85	0.82	0.85	0.83
2002	348.39	0.96	0.93	0.92	0.95
2003	368.52	1.12	1.09	1.08	1.06
2004	445.93	0.99	0.97	1.10	1.04
2005	359.41	0.81	0.86	1.03	0.98
2006	399.79	1.50	1.47	1.45	1.43
2007	670.01	1.48	1.45	1.43	1.41
2008	948.65	0.99	0.96	0.97	0.95
Descriptive Statistics					
Average	384.59	0.91	0.91	0.93	0.93
Standard Deviation	124.17	0.24	0.20	0.19	0.19
Minimum	231.70	0.37	0.61	0.50	0.63
Maximum	948.65	1.50	1.47	1.45	1.43
Median	363.55	0.92	0.90	0.92	0.88

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.11. Corn, La Salle County, Sell all Postharvest Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------				------$/acre------		
1976	-	-	252.39	252.39	(10.60)	(11.03)	(15.92)	252.39	241.79	241.36	236.47
1977	-	-	247.19	247.19	(1.49)	37.96	22.23	247.19	245.70	285.15	269.42
1978	-	-	246.34	246.34	(6.97)	(8.41)	(11.54)	246.34	239.37	237.93	234.80
1979	-	-	341.72	341.72	(9.10)	(10.57)	(14.73)	341.72	332.62	331.15	326.99
1980	-	-	302.52	302.52	(10.18)	(12.82)	(17.42)	302.52	292.34	289.70	285.10
1981	-	-	304.24	304.24	(16.11)	9.90	(4.60)	304.24	288.13	314.14	299.63
1982	-	-	359.94	359.94	(12.31)	19.45	4.18	359.94	347.63	379.39	364.12
1983	-	-	361.51	361.51	(11.39)	(13.70)	43.77	361.51	350.12	347.81	405.27
1984	-	-	331.94	331.94	(10.29)	(12.64)	(17.63)	331.94	321.65	319.30	314.31
1985	-	-	298.85	298.85	(8.64)	(11.03)	(15.13)	298.85	290.21	287.82	283.72
1986	-	-	205.51	205.51	(7.26)	8.20	0.37	205.51	198.25	213.71	205.88
1987	-	-	253.07	253.07	(6.49)	(8.90)	(12.89)	253.07	246.58	244.17	240.18
1988	-	-	118.57	118.57	183.35	39.35	126.56	118.57	301.92	157.92	245.13
1989	-	-	335.52	335.52	(10.54)	(14.10)	(20.08)	335.52	324.98	321.42	315.44
1990	-	-	289.40	289.40	(8.36)	2.98	(2.75)	289.40	281.04	292.38	286.64
1991	-	-	166.28	166.28	102.22	127.83	118.49	166.28	268.50	294.10	284.76
1992	-	-	299.13	299.13	(10.00)	22.57	8.46	299.13	289.13	321.69	307.59
1993	-	-	344.53	344.53	(7.83)	(11.97)	(16.25)	344.53	336.70	332.56	328.28
1994	-	-	409.17	409.17	(9.62)	(13.98)	(19.38)	409.17	399.55	395.19	389.79
1995	-	-	465.89	465.89	(8.42)	(13.16)	39.82	465.89	457.47	452.73	505.71
1996	-	-	305.73	305.73	(12.21)	(17.62)	(25.10)	305.73	293.52	288.11	280.63
1997	-	-	269.05	269.05	(10.45)	(15.15)	(18.00)	269.05	258.60	253.90	251.05
1998	-	-	266.77	266.77	(11.25)	71.58	44.30	266.77	255.52	338.35	311.08
1999	-	-	226.38	226.38	(6.56)	51.57	34.91	226.38	219.82	277.95	261.29
2000	-	-	278.89	278.89	(9.94)	40.57	23.35	278.89	268.95	319.46	302.24
2001	-	-	295.67	295.67	(9.10)	2.77	(6.25)	295.67	286.57	298.44	289.43
2002	-	-	303.46	303.46	(8.08)	(13.40)	(2.53)	303.46	295.38	290.06	300.94
2003	-	-	411.79	411.79	(8.30)	(14.15)	(19.59)	411.79	403.49	397.64	392.20
2004	-	-	339.43	339.43	(11.40)	47.88	21.69	339.43	328.03	387.30	361.11
2005	-	-	245.76	245.76	18.70	79.33	60.86	245.76	264.45	325.08	306.62
2006	-	-	622.38	622.38	(10.96)	(18.17)	(25.99)	622.38	611.42	604.21	596.39
2007	-	-	989.52	989.52	(18.47)	(30.50)	(44.02)	989.52	971.05	959.02	945.50
2008	-	-	734.56	734.56	(26.23)	(14.65)	(41.99)	734.56	708.33	719.91	692.57

Descriptive Statistics

Average	-	-	340.09	340.09	(0.13)	8.97	5.98	340.09	339.96	349.06	346.07
Standard Deviation	-	-	164.22	164.22	38.77	35.30	39.25	164.22	153.44	150.97	147.75
Minimum	-	-	118.57	118.57	(26.23)	(30.50)	(44.02)	118.57	198.25	157.92	205.88
Maximum	-	-	989.52	989.52	183.35	127.83	126.56	989.52	971.05	959.02	945.50
Median	-	-	302.52	302.52	(9.62)	(10.57)	(6.25)	302.52	292.34	319.30	302.24

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.12. Corn, La Salle County, Sell all Postharvest Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	316.31	0.80	0.76	0.76	0.75
1977	323.19	0.76	0.76	0.88	0.83
1978	266.18	0.93	0.90	0.89	0.88
1979	314.69	1.09	1.06	1.05	1.04
1980	396.69	0.76	0.74	0.73	0.72
1981	473.60	0.64	0.61	0.66	0.63
1982	363.55	0.99	0.96	1.04	1.00
1983	357.79	1.01	0.98	0.97	1.13
1984	368.35	0.90	0.87	0.87	0.85
1985	369.07	0.81	0.79	0.78	0.77
1986	296.53	0.69	0.67	0.72	0.69
1987	231.70	1.09	1.06	1.05	1.04
1988	302.74	0.39	1.00	0.52	0.81
1989	361.91	0.93	0.90	0.89	0.87
1990	336.96	0.86	0.83	0.87	0.85
1991	366.79	0.45	0.73	0.80	0.78
1992	370.99	0.81	0.78	0.87	0.83
1993	330.94	1.04	1.02	1.00	0.99
1994	374.49	1.09	1.07	1.06	1.04
1995	366.45	1.27	1.25	1.24	1.38
1996	434.86	0.70	0.67	0.66	0.65
1997	379.83	0.71	0.68	0.67	0.66
1998	394.38	0.68	0.65	0.86	0.79
1999	349.51	0.65	0.63	0.80	0.75
2000	354.05	0.79	0.76	0.90	0.85
2001	349.29	0.85	0.82	0.85	0.83
2002	348.39	0.87	0.85	0.83	0.86
2003	368.52	1.12	1.09	1.08	1.06
2004	445.93	0.76	0.74	0.87	0.81
2005	359.41	0.68	0.74	0.90	0.85
2006	399.79	1.56	1.53	1.51	1.49
2007	670.01	1.48	1.45	1.43	1.41
2008	948.65	0.77	0.75	0.76	0.73

Descriptive Statistics

Average	384.59	0.88	0.88	0.90	0.90
Standard Deviation	124.17	0.25	0.22	0.21	0.21
Minimum	231.70	0.39	0.61	0.52	0.63
Maximum	948.65	1.56	1.53	1.51	1.49
Median	363.55	0.81	0.82	0.87	0.85

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Central Illinois (High Productivity) – Sangamon County

Table B.13. Corn, Sangamon County, Cash Sales at Harvest, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
		-----$/acre-----				-----$/acre-----				-----$/acre-----	
1976	-	328.50	-	328.50	(11.26)	(9.57)	(12.00)	328.50	317.24	318.93	316.50
1977	-	208.37	-	208.37	29.48	59.01	40.93	208.37	237.85	267.38	249.30
1978	-	246.56	-	246.56	(7.47)	(5.92)	(7.79)	246.56	239.09	240.64	238.77
1979	-	369.50	-	369.50	(9.68)	(7.95)	(10.11)	369.50	359.81	361.55	359.39
1980	-	404.31	-	404.31	(11.90)	(9.07)	7.42	404.31	392.41	395.24	411.73
1981	-	381.63	-	381.63	(17.38)	(4.96)	(11.51)	381.63	364.25	376.67	370.12
1982	-	306.79	-	306.79	(2.13)	45.17	26.63	306.79	304.66	351.96	333.42
1983	-	388.33	-	388.33	21.98	31.54	119.65	388.33	410.31	419.88	507.99
1984	-	436.46	-	436.46	(10.87)	(9.49)	(12.07)	436.46	425.59	426.97	424.39
1985	-	349.82	-	349.82	(9.21)	(7.74)	(10.18)	349.82	340.61	342.08	339.64
1986	-	232.16	-	232.16	(7.70)	(8.19)	(10.39)	232.16	224.46	223.97	221.77
1987	-	222.22	-	222.22	(6.88)	(8.65)	(10.44)	222.22	215.34	213.57	211.78
1988	-	290.46	-	290.46	67.42	33.01	135.07	290.46	357.88	323.47	425.53
1989	-	334.04	-	334.04	(11.20)	12.49	6.58	334.04	322.84	346.54	340.62
1990	-	341.49	-	341.49	(8.85)	(8.93)	(11.36)	341.49	332.64	332.56	330.13
1991	-	396.13	-	396.13	(9.33)	(9.49)	(12.07)	396.13	386.80	386.64	384.06
1992	-	347.66	-	347.66	(10.53)	(1.58)	(6.87)	347.66	337.13	346.08	340.79
1993	-	410.75	-	410.75	(8.12)	(8.42)	(10.88)	410.75	402.63	402.33	399.87
1994	-	353.45	-	353.45	(10.06)	(10.91)	(13.69)	353.45	343.39	342.54	339.76
1995	-	487.43	-	487.43	(8.78)	(9.25)	38.29	487.43	478.65	478.18	525.72
1996	-	492.63	-	492.63	(12.90)	(15.74)	(19.42)	492.63	479.73	476.89	473.20
1997	-	435.20	-	435.20	(10.93)	(13.02)	(10.25)	435.20	424.27	422.18	424.95
1998	-	324.24	-	324.24	9.66	125.71	90.05	324.24	333.90	449.95	414.29
1999	-	274.35	-	274.35	21.46	94.29	74.08	274.35	295.81	368.64	348.43
2000	-	300.63	-	300.63	(10.48)	20.67	10.99	300.63	290.15	321.30	311.61
2001	-	322.34	-	322.34	(7.25)	50.90	38.01	322.34	315.08	373.24	360.34
2002	-	423.30	-	423.30	(8.54)	(11.09)	(8.85)	423.30	414.76	412.21	414.45
2003	-	432.63	-	432.63	(8.65)	(11.00)	(13.81)	432.63	423.98	421.63	418.82
2004	-	364.32	-	364.32	(12.07)	67.58	40.61	364.32	352.25	431.90	404.93
2005	-	312.93	-	312.93	(9.19)	31.72	22.81	312.93	303.74	344.65	335.74
2006	-	494.52	-	494.52	(11.59)	(18.01)	(21.50)	494.52	482.92	476.50	473.02
2007	-	607.99	-	607.99	(19.47)	(31.62)	(37.16)	607.99	588.52	576.36	570.83
2008	-	777.92	-	777.92	(27.48)	159.40	101.49	777.92	750.44	937.32	879.41
Descriptive Statistics											
Average	-	375.73	-	375.73	(4.54)	15.48	15.22	375.73	371.19	391.21	390.95
Standard Deviation	-	112.48	-	112.48	17.27	43.86	43.53	112.48	105.72	124.31	120.25
Minimum	-	208.37	-	208.37	(27.48)	(31.62)	(37.16)	208.37	215.34	213.57	211.78
Maximum	-	777.92	-	777.92	67.42	159.40	135.07	777.92	750.44	937.32	879.41
Median	-	353.45	-	353.45	(9.21)	(7.95)	(8.85)	353.45	352.25	373.24	370.12

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.14. Corn, Sangamon County, Cash Sales at Harvest, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	345.13	0.95	0.92	0.92	0.92
1977	350.78	0.59	0.68	0.76	0.71
1978	283.83	0.87	0.84	0.85	0.84
1979	334.16	1.11	1.08	1.08	1.08
1980	423.93	0.95	0.93	0.93	0.97
1981	513.32	0.74	0.71	0.73	0.72
1982	394.93	0.78	0.77	0.89	0.84
1983	387.12	1.00	1.06	1.08	1.31
1984	393.76	1.11	1.08	1.08	1.08
1985	389.96	0.90	0.87	0.88	0.87
1986	316.24	0.73	0.71	0.71	0.70
1987	248.14	0.90	0.87	0.86	0.85
1988	325.36	0.89	1.10	0.99	1.31
1989	404.76	0.83	0.80	0.86	0.84
1990	371.26	0.92	0.90	0.90	0.89
1991	398.98	0.99	0.97	0.97	0.96
1992	423.21	0.82	0.80	0.82	0.81
1993	378.12	1.09	1.06	1.06	1.06
1994	436.97	0.81	0.79	0.78	0.78
1995	415.98	1.17	1.15	1.15	1.26
1996	502.73	0.98	0.95	0.95	0.94
1997	447.49	0.97	0.95	0.94	0.95
1998	474.97	0.68	0.70	0.95	0.87
1999	410.15	0.67	0.72	0.90	0.85
2000	421.57	0.71	0.69	0.76	0.74
2001	414.12	0.78	0.76	0.90	0.87
2002	386.72	1.09	1.07	1.07	1.07
2003	409.80	1.06	1.03	1.03	1.02
2004	495.84	0.73	0.71	0.87	0.82
2005	404.43	0.77	0.75	0.85	0.83
2006	449.81	1.10	1.07	1.06	1.05
2007	734.92	0.83	0.80	0.78	0.78
2008	1,015.38	0.77	0.74	0.92	0.87
Descriptive Statistics					
Average	427.39	0.89	0.88	0.92	0.92
Standard Deviation	133.86	0.15	0.15	0.11	0.16
Minimum	248.14	0.59	0.68	0.71	0.70
Maximum	1,015.38	1.17	1.15	1.15	1.31
Median	404.76	0.89	0.87	0.90	0.87

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.15. Corn, Sangamon County, Aggressive Mechanical Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	280.41	-	57.39	337.80	(11.26)	(9.57)	(12.00)	337.80	326.54	328.23	325.80
1977	235.69	-	30.87	266.56	29.48	59.01	40.93	266.56	296.04	325.57	307.49
1978	242.22	-	16.74	258.96	(7.47)	(5.92)	(7.79)	258.96	251.49	253.04	251.17
1979	285.78	-	98.01	383.80	(9.68)	(7.95)	(10.11)	383.80	374.12	375.85	373.69
1980	326.18	-	40.59	366.77	(11.90)	(9.07)	7.42	366.77	354.87	357.70	374.19
1981	361.57	-	98.59	460.16	(17.38)	(4.96)	(11.51)	460.16	442.78	455.21	448.65
1982	278.91	-	92.77	371.68	(2.13)	45.17	26.63	371.68	369.55	416.84	398.31
1983	344.54	(34.34)	-	310.20	21.98	31.54	119.65	310.20	332.17	341.74	429.85
1984	322.67	-	101.99	424.67	(10.87)	(9.49)	(12.07)	424.67	413.80	415.18	412.60
1985	284.86	-	93.42	378.28	(9.21)	(7.74)	(10.18)	378.28	369.07	370.54	368.10
1986	208.86	-	75.73	284.59	(7.70)	(8.19)	(10.39)	284.59	276.89	276.40	274.20
1987	198.85	-	36.02	234.86	(6.88)	(8.65)	(10.44)	234.86	227.98	226.21	224.42
1988	312.23	(75.04)	-	237.19	67.42	33.01	135.07	237.19	304.61	270.20	372.26
1989	294.22	-	47.13	341.35	(11.20)	12.49	6.58	341.35	330.15	353.84	347.93
1990	308.79	-	59.80	368.59	(8.85)	(8.93)	(11.36)	368.59	359.74	359.66	357.23
1991	309.21	-	88.37	397.57	(9.33)	(9.49)	(12.07)	397.57	388.24	388.08	385.50
1992	307.84	-	88.45	396.29	(10.53)	(1.58)	(6.87)	396.29	385.76	394.71	389.42
1993	291.65	-	107.72	399.37	(8.12)	(8.42)	(10.88)	399.37	391.25	390.95	388.49
1994	307.91	-	98.37	406.28	(10.06)	(10.91)	(13.69)	406.28	396.22	395.37	392.59
1995	353.54	-	74.88	428.42	(8.78)	(9.25)	38.29	428.42	419.64	419.17	466.71
1996	440.98	-	87.74	528.72	(12.90)	(15.74)	(19.42)	528.72	515.82	512.98	509.30
1997	337.97	-	50.24	388.20	(10.93)	(13.02)	(10.25)	388.20	377.27	375.18	377.96
1998	315.58	-	53.05	368.63	9.66	125.71	90.05	368.63	378.29	494.34	458.68
1999	294.28	-	19.38	313.66	21.46	94.29	74.08	313.66	335.12	407.95	387.74
2000	280.43	-	67.05	347.48	(10.48)	20.67	10.99	347.48	337.00	368.15	358.47
2001	289.27	-	42.85	332.11	(7.25)	50.90	38.01	332.11	324.86	383.02	370.12
2002	315.27	-	49.07	364.33	(8.54)	(11.09)	(8.85)	364.33	355.79	353.24	355.48
2003	311.65	-	148.80	460.45	(8.65)	(11.00)	(13.81)	460.45	451.80	449.45	446.64
2004	384.80	-	96.57	481.37	(12.07)	67.58	40.61	481.37	469.30	548.95	521.97
2005	315.40	-	58.37	373.77	(9.19)	31.72	22.81	373.77	364.58	405.49	396.58
2006	357.78	-	142.67	500.45	(11.59)	(18.01)	(21.50)	500.45	488.86	482.44	478.95
2007	510.70	-	222.32	733.03	(19.47)	(31.62)	(37.16)	733.03	713.56	701.41	695.87
2008	896.86	-	163.45	1,060.30	(27.48)	159.40	101.49	1,060.30	1,032.82	1,219.70	1,161.79
Descriptive Statistics											
Average	330.51	(3.31)	76.01	403.21	(4.54)	15.48	15.22	403.21	398.67	418.69	418.43
Standard Deviation	117.37	14.20	47.25	151.07	17.27	43.86	43.53	151.07	143.20	169.35	158.07
Minimum	198.85	(75.04)	-	234.86	(27.48)	(31.62)	(37.16)	234.86	227.98	226.21	224.42
Maximum	896.86	-	222.32	1,060.30	67.42	159.40	135.07	1,060.30	1,032.82	1,219.70	1,161.79
Median	309.21	-	74.88	373.77	(9.21)	(7.95)	(8.85)	373.77	369.55	388.08	387.74

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table B.16. Corn, Sangamon County, Aggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	345.13	0.98	0.95	0.95	0.94
1977	350.78	0.76	0.84	0.93	0.88
1978	283.83	0.91	0.89	0.89	0.88
1979	334.16	1.15	1.12	1.12	1.12
1980	423.93	0.87	0.84	0.84	0.88
1981	513.32	0.90	0.86	0.89	0.87
1982	394.93	0.94	0.94	1.06	1.01
1983	387.12	0.80	0.86	0.88	1.11
1984	393.76	1.08	1.05	1.05	1.05
1985	389.96	0.97	0.95	0.95	0.94
1986	316.24	0.90	0.88	0.87	0.87
1987	248.14	0.95	0.92	0.91	0.90
1988	325.36	0.73	0.94	0.83	1.14
1989	404.76	0.84	0.82	0.87	0.86
1990	371.26	0.99	0.97	0.97	0.96
1991	398.98	1.00	0.97	0.97	0.97
1992	423.21	0.94	0.91	0.93	0.92
1993	378.12	1.06	1.03	1.03	1.03
1994	436.97	0.93	0.91	0.90	0.90
1995	415.98	1.03	1.01	1.01	1.12
1996	502.73	1.05	1.03	1.02	1.01
1997	447.49	0.87	0.84	0.84	0.84
1998	474.97	0.78	0.80	1.04	0.97
1999	410.15	0.76	0.82	0.99	0.95
2000	421.57	0.82	0.80	0.87	0.85
2001	414.12	0.80	0.78	0.92	0.89
2002	386.72	0.94	0.92	0.91	0.92
2003	409.80	1.12	1.10	1.10	1.09
2004	495.84	0.97	0.95	1.11	1.05
2005	404.43	0.92	0.90	1.00	0.98
2006	449.81	1.11	1.09	1.07	1.06
2007	734.92	1.00	0.97	0.95	0.95
2008	1,015.38	1.04	1.02	1.20	1.14
Descriptive Statistics					
Average	427.39	0.94	0.93	0.97	0.97
Standard Deviation	133.86	0.11	0.09	0.09	0.09
Minimum	248.14	0.73	0.78	0.83	0.84
Maximum	1,015.38	1.15	1.12	1.20	1.14
Median	404.76	0.94	0.92	0.95	0.95

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.17. Corn, Sangamon County, Aggressive Dynamic Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
Year	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------				------$/acre------		
1976	152.25	-	166.50	318.75	(11.26)	(9.57)	(12.00)	318.75	307.49	309.18	306.75
1977	-	-	247.71	247.71	29.48	59.01	40.93	247.71	277.19	306.72	288.65
1978	257.96	-	16.74	274.69	(7.47)	(5.92)	(7.79)	274.69	267.22	268.77	266.90
1979	299.90	-	98.01	397.91	(9.68)	(7.95)	(10.11)	397.91	388.23	389.96	387.80
1980	378.38	-	40.59	418.97	(11.90)	(9.07)	7.42	418.97	407.07	409.90	426.39
1981	-	-	342.17	342.17	(17.38)	(4.96)	(11.51)	342.17	324.79	337.22	330.67
1982	-	-	380.95	380.95	(2.13)	45.17	26.63	380.95	378.83	426.12	407.59
1983	365.74	(34.34)	-	331.40	21.98	31.54	119.65	331.40	353.37	362.94	451.05
1984	55.18	-	325.39	380.56	(10.87)	(9.49)	(12.07)	380.56	369.69	371.07	368.49
1985	-	-	323.23	323.23	(9.21)	(7.74)	(10.18)	323.23	314.02	315.49	313.05
1986	-	-	231.03	231.03	(7.70)	(8.19)	(10.39)	231.03	223.33	222.84	220.64
1987	211.31	-	36.02	247.33	(6.88)	(8.65)	(10.44)	247.33	240.45	238.68	236.89
1988	286.55	(75.04)	-	211.51	67.42	33.01	135.07	211.51	278.94	244.52	346.58
1989	-	-	322.88	322.88	(11.20)	12.49	6.58	322.88	311.68	335.38	329.46
1990	328.12	-	59.80	387.92	(8.85)	(8.93)	(11.36)	387.92	379.07	378.99	376.56
1991	-	-	361.09	361.09	(9.33)	(9.49)	(12.07)	361.09	351.76	351.60	349.02
1992	-	-	323.12	323.12	(10.53)	(1.58)	(6.87)	323.12	312.59	321.53	316.25
1993	52.28	-	355.62	407.90	(8.12)	(8.42)	(10.88)	407.90	399.78	399.48	397.02
1994	-	-	377.70	377.70	(10.06)	(10.91)	(13.69)	377.70	367.64	366.79	364.01
1995	371.11	-	74.88	445.99	(8.78)	(9.25)	38.29	445.99	437.21	436.74	484.28
1996	453.53	-	87.74	541.27	(12.90)	(15.74)	(19.42)	541.27	528.37	525.53	521.85
1997	60.99	-	289.33	350.32	(10.93)	(13.02)	(10.25)	350.32	339.39	337.30	340.07
1998	-	-	288.26	288.26	9.66	125.71	90.05	288.26	297.92	413.97	378.30
1999	-	-	242.38	242.38	21.46	94.29	74.08	242.38	263.83	336.67	316.46
2000	55.86	-	257.73	313.59	(10.48)	20.67	10.99	313.59	303.11	334.26	324.58
2001	-	-	287.52	287.52	(7.25)	50.90	38.01	287.52	280.27	338.42	325.53
2002	351.37	-	49.07	400.44	(8.54)	(11.09)	(8.85)	400.44	391.90	389.35	391.59
2003	-	-	485.19	485.19	(8.65)	(11.00)	(13.81)	485.19	476.54	474.19	471.38
2004	439.80	-	96.57	536.37	(12.07)	67.58	40.61	536.37	524.30	603.95	576.98
2005	351.85	-	58.37	410.21	(9.19)	31.72	22.81	410.21	401.02	441.93	433.02
2006	190.33	-	370.54	560.87	(11.59)	(18.01)	(21.50)	560.87	549.28	542.86	539.37
2007	-	-	913.51	913.51	(19.47)	(31.62)	(37.16)	913.51	894.04	881.89	876.35
2008	872.61	-	163.45	1,036.05	(27.48)	159.40	101.49	1,036.05	1,008.57	1,195.45	1,137.54
Descriptive Statistics											
Average	167.73	(3.31)	232.52	396.93	(4.54)	15.48	15.22	396.93	392.39	412.42	412.15
Standard Deviation	205.93	14.20	184.77	173.55	17.27	43.86	43.53	173.55	165.74	185.97	176.86
Minimum	-	(75.04)	-	211.51	(27.48)	(31.62)	(37.16)	211.51	223.33	222.84	220.64
Maximum	872.61	-	913.51	1,036.05	67.42	159.40	135.07	1,036.05	1,008.57	1,195.45	1,137.54
Median	55.86	-	247.71	361.09	(9.21)	(7.95)	(8.85)	361.09	353.37	366.79	368.49

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.18. Corn, Sangamon County, Aggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	345.13	0.92	0.89	0.90	0.89
1977	350.78	0.71	0.79	0.87	0.82
1978	283.83	0.97	0.94	0.95	0.94
1979	334.16	1.19	1.16	1.17	1.16
1980	423.93	0.99	0.96	0.97	1.01
1981	513.32	0.67	0.63	0.66	0.64
1982	394.93	0.96	0.96	1.08	1.03
1983	387.12	0.86	0.91	0.94	1.17
1984	393.76	0.97	0.94	0.94	0.94
1985	389.96	0.83	0.81	0.81	0.80
1986	316.24	0.73	0.71	0.70	0.70
1987	248.14	1.00	0.97	0.96	0.95
1988	325.36	0.65	0.86	0.75	1.07
1989	404.76	0.80	0.77	0.83	0.81
1990	371.26	1.04	1.02	1.02	1.01
1991	398.98	0.91	0.88	0.88	0.87
1992	423.21	0.76	0.74	0.76	0.75
1993	378.12	1.08	1.06	1.06	1.05
1994	436.97	0.86	0.84	0.84	0.83
1995	415.98	1.07	1.05	1.05	1.16
1996	502.73	1.08	1.05	1.05	1.04
1997	447.49	0.78	0.76	0.75	0.76
1998	474.97	0.61	0.63	0.87	0.80
1999	410.15	0.59	0.64	0.82	0.77
2000	421.57	0.74	0.72	0.79	0.77
2001	414.12	0.69	0.68	0.82	0.79
2002	386.72	1.04	1.01	1.01	1.01
2003	409.80	1.18	1.16	1.16	1.15
2004	495.84	1.08	1.06	1.22	1.16
2005	404.43	1.01	0.99	1.09	1.07
2006	449.81	1.25	1.22	1.21	1.20
2007	734.92	1.24	1.22	1.20	1.19
2008	1,015.38	1.02	0.99	1.18	1.12

Descriptive Statistics					
Average	427.39	0.92	0.91	0.95	0.95
Standard Deviation	133.86	0.19	0.17	0.16	0.16
Minimum	248.14	0.59	0.63	0.66	0.64
Maximum	1,015.38	1.25	1.22	1.22	1.20
Median	404.76	0.96	0.94	0.94	0.95

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.19. Corn, Sangamon County, Nonaggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------			------$/acre------			
1976	164.95	-	147.24	312.19	(11.26)	(9.57)	(12.00)	312.19	300.93	302.62	300.19
1977	138.64	-	120.16	258.80	29.48	59.01	40.93	258.80	288.28	317.81	299.73
1978	142.48	-	114.05	256.53	(7.47)	(5.92)	(7.79)	256.53	249.06	250.61	248.74
1979	168.11	-	199.63	367.74	(9.68)	(7.95)	(10.11)	367.74	358.06	359.79	357.63
1980	191.87	-	175.38	367.26	(11.90)	(9.07)	7.42	367.26	355.36	358.19	374.68
1981	212.69	-	198.89	411.58	(17.38)	(4.96)	(11.51)	411.58	394.20	406.62	400.07
1982	164.06	-	211.43	375.50	(2.13)	45.17	26.63	375.50	373.37	420.66	402.13
1983	202.67	-	116.47	319.14	21.98	31.54	119.65	319.14	341.12	350.69	438.80
1984	189.81	-	212.38	402.18	(10.87)	(9.49)	(12.07)	402.18	391.31	392.69	390.11
1985	167.57	-	188.05	355.61	(9.21)	(7.74)	(10.18)	355.61	346.40	347.87	345.43
1986	122.86	-	139.68	262.54	(7.70)	(8.19)	(10.39)	262.54	254.84	254.35	252.15
1987	116.97	-	126.96	243.93	(6.88)	(8.65)	(10.44)	243.93	237.05	235.28	233.49
1988	183.66	-	59.37	243.03	67.42	33.01	135.07	243.03	310.46	276.04	378.10
1989	173.07	-	160.67	333.75	(11.20)	12.49	6.58	333.75	322.55	346.24	340.32
1990	181.64	-	165.08	346.73	(8.85)	(8.93)	(11.36)	346.73	337.88	337.80	335.37
1991	181.89	-	200.66	382.55	(9.33)	(9.49)	(12.07)	382.55	373.22	373.06	370.48
1992	181.08	-	185.07	366.16	(10.53)	(1.58)	(6.87)	366.16	355.63	364.58	359.29
1993	171.56	-	230.21	401.77	(8.12)	(8.42)	(10.88)	401.77	393.65	393.35	390.89
1994	181.12	-	213.39	394.51	(10.06)	(10.91)	(13.69)	394.51	384.45	383.60	380.82
1995	207.96	-	290.29	498.25	(8.78)	(9.25)	38.29	498.25	489.47	489.00	536.55
1996	259.40	-	218.30	477.70	(12.90)	(15.74)	(19.42)	477.70	464.80	461.96	458.28
1997	198.80	-	168.38	367.18	(10.93)	(13.02)	(10.25)	367.18	356.25	354.16	356.94
1998	185.64	-	149.90	335.54	9.66	125.71	90.05	335.54	345.20	461.25	425.58
1999	173.11	-	111.20	284.31	21.46	94.29	74.08	284.31	305.76	378.60	358.39
2000	164.96	-	161.27	326.23	(10.48)	20.67	10.99	326.23	315.75	346.90	337.21
2001	170.16	-	143.59	313.75	(7.25)	50.90	38.01	313.75	306.50	364.65	351.76
2002	185.45	-	169.46	354.91	(8.54)	(11.09)	(8.85)	354.91	346.37	343.82	346.06
2003	183.32	-	287.31	470.64	(8.65)	(11.00)	(13.81)	470.64	461.99	459.64	456.83
2004	226.35	-	195.20	421.55	(12.07)	67.58	40.61	421.55	409.48	489.13	462.15
2005	185.53	-	165.35	350.88	(9.19)	31.72	22.81	350.88	341.69	382.60	373.69
2006	210.46	-	330.33	540.78	(11.59)	(18.01)	(21.50)	540.78	529.19	522.77	519.28
2007	300.41	-	506.93	807.34	(19.47)	(31.62)	(37.16)	807.34	787.87	775.72	770.18
2008	527.56	-	371.98	899.54	(27.48)	159.40	101.49	899.54	872.06	1,058.94	1,001.03

Descriptive Statistics

Average	194.42	-	194.98	389.40	(4.54)	15.48	15.22	389.40	384.85	404.88	404.62
Standard Deviation	69.04	-	85.09	139.74	17.27	43.86	43.53	139.74	132.16	152.80	144.24
Minimum	116.97	-	59.37	243.03	(27.48)	(31.62)	(37.16)	243.03	237.05	235.28	233.49
Maximum	527.56	-	506.93	899.54	67.42	159.40	135.07	899.54	872.06	1,058.94	1,001.03
Median	181.89	-	175.38	366.16	(9.21)	(7.95)	(8.85)	366.16	355.36	364.65	373.69

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.20. Corn, Sangamon County, Nonaggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	345.13	0.90	0.87	0.88	0.87
1977	350.78	0.74	0.82	0.91	0.85
1978	283.83	0.90	0.88	0.88	0.88
1979	334.16	1.10	1.07	1.08	1.07
1980	423.93	0.87	0.84	0.84	0.88
1981	513.32	0.80	0.77	0.79	0.78
1982	394.93	0.95	0.95	1.07	1.02
1983	387.12	0.82	0.88	0.91	1.13
1984	393.76	1.02	0.99	1.00	0.99
1985	389.96	0.91	0.89	0.89	0.89
1986	316.24	0.83	0.81	0.80	0.80
1987	248.14	0.98	0.96	0.95	0.94
1988	325.36	0.75	0.95	0.85	1.16
1989	404.76	0.82	0.80	0.86	0.84
1990	371.26	0.93	0.91	0.91	0.90
1991	398.98	0.96	0.94	0.94	0.93
1992	423.21	0.87	0.84	0.86	0.85
1993	378.12	1.06	1.04	1.04	1.03
1994	436.97	0.90	0.88	0.88	0.87
1995	415.98	1.20	1.18	1.18	1.29
1996	502.73	0.95	0.92	0.92	0.91
1997	447.49	0.82	0.80	0.79	0.80
1998	474.97	0.71	0.73	0.97	0.90
1999	410.15	0.69	0.75	0.92	0.87
2000	421.57	0.77	0.75	0.82	0.80
2001	414.12	0.76	0.74	0.88	0.85
2002	386.72	0.92	0.90	0.89	0.89
2003	409.80	1.15	1.13	1.12	1.11
2004	495.84	0.85	0.83	0.99	0.93
2005	404.43	0.87	0.84	0.95	0.92
2006	449.81	1.20	1.18	1.16	1.15
2007	734.92	1.10	1.07	1.06	1.05
2008	1,015.38	0.89	0.86	1.04	0.99

Descriptive Statistics

Average	427.39	0.91	0.90	0.94	0.94
Standard Deviation	133.86	0.13	0.12	0.10	0.12
Minimum	248.14	0.69	0.73	0.79	0.78
Maximum	1,015.38	1.20	1.18	1.18	1.29
Median	404.76	0.90	0.88	0.91	0.90

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.21. Corn, Sangamon County, Nonaggressive Dynamic Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	-----$/acre-----				-----$/acre-----				-----$/acre-----		
1976	89.56	-	211.42	300.99	(11.26)	(9.57)	(12.00)	300.99	289.73	291.42	288.99
1977	-	-	247.71	247.71	29.48	59.01	40.93	247.71	277.19	306.72	288.65
1978	151.74	-	114.05	265.79	(7.47)	(5.92)	(7.79)	265.79	258.32	259.87	258.00
1979	176.41	-	199.63	376.05	(9.68)	(7.95)	(10.11)	376.05	366.37	368.10	365.94
1980	222.58	-	175.38	397.96	(11.90)	(9.07)	7.42	397.96	386.06	388.89	405.38
1981	-	-	342.17	342.17	(17.38)	(4.96)	(11.51)	342.17	324.79	337.22	330.67
1982	-	-	380.95	380.95	(2.13)	45.17	26.63	380.95	378.83	426.12	407.59
1983	215.14	-	116.47	331.61	21.98	31.54	119.65	331.61	353.59	363.16	451.27
1984	32.46	-	343.79	376.24	(10.87)	(9.49)	(12.07)	376.24	365.37	366.75	364.17
1985	-	-	323.23	323.23	(9.21)	(7.74)	(10.18)	323.23	314.02	315.49	313.05
1986	-	-	231.03	231.03	(7.70)	(8.19)	(10.39)	231.03	223.33	222.84	220.64
1987	124.30	-	126.96	251.26	(6.88)	(8.65)	(10.44)	251.26	244.38	242.61	240.82
1988	168.56	-	59.37	227.93	67.42	33.01	135.07	227.93	295.35	260.94	363.00
1989	-	-	322.88	322.88	(11.20)	12.49	6.58	322.88	311.68	335.38	329.46
1990	193.01	-	165.08	358.09	(8.85)	(8.93)	(11.36)	358.09	349.24	349.16	346.73
1991	-	-	361.09	361.09	(9.33)	(9.49)	(12.07)	361.09	351.76	351.60	349.02
1992	-	-	323.12	323.12	(10.53)	(1.58)	(6.87)	323.12	312.59	321.53	316.25
1993	30.75	-	376.04	406.79	(8.12)	(8.42)	(10.88)	406.79	398.67	398.37	395.91
1994	-	-	377.70	377.70	(10.06)	(10.91)	(13.69)	377.70	367.64	366.79	364.01
1995	218.30	-	290.29	508.59	(8.78)	(9.25)	38.29	508.59	499.81	499.34	546.88
1996	266.78	-	218.30	485.09	(12.90)	(15.74)	(19.42)	485.09	472.19	469.35	465.67
1997	35.88	-	309.02	344.90	(10.93)	(13.02)	(10.25)	344.90	333.97	331.88	334.65
1998	-	-	288.26	288.26	9.66	125.71	90.05	288.26	297.92	413.97	378.30
1999	-	-	242.38	242.38	21.46	94.29	74.08	242.38	263.83	336.67	316.46
2000	32.86	-	273.44	306.30	(10.48)	20.67	10.99	306.30	295.82	326.97	317.28
2001	-	-	287.52	287.52	(7.25)	50.90	38.01	287.52	280.27	338.42	325.53
2002	206.69	-	169.46	376.15	(8.54)	(11.09)	(8.85)	376.15	367.61	365.06	367.30
2003	-	-	485.19	485.19	(8.65)	(11.00)	(13.81)	485.19	476.54	474.19	471.38
2004	258.71	-	195.20	453.91	(12.07)	67.58	40.61	453.91	441.84	521.48	494.51
2005	206.97	-	165.35	372.32	(9.19)	31.72	22.81	372.32	363.13	404.03	395.13
2006	111.96	-	464.37	576.32	(11.59)	(18.01)	(21.50)	576.32	564.73	558.31	554.82
2007	-	-	913.51	913.51	(19.47)	(31.62)	(37.16)	913.51	894.04	881.89	876.35
2008	513.30	-	371.98	885.28	(27.48)	159.40	101.49	885.28	857.80	1,044.67	986.76

Descriptive Statistics

Average	98.67	-	287.04	385.71	(4.54)	15.48	15.22	385.71	381.16	401.19	400.93
Standard Deviation	121.13	-	151.79	155.95	17.27	43.86	43.53	155.95	148.54	165.30	158.14
Minimum	-	-	59.37	227.93	(27.48)	(31.62)	(37.16)	227.93	223.33	222.84	220.64
Maximum	513.30	-	913.51	913.51	67.42	159.40	135.07	913.51	894.04	1,044.67	986.76
Median	32.86	-	287.52	358.09	(9.21)	(7.95)	(8.85)	358.09	351.76	363.16	364.01

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.22. Corn, Sangamon County, Nonaggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

		Revenue Ratio			
	Expected	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
Year	Revenue	(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	345.13	0.87	0.84	0.84	0.84
1977	350.78	0.71	0.79	0.87	0.82
1978	283.83	0.94	0.91	0.92	0.91
1979	334.16	1.13	1.10	1.10	1.10
1980	423.93	0.94	0.91	0.92	0.96
1981	513.32	0.67	0.63	0.66	0.64
1982	394.93	0.96	0.96	1.08	1.03
1983	387.12	0.86	0.91	0.94	1.17
1984	393.76	0.96	0.93	0.93	0.92
1985	389.96	0.83	0.81	0.81	0.80
1986	316.24	0.73	0.71	0.70	0.70
1987	248.14	1.01	0.98	0.98	0.97
1988	325.36	0.70	0.91	0.80	1.12
1989	404.76	0.80	0.77	0.83	0.81
1990	371.26	0.96	0.94	0.94	0.93
1991	398.98	0.91	0.88	0.88	0.87
1992	423.21	0.76	0.74	0.76	0.75
1993	378.12	1.08	1.05	1.05	1.05
1994	436.97	0.86	0.84	0.84	0.83
1995	415.98	1.22	1.20	1.20	1.31
1996	502.73	0.96	0.94	0.93	0.93
1997	447.49	0.77	0.75	0.74	0.75
1998	474.97	0.61	0.63	0.87	0.80
1999	410.15	0.59	0.64	0.82	0.77
2000	421.57	0.73	0.70	0.78	0.75
2001	414.12	0.69	0.68	0.82	0.79
2002	386.72	0.97	0.95	0.94	0.95
2003	409.80	1.18	1.16	1.16	1.15
2004	495.84	0.92	0.89	1.05	1.00
2005	404.43	0.92	0.90	1.00	0.98
2006	449.81	1.28	1.26	1.24	1.23
2007	734.92	1.24	1.22	1.20	1.19
2008	1,015.38	0.87	0.84	1.03	0.97

Descriptive Statistics

Average	427.39	0.90	0.89	0.93	0.93
Standard Deviation	133.86	0.18	0.17	0.15	0.16
Minimum	248.14	0.59	0.63	0.66	0.64
Maximum	1,015.38	1.28	1.26	1.24	1.31
Median	404.76	0.91	0.90	0.92	0.93

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.23. Corn, Sangamon County, Sell all Postharvest Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	-	-	275.61	275.61	(11.26)	(9.57)	(12.00)	275.61	264.35	266.04	263.61
1977	-	-	247.71	247.71	29.48	59.01	40.93	247.71	277.19	306.72	288.65
1978	-	-	253.07	253.07	(7.47)	(5.92)	(7.79)	253.07	245.60	247.15	245.28
1979	-	-	344.81	344.81	(9.68)	(7.95)	(10.11)	344.81	335.13	336.86	334.70
1980	-	-	367.95	367.95	(11.90)	(9.07)	7.42	367.95	356.05	358.88	375.37
1981	-	-	342.17	342.17	(17.38)	(4.96)	(11.51)	342.17	324.79	337.22	330.67
1982	-	-	380.95	380.95	(2.13)	45.17	26.63	380.95	378.83	426.12	407.59
1983	-	-	323.63	323.63	21.98	31.54	119.65	323.63	345.61	355.18	443.29
1984	-	-	370.07	370.07	(10.87)	(9.49)	(12.07)	370.07	359.20	360.58	358.00
1985	-	-	323.23	323.23	(9.21)	(7.74)	(10.18)	323.23	314.02	315.49	313.05
1986	-	-	231.03	231.03	(7.70)	(8.19)	(10.39)	231.03	223.33	222.84	220.64
1987	-	-	256.88	256.88	(6.88)	(8.65)	(10.44)	256.88	250.00	248.23	246.44
1988	-	-	228.06	228.06	67.42	33.01	135.07	228.06	295.48	261.07	363.13
1989	-	-	322.88	322.88	(11.20)	12.49	6.58	322.88	311.68	335.38	329.46
1990	-	-	315.49	315.49	(8.85)	(8.93)	(11.36)	315.49	306.64	306.56	304.13
1991	-	-	361.09	361.09	(9.33)	(9.49)	(12.07)	361.09	351.76	351.60	349.02
1992	-	-	323.12	323.12	(10.53)	(1.58)	(6.87)	323.12	312.59	321.53	316.25
1993	-	-	405.20	405.20	(8.12)	(8.42)	(10.88)	405.20	397.08	396.78	394.32
1994	-	-	377.70	377.70	(10.06)	(10.91)	(13.69)	377.70	367.64	366.79	364.01
1995	-	-	598.02	598.02	(8.78)	(9.25)	38.29	598.02	589.24	588.77	636.31
1996	-	-	404.82	404.82	(12.90)	(15.74)	(19.42)	404.82	391.92	389.08	385.40
1997	-	-	337.15	337.15	(10.93)	(13.02)	(10.25)	337.15	326.22	324.13	326.90
1998	-	-	288.26	288.26	9.66	125.71	90.05	288.26	297.92	413.97	378.30
1999	-	-	242.38	242.38	21.46	94.29	74.08	242.38	263.83	336.67	316.46
2000	-	-	295.87	295.87	(10.48)	20.67	10.99	295.87	285.39	316.54	306.86
2001	-	-	287.52	287.52	(7.25)	50.90	38.01	287.52	280.27	338.42	325.53
2002	-	-	341.44	341.44	(8.54)	(11.09)	(8.85)	341.44	332.90	330.35	332.60
2003	-	-	485.19	485.19	(8.65)	(11.00)	(13.81)	485.19	476.54	474.19	471.38
2004	-	-	336.09	336.09	(12.07)	67.58	40.61	336.09	324.02	403.67	376.70
2005	-	-	318.18	318.18	(9.19)	31.72	22.81	318.18	308.99	349.90	340.99
2006	-	-	598.41	598.41	(11.59)	(18.01)	(21.50)	598.41	586.82	580.40	576.91
2007	-	-	913.51	913.51	(19.47)	(31.62)	(37.16)	913.51	894.04	881.89	876.35
2008	-	-	669.88	669.88	(27.48)	159.40	101.49	669.88	642.40	829.28	771.37

Descriptive Statistics

Average	-	-	368.71	368.71	(4.54)	15.48	15.22	368.71	364.17	384.19	383.93
Standard Deviation	-	-	142.45	142.45	17.27	43.86	43.53	142.45	135.93	145.49	141.69
Minimum	-	-	228.06	228.06	(27.48)	(31.62)	(37.16)	228.06	223.33	222.84	220.64
Maximum	-	-	913.51	913.51	67.42	159.40	135.07	913.51	894.04	881.89	876.35
Median	-	-	336.09	336.09	(9.21)	(7.95)	(8.85)	336.09	324.79	338.42	340.99

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table B.24. Corn, Sangamon County, Sell all Postharvest Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	345.13	0.80	0.77	0.77	0.76
1977	350.78	0.71	0.79	0.87	0.82
1978	283.83	0.89	0.87	0.87	0.86
1979	334.16	1.03	1.00	1.01	1.00
1980	423.93	0.87	0.84	0.85	0.89
1981	513.32	0.67	0.63	0.66	0.64
1982	394.93	0.96	0.96	1.08	1.03
1983	387.12	0.84	0.89	0.92	1.15
1984	393.76	0.94	0.91	0.92	0.91
1985	389.96	0.83	0.81	0.81	0.80
1986	316.24	0.73	0.71	0.70	0.70
1987	248.14	1.04	1.01	1.00	0.99
1988	325.36	0.70	0.91	0.80	1.12
1989	404.76	0.80	0.77	0.83	0.81
1990	371.26	0.85	0.83	0.83	0.82
1991	398.98	0.91	0.88	0.88	0.87
1992	423.21	0.76	0.74	0.76	0.75
1993	378.12	1.07	1.05	1.05	1.04
1994	436.97	0.86	0.84	0.84	0.83
1995	415.98	1.44	1.42	1.42	1.53
1996	502.73	0.81	0.78	0.77	0.77
1997	447.49	0.75	0.73	0.72	0.73
1998	474.97	0.61	0.63	0.87	0.80
1999	410.15	0.59	0.64	0.82	0.77
2000	421.57	0.70	0.68	0.75	0.73
2001	414.12	0.69	0.68	0.82	0.79
2002	386.72	0.88	0.86	0.85	0.86
2003	409.80	1.18	1.16	1.16	1.15
2004	495.84	0.68	0.65	0.81	0.76
2005	404.43	0.79	0.76	0.87	0.84
2006	449.81	1.33	1.30	1.29	1.28
2007	734.92	1.24	1.22	1.20	1.19
2008	1,015.38	0.66	0.63	0.82	0.76

Descriptive Statistics

Average	427.39	0.87	0.86	0.90	0.90
Standard Deviation	133.86	0.20	0.20	0.17	0.19
Minimum	248.14	0.59	0.63	0.66	0.64
Maximum	1,015.38	1.44	1.42	1.42	1.53
Median	404.76	0.83	0.83	0.85	0.83

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Central Illinois (Low Productivity) – Vermilion County

Table B.25. Corn, Vermilion County, Cash Sale at Harvest, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		----$/acre----				----$/acre----				----$/acre----	
1976	-	171.00	-	171.00	47.19	(8.09)	(11.89)	171.00	218.19	162.91	159.11
1977	-	196.63	-	196.63	(10.11)	83.43	58.58	196.63	186.52	280.05	255.20
1978	-	250.31	-	250.31	(7.13)	(5.00)	(7.82)	250.31	243.17	245.31	242.48
1979	-	362.61	-	362.61	(9.12)	(6.54)	(10.05)	362.61	353.49	356.07	352.56
1980	-	109.59	-	109.59	218.47	35.44	100.05	109.59	328.06	145.03	209.64
1981	-	296.57	-	296.57	(16.15)	45.78	25.97	296.57	280.42	342.35	322.54
1982	-	251.35	-	251.35	(12.20)	32.06	15.74	251.35	239.15	283.41	267.08
1983	-	212.83	-	212.83	99.48	(5.09)	80.49	212.83	312.31	207.74	293.32
1984	-	274.16	-	274.16	(10.50)	(7.72)	(11.88)	274.16	263.66	266.44	262.28
1985	-	311.43	-	311.43	(8.98)	(6.43)	(10.07)	311.43	302.45	305.00	301.36
1986	-	140.51	-	140.51	1.91	28.47	18.31	140.51	142.41	168.98	158.82
1987	-	221.16	-	221.16	(6.48)	(7.11)	(10.03)	221.16	214.68	214.05	211.13
1988	-	149.54	-	149.54	120.18	19.08	113.69	149.54	269.72	168.62	263.23
1989	-	311.99	-	311.99	(10.69)	3.18	(2.89)	311.99	301.30	315.17	309.10
1990	-	271.92	-	271.92	(8.70)	(7.19)	(11.06)	271.92	263.22	264.73	260.86
1991	-	105.22	-	105.22	133.17	181.72	171.77	105.22	238.39	286.95	276.99
1992	-	331.99	-	331.99	(10.14)	(9.28)	(13.62)	331.99	321.85	322.71	318.37
1993	-	286.97	-	286.97	(7.91)	(6.68)	(10.30)	286.97	279.06	280.29	276.67
1994	-	310.31	-	310.31	(9.59)	(8.81)	(13.21)	310.31	300.72	301.50	297.10
1995	-	267.54	-	267.54	35.05	(7.32)	96.66	267.54	302.59	260.22	364.20
1996	-	337.94	-	337.94	(12.17)	32.52	23.46	337.94	325.77	370.46	361.40
1997	-	358.94	-	358.94	(10.29)	(10.61)	(15.10)	358.94	348.65	348.33	343.84
1998	-	231.68	-	231.68	(10.82)	136.34	97.19	231.68	220.86	368.02	328.87
1999	-	229.43	-	229.43	(8.71)	(3.45)	(8.91)	229.43	220.71	225.97	220.51
2000	-	251.88	-	251.88	(9.73)	88.75	64.97	251.88	242.15	340.63	316.85
2001	-	305.04	-	305.04	(8.94)	6.46	(0.77)	305.04	296.10	311.50	304.27
2002	-	385.95	-	385.95	(7.95)	(8.92)	(13.09)	385.95	378.00	377.03	372.86
2003	-	282.80	-	282.80	(8.09)	(8.78)	(13.17)	282.80	274.71	274.02	269.63
2004	-	268.28	-	268.28	9.56	77.67	46.67	268.28	277.84	345.95	314.95
2005	-	279.70	-	279.70	(8.52)	(10.43)	(15.04)	279.70	271.17	269.26	264.66
2006	-	507.78	-	507.78	(10.53)	(14.19)	(20.08)	507.78	497.25	493.59	487.70
2007	-	589.90	-	589.90	(17.73)	(25.76)	(34.52)	589.90	572.17	564.14	555.38
2008	-	557.60	-	557.60	24.78	88.77	44.77	557.60	582.38	646.37	602.37

Descriptive Statistics

Average	-	285.47	-	285.47	13.59	20.98	21.96	285.47	299.06	306.45	307.43
Standard Deviation	-	110.24	-	110.24	53.16	48.21	49.73	110.24	95.33	106.32	94.60
Minimum	-	105.22	-	105.22	(17.73)	(25.76)	(34.52)	105.22	142.41	145.03	158.82
Maximum	-	589.90	-	589.90	218.47	181.72	171.77	589.90	582.38	646.37	602.37
Median	-	274.16	-	274.16	(8.71)	(5.09)	(7.82)	274.16	279.06	286.95	297.10

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.26. Corn, Vermilion County, Cash Sale at Harvest, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
			Revenue Ratio		
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	288.39	0.59	0.76	0.56	0.55
1977	272.09	0.72	0.69	1.03	0.94
1978	226.36	1.11	1.07	1.08	1.07
1979	274.81	1.32	1.29	1.30	1.28
1980	358.38	0.31	0.92	0.40	0.58
1981	404.78	0.73	0.69	0.85	0.80
1982	311.48	0.81	0.77	0.91	0.86
1983	302.65	0.70	1.03	0.69	0.97
1984	297.10	0.92	0.89	0.90	0.88
1985	300.71	1.04	1.01	1.01	1.00
1986	239.24	0.59	0.60	0.71	0.66
1987	188.30	1.17	1.14	1.14	1.12
1988	250.09	0.60	1.08	0.67	1.05
1989	297.71	1.05	1.01	1.06	1.04
1990	269.30	1.01	0.98	0.98	0.97
1991	307.45	0.34	0.78	0.93	0.90
1992	302.94	1.10	1.06	1.07	1.05
1993	278.26	1.03	1.00	1.01	0.99
1994	325.23	0.95	0.92	0.93	0.91
1995	320.29	0.84	0.94	0.81	1.14
1996	372.04	0.91	0.88	1.00	0.97
1997	336.46	1.07	1.04	1.04	1.02
1998	350.02	0.66	0.63	1.05	0.94
1999	308.50	0.74	0.72	0.73	0.71
2000	316.03	0.80	0.77	1.08	1.00
2001	312.37	0.98	0.95	1.00	0.97
2002	317.28	1.22	1.19	1.19	1.18
2003	332.77	0.85	0.83	0.82	0.81
2004	400.07	0.67	0.69	0.86	0.79
2005	320.19	0.87	0.85	0.84	0.83
2006	370.02	1.37	1.34	1.33	1.32
2007	620.08	0.95	0.92	0.91	0.90
2008	858.13	0.65	0.68	0.75	0.70
Descriptive Statistics					
Average	334.23	0.87	0.91	0.93	0.94
Standard Deviation	117.82	0.25	0.19	0.20	0.18
Minimum	188.30	0.31	0.60	0.40	0.55
Maximum	858.13	1.37	1.34	1.33	1.32
Median	311.48	0.87	0.92	0.93	0.97

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.27. Corn, Vermilion County, Aggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	-----$/acre-----				-----$/acre-----				-----$/acre-----		
1976	230.93	(43.39)	-	187.54	47.19	(8.09)	(11.89)	187.54	234.73	179.45	175.65
1977	178.99	-	59.01	237.99	(10.11)	83.43	58.58	237.99	227.88	321.42	296.57
1978	189.60	-	64.03	253.63	(7.13)	(5.00)	(7.82)	253.63	246.50	248.63	245.81
1979	231.28	-	138.66	369.94	(9.12)	(6.54)	(10.05)	369.94	360.82	363.40	359.89
1980	272.11	(200.97)	-	71.14	218.47	35.44	100.05	71.14	289.61	106.59	171.20
1981	279.58	-	77.57	357.15	(16.15)	45.78	25.97	357.15	341.00	402.92	383.11
1982	215.79	-	89.14	304.93	(12.20)	32.06	15.74	304.93	292.73	336.99	320.67
1983	264.09	(111.40)	-	152.69	99.48	(5.09)	80.49	152.69	252.18	147.60	233.18
1984	237.81	-	33.58	271.39	(10.50)	(7.72)	(11.88)	271.39	260.89	263.67	259.51
1985	215.12	-	114.21	329.33	(8.98)	(6.43)	(10.07)	329.33	320.35	322.90	319.26
1986	154.55	-	21.63	176.17	1.91	28.47	18.31	176.17	178.08	204.64	194.49
1987	147.71	-	91.59	239.30	(6.48)	(7.11)	(10.03)	239.30	232.82	232.19	229.27
1988	235.25	(126.09)	-	109.16	120.18	19.08	113.69	109.16	229.34	128.24	222.85
1989	211.23	-	90.07	301.29	(10.69)	3.18	(2.89)	301.29	290.60	304.47	298.41
1990	218.29	-	71.62	289.91	(8.70)	(7.19)	(11.06)	289.91	281.21	282.72	278.85
1991	233.58	(129.59)	-	103.99	133.17	181.72	171.77	103.99	237.16	285.72	275.76
1992	214.60	-	157.27	371.87	(10.14)	(9.28)	(13.62)	371.87	361.73	362.59	358.25
1993	209.62	-	69.28	278.90	(7.91)	(6.68)	(10.30)	278.90	270.99	272.22	268.60
1994	224.27	-	128.14	352.41	(9.59)	(8.81)	(13.21)	352.41	342.82	343.60	339.20
1995	267.21	(39.73)	-	227.48	35.05	(7.32)	96.66	227.48	262.53	220.16	324.14
1996	319.23	-	52.68	371.91	(12.17)	32.52	23.46	371.91	359.74	404.43	395.36
1997	248.87	-	64.76	313.64	(10.29)	(10.61)	(15.10)	313.64	303.35	303.03	298.54
1998	227.42	-	50.13	277.54	(10.82)	136.34	97.19	277.54	266.72	413.89	374.74
1999	217.00	-	43.54	260.54	(8.71)	(3.45)	(8.91)	260.54	251.83	257.08	251.62
2000	206.05	-	79.76	285.81	(9.73)	88.75	64.97	285.81	276.08	374.57	350.78
2001	214.05	-	96.12	310.17	(8.94)	6.46	(0.77)	310.17	301.23	316.63	309.40
2002	255.35	-	74.50	329.85	(7.95)	8.92	(13.09)	329.85	321.90	320.93	316.76
2003	249.64	-	55.55	305.19	(8.09)	(8.78)	(13.17)	305.19	297.10	296.41	292.02
2004	306.20	-	56.20	362.39	9.56	77.67	46.67	362.39	371.95	440.06	409.06
2005	245.97	-	93.82	339.79	(8.52)	(10.43)	(15.04)	339.79	331.27	329.36	324.75
2006	290.76	-	182.86	473.62	(10.53)	(14.19)	(20.08)	473.62	463.09	459.43	453.54
2007	426.48	-	187.81	614.29	(17.73)	(25.76)	(34.52)	614.29	596.56	588.53	579.77
2008	750.45	-	91.53	841.98	24.78	88.77	44.77	841.98	866.76	930.75	886.75

Descriptive Statistics

Average	254.21	(19.73)	70.76	305.24	13.59	20.98	21.96	305.24	318.83	326.22	327.20
Standard Deviation	102.38	48.77	50.75	142.09	53.16	48.21	49.73	142.09	124.63	146.75	129.45
Minimum	147.71	(200.97)	-	71.14	(17.73)	(25.76)	(34.52)	71.14	178.08	106.59	171.20
Maximum	750.45	-	187.81	841.98	218.47	181.72	171.77	841.98	866.76	930.75	886.75
Median	231.28	-	69.28	301.29	(8.71)	(5.09)	(7.82)	301.29	290.60	316.63	309.40

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.28. Corn, Vermilion County, Aggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
			Revenue Ratio		
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	288.39	0.65	0.81	0.62	0.61
1977	272.09	0.87	0.84	1.18	1.09
1978	226.36	1.12	1.09	1.10	1.09
1979	274.81	1.35	1.31	1.32	1.31
1980	358.38	0.20	0.81	0.30	0.48
1981	404.78	0.88	0.84	1.00	0.95
1982	311.48	0.98	0.94	1.08	1.03
1983	302.65	0.50	0.83	0.49	0.77
1984	297.10	0.91	0.88	0.89	0.87
1985	300.71	1.10	1.07	1.07	1.06
1986	239.24	0.74	0.74	0.86	0.81
1987	188.30	1.27	1.24	1.23	1.22
1988	250.09	0.44	0.92	0.51	0.89
1989	297.71	1.01	0.98	1.02	1.00
1990	269.30	1.08	1.04	1.05	1.04
1991	307.45	0.34	0.77	0.93	0.90
1992	302.94	1.23	1.19	1.20	1.18
1993	278.26	1.00	0.97	0.98	0.97
1994	325.23	1.08	1.05	1.06	1.04
1995	320.29	0.71	0.82	0.69	1.01
1996	372.04	1.00	0.97	1.09	1.06
1997	336.46	0.93	0.90	0.90	0.89
1998	350.02	0.79	0.76	1.18	1.07
1999	308.50	0.84	0.82	0.83	0.82
2000	316.03	0.90	0.87	1.19	1.11
2001	312.37	0.99	0.96	1.01	0.99
2002	317.28	1.04	1.01	1.01	1.00
2003	332.77	0.92	0.89	0.89	0.88
2004	400.07	0.91	0.93	1.10	1.02
2005	320.19	1.06	1.03	1.03	1.01
2006	370.02	1.28	1.25	1.24	1.23
2007	620.08	0.99	0.96	0.95	0.93
2008	858.13	0.98	1.01	1.08	1.03

Descriptive Statistics					
Average	334.23	0.91	0.96	0.97	0.98
Standard Deviation	117.82	0.26	0.14	0.23	0.17
Minimum	188.30	0.20	0.74	0.30	0.48
Maximum	858.13	1.35	1.31	1.32	1.31
Median	311.48	0.98	0.94	1.02	1.01

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.29. Corn, Vermilion County, Aggressive Dynamic Pricing Strategy, Revenues by Year

Year	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
					(Indemnity minus premium)						
	------$/acre------				------$/acre------			------$/acre------			
1976	125.39	-	53.61	179.00	47.19	(8.09)	(11.89)	179.00	226.19	170.91	167.11
1977	-	-	223.68	223.68	(10.11)	83.43	58.58	223.68	213.57	307.11	282.26
1978	201.92	-	64.03	265.95	(7.13)	(5.00)	(7.82)	265.95	258.82	260.95	258.13
1979	242.70	-	138.66	381.36	(9.12)	(6.54)	(10.05)	381.36	372.24	374.82	371.31
1980	315.66	(200.97)	-	114.69	218.47	35.44	100.05	114.69	333.16	150.14	214.75
1981	-	-	265.91	265.91	(16.15)	45.78	25.97	265.91	249.76	311.69	291.88
1982	-	-	312.11	312.11	(12.20)	32.06	15.74	312.11	299.91	344.16	327.84
1983	280.34	(111.40)	-	168.94	99.48	(5.09)	80.49	168.94	268.42	163.85	249.43
1984	40.66	-	198.22	238.88	(10.50)	(7.72)	(11.88)	238.88	228.38	231.16	227.00
1985	-	-	287.76	287.76	(8.98)	(6.43)	(10.07)	287.76	278.78	281.33	277.69
1986	-	-	136.55	136.55	1.91	28.47	18.31	136.55	138.45	165.02	154.86
1987	156.97	-	91.59	248.56	(6.48)	(7.11)	(10.03)	248.56	242.08	241.45	238.53
1988	215.91	(126.09)	-	89.82	120.18	19.08	113.69	89.82	209.99	108.89	203.50
1989	-	-	288.04	288.04	(10.69)	3.18	(2.89)	288.04	277.35	291.22	285.15
1990	231.95	-	71.62	303.57	(8.70)	(7.19)	(11.06)	303.57	294.87	296.38	292.51
1991	-	-	97.29	97.29	133.17	181.72	171.77	97.29	230.46	279.02	269.06
1992	-	-	320.86	320.86	(10.14)	(9.28)	(13.62)	320.86	310.72	311.58	307.24
1993	37.57	-	247.46	285.03	(7.91)	(6.68)	(10.30)	285.03	277.12	278.35	274.73
1994	-	-	331.60	331.60	(9.59)	(8.81)	(13.21)	331.60	322.01	322.79	318.39
1995	280.50	(39.73)	-	240.77	35.05	(7.32)	96.66	240.77	275.82	233.45	337.42
1996	328.32	-	52.68	381.00	(12.17)	32.52	23.46	381.00	368.83	413.52	404.45
1997	44.91	-	240.83	285.74	(10.29)	(10.61)	(15.10)	285.74	275.45	275.13	270.64
1998	-	-	219.62	219.62	(10.82)	136.34	97.19	219.62	208.80	355.97	316.82
1999	-	-	207.97	207.97	(8.71)	(3.45)	(8.91)	207.97	199.26	204.52	199.06
2000	41.04	-	219.87	260.91	(9.73)	88.75	64.97	260.91	251.18	349.67	325.88
2001	-	-	279.88	279.88	(8.94)	6.46	(0.77)	279.88	270.94	286.34	279.11
2002	284.60	-	74.50	359.10	(7.95)	(8.92)	(13.09)	359.10	351.15	350.18	346.01
2003	-	-	325.01	325.01	(8.09)	(8.78)	(13.17)	325.01	316.92	316.23	311.84
2004	349.96	-	56.20	406.16	9.56	77.67	46.67	406.16	415.72	483.83	452.83
2005	274.39	-	93.82	368.21	(8.52)	(10.43)	(15.04)	368.21	359.69	357.78	353.17
2006	154.67	-	374.27	528.94	(10.53)	(14.19)	(20.08)	528.94	518.41	514.75	508.86
2007	-	-	765.01	765.01	(17.73)	(25.76)	(34.52)	765.01	747.28	739.25	730.49
2008	730.16	-	91.53	821.69	24.78	88.77	44.77	821.69	846.47	910.46	866.46

Descriptive Statistics

Average	131.44	(14.49)	185.76	302.72	13.59	20.98	21.96	302.72	316.31	323.69	324.68
Standard Deviation	165.60	44.49	154.33	157.04	53.16	48.21	49.73	157.04	143.52	157.89	143.68
Minimum	-	(200.97)	-	89.82	(17.73)	(25.76)	(34.52)	89.82	138.45	108.89	154.86
Maximum	730.16	-	765.01	821.69	218.47	181.72	171.77	821.69	846.47	910.46	866.46
Median	41.04	-	198.22	285.03	(8.71)	(5.09)	(7.82)	285.03	277.12	296.38	291.88

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table B.30. Corn, Vermilion County, Aggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	288.39	0.62	0.78	0.59	0.58
1977	272.09	0.82	0.78	1.13	1.04
1978	226.36	1.17	1.14	1.15	1.14
1979	274.81	1.39	1.35	1.36	1.35
1980	358.38	0.32	0.93	0.42	0.60
1981	404.78	0.66	0.62	0.77	0.72
1982	311.48	1.00	0.96	1.10	1.05
1983	302.65	0.56	0.89	0.54	0.82
1984	297.10	0.80	0.77	0.78	0.76
1985	300.71	0.96	0.93	0.94	0.92
1986	239.24	0.57	0.58	0.69	0.65
1987	188.30	1.32	1.29	1.28	1.27
1988	250.09	0.36	0.84	0.44	0.81
1989	297.71	0.97	0.93	0.98	0.96
1990	269.30	1.13	1.09	1.10	1.09
1991	307.45	0.32	0.75	0.91	0.88
1992	302.94	1.06	1.03	1.03	1.01
1993	278.26	1.02	1.00	1.00	0.99
1994	325.23	1.02	0.99	0.99	0.98
1995	320.29	0.75	0.86	0.73	1.05
1996	372.04	1.02	0.99	1.11	1.09
1997	336.46	0.85	0.82	0.82	0.80
1998	350.02	0.63	0.60	1.02	0.91
1999	308.50	0.67	0.65	0.66	0.65
2000	316.03	0.83	0.79	1.11	1.03
2001	312.37	0.90	0.87	0.92	0.89
2002	317.28	1.13	1.11	1.10	1.09
2003	332.77	0.98	0.95	0.95	0.94
2004	400.07	1.02	1.04	1.21	1.13
2005	320.19	1.15	1.12	1.12	1.10
2006	370.02	1.43	1.40	1.39	1.38
2007	620.08	1.23	1.21	1.19	1.18
2008	858.13	0.96	0.99	1.06	1.01

Descriptive Statistics

Average	334.23	0.90	0.94	0.96	0.97
Standard Deviation	117.82	0.29	0.20	0.25	0.20
Minimum	188.30	0.32	0.58	0.42	0.58
Maximum	858.13	1.43	1.40	1.39	1.38
Median	311.48	0.96	0.93	1.00	0.99

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.31. Corn, Vermilion County, Nonaggressive Mechanical Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				------$/acre------			------$/acre------			
1976	135.84	-	37.75	173.59	47.19	(8.09)	(11.89)	173.59	220.79	165.50	161.70
1977	105.29	-	126.81	232.10	(10.11)	83.43	58.58	232.10	221.99	315.53	290.68
1978	111.53	-	140.20	251.73	(7.13)	(5.00)	(7.82)	251.73	244.60	246.73	243.91
1979	136.05	-	220.90	356.94	(9.12)	(6.54)	(10.05)	356.94	347.82	350.40	346.89
1980	160.07	(72.95)	-	87.12	218.47	35.44	100.05	87.12	305.58	122.56	187.17
1981	164.46	-	155.12	319.58	(16.15)	45.78	25.97	319.58	303.43	365.36	345.55
1982	126.93	-	180.95	307.88	(12.20)	32.06	15.74	307.88	295.68	339.94	323.62
1983	155.35	-	18.58	173.93	99.48	(5.09)	80.49	173.93	273.41	168.84	254.42
1984	139.89	-	114.93	254.82	(10.50)	(7.72)	(11.88)	254.82	244.32	247.10	242.94
1985	126.54	-	185.67	312.21	(8.98)	(6.43)	(10.07)	312.21	303.23	305.78	302.14
1986	90.91	-	68.95	159.86	1.91	28.47	18.31	159.86	161.76	188.33	178.17
1987	86.89	-	159.15	246.04	(6.48)	(7.11)	(10.03)	246.04	239.56	238.93	236.01
1988	138.38	(12.38)	-	126.01	120.18	19.08	113.69	126.01	246.18	145.08	239.69
1989	124.25	-	171.58	295.84	(10.69)	3.18	(2.89)	295.84	285.15	299.02	292.95
1990	128.41	-	146.04	274.45	(8.70)	(7.19)	(11.06)	274.45	265.75	267.26	263.39
1991	137.40	(32.73)	-	104.68	133.17	181.72	171.77	104.68	237.85	286.40	276.44
1992	126.24	-	224.63	350.87	(10.14)	(9.28)	(13.62)	350.87	340.73	341.59	337.25
1993	123.31	-	157.32	280.63	(7.91)	(6.68)	(10.30)	280.63	272.72	273.95	270.33
1994	131.92	-	211.92	343.84	(9.59)	(8.81)	(13.21)	343.84	334.25	335.03	330.63
1995	157.18	-	111.84	269.02	35.05	(7.32)	96.66	269.02	304.07	261.70	365.68
1996	187.78	-	147.20	334.98	(12.17)	32.52	23.46	334.98	322.81	367.50	358.43
1997	146.40	-	151.76	298.16	(10.29)	(10.61)	(15.10)	298.16	287.87	287.55	283.06
1998	133.77	-	119.92	253.69	(10.82)	136.34	97.19	253.69	242.87	390.04	350.89
1999	127.65	-	111.25	238.89	(8.71)	(3.45)	(8.91)	238.89	230.18	235.44	229.98
2000	121.21	-	148.99	270.20	(9.73)	88.75	64.97	270.20	260.47	358.95	335.17
2001	125.91	-	171.78	297.69	(8.94)	6.46	(0.77)	297.69	288.75	304.16	296.93
2002	150.21	-	172.01	322.22	(7.95)	(8.92)	(13.09)	322.22	314.27	313.30	309.13
2003	146.84	-	166.50	313.35	(8.09)	(8.78)	(13.17)	313.35	305.26	304.57	300.18
2004	180.11	-	134.68	314.79	9.56	77.67	46.67	314.79	324.35	392.47	361.46
2005	144.69	-	179.62	324.31	(8.52)	(10.43)	(15.04)	324.31	315.79	313.88	309.27
2006	171.03	-	340.49	511.52	(10.53)	(14.19)	(20.08)	511.52	500.99	497.33	491.44
2007	250.87	-	425.48	676.35	(17.73)	(25.76)	(34.52)	676.35	658.62	650.59	641.83
2008	441.44	-	266.02	707.46	24.78	88.77	44.77	707.46	732.25	796.23	752.24

Descriptive Statistics

Average	149.54	(3.58)	150.55	296.51	13.59	20.98	21.96	296.51	310.10	317.49	318.47
Standard Deviation	60.22	13.83	89.26	130.98	53.16	48.21	49.73	130.98	114.58	131.71	117.32
Minimum	86.89	(72.95)	-	87.12	(17.73)	(25.76)	(34.52)	87.12	161.76	122.56	161.70
Maximum	441.44	-	425.48	707.46	218.47	181.72	171.77	707.46	732.25	796.23	752.24
Median	136.05	-	151.76	295.84	(8.71)	(5.09)	(7.82)	295.84	288.75	304.57	300.18

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.32. Corn, Vermilion County, Nonaggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	----\$/acre----	(Total Revenue with insurance divided by Expected Revenue)			
1976	288.39	0.60	0.77	0.57	0.56
1977	272.09	0.85	0.82	1.16	1.07
1978	226.36	1.11	1.08	1.09	1.08
1979	274.81	1.30	1.27	1.28	1.26
1980	358.38	0.24	0.85	0.34	0.52
1981	404.78	0.79	0.75	0.90	0.85
1982	311.48	0.99	0.95	1.09	1.04
1983	302.65	0.57	0.90	0.56	0.84
1984	297.10	0.86	0.82	0.83	0.82
1985	300.71	1.04	1.01	1.02	1.00
1986	239.24	0.67	0.68	0.79	0.74
1987	188.30	1.31	1.27	1.27	1.25
1988	250.09	0.50	0.98	0.58	0.96
1989	297.71	0.99	0.96	1.00	0.98
1990	269.30	1.02	0.99	0.99	0.98
1991	307.45	0.34	0.77	0.93	0.90
1992	302.94	1.16	1.12	1.13	1.11
1993	278.26	1.01	0.98	0.98	0.97
1994	325.23	1.06	1.03	1.03	1.02
1995	320.29	0.84	0.95	0.82	1.14
1996	372.04	0.90	0.87	0.99	0.96
1997	336.46	0.89	0.86	0.85	0.84
1998	350.02	0.72	0.69	1.11	1.00
1999	308.50	0.77	0.75	0.76	0.75
2000	316.03	0.85	0.82	1.14	1.06
2001	312.37	0.95	0.92	0.97	0.95
2002	317.28	1.02	0.99	0.99	0.97
2003	332.77	0.94	0.92	0.92	0.90
2004	400.07	0.79	0.81	0.98	0.90
2005	320.19	1.01	0.99	0.98	0.97
2006	370.02	1.38	1.35	1.34	1.33
2007	620.08	1.09	1.06	1.05	1.04
2008	858.13	0.82	0.85	0.93	0.88

Descriptive Statistics

Average	334.23	0.89	0.93	0.95	0.96
Standard Deviation	117.82	0.25	0.16	0.22	0.17
Minimum	188.30	0.24	0.68	0.34	0.52
Maximum	858.13	1.38	1.35	1.34	1.33
Median	311.48	0.90	0.92	0.98	0.97

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.33. Corn, Vermilion County, Nonaggressive Dynamic Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	73.76	-	90.61	164.37	47.19	(8.09)	(11.89)	164.37	211.56	156.28	152.48
1977	-	-	223.68	223.68	(10.11)	83.43	58.58	223.68	213.57	307.11	282.26
1978	118.78	-	140.20	258.98	(7.13)	(5.00)	(7.82)	258.98	251.85	253.98	251.16
1979	142.77	-	220.90	363.66	(9.12)	(6.54)	(10.05)	363.66	354.54	357.12	353.61
1980	185.68	(72.95)	-	112.73	218.47	35.44	100.05	112.73	331.20	148.18	212.79
1981	-	-	265.91	265.91	(16.15)	45.78	25.97	265.91	249.76	311.69	291.88
1982	-	-	312.11	312.11	(12.20)	32.06	15.74	312.11	299.91	344.16	327.84
1983	164.91	-	18.58	183.49	99.48	(5.09)	80.49	183.49	282.97	178.40	263.98
1984	23.92	-	211.78	235.70	(10.50)	(7.72)	(11.88)	235.70	225.20	227.98	223.82
1985	-	-	287.76	287.76	(8.98)	(6.43)	(10.07)	287.76	278.78	281.33	277.69
1986	-	-	136.55	136.55	1.91	28.47	18.31	136.55	138.45	165.02	154.86
1987	92.34	-	159.15	251.48	(6.48)	(7.11)	(10.03)	251.48	245.00	244.37	241.45
1988	127.01	(12.38)	-	114.63	120.18	19.08	113.69	114.63	234.80	133.71	228.32
1989	-	-	288.04	288.04	(10.69)	3.18	(2.89)	288.04	277.35	291.22	285.15
1990	136.44	-	146.04	282.49	(8.70)	(7.19)	(11.06)	282.49	273.79	275.30	271.43
1991	-	-	97.29	97.29	133.17	181.72	171.77	97.29	230.46	279.02	269.06
1992	-	-	320.86	320.86	(10.14)	(9.28)	(13.62)	320.86	310.72	311.58	307.24
1993	22.10	-	262.13	284.23	(7.91)	(6.68)	(10.30)	284.23	276.32	277.55	273.93
1994	-	-	331.60	331.60	(9.59)	(8.81)	(13.21)	331.60	322.01	322.79	318.39
1995	165.00	-	111.84	276.84	35.05	(7.32)	96.66	276.84	311.89	269.52	373.49
1996	193.13	-	147.20	340.32	(12.17)	32.52	23.46	340.32	328.15	372.84	363.78
1997	26.42	-	255.33	281.75	(10.29)	(10.61)	(15.10)	281.75	271.46	271.14	266.65
1998	-	-	219.62	219.62	(10.82)	136.34	97.19	219.62	208.80	355.97	316.82
1999	-	-	207.97	207.97	(8.71)	(3.45)	(8.91)	207.97	199.26	204.52	199.06
2000	24.14	-	231.41	255.55	(9.73)	88.75	64.97	255.55	245.82	344.31	320.52
2001	-	-	279.88	279.88	(8.94)	6.46	(0.77)	279.88	270.94	286.34	279.11
2002	167.41	-	172.01	339.42	(7.95)	(8.92)	(13.09)	339.42	331.47	330.50	326.33
2003	-	-	325.01	325.01	(8.09)	(8.78)	(13.17)	325.01	316.92	316.23	311.84
2004	205.86	-	134.68	340.54	9.56	77.67	46.67	340.54	350.10	418.21	387.21
2005	161.41	-	179.62	341.03	(8.52)	(10.43)	(15.04)	341.03	332.51	330.60	325.99
2006	90.99	-	453.08	544.07	(10.53)	(14.19)	(20.08)	544.07	533.54	529.88	523.99
2007	-	-	765.01	765.01	(17.73)	(25.76)	(34.52)	765.01	747.28	739.25	730.49
2008	429.51	-	266.02	695.53	24.78	88.77	44.77	695.53	720.31	784.30	740.30

Descriptive Statistics

Average	77.32	(2.59)	220.06	294.79	13.59	20.98	21.96	294.79	308.38	315.77	316.75
Standard Deviation	97.41	12.81	140.73	142.25	53.16	48.21	49.73	142.25	128.54	140.59	128.35
Minimum	-	(72.95)	-	97.29	(17.73)	(25.76)	(34.52)	97.29	138.45	133.71	152.48
Maximum	429.51	-	765.01	765.01	218.47	181.72	171.77	765.01	747.28	784.30	740.30
Median	24.14	-	219.62	281.75	(8.71)	(5.09)	(7.82)	281.75	277.35	291.22	285.15

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.34. Corn, Vermilion County, Nonaggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	288.39	0.57	0.73	0.54	0.53
1977	272.09	0.82	0.78	1.13	1.04
1978	226.36	1.14	1.11	1.12	1.11
1979	274.81	1.32	1.29	1.30	1.29
1980	358.38	0.31	0.92	0.41	0.59
1981	404.78	0.66	0.62	0.77	0.72
1982	311.48	1.00	0.96	1.10	1.05
1983	302.65	0.61	0.93	0.59	0.87
1984	297.10	0.79	0.76	0.77	0.75
1985	300.71	0.96	0.93	0.94	0.92
1986	239.24	0.57	0.58	0.69	0.65
1987	188.30	1.34	1.30	1.30	1.28
1988	250.09	0.46	0.94	0.53	0.91
1989	297.71	0.97	0.93	0.98	0.96
1990	269.30	1.05	1.02	1.02	1.01
1991	307.45	0.32	0.75	0.91	0.88
1992	302.94	1.06	1.03	1.03	1.01
1993	278.26	1.02	0.99	1.00	0.98
1994	325.23	1.02	0.99	0.99	0.98
1995	320.29	0.86	0.97	0.84	1.17
1996	372.04	0.91	0.88	1.00	0.98
1997	336.46	0.84	0.81	0.81	0.79
1998	350.02	0.63	0.60	1.02	0.91
1999	308.50	0.67	0.65	0.66	0.65
2000	316.03	0.81	0.78	1.09	1.01
2001	312.37	0.90	0.87	0.92	0.89
2002	317.28	1.07	1.04	1.04	1.03
2003	332.77	0.98	0.95	0.95	0.94
2004	400.07	0.85	0.88	1.05	0.97
2005	320.19	1.07	1.04	1.03	1.02
2006	370.02	1.47	1.44	1.43	1.42
2007	620.08	1.23	1.21	1.19	1.18
2008	858.13	0.81	0.84	0.91	0.86

Descriptive Statistics

Average	334.23	0.88	0.92	0.94	0.95
Standard Deviation	117.82	0.27	0.20	0.23	0.20
Minimum	188.30	0.31	0.58	0.41	0.53
Maximum	858.13	1.47	1.44	1.43	1.42
Median	311.48	0.90	0.93	0.99	0.97

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.35. Corn, Vermilion County, Sell all Postharvest Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
						(Indemnity minus premium)					
	------$/acre------				------$/acre------				------$/acre------		
1976	-	-	143.47	143.47	47.19	(8.09)	(11.89)	143.47	190.66	135.38	131.58
1977	-	-	223.68	223.68	(10.11)	83.43	58.58	223.68	213.57	307.11	282.26
1978	-	-	249.02	249.02	(7.13)	(5.00)	(7.82)	249.02	241.89	244.02	241.20
1979	-	-	338.38	338.38	(9.12)	(6.54)	(10.05)	338.38	329.26	331.84	328.33
1980	-	-	96.57	96.57	218.47	35.44	100.05	96.57	315.03	132.01	196.62
1981	-	-	265.91	265.91	(16.15)	45.78	25.97	265.91	249.76	311.69	291.88
1982	-	-	312.11	312.11	(12.20)	32.06	15.74	312.11	299.91	344.16	327.84
1983	-	-	177.37	177.37	99.48	(5.09)	80.49	177.37	276.85	172.28	257.86
1984	-	-	231.15	231.15	(10.50)	(7.72)	(11.88)	231.15	220.65	223.43	219.27
1985	-	-	287.76	287.76	(8.98)	(6.43)	(10.07)	287.76	278.78	281.33	277.69
1986	-	-	136.55	136.55	1.91	28.47	18.31	136.55	138.45	165.02	154.86
1987	-	-	255.66	255.66	(6.48)	(7.11)	(10.03)	255.66	249.18	248.55	245.63
1988	-	-	117.42	117.42	120.18	19.08	113.69	117.42	237.60	136.50	231.11
1989	-	-	288.04	288.04	(10.69)	3.18	(2.89)	288.04	277.35	291.22	285.15
1990	-	-	252.37	252.37	(8.70)	(7.19)	(11.06)	252.37	243.67	245.18	241.31
1991	-	-	97.29	97.29	133.17	181.72	171.77	97.29	230.46	279.02	269.06
1992	-	-	320.86	320.86	(10.14)	(9.28)	(13.62)	320.86	310.72	311.58	307.24
1993	-	-	283.09	283.09	(7.91)	(6.68)	(10.30)	283.09	275.18	276.41	272.79
1994	-	-	331.60	331.60	(9.59)	(8.81)	(13.21)	331.60	322.01	322.79	318.39
1995	-	-	344.43	344.43	35.05	(7.32)	96.66	344.43	379.48	337.11	441.09
1996	-	-	282.22	282.22	(12.17)	32.52	23.46	282.22	270.05	314.74	305.68
1997	-	-	276.04	276.04	(10.29)	(10.61)	(15.10)	276.04	265.75	265.43	260.94
1998	-	-	219.62	219.62	(10.82)	136.34	97.19	219.62	208.80	355.97	316.82
1999	-	-	207.97	207.97	(8.71)	(3.45)	(8.91)	207.97	199.26	204.52	199.06
2000	-	-	247.89	247.89	(9.73)	88.75	64.97	247.89	238.16	336.65	312.86
2001	-	-	279.88	279.88	(8.94)	6.46	(0.77)	279.88	270.94	286.34	279.11
2002	-	-	311.32	311.32	(7.95)	(8.92)	(13.09)	311.32	303.37	302.40	298.23
2003	-	-	325.01	325.01	(8.09)	(8.78)	(13.17)	325.01	316.92	316.23	311.84
2004	-	-	246.79	246.79	9.56	77.67	46.67	246.79	256.35	324.47	293.46
2005	-	-	302.20	302.20	(8.52)	(10.43)	(15.04)	302.20	293.68	291.77	287.16
2006	-	-	565.67	565.67	(10.53)	(14.19)	(20.08)	565.67	555.14	551.48	545.59
2007	-	-	765.01	765.01	(17.73)	(25.76)	(34.52)	765.01	747.28	739.25	730.49
2008	-	-	515.30	515.30	24.78	88.77	44.77	515.30	540.08	604.07	560.07

Descriptive Statistics

Average	-	-	281.75	281.75	13.59	20.98	21.96	281.75	295.34	302.72	303.71
Standard Deviation	-	-	131.21	131.21	53.16	48.21	49.73	131.21	116.17	125.29	116.39
Minimum	-	-	96.57	96.57	(17.73)	(25.76)	(34.52)	96.57	138.45	132.01	131.58
Maximum	-	-	765.01	765.01	218.47	181.72	171.77	765.01	747.28	739.25	730.49
Median	-	-	276.04	276.04	(8.71)	(5.09)	(7.82)	276.04	270.94	291.77	285.15

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table B.36. Corn, Vermilion County, Sell all Postharvest Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	288.39	0.50	0.66	0.47	0.46
1977	272.09	0.82	0.78	1.13	1.04
1978	226.36	1.10	1.07	1.08	1.07
1979	274.81	1.23	1.20	1.21	1.19
1980	358.38	0.27	0.88	0.37	0.55
1981	404.78	0.66	0.62	0.77	0.72
1982	311.48	1.00	0.96	1.10	1.05
1983	302.65	0.59	0.91	0.57	0.85
1984	297.10	0.78	0.74	0.75	0.74
1985	300.71	0.96	0.93	0.94	0.92
1986	239.24	0.57	0.58	0.69	0.65
1987	188.30	1.36	1.32	1.32	1.30
1988	250.09	0.47	0.95	0.55	0.92
1989	297.71	0.97	0.93	0.98	0.96
1990	269.30	0.94	0.90	0.91	0.90
1991	307.45	0.32	0.75	0.91	0.88
1992	302.94	1.06	1.03	1.03	1.01
1993	278.26	1.02	0.99	0.99	0.98
1994	325.23	1.02	0.99	0.99	0.98
1995	320.29	1.08	1.18	1.05	1.38
1996	372.04	0.76	0.73	0.85	0.82
1997	336.46	0.82	0.79	0.79	0.78
1998	350.02	0.63	0.60	1.02	0.91
1999	308.50	0.67	0.65	0.66	0.65
2000	316.03	0.78	0.75	1.07	0.99
2001	312.37	0.90	0.87	0.92	0.89
2002	317.28	0.98	0.96	0.95	0.94
2003	332.77	0.98	0.95	0.95	0.94
2004	400.07	0.62	0.64	0.81	0.73
2005	320.19	0.94	0.92	0.91	0.90
2006	370.02	1.53	1.50	1.49	1.47
2007	620.08	1.23	1.21	1.19	1.18
2008	858.13	0.60	0.63	0.70	0.65

Descriptive Statistics

Average	334.23	0.85	0.90	0.91	0.92
Standard Deviation	117.82	0.29	0.22	0.24	0.22
Minimum	188.30	0.27	0.58	0.37	0.46
Maximum	858.13	1.53	1.50	1.49	1.47
Median	311.48	0.90	0.91	0.94	0.92

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Southern Illinois – Effingham County

Table B.37. Corn, Effingham County, Cash Sale at Harvest, Revenues by Year

| | Revenue without insurance | | | | Insurance revenue | | | Total Revenue with insurance | | | |
| | Preharvest Revenue | Harvest Revenue | Postharvest Revenue | Total Revenue | CRC* | GRIP-BP** | GRIP-HP*** | No Insurance | CRC* | GRIP-BP** | GRIP-HP*** |
Year					(Indemnity minus premium)						
		------$/acre------				------$/acre------			------$/acre------		
1976	-	89.88	-	89.88	62.58	32.69	28.32	89.88	152.46	122.57	118.20
1977	-	156.00	-	156.00	(13.24)	8.48	1.17	156.00	142.76	164.48	157.17
1978	-	180.63	-	180.63	(9.64)	(7.22)	(9.52)	180.63	170.98	173.41	171.10
1979	-	293.76	-	293.76	(11.80)	(8.80)	(11.88)	293.76	281.96	284.96	281.88
1980	-	184.74	-	184.74	25.86	(10.54)	(14.07)	184.74	210.60	174.20	170.67
1981	-	300.33	-	300.33	(19.40)	13.06	1.01	300.33	280.93	313.39	301.34
1982	-	225.89	-	225.89	(14.56)	13.43	2.37	225.89	211.33	239.32	228.26
1983	-	66.74	-	66.74	184.72	216.48	248.56	66.74	251.46	283.22	315.30
1984	-	157.37	-	157.37	24.97	116.05	108.79	157.37	182.34	273.42	266.16
1985	-	177.48	-	177.48	(11.35)	(9.54)	(12.58)	177.48	166.13	167.94	164.90
1986	-	172.67	-	172.67	(9.42)	(8.63)	(11.65)	172.67	163.25	164.04	161.02
1987	-	218.18	-	218.18	(7.74)	(8.25)	(10.86)	218.18	210.44	209.93	207.32
1988	-	180.59	-	180.59	40.77	(5.22)	78.98	180.59	221.36	175.37	259.57
1989	-	293.13	-	293.13	(12.57)	(12.63)	(16.69)	293.13	280.56	280.50	276.44
1990	-	235.02	-	235.02	(10.24)	(10.05)	(13.56)	235.02	224.78	224.97	221.46
1991	-	230.94	-	230.94	(10.67)	21.15	16.42	230.94	220.27	252.09	247.36
1992	-	206.55	-	206.55	(11.98)	(3.60)	(9.75)	206.55	194.57	202.95	196.80
1993	-	213.24	-	213.24	(9.53)	(9.96)	(13.29)	213.24	203.71	203.28	199.95
1994	-	169.46	-	169.46	26.84	5.39	(2.05)	169.46	196.30	174.85	167.41
1995	-	336.27	-	336.27	(10.19)	(10.97)	(14.64)	336.27	326.08	325.29	321.62
1996	-	232.65	-	232.65	10.70	70.75	58.90	232.65	243.35	303.40	291.55
1997	-	260.30	-	260.30	(12.16)	10.88	20.17	260.30	248.14	271.18	280.47
1998	-	229.35	-	229.35	(13.09)	35.32	18.96	229.35	216.26	264.67	248.31
1999	-	129.21	-	129.21	51.08	134.72	106.68	129.21	180.29	263.93	235.89
2000	-	204.75	-	204.75	(11.75)	12.92	3.45	204.75	193.00	217.67	208.20
2001	-	256.46	-	256.46	(10.89)	(13.01)	(17.37)	256.46	245.56	243.44	239.08
2002	-	175.93	-	175.93	25.38	32.33	61.50	175.93	201.31	208.26	237.43
2003	-	284.82	-	284.82	(10.11)	(12.30)	(16.42)	284.82	274.71	272.52	268.40
2004	-	288.64	-	288.64	(13.16)	(16.84)	(22.05)	288.64	275.48	271.80	266.59
2005	-	196.47	-	196.47	(10.16)	67.82	52.99	196.47	186.31	264.29	249.46
2006	-	340.45	-	340.45	(12.34)	(17.32)	(22.20)	340.45	328.10	323.13	318.24
2007	-	526.35	-	526.35	(20.63)	(29.42)	(38.12)	526.35	505.72	496.93	488.23
2008	-	592.45	-	592.45	(28.71)	(46.10)	(58.47)	592.45	563.74	546.35	533.98
Descriptive Statistics											
Average	-	236.57	-	236.57	4.47	16.70	14.94	236.57	241.04	253.26	251.51
Standard Deviation	-	104.86	-	104.86	39.04	52.53	57.01	104.86	89.17	87.01	84.87
Minimum	-	66.74	-	66.74	(28.71)	(46.10)	(58.47)	66.74	142.76	122.57	118.20
Maximum	-	592.45	-	592.45	184.72	216.48	248.56	592.45	563.74	546.35	533.98
Median	-	218.18	-	218.18	(10.24)	(5.22)	(9.52)	218.18	216.26	252.09	247.36

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table B.38. Corn, Effingham County, Cash Sale at Harvest, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	214.52	0.42	0.71	0.57	0.55
1977	196.72	0.79	0.73	0.84	0.80
1978	167.28	1.08	1.02	1.04	1.02
1979	202.01	1.45	1.40	1.41	1.40
1980	268.61	0.69	0.78	0.65	0.64
1981	317.64	0.95	0.88	0.99	0.95
1982	251.23	0.90	0.84	0.95	0.91
1983	252.42	0.26	1.00	1.12	1.25
1984	243.58	0.65	0.75	1.12	1.09
1985	236.19	0.75	0.70	0.71	0.70
1986	184.91	0.93	0.88	0.89	0.87
1987	155.84	1.40	1.35	1.35	1.33
1988	212.54	0.85	1.04	0.83	1.22
1989	262.74	1.12	1.07	1.07	1.05
1990	242.11	0.97	0.93	0.93	0.91
1991	267.98	0.86	0.82	0.94	0.92
1992	275.36	0.75	0.71	0.74	0.71
1993	241.03	0.88	0.85	0.84	0.83
1994	286.43	0.59	0.69	0.61	0.58
1995	276.91	1.21	1.18	1.17	1.16
1996	343.75	0.68	0.71	0.88	0.85
1997	296.10	0.88	0.84	0.92	0.95
1998	298.03	0.77	0.73	0.89	0.83
1999	258.55	0.50	0.70	1.02	0.91
2000	252.57	0.81	0.76	0.86	0.82
2001	246.33	1.04	1.00	0.99	0.97
2002	239.54	0.73	0.84	0.87	0.99
2003	247.09	1.15	1.11	1.10	1.09
2004	307.05	0.94	0.90	0.89	0.87
2005	263.60	0.75	0.71	1.00	0.95
2006	291.43	1.17	1.13	1.11	1.09
2007	488.28	1.08	1.04	1.02	1.00
2008	696.19	0.85	0.81	0.78	0.77

Descriptive Statistics					
Average	272.26	0.87	0.90	0.94	0.94
Standard Deviation	95.90	0.26	0.19	0.19	0.20
Minimum	155.84	0.26	0.69	0.57	0.55
Maximum	696.19	1.45	1.40	1.41	1.40
Median	252.57	0.86	0.84	0.93	0.92

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.39. Corn, Effingham County, Aggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------			------$/acre------			
1976	166.49	(57.27)	-	109.22	62.58	32.69	28.32	109.22	171.81	141.91	137.55
1977	124.68	-	62.76	187.44	(13.24)	8.48	1.17	187.44	174.20	195.92	188.60
1978	135.51	-	39.87	175.38	(9.64)	(7.22)	(9.52)	175.38	165.74	168.16	165.86
1979	164.42	-	132.14	296.56	(11.80)	(8.80)	(11.88)	296.56	284.76	287.76	284.68
1980	198.06	(33.79)	-	164.27	25.86	(10.54)	(14.07)	164.27	190.13	153.73	150.20
1981	213.75	-	114.13	327.88	(19.40)	13.06	1.01	327.88	308.48	340.94	328.89
1982	170.22	-	104.62	274.84	(14.56)	13.43	2.37	274.84	260.28	288.27	277.21
1983	216.25	(199.06)	-	17.19	184.72	216.48	248.56	17.19	201.91	233.67	265.75
1984	190.82	(31.13)	-	159.69	24.97	116.05	108.79	159.69	184.66	275.74	268.48
1985	164.71	-	31.11	195.82	(11.35)	(9.54)	(12.58)	195.82	184.47	186.28	183.24
1986	116.22	-	81.38	197.61	(9.42)	(8.63)	(11.65)	197.61	188.19	188.98	185.96
1987	119.98	-	118.95	238.93	(7.74)	(8.25)	(10.86)	238.93	231.19	230.68	228.07
1988	196.85	(49.86)	-	147.00	40.77	(5.22)	78.98	147.00	187.76	141.77	225.97
1989	184.11	-	98.07	282.18	(12.57)	(12.63)	(16.69)	282.18	269.61	269.55	265.49
1990	194.16	-	56.35	250.51	(10.24)	(10.05)	(13.56)	250.51	240.27	240.46	236.95
1991	200.97	-	22.11	223.08	(10.67)	21.15	16.42	223.08	212.41	244.23	239.49
1992	193.22	-	48.18	241.40	(11.98)	(3.60)	(9.75)	241.40	229.42	237.80	231.65
1993	179.04	-	27.74	206.77	(9.53)	(9.96)	(13.29)	206.77	197.24	196.81	193.48
1994	195.22	-	6.37	201.60	26.84	5.39	(2.05)	201.60	228.43	206.99	199.55
1995	228.08	-	75.07	303.14	(10.19)	(10.97)	(14.64)	303.14	292.95	292.17	288.50
1996	292.88	(2.69)	-	290.19	10.70	70.75	58.90	290.19	300.89	360.94	349.09
1997	216.49	-	16.39	232.89	(12.16)	10.88	20.17	232.89	220.73	243.77	253.06
1998	190.73	-	46.59	237.32	(13.09)	35.32	18.96	237.32	224.23	272.64	256.28
1999	179.03	(24.48)	-	154.54	51.08	134.72	106.68	154.54	205.62	289.26	261.22
2000	161.33	-	56.51	217.84	(11.75)	12.92	3.45	217.84	206.09	230.76	221.29
2001	165.22	-	93.97	259.19	(10.89)	(13.01)	(17.37)	259.19	248.30	246.18	241.82
2002	188.27	(33.72)	-	154.55	25.38	32.33	61.50	154.55	179.94	186.88	216.05
2003	180.65	-	132.34	312.99	(10.11)	(12.30)	(16.42)	312.99	302.88	300.69	296.57
2004	229.84	-	123.21	353.05	(13.16)	(16.84)	(22.05)	353.05	339.89	336.21	331.00
2005	199.33	-	40.97	240.30	(10.16)	67.82	52.99	240.30	230.14	308.12	293.29
2006	224.74	-	129.92	354.66	(12.34)	(17.32)	(22.20)	354.66	342.32	337.34	332.46
2007	329.82	-	296.12	625.95	(20.63)	(29.42)	(38.12)	625.95	605.32	596.53	587.83
2008	599.68	-	208.87	808.56	(28.71)	(46.10)	(58.47)	808.56	779.85	762.46	750.08
Descriptive Statistics											
Average	203.36	(13.09)	65.57	255.83	4.47	16.70	14.94	255.83	260.31	272.53	270.78
Standard Deviation	82.97	36.91	67.52	140.58	39.04	52.53	57.01	140.58	123.72	121.88	117.17
Minimum	116.22	(199.06)	-	17.19	(28.71)	(46.10)	(58.47)	17.19	165.74	141.77	137.55
Maximum	599.68	-	296.12	808.56	184.72	216.48	248.56	808.56	779.85	762.46	750.08
Median	190.82	-	48.18	237.32	(10.24)	(5.22)	(9.52)	237.32	228.43	244.23	253.06

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.40. Corn, Effingham County, Aggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
				Revenue Ratio	
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	214.52	0.51	0.80	0.66	0.64
1977	196.72	0.95	0.89	1.00	0.96
1978	167.28	1.05	0.99	1.01	0.99
1979	202.01	1.47	1.41	1.42	1.41
1980	268.61	0.61	0.71	0.57	0.56
1981	317.64	1.03	0.97	1.07	1.04
1982	251.23	1.09	1.04	1.15	1.10
1983	252.42	0.07	0.80	0.93	1.05
1984	243.58	0.66	0.76	1.13	1.10
1985	236.19	0.83	0.78	0.79	0.78
1986	184.91	1.07	1.02	1.02	1.01
1987	155.84	1.53	1.48	1.48	1.46
1988	212.54	0.69	0.88	0.67	1.06
1989	262.74	1.07	1.03	1.03	1.01
1990	242.11	1.03	0.99	0.99	0.98
1991	267.98	0.83	0.79	0.91	0.89
1992	275.36	0.88	0.83	0.86	0.84
1993	241.03	0.86	0.82	0.82	0.80
1994	286.43	0.70	0.80	0.72	0.70
1995	276.91	1.09	1.06	1.06	1.04
1996	343.75	0.84	0.88	1.05	1.02
1997	296.10	0.79	0.75	0.82	0.85
1998	298.03	0.80	0.75	0.91	0.86
1999	258.55	0.60	0.80	1.12	1.01
2000	252.57	0.86	0.82	0.91	0.88
2001	246.33	1.05	1.01	1.00	0.98
2002	239.54	0.65	0.75	0.78	0.90
2003	247.09	1.27	1.23	1.22	1.20
2004	307.05	1.15	1.11	1.09	1.08
2005	263.60	0.91	0.87	1.17	1.11
2006	291.43	1.22	1.17	1.16	1.14
2007	488.28	1.28	1.24	1.22	1.20
2008	696.19	1.16	1.12	1.10	1.08
Descriptive Statistics					
Average	272.26	0.93	0.95	1.00	0.99
Standard Deviation	95.90	0.29	0.20	0.20	0.19
Minimum	155.84	0.07	0.71	0.57	0.56
Maximum	696.19	1.53	1.48	1.48	1.46
Median	252.57	0.91	0.88	1.01	1.01

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.41. Corn, Effingham County, Aggressive Dynamic Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre-----				------$/acre-----			------$/acre-----			
1976	90.40	-	14.50	104.90	62.58	32.69	28.32	104.90	167.49	137.59	133.22
1977	-	-	177.47	177.47	(13.24)	8.48	1.17	177.47	164.23	185.95	178.63
1978	144.32	-	39.87	184.18	(9.64)	(7.22)	(9.52)	184.18	174.54	176.96	174.66
1979	172.55	-	132.14	304.69	(11.80)	(8.80)	(11.88)	304.69	292.89	295.89	292.81
1980	229.76	(33.79)	-	195.97	25.86	(10.54)	(14.07)	195.97	221.83	185.43	181.90
1981	-	-	258.13	258.13	(19.40)	13.06	1.01	258.13	238.73	271.19	259.14
1982	-	-	280.50	280.50	(14.56)	13.43	2.37	280.50	265.94	293.93	282.87
1983	229.56	(199.06)	-	30.49	184.72	216.48	248.56	30.49	215.21	246.97	279.05
1984	32.63	-	114.50	147.13	24.97	116.05	108.79	147.13	172.10	263.18	255.92
1985	-	-	163.99	163.99	(11.35)	(9.54)	(12.58)	163.99	152.64	154.45	151.41
1986	-	-	167.81	167.81	(9.42)	(8.63)	(11.65)	167.81	158.39	159.18	156.16
1987	127.50	-	118.95	246.45	(7.74)	(8.25)	(10.86)	246.45	238.71	238.20	235.59
1988	180.67	(49.86)	-	130.81	40.77	(5.22)	78.98	130.81	171.57	125.58	209.78
1989	-	-	270.63	270.63	(12.57)	(12.63)	(16.69)	270.63	258.06	258.00	253.94
1990	206.31	-	56.35	262.66	(10.24)	(10.05)	(13.56)	262.66	252.42	252.61	249.10
1991	-	-	199.36	199.36	(10.67)	21.15	16.42	199.36	188.69	220.51	215.78
1992	-	-	195.47	195.47	(11.98)	(3.60)	(9.75)	195.47	183.49	191.87	185.72
1993	32.09	-	179.92	212.01	(9.53)	(9.96)	(13.29)	212.01	202.48	202.05	198.72
1994	-	-	183.48	183.48	26.84	5.39	(2.05)	183.48	210.32	188.87	181.43
1995	239.41	-	75.07	314.48	(10.19)	(10.97)	(14.64)	314.48	304.29	303.51	299.84
1996	301.22	(2.69)	-	298.53	10.70	70.75	58.90	298.53	309.23	369.28	357.43
1997	39.07	-	169.55	208.62	(12.16)	10.88	20.17	208.62	196.46	219.50	228.79
1998	-	-	188.74	188.74	(13.09)	35.32	18.96	188.74	175.65	224.06	207.70
1999	-	-	114.15	114.15	51.08	134.72	106.68	114.15	165.23	248.87	220.83
2000	32.14	-	168.26	200.39	(11.75)	12.92	3.45	200.39	188.64	213.31	203.84
2001	-	-	233.72	233.72	(10.89)	(13.01)	(17.37)	233.72	222.83	220.71	216.35
2002	209.84	(33.72)	-	176.12	25.38	32.33	61.50	176.12	201.50	208.44	237.62
2003	-	-	327.33	327.33	(10.11)	(12.30)	(16.42)	327.33	317.22	315.03	310.91
2004	262.70	-	123.21	385.90	(13.16)	(16.84)	(22.05)	385.90	372.74	369.06	363.85
2005	222.36	-	40.97	263.33	(10.16)	67.82	52.99	263.33	253.17	331.15	316.32
2006	119.56	-	277.86	397.42	(12.34)	(17.32)	(22.20)	397.42	385.08	380.10	375.22
2007	-	-	742.51	742.51	(20.63)	(29.42)	(38.12)	742.51	721.88	713.09	704.39
2008	583.47	-	208.87	792.34	(28.71)	(46.10)	(58.47)	792.34	763.63	746.24	733.87
Descriptive Statistics											
Average	104.71	(9.67)	158.28	253.32	4.47	16.70	14.94	253.32	257.80	270.02	268.27
Standard Deviation	132.73	35.93	140.77	153.91	39.04	52.53	57.01	153.91	138.92	135.36	131.43
Minimum	-	(199.06)	-	30.49	(28.71)	(46.10)	(58.47)	30.49	152.64	125.58	133.22
Maximum	583.47	-	742.51	792.34	184.72	216.48	248.56	792.34	763.63	746.24	733.87
Median	32.63	-	167.81	208.62	(10.24)	(5.22)	(9.52)	208.62	215.21	238.20	235.59

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.42. Corn, Effingham County, Aggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	214.52	0.49	0.78	0.64	0.62
1977	196.72	0.90	0.83	0.95	0.91
1978	167.28	1.10	1.04	1.06	1.04
1979	202.01	1.51	1.45	1.46	1.45
1980	268.61	0.73	0.83	0.69	0.68
1981	317.64	0.81	0.75	0.85	0.82
1982	251.23	1.12	1.06	1.17	1.13
1983	252.42	0.12	0.85	0.98	1.11
1984	243.58	0.60	0.71	1.08	1.05
1985	236.19	0.69	0.65	0.65	0.64
1986	184.91	0.91	0.86	0.86	0.84
1987	155.84	1.58	1.53	1.53	1.51
1988	212.54	0.62	0.81	0.59	0.99
1989	262.74	1.03	0.98	0.98	0.97
1990	242.11	1.08	1.04	1.04	1.03
1991	267.98	0.74	0.70	0.82	0.81
1992	275.36	0.71	0.67	0.70	0.67
1993	241.03	0.88	0.84	0.84	0.82
1994	286.43	0.64	0.73	0.66	0.63
1995	276.91	1.14	1.10	1.10	1.08
1996	343.75	0.87	0.90	1.07	1.04
1997	296.10	0.70	0.66	0.74	0.77
1998	298.03	0.63	0.59	0.75	0.70
1999	258.55	0.44	0.64	0.96	0.85
2000	252.57	0.79	0.75	0.84	0.81
2001	246.33	0.95	0.90	0.90	0.88
2002	239.54	0.74	0.84	0.87	0.99
2003	247.09	1.32	1.28	1.27	1.26
2004	307.05	1.26	1.21	1.20	1.19
2005	263.60	1.00	0.96	1.26	1.20
2006	291.43	1.36	1.32	1.30	1.29
2007	488.28	1.52	1.48	1.46	1.44
2008	696.19	1.14	1.10	1.07	1.05
Descriptive Statistics					
Average	272.26	0.91	0.93	0.98	0.98
Standard Deviation	95.90	0.33	0.26	0.25	0.24
Minimum	155.84	0.12	0.59	0.59	0.62
Maximum	696.19	1.58	1.53	1.53	1.51
Median	252.57	0.88	0.85	0.96	0.99

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table B.43. Corn, Effingham County, Nonaggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------				------$/acre------		
1976	97.94	-	3.07	101.01	62.58	32.69	28.32	101.01	163.59	133.69	129.33
1977	73.34	-	109.99	183.33	(13.24)	8.48	1.17	183.33	170.09	191.81	184.50
1978	79.71	-	94.31	174.02	(9.64)	(7.22)	(9.52)	174.02	164.38	166.80	164.50
1979	96.72	-	190.61	287.33	(11.80)	(8.80)	(11.88)	287.33	275.53	278.53	275.45
1980	116.51	-	51.20	167.70	25.86	(10.54)	(14.07)	167.70	193.57	157.16	153.63
1981	125.74	-	173.42	299.16	(19.40)	13.06	1.01	299.16	279.76	312.22	300.17
1982	100.13	-	177.04	277.17	(14.56)	13.43	2.37	277.17	262.61	290.60	279.54
1983	127.21	(89.54)	-	37.67	184.72	216.48	248.56	37.67	222.39	254.15	286.23
1984	112.25	-	42.32	154.57	24.97	116.05	108.79	154.57	179.53	270.61	263.35
1985	96.89	-	85.83	182.71	(11.35)	(9.54)	(12.58)	182.71	171.36	173.17	170.13
1986	68.37	-	116.97	185.33	(9.42)	(8.63)	(11.65)	185.33	175.91	176.70	173.68
1987	70.58	-	173.82	244.40	(7.74)	(8.25)	(10.86)	244.40	236.66	236.15	233.54
1988	115.80	-	35.44	151.24	40.77	(5.22)	78.98	151.24	192.00	146.01	230.21
1989	108.30	-	169.12	277.42	(12.57)	(12.63)	(16.69)	277.42	264.85	264.79	260.73
1990	114.21	-	122.55	236.76	(10.24)	(10.05)	(13.56)	236.76	226.52	226.71	223.20
1991	118.22	-	95.09	213.31	(10.67)	21.15	16.42	213.31	202.64	234.46	229.73
1992	113.66	-	108.83	222.49	(11.98)	(3.60)	(9.75)	222.49	210.51	218.89	212.74
1993	105.31	-	102.93	208.25	(9.53)	(9.96)	(13.29)	208.25	198.72	198.29	194.96
1994	114.84	-	79.30	194.14	26.84	5.39	(2.05)	194.14	220.97	199.53	192.09
1995	134.16	-	214.03	348.20	(10.19)	(10.97)	(14.64)	348.20	338.01	337.23	333.56
1996	172.28	-	84.32	256.60	10.70	70.75	58.90	256.60	267.30	327.35	315.50
1997	127.35	-	92.07	219.42	(12.16)	10.88	20.17	219.42	207.26	230.30	239.59
1998	112.19	-	105.12	217.31	(13.09)	35.32	18.96	217.31	204.22	252.63	236.28
1999	105.31	-	34.35	139.66	51.08	134.72	106.68	139.66	190.74	274.38	246.34
2000	94.90	-	111.73	206.63	(11.75)	12.92	3.45	206.63	194.88	219.55	210.08
2001	97.19	-	151.51	248.70	(10.89)	(13.01)	(17.37)	248.70	237.81	235.69	231.33
2002	110.75	-	43.91	154.66	25.38	32.33	61.50	154.66	180.04	186.99	216.16
2003	106.26	-	212.63	318.89	(10.11)	(12.30)	(16.42)	318.89	308.78	306.59	302.47
2004	135.20	-	182.12	317.32	(13.16)	(16.84)	(22.05)	317.32	304.16	300.48	295.27
2005	117.25	-	108.58	225.83	(10.16)	67.82	52.99	225.83	215.67	293.65	278.82
2006	132.20	-	251.76	383.96	(12.34)	(17.32)	(22.20)	383.96	371.62	366.64	361.76
2007	194.01	-	479.93	673.94	(20.63)	(29.42)	(38.12)	673.94	653.31	644.52	635.82
2008	352.75	-	348.31	701.06	(28.71)	(46.10)	(58.47)	701.06	672.35	654.96	642.59

Descriptive Statistics

Average	119.62	(2.71)	131.89	248.79	4.47	16.70	14.94	248.79	253.27	265.49	263.74
Standard Deviation	48.81	15.59	96.71	133.47	39.04	52.53	57.01	133.47	117.48	114.75	110.74
Minimum	68.37	(89.54)	-	37.67	(28.71)	(46.10)	(58.47)	37.67	163.59	133.69	129.33
Maximum	352.75	-	479.93	701.06	184.72	216.48	248.56	701.06	672.35	654.96	642.59
Median	112.25	-	108.83	219.42	(10.24)	(5.22)	(9.52)	219.42	215.67	236.15	236.28

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.44. Corn, Effingham County, Nonaggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	214.52	0.47	0.76	0.62	0.60
1977	196.72	0.93	0.86	0.98	0.94
1978	167.28	1.04	0.98	1.00	0.98
1979	202.01	1.42	1.36	1.38	1.36
1980	268.61	0.62	0.72	0.59	0.57
1981	317.64	0.94	0.88	0.98	0.95
1982	251.23	1.10	1.05	1.16	1.11
1983	252.42	0.15	0.88	1.01	1.13
1984	243.58	0.63	0.74	1.11	1.08
1985	236.19	0.77	0.73	0.73	0.72
1986	184.91	1.00	0.95	0.96	0.94
1987	155.84	1.57	1.52	1.52	1.50
1988	212.54	0.71	0.90	0.69	1.08
1989	262.74	1.06	1.01	1.01	0.99
1990	242.11	0.98	0.94	0.94	0.92
1991	267.98	0.80	0.76	0.87	0.86
1992	275.36	0.81	0.76	0.79	0.77
1993	241.03	0.86	0.82	0.82	0.81
1994	286.43	0.68	0.77	0.70	0.67
1995	276.91	1.26	1.22	1.22	1.20
1996	343.75	0.75	0.78	0.95	0.92
1997	296.10	0.74	0.70	0.78	0.81
1998	298.03	0.73	0.69	0.85	0.79
1999	258.55	0.54	0.74	1.06	0.95
2000	252.57	0.82	0.77	0.87	0.83
2001	246.33	1.01	0.97	0.96	0.94
2002	239.54	0.65	0.75	0.78	0.90
2003	247.09	1.29	1.25	1.24	1.22
2004	307.05	1.03	0.99	0.98	0.96
2005	263.60	0.86	0.82	1.11	1.06
2006	291.43	1.32	1.28	1.26	1.24
2007	488.28	1.38	1.34	1.32	1.30
2008	696.19	1.01	0.97	0.94	0.92
Descriptive Statistics					
Average	272.26	0.91	0.93	0.97	0.97
Standard Deviation	95.90	0.30	0.22	0.22	0.21
Minimum	155.84	0.15	0.69	0.59	0.57
Maximum	696.19	1.57	1.52	1.52	1.50
Median	252.57	0.86	0.88	0.96	0.94

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.45. Corn, Effingham County, Nonaggressive Dynamic Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	53.18	-	41.18	94.35	62.58	32.69	28.32	94.35	156.94	127.04	122.68
1977	-	-	177.47	177.47	(13.24)	8.48	1.17	177.47	164.23	185.95	178.63
1978	84.89	-	94.31	179.20	(9.64)	(7.22)	(9.52)	179.20	169.56	171.98	169.68
1979	101.50	-	190.61	292.11	(11.80)	(8.80)	(11.88)	292.11	280.31	283.31	280.23
1980	135.15	-	51.20	186.35	25.86	(10.54)	(14.07)	186.35	212.21	175.81	172.28
1981	-	-	258.13	258.13	(19.40)	13.06	1.01	258.13	238.73	271.19	259.14
1982	-	-	280.50	280.50	(14.56)	13.43	2.37	280.50	265.94	293.93	282.87
1983	135.03	(89.54)	-	45.50	184.72	216.48	248.56	45.50	230.21	261.97	294.05
1984	19.19	-	126.25	145.44	24.97	116.05	108.79	145.44	170.41	261.49	254.23
1985	-	-	163.99	163.99	(11.35)	(9.54)	(12.58)	163.99	152.64	154.45	151.41
1986	-	-	167.81	167.81	(9.42)	(8.63)	(11.65)	167.81	158.39	159.18	156.16
1987	75.00	-	173.82	248.82	(7.74)	(8.25)	(10.86)	248.82	241.08	240.57	237.96
1988	106.28	-	35.44	141.72	40.77	(5.22)	78.98	141.72	182.48	136.49	220.69
1989	-	-	270.63	270.63	(12.57)	(12.63)	(16.69)	270.63	258.06	258.00	253.94
1990	121.36	-	122.55	243.91	(10.24)	(10.05)	(13.56)	243.91	233.67	233.86	230.35
1991	-	-	199.36	199.36	(10.67)	21.15	16.42	199.36	188.69	220.51	215.78
1992	-	-	195.47	195.47	(11.98)	(3.60)	(9.75)	195.47	183.49	191.87	185.72
1993	18.88	-	192.45	211.33	(9.53)	(9.96)	(13.29)	211.33	201.80	201.37	198.04
1994	-	-	183.48	183.48	26.84	5.39	(2.05)	183.48	210.32	188.87	181.43
1995	140.83	-	214.03	354.86	(10.19)	(10.97)	(14.64)	354.86	344.67	343.89	340.22
1996	177.19	-	84.32	261.50	10.70	70.75	58.90	261.50	272.21	332.26	320.41
1997	22.98	-	182.17	205.15	(12.16)	10.88	20.17	205.15	192.99	216.03	225.32
1998	-	-	188.74	188.74	(13.09)	35.32	18.96	188.74	175.65	224.06	207.70
1999	-	-	114.15	114.15	51.08	134.72	106.68	114.15	165.23	248.87	220.83
2000	18.90	-	177.46	196.36	(11.75)	12.92	3.45	196.36	184.61	209.28	199.82
2001	-	-	233.72	233.72	(10.89)	(13.01)	(17.37)	233.72	222.83	220.71	216.35
2002	123.43	-	43.91	167.34	25.38	32.33	61.50	167.34	192.73	199.67	228.84
2003	-	-	327.33	327.33	(10.11)	(12.30)	(16.42)	327.33	317.22	315.03	310.91
2004	154.53	-	182.12	336.65	(13.16)	(16.84)	(22.05)	336.65	323.49	319.81	314.60
2005	130.80	-	108.58	239.38	(10.16)	67.82	52.99	239.38	229.22	307.20	292.37
2006	70.33	-	338.78	409.11	(12.34)	(17.32)	(22.20)	409.11	396.77	391.79	386.91
2007	-	-	742.51	742.51	(20.63)	(29.42)	(38.12)	742.51	721.88	713.09	704.39
2008	343.22	-	348.31	691.52	(28.71)	(46.10)	(58.47)	691.52	662.81	645.42	633.05

Descriptive Statistics

Average	61.60	(2.71)	188.20	247.09	4.47	16.70	14.94	247.09	251.56	263.79	262.03
Standard Deviation	78.08	15.59	132.19	142.89	39.04	52.53	57.01	142.89	128.14	124.38	120.90
Minimum	-	(89.54)	-	45.50	(28.71)	(46.10)	(58.47)	45.50	152.64	127.04	122.68
Maximum	343.22	-	742.51	742.51	184.72	216.48	248.56	742.51	721.88	713.09	704.39
Median	19.19	-	182.12	205.15	(10.24)	(5.22)	(9.52)	205.15	212.21	233.86	228.84

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table B.46. Corn, Effingham County, Nonaggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	214.52	0.44	0.73	0.59	0.57
1977	196.72	0.90	0.83	0.95	0.91
1978	167.28	1.07	1.01	1.03	1.01
1979	202.01	1.45	1.39	1.40	1.39
1980	268.61	0.69	0.79	0.65	0.64
1981	317.64	0.81	0.75	0.85	0.82
1982	251.23	1.12	1.06	1.17	1.13
1983	252.42	0.18	0.91	1.04	1.16
1984	243.58	0.60	0.70	1.07	1.04
1985	236.19	0.69	0.65	0.65	0.64
1986	184.91	0.91	0.86	0.86	0.84
1987	155.84	1.60	1.55	1.54	1.53
1988	212.54	0.67	0.86	0.64	1.04
1989	262.74	1.03	0.98	0.98	0.97
1990	242.11	1.01	0.97	0.97	0.95
1991	267.98	0.74	0.70	0.82	0.81
1992	275.36	0.71	0.67	0.70	0.67
1993	241.03	0.88	0.84	0.84	0.82
1994	286.43	0.64	0.73	0.66	0.63
1995	276.91	1.28	1.24	1.24	1.23
1996	343.75	0.76	0.79	0.97	0.93
1997	296.10	0.69	0.65	0.73	0.76
1998	298.03	0.63	0.59	0.75	0.70
1999	258.55	0.44	0.64	0.96	0.85
2000	252.57	0.78	0.73	0.83	0.79
2001	246.33	0.95	0.90	0.90	0.88
2002	239.54	0.70	0.80	0.83	0.96
2003	247.09	1.32	1.28	1.27	1.26
2004	307.05	1.10	1.05	1.04	1.02
2005	263.60	0.91	0.87	1.17	1.11
2006	291.43	1.40	1.36	1.34	1.33
2007	488.28	1.52	1.48	1.46	1.44
2008	696.19	0.99	0.95	0.93	0.91
Descriptive Statistics					
Average	272.26	0.90	0.92	0.97	0.96
Standard Deviation	95.90	0.33	0.26	0.25	0.25
Minimum	155.84	0.18	0.59	0.59	0.57
Maximum	696.19	1.60	1.55	1.54	1.53
Median	252.57	0.88	0.86	0.95	0.93

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.47. Corn, Effingham County, Sell all Postharvest Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
						(Indemnity minus premium)					
	------$/acre------				------$/acre------			------$/acre------			
1976	-	-	79.28	79.28	62.58	32.69	28.32	79.28	141.87	111.97	107.61
1977	-	-	177.47	177.47	(13.24)	8.48	1.17	177.47	164.23	185.95	178.63
1978	-	-	172.09	172.09	(9.64)	(7.22)	(9.52)	172.09	162.45	164.87	162.57
1979	-	-	274.13	274.13	(11.80)	(8.80)	(11.88)	274.13	262.33	265.33	262.25
1980	-	-	168.13	168.13	25.86	(10.54)	(14.07)	168.13	193.99	157.59	154.06
1981	-	-	258.13	258.13	(19.40)	13.06	1.01	258.13	238.73	271.19	259.14
1982	-	-	280.50	280.50	(14.56)	13.43	2.37	280.50	265.94	293.93	282.87
1983	-	-	55.62	55.62	184.72	216.48	248.56	55.62	240.34	272.10	304.18
1984	-	-	143.04	143.04	24.97	116.05	108.79	143.04	168.00	259.09	251.82
1985	-	-	163.99	163.99	(11.35)	(9.54)	(12.58)	163.99	152.64	154.45	151.41
1986	-	-	167.81	167.81	(9.42)	(8.63)	(11.65)	167.81	158.39	159.18	156.16
1987	-	-	252.21	252.21	(7.74)	(8.25)	(10.86)	252.21	244.47	243.96	241.35
1988	-	-	141.80	141.80	40.77	(5.22)	78.98	141.80	182.56	136.57	220.77
1989	-	-	270.63	270.63	(12.57)	(12.63)	(16.69)	270.63	258.06	258.00	253.94
1990	-	-	217.12	217.12	(10.24)	(10.05)	(13.56)	217.12	206.88	207.07	203.56
1991	-	-	199.36	199.36	(10.67)	21.15	16.42	199.36	188.69	220.51	215.78
1992	-	-	195.47	195.47	(11.98)	(3.60)	(9.75)	195.47	183.49	191.87	185.72
1993	-	-	210.35	210.35	(9.53)	(9.96)	(13.29)	210.35	200.82	200.39	197.06
1994	-	-	183.48	183.48	26.84	5.39	(2.05)	183.48	210.32	188.87	181.43
1995	-	-	412.56	412.56	(10.19)	(10.97)	(14.64)	412.56	402.37	401.59	397.92
1996	-	-	208.20	208.20	10.70	70.75	58.90	208.20	218.90	278.95	267.10
1997	-	-	200.18	200.18	(12.16)	10.88	20.17	200.18	188.02	211.07	220.35
1998	-	-	188.74	188.74	(13.09)	35.32	18.96	188.74	175.65	224.06	207.70
1999	-	-	114.15	114.15	51.08	134.72	106.68	114.15	165.23	248.87	220.83
2000	-	-	190.61	190.61	(11.75)	12.92	3.45	190.61	178.86	203.53	194.06
2001	-	-	233.72	233.72	(10.89)	(13.01)	(17.37)	233.72	222.83	220.71	216.35
2002	-	-	146.62	146.62	25.38	32.33	61.50	146.62	172.00	178.95	208.12
2003	-	-	327.33	327.33	(10.11)	(12.30)	(16.42)	327.33	317.22	315.03	310.91
2004	-	-	266.28	266.28	(13.16)	(16.84)	(22.05)	266.28	253.12	249.44	244.23
2005	-	-	205.16	205.16	(10.16)	67.82	52.99	205.16	195.00	272.98	258.16
2006	-	-	425.81	425.81	(12.34)	(17.32)	(22.20)	425.81	413.47	408.49	403.61
2007	-	-	742.51	742.51	(20.63)	(29.42)	(38.12)	742.51	721.88	713.09	704.39
2008	-	-	547.50	547.50	(28.71)	(46.10)	(58.47)	547.50	518.79	501.40	489.03

Descriptive Statistics

Average	-	-	236.97	236.97	4.47	16.70	14.94	236.97	241.44	253.67	251.91
Standard Deviation	-	-	133.33	133.33	39.04	52.53	57.01	133.33	119.00	115.37	112.29
Minimum	-	-	55.62	55.62	(28.71)	(46.10)	(58.47)	55.62	141.87	111.97	107.61
Maximum	-	-	742.51	742.51	184.72	216.48	248.56	742.51	721.88	713.09	704.39
Median	-	-	200.18	200.18	(10.24)	(5.22)	(9.52)	200.18	200.82	224.06	220.77

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table B.48. Corn, Effingham County, Sell all Postharvest Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	214.52	0.37	0.66	0.52	0.50
1977	196.72	0.90	0.83	0.95	0.91
1978	167.28	1.03	0.97	0.99	0.97
1979	202.01	1.36	1.30	1.31	1.30
1980	268.61	0.63	0.72	0.59	0.57
1981	317.64	0.81	0.75	0.85	0.82
1982	251.23	1.12	1.06	1.17	1.13
1983	252.42	0.22	0.95	1.08	1.21
1984	243.58	0.59	0.69	1.06	1.03
1985	236.19	0.69	0.65	0.65	0.64
1986	184.91	0.91	0.86	0.86	0.84
1987	155.84	1.62	1.57	1.57	1.55
1988	212.54	0.67	0.86	0.64	1.04
1989	262.74	1.03	0.98	0.98	0.97
1990	242.11	0.90	0.85	0.86	0.84
1991	267.98	0.74	0.70	0.82	0.81
1992	275.36	0.71	0.67	0.70	0.67
1993	241.03	0.87	0.83	0.83	0.82
1994	286.43	0.64	0.73	0.66	0.63
1995	276.91	1.49	1.45	1.45	1.44
1996	343.75	0.61	0.64	0.81	0.78
1997	296.10	0.68	0.63	0.71	0.74
1998	298.03	0.63	0.59	0.75	0.70
1999	258.55	0.44	0.64	0.96	0.85
2000	252.57	0.75	0.71	0.81	0.77
2001	246.33	0.95	0.90	0.90	0.88
2002	239.54	0.61	0.72	0.75	0.87
2003	247.09	1.32	1.28	1.27	1.26
2004	307.05	0.87	0.82	0.81	0.80
2005	263.60	0.78	0.74	1.04	0.98
2006	291.43	1.46	1.42	1.40	1.38
2007	488.28	1.52	1.48	1.46	1.44
2008	696.19	0.79	0.75	0.72	0.70
Descriptive Statistics					
Average	272.26	0.87	0.89	0.94	0.93
Standard Deviation	95.90	0.34	0.28	0.27	0.27
Minimum	155.84	0.22	0.59	0.52	0.50
Maximum	696.19	1.62	1.57	1.57	1.55
Median	252.57	0.79	0.82	0.86	0.85

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

APPENDIX C   SOYBEAN RAW RESULTS

Northern Illinois – La Salle County

Table C.1. Soybeans, La Salle County, Cash Sale at Harvest, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------				------$/acre------		
1976	-	248.85	-	248.85	(6.07)	(11.54)	(3.92)	248.85	242.78	237.31	244.93
1977	-	245.57	-	245.57	(8.62)	19.38	8.95	245.57	236.95	264.94	254.51
1978	-	230.48	-	230.48	4.58	(9.09)	(10.80)	230.48	235.06	221.38	219.67
1979	-	319.26	-	319.26	(8.23)	(13.23)	(15.23)	319.26	311.03	306.23	304.03
1980	-	389.00	-	389.00	(8.41)	(12.69)	(14.96)	389.00	380.59	376.31	374.04
1981	-	264.73	-	264.73	12.95	(23.01)	(26.48)	264.73	277.68	241.71	238.24
1982	-	222.94	-	222.94	7.99	21.75	10.77	222.94	230.93	244.69	233.71
1983	-	318.80	-	318.80	(8.03)	(16.43)	(18.65)	318.80	310.77	302.37	300.15
1984	-	243.84	-	243.84	(5.16)	19.34	12.25	243.84	238.67	263.17	256.09
1985	-	237.70	-	237.70	(6.64)	(11.05)	(13.03)	237.70	231.06	226.65	224.67
1986	-	224.76	-	224.76	(5.89)	(11.92)	(13.76)	224.76	218.87	212.84	211.00
1987	-	245.67	-	245.67	(6.07)	(14.45)	(16.23)	245.67	239.60	231.22	229.44
1988	-	232.27	-	232.27	57.79	18.77	83.83	232.27	290.06	251.04	316.10
1989	-	288.31	-	288.31	(9.32)	14.11	3.83	288.31	278.99	302.42	292.14
1990	-	273.78	-	273.78	(6.30)	(10.48)	(12.45)	273.78	267.48	263.30	261.33
1991	-	214.89	-	214.89	9.26	41.80	34.89	214.89	224.15	256.68	249.78
1992	-	268.78	-	268.78	(7.25)	(14.79)	(17.07)	268.78	261.53	253.99	251.71
1993	-	302.67	-	302.67	(6.15)	(10.60)	(12.58)	302.67	296.52	292.07	290.09
1994	-	293.88	-	293.88	(7.24)	(12.78)	(15.07)	293.88	286.64	281.10	278.81
1995	-	245.20	-	245.20	(4.72)	(11.64)	(13.72)	245.20	240.48	233.56	231.48
1996	-	289.82	-	289.82	(8.49)	(15.14)	(17.79)	289.82	281.33	274.68	272.03
1997	-	330.25	-	330.25	(8.29)	(16.49)	(19.12)	330.25	321.96	313.76	311.13
1998	-	262.50	-	262.50	(8.26)	(4.48)	(9.55)	262.50	254.24	258.02	252.95
1999	-	184.00	-	184.00	9.38	(13.22)	(15.25)	184.00	193.38	170.78	168.75
2000	-	226.25	-	226.25	(6.76)	(7.86)	(11.09)	226.25	219.49	218.39	215.16
2001	-	192.70	-	192.70	(5.20)	(12.28)	(14.16)	192.70	187.50	180.42	178.54
2002	-	240.48	-	240.48	(5.17)	(12.83)	(14.65)	240.48	235.31	227.65	225.83
2003	-	227.63	-	227.63	42.83	(12.11)	55.55	227.63	270.46	215.52	283.18
2004	-	283.04	-	283.04	(8.98)	2.66	(6.00)	283.04	274.06	285.70	277.04
2005	-	236.93	-	236.93	(7.25)	(19.71)	(22.13)	236.93	229.68	217.22	214.80
2006	-	304.92	-	304.92	(8.39)	(23.63)	(26.35)	304.92	296.53	281.29	278.57
2007	-	411.70	-	411.70	(10.56)	(25.68)	(29.14)	411.70	401.14	386.02	382.56
2008	-	434.28	-	434.28	84.28	151.67	73.10	434.28	518.56	585.95	507.38
Descriptive Statistics											
Average	-	270.78	-	270.78	1.44	(1.74)	(3.21)	270.78	272.23	269.04	267.57
Standard Deviation	-	57.77	-	57.77	20.92	31.53	27.15	57.77	64.09	73.50	63.52
Minimum	-	184.00	-	184.00	(10.56)	(25.68)	(29.14)	184.00	187.50	170.78	168.75
Maximum	-	434.28	-	434.28	84.28	151.67	83.83	434.28	518.56	585.95	507.38
Median	-	248.85	-	248.85	(6.30)	(11.92)	(13.72)	248.85	261.53	256.68	254.51

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table C.2. Soybeans, La Salle County, Cash Sale at Harvest, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	205.80	1.21	1.18	1.15	1.19
1977	290.07	0.85	0.82	0.91	0.88
1978	244.83	0.94	0.96	0.90	0.90
1979	293.36	1.09	1.06	1.04	1.04
1980	315.15	1.23	1.21	1.19	1.19
1981	364.32	0.73	0.76	0.66	0.65
1982	292.36	0.76	0.79	0.84	0.80
1983	274.12	1.16	1.13	1.10	1.09
1984	311.59	0.78	0.77	0.84	0.82
1985	270.18	0.88	0.86	0.84	0.83
1986	231.42	0.97	0.95	0.92	0.91
1987	215.24	1.14	1.11	1.07	1.07
1988	295.04	0.79	0.98	0.85	1.07
1989	328.75	0.88	0.85	0.92	0.89
1990	268.64	1.02	1.00	0.98	0.97
1991	276.65	0.78	0.81	0.93	0.90
1992	271.02	0.99	0.96	0.94	0.93
1993	266.83	1.13	1.11	1.09	1.09
1994	303.42	0.97	0.94	0.93	0.92
1995	280.29	0.87	0.86	0.83	0.83
1996	341.91	0.85	0.82	0.80	0.80
1997	327.14	1.01	0.98	0.96	0.95
1998	314.86	0.83	0.81	0.82	0.80
1999	249.19	0.74	0.78	0.69	0.68
2000	250.48	0.90	0.88	0.87	0.86
2001	217.43	0.89	0.86	0.83	0.82
2002	213.73	1.13	1.10	1.07	1.06
2003	252.27	0.90	1.07	0.85	1.12
2004	315.85	0.90	0.87	0.90	0.88
2005	257.00	0.92	0.89	0.85	0.84
2006	289.62	1.05	1.02	0.97	0.96
2007	390.97	1.05	1.03	0.99	0.98
2008	645.16	0.67	0.80	0.91	0.79
Descriptive Statistics					
Average	292.87	0.94	0.94	0.92	0.92
Standard Deviation	76.45	0.15	0.13	0.12	0.13
Minimum	205.80	0.67	0.76	0.66	0.65
Maximum	645.16	1.23	1.21	1.19	1.19
Median	280.29	0.90	0.94	0.91	0.90

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.3. Soybeans, La Salle County, Aggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------				------$/acre------		
1976	196.04	-	47.36	243.40	(6.07)	(11.54)	(3.92)	243.40	237.33	231.86	239.47
1977	218.52	-	89.60	308.12	(8.62)	19.38	8.95	308.12	299.50	327.50	317.07
1978	212.88	(10.22)	-	202.66	4.58	(9.09)	(10.80)	202.66	207.24	193.57	191.86
1979	243.99	-	86.28	330.27	(8.23)	(13.03)	(15.23)	330.27	322.04	317.24	315.04
1980	242.51	-	89.52	332.03	(8.41)	(12.69)	(14.96)	332.03	323.62	319.34	317.07
1981	265.55	-	32.12	297.66	12.95	(23.01)	(26.48)	297.66	310.61	274.65	271.18
1982	217.05	-	37.22	254.28	7.99	21.75	10.77	254.28	262.26	276.03	265.05
1983	249.31	-	3.53	252.84	(8.03)	(16.43)	(18.65)	252.84	244.81	236.41	234.19
1984	243.68	-	27.74	271.42	(5.16)	19.34	12.25	271.42	266.26	290.76	283.67
1985	203.94	-	52.63	256.57	(6.64)	(11.05)	(13.03)	256.57	249.93	245.52	243.54
1986	179.40	-	46.40	225.81	(5.89)	(11.92)	(13.76)	225.81	219.92	213.89	212.05
1987	189.65	-	57.96	247.62	(6.07)	(14.45)	(16.23)	247.62	241.55	233.17	231.39
1988	292.06	(65.62)	-	226.44	57.79	18.77	83.83	226.44	284.23	245.21	310.27
1989	239.43	-	75.92	315.36	(9.32)	14.11	3.83	315.36	306.04	329.46	319.19
1990	225.90	-	43.49	269.39	(6.30)	(10.48)	(12.45)	269.39	263.09	258.91	256.94
1991	217.54	-	4.19	221.73	9.26	41.80	34.89	221.73	230.99	263.53	256.62
1992	213.49	-	81.09	294.58	(7.25)	(14.79)	(17.07)	294.58	287.33	279.79	277.51
1993	228.77	-	81.26	310.02	(6.15)	(10.60)	(12.58)	310.02	303.87	299.42	297.44
1994	228.10	-	100.97	329.07	(7.24)	(12.78)	(15.07)	329.07	321.83	316.29	314.00
1995	235.00	(1.47)	-	233.53	(4.72)	(11.64)	(13.72)	233.53	228.81	221.89	219.81
1996	287.93	-	24.79	312.72	(8.49)	(15.14)	(17.79)	312.72	304.23	297.58	294.93
1997	252.68	-	65.19	317.87	(8.29)	(16.49)	(19.12)	317.87	309.58	301.38	298.75
1998	223.41	-	47.39	270.80	(8.26)	(4.48)	(9.55)	270.80	262.54	266.32	261.26
1999	185.82	(4.34)	-	181.48	9.38	(13.22)	(15.25)	181.48	190.86	168.26	166.23
2000	192.87	-	42.19	235.06	(6.76)	(7.86)	(11.09)	235.06	228.30	227.20	223.97
2001	174.66	-	28.78	203.44	(5.20)	(12.28)	(14.16)	203.44	198.24	191.16	189.28
2002	192.05	-	37.59	229.64	(5.17)	(12.83)	(14.65)	229.64	224.47	216.81	214.99
2003	211.00	(44.40)	-	166.60	42.83	(12.11)	55.55	166.60	209.43	154.49	222.15
2004	259.93	-	102.72	362.65	(8.98)	2.66	(6.00)	362.65	353.67	365.31	356.65
2005	241.67	-	30.14	271.80	(7.25)	(19.71)	(22.13)	271.80	264.55	252.09	249.67
2006	225.21	-	108.77	333.98	(8.39)	(23.63)	(26.35)	333.98	325.59	310.35	307.63
2007	322.17	-	63.81	385.98	(10.56)	(25.68)	(29.14)	385.98	375.42	360.30	356.84
2008	496.29	-	63.88	560.17	84.28	151.67	73.10	560.17	644.45	711.84	633.26

Descriptive Statistics

Average	236.62	(3.82)	47.65	280.45	1.44	(1.74)	(3.21)	280.45	281.90	278.71	277.24
Standard Deviation	57.10	13.60	33.49	72.47	20.92	31.53	27.15	72.47	80.02	93.53	79.76
Minimum	174.66	(65.62)	-	166.60	(10.56)	(25.68)	(29.14)	166.60	190.86	154.49	166.23
Maximum	496.29	-	108.77	560.17	84.28	151.67	83.83	560.17	644.45	711.84	633.26
Median	225.90	-	46.40	270.80	(6.30)	(11.92)	(13.72)	270.80	264.55	266.32	265.05

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.4. Soybeans, La Salle County, Aggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	205.80	1.18	1.15	1.13	1.16
1977	290.07	1.06	1.03	1.13	1.09
1978	244.83	0.83	0.85	0.79	0.78
1979	293.36	1.13	1.10	1.08	1.07
1980	315.15	1.05	1.03	1.01	1.01
1981	364.32	0.82	0.85	0.75	0.74
1982	292.36	0.87	0.90	0.94	0.91
1983	274.12	0.92	0.89	0.86	0.85
1984	311.59	0.87	0.85	0.93	0.91
1985	270.18	0.95	0.93	0.91	0.90
1986	231.42	0.98	0.95	0.92	0.92
1987	215.24	1.15	1.12	1.08	1.08
1988	295.04	0.77	0.96	0.83	1.05
1989	328.75	0.96	0.93	1.00	0.97
1990	268.64	1.00	0.98	0.96	0.96
1991	276.65	0.80	0.83	0.95	0.93
1992	271.02	1.09	1.06	1.03	1.02
1993	266.83	1.16	1.14	1.12	1.11
1994	303.42	1.08	1.06	1.04	1.03
1995	280.29	0.83	0.82	0.79	0.78
1996	341.91	0.91	0.89	0.87	0.86
1997	327.14	0.97	0.95	0.92	0.91
1998	314.86	0.86	0.83	0.85	0.83
1999	249.19	0.73	0.77	0.68	0.67
2000	250.48	0.94	0.91	0.91	0.89
2001	217.43	0.94	0.91	0.88	0.87
2002	213.73	1.07	1.05	1.01	1.01
2003	252.27	0.66	0.83	0.61	0.88
2004	315.85	1.15	1.12	1.16	1.13
2005	257.00	1.06	1.03	0.98	0.97
2006	289.62	1.15	1.12	1.07	1.06
2007	390.97	0.99	0.96	0.92	0.91
2008	645.16	0.87	1.00	1.10	0.98
Descriptive Statistics					
Average	292.87	0.96	0.96	0.95	0.95
Standard Deviation	76.45	0.14	0.11	0.13	0.12
Minimum	205.80	0.66	0.77	0.61	0.67
Maximum	645.16	1.18	1.15	1.16	1.16
Median	280.29	0.96	0.95	0.94	0.93

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.5. Soybeans, La Salle County, Aggressive Dynamic Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------				------$/acre------		
1976	190.14	-	47.36	237.50	(6.07)	(11.54)	(3.92)	237.50	231.43	225.96	233.58
1977	126.13	-	189.31	315.45	(8.62)	19.38	8.95	315.45	306.83	334.82	324.40
1978	223.47	(10.22)	-	213.25	4.58	(9.09)	(10.80)	213.25	217.83	204.16	202.45
1979	266.02	-	86.28	352.30	(8.23)	(13.03)	(15.23)	352.30	344.07	339.27	337.07
1980	280.66	-	89.52	370.18	(8.41)	(12.69)	(14.96)	370.18	361.77	357.49	355.22
1981	-	-	233.34	233.34	12.95	(23.01)	(26.48)	233.34	246.29	210.33	206.86
1982	-	-	237.60	237.60	7.99	21.75	10.77	237.60	245.59	259.35	248.37
1983	254.80	-	3.53	258.33	(8.03)	(16.43)	(18.65)	258.33	250.30	241.90	239.68
1984	44.54	-	189.07	233.61	(5.16)	19.34	12.25	233.61	228.45	252.95	245.86
1985	-	-	227.45	227.45	(6.64)	(11.05)	(13.03)	227.45	220.81	216.40	214.42
1986	32.56	-	188.67	221.23	(5.89)	(11.92)	(13.76)	221.23	215.34	209.31	207.47
1987	191.64	-	57.96	249.60	(6.07)	(14.45)	(16.23)	249.60	243.53	235.15	233.37
1988	263.98	(65.62)	-	198.36	57.79	18.77	83.83	198.36	256.15	217.13	282.19
1989	-	-	272.63	272.63	(9.32)	14.11	3.83	272.63	263.31	286.74	276.46
1990	117.29	-	142.00	259.29	(6.30)	(10.48)	(12.45)	259.29	252.99	248.81	246.84
1991	39.18	-	165.86	205.04	9.26	41.80	34.89	205.04	214.30	246.84	239.93
1992	38.17	-	246.94	285.11	(7.25)	(14.79)	(17.07)	285.11	277.86	270.32	268.04
1993	245.06	-	81.26	326.31	(6.15)	(10.60)	(12.58)	326.31	320.16	315.71	313.73
1994	43.42	-	266.72	310.14	(7.24)	(12.78)	(15.07)	310.14	302.90	297.36	295.07
1995	125.08	-	135.62	260.69	(4.72)	(11.64)	(13.72)	260.69	255.97	249.05	246.97
1996	151.20	-	163.32	314.52	(8.49)	(15.14)	(17.79)	314.52	306.03	299.37	296.72
1997	46.90	-	258.44	305.34	(8.29)	(16.49)	(19.12)	305.34	297.05	288.85	286.22
1998	-	-	219.79	219.79	(8.26)	(4.48)	(9.55)	219.79	211.53	215.30	210.24
1999	-	-	173.26	173.26	9.38	(13.22)	(15.25)	173.26	182.64	160.04	158.01
2000	35.15	-	181.11	216.26	(6.76)	(7.86)	(11.09)	216.26	209.50	208.41	205.17
2001	97.80	-	114.32	212.11	(5.20)	(12.28)	(14.16)	212.11	206.91	199.83	197.95
2002	196.43	-	37.59	234.02	(5.17)	(12.83)	(14.65)	234.02	228.85	221.19	219.37
2003	233.13	(44.40)	-	188.74	42.83	(12.11)	55.55	188.74	231.57	176.63	244.29
2004	291.09	-	102.72	393.81	(8.98)	2.66	(6.00)	393.81	384.83	396.48	387.81
2005	235.28	-	30.14	265.42	(7.25)	(19.71)	(22.13)	265.42	258.17	245.71	243.29
2006	-	-	369.72	369.72	(8.39)	(23.63)	(26.35)	369.72	361.33	346.09	343.37
2007	351.94	-	63.81	415.75	(10.56)	(25.68)	(29.14)	415.75	405.19	390.07	386.61
2008	574.97	-	63.88	638.85	84.28	151.67	73.10	638.85	723.14	790.52	711.95

Descriptive Statistics

Average	142.30	(3.64)	140.58	279.24	1.44	(1.74)	(3.21)	279.24	280.69	277.50	276.03
Standard Deviation	134.09	13.63	95.72	89.30	20.92	31.53	27.15	89.30	97.11	109.66	96.34
Minimum	-	(65.62)	-	173.26	(10.56)	(25.68)	(29.14)	173.26	182.64	160.04	158.01
Maximum	574.97	-	369.72	638.85	84.28	151.67	83.83	638.85	723.14	790.52	711.95
Median	125.08	-	142.00	258.33	(6.30)	(11.92)	(13.72)	258.33	252.99	248.81	246.84

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table C.6. Soybeans, La Salle County, Aggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	205.80	1.15	1.12	1.10	1.13
1977	290.07	1.09	1.06	1.15	1.12
1978	244.83	0.87	0.89	0.83	0.83
1979	293.36	1.20	1.17	1.16	1.15
1980	315.15	1.17	1.15	1.13	1.13
1981	364.32	0.64	0.68	0.58	0.57
1982	292.36	0.81	0.84	0.89	0.85
1983	274.12	0.94	0.91	0.88	0.87
1984	311.59	0.75	0.73	0.81	0.79
1985	270.18	0.84	0.82	0.80	0.79
1986	231.42	0.96	0.93	0.90	0.90
1987	215.24	1.16	1.13	1.09	1.08
1988	295.04	0.67	0.87	0.74	0.96
1989	328.75	0.83	0.80	0.87	0.84
1990	268.64	0.97	0.94	0.93	0.92
1991	276.65	0.74	0.77	0.89	0.87
1992	271.02	1.05	1.03	1.00	0.99
1993	266.83	1.22	1.20	1.18	1.18
1994	303.42	1.02	1.00	0.98	0.97
1995	280.29	0.93	0.91	0.89	0.88
1996	341.91	0.92	0.90	0.88	0.87
1997	327.14	0.93	0.91	0.88	0.87
1998	314.86	0.70	0.67	0.68	0.67
1999	249.19	0.70	0.73	0.64	0.63
2000	250.48	0.86	0.84	0.83	0.82
2001	217.43	0.98	0.95	0.92	0.91
2002	213.73	1.09	1.07	1.03	1.03
2003	252.27	0.75	0.92	0.70	0.97
2004	315.85	1.25	1.22	1.26	1.23
2005	257.00	1.03	1.00	0.96	0.95
2006	289.62	1.28	1.25	1.19	1.19
2007	390.97	1.06	1.04	1.00	0.99
2008	645.16	0.99	1.12	1.23	1.10

Descriptive Statistics

Average	292.87	0.96	0.96	0.94	0.94
Standard Deviation	76.45	0.18	0.16	0.17	0.16
Minimum	205.80	0.64	0.67	0.58	0.57
Maximum	645.16	1.28	1.25	1.26	1.23
Median	280.29	0.96	0.93	0.90	0.92

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.7. Soybeans, La Salle County, Nonaggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				(Indemnity minus premium) ------$/acre------			------$/acre------			
1976	115.32	-	145.92	261.24	(6.07)	(11.54)	(3.92)	261.24	255.17	249.70	257.31
1977	128.54	-	171.72	300.26	(8.62)	19.38	8.95	300.26	291.64	319.64	309.21
1978	125.22	-	87.32	212.55	4.58	(9.09)	(10.80)	212.55	217.13	203.46	201.75
1979	143.53	-	168.24	311.76	(8.23)	(13.03)	(15.23)	311.76	303.53	298.73	296.53
1980	142.65	-	189.70	332.35	(8.41)	(12.69)	(14.96)	332.35	323.94	319.66	317.39
1981	156.20	-	114.97	271.18	12.95	(23.01)	(26.48)	271.18	284.13	248.17	244.70
1982	127.68	-	119.73	247.41	7.99	21.75	10.77	247.41	255.40	269.16	258.18
1983	146.65	-	109.75	256.40	(8.03)	(16.43)	(18.65)	256.40	248.37	239.97	237.75
1984	143.34	-	107.45	250.80	(5.16)	19.34	12.25	250.80	245.63	270.14	263.05
1985	119.97	-	124.61	244.58	(6.64)	(11.05)	(13.03)	244.58	237.94	233.53	231.55
1986	105.53	-	116.70	222.23	(5.89)	(11.92)	(13.76)	222.23	216.34	210.31	208.47
1987	111.56	-	156.09	267.65	(6.07)	(14.45)	(16.23)	267.65	261.58	253.20	251.42
1988	171.80	-	48.49	220.29	57.79	18.77	83.83	220.29	278.07	239.05	304.11
1989	140.84	-	156.92	297.76	(9.32)	14.11	3.83	297.76	288.44	311.87	301.59
1990	132.88	-	124.62	257.50	(6.30)	(10.48)	(12.45)	257.50	251.20	247.02	245.05
1991	127.96	-	84.08	212.04	9.26	41.80	34.89	212.04	221.30	253.84	246.93
1992	125.58	-	163.04	288.62	(7.25)	(14.79)	(17.07)	288.62	281.37	273.83	271.55
1993	134.57	-	174.31	308.88	(6.15)	(10.60)	(12.58)	308.88	302.73	298.28	296.30
1994	134.18	-	182.87	317.05	(7.24)	(12.78)	(15.07)	317.05	309.81	304.27	301.98
1995	138.23	-	111.40	249.63	(4.72)	(11.64)	(13.72)	249.63	244.91	237.99	235.91
1996	169.37	-	138.87	308.24	(8.49)	(15.14)	(17.79)	308.24	299.75	293.10	290.45
1997	148.64	-	160.68	309.31	(8.29)	(16.49)	(19.12)	309.31	301.02	292.82	290.19
1998	131.42	-	118.38	249.80	(8.26)	(4.48)	(9.55)	249.80	241.54	245.31	240.25
1999	109.30	-	68.94	178.25	9.38	(13.22)	(15.25)	178.25	187.63	165.03	163.00
2000	113.45	-	110.83	224.29	(6.76)	(7.86)	(11.09)	224.29	217.53	216.43	213.20
2001	102.74	-	99.22	201.96	(5.20)	(12.28)	(14.16)	201.96	196.76	189.68	187.80
2002	112.97	-	127.85	240.82	(5.17)	(12.83)	(14.65)	240.82	235.65	227.99	226.17
2003	124.12	-	80.08	204.20	42.83	(12.11)	55.55	204.20	247.03	192.09	259.75
2004	152.90	-	190.58	343.48	(8.98)	2.66	(6.00)	343.48	334.50	346.14	337.48
2005	142.16	-	112.37	254.53	(7.25)	(19.71)	(22.13)	254.53	247.28	234.82	232.40
2006	132.48	-	216.22	348.70	(8.39)	(23.63)	(26.35)	348.70	340.31	325.07	322.35
2007	189.51	-	262.62	452.13	(10.56)	(25.68)	(29.14)	452.13	441.57	426.45	422.99
2008	291.93	-	221.83	513.76	84.28	151.67	73.10	513.76	598.04	665.43	586.86

Descriptive Statistics

Average	139.19	-	138.38	277.56	1.44	(1.74)	(3.21)	277.56	279.01	275.82	274.35
Standard Deviation	33.59	-	46.94	68.79	20.92	31.53	27.15	68.79	75.58	87.19	75.01
Minimum	102.74	-	48.49	178.25	(10.56)	(25.68)	(29.14)	178.25	187.63	165.03	163.00
Maximum	291.93	-	262.62	513.76	84.28	151.67	83.83	513.76	598.04	665.43	586.86
Median	132.88	-	124.62	257.50	(6.30)	(11.92)	(13.72)	257.50	255.40	253.20	258.18

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.8. Soybeans, La Salle County, Nonaggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	205.80	1.27	1.24	1.21	1.25
1977	290.07	1.04	1.01	1.10	1.07
1978	244.83	0.87	0.89	0.83	0.82
1979	293.36	1.06	1.03	1.02	1.01
1980	315.15	1.05	1.03	1.01	1.01
1981	364.32	0.74	0.78	0.68	0.67
1982	292.36	0.85	0.87	0.92	0.88
1983	274.12	0.94	0.91	0.88	0.87
1984	311.59	0.80	0.79	0.87	0.84
1985	270.18	0.91	0.88	0.86	0.86
1986	231.42	0.96	0.93	0.91	0.90
1987	215.24	1.24	1.22	1.18	1.17
1988	295.04	0.75	0.94	0.81	1.03
1989	328.75	0.91	0.88	0.95	0.92
1990	268.64	0.96	0.94	0.92	0.91
1991	276.65	0.77	0.80	0.92	0.89
1992	271.02	1.06	1.04	1.01	1.00
1993	266.83	1.16	1.13	1.12	1.11
1994	303.42	1.04	1.02	1.00	1.00
1995	280.29	0.89	0.87	0.85	0.84
1996	341.91	0.90	0.88	0.86	0.85
1997	327.14	0.95	0.92	0.90	0.89
1998	314.86	0.79	0.77	0.78	0.76
1999	249.19	0.72	0.75	0.66	0.65
2000	250.48	0.90	0.87	0.86	0.85
2001	217.43	0.93	0.90	0.87	0.86
2002	213.73	1.13	1.10	1.07	1.06
2003	252.27	0.81	0.98	0.76	1.03
2004	315.85	1.09	1.06	1.10	1.07
2005	257.00	0.99	0.96	0.91	0.90
2006	289.62	1.20	1.18	1.12	1.11
2007	390.97	1.16	1.13	1.09	1.08
2008	645.16	0.80	0.93	1.03	0.91
Descriptive Statistics					
Average	292.87	0.96	0.96	0.94	0.94
Standard Deviation	76.45	0.15	0.13	0.14	0.13
Minimum	205.80	0.72	0.75	0.66	0.65
Maximum	645.16	1.27	1.24	1.21	1.25
Median	280.29	0.94	0.93	0.92	0.91

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.9. Soybeans, La Salle County, Nonaggressive Dynamic Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	111.85	-	145.92	257.77	(6.07)	(11.54)	(3.92)	257.77	251.70	246.23	253.84
1977	74.20	-	230.37	304.57	(8.62)	19.38	8.95	304.57	295.95	323.94	313.52
1978	131.45	-	87.32	218.78	4.58	(9.09)	(10.80)	218.78	223.36	209.69	207.98
1979	156.48	-	168.24	324.72	(8.23)	(13.03)	(15.23)	324.72	316.49	311.69	309.49
1980	165.09	-	189.70	354.79	(8.41)	(12.69)	(14.96)	354.79	346.38	342.10	339.83
1981	-	-	233.34	233.34	12.95	(23.01)	(26.48)	233.34	246.29	210.33	206.86
1982	-	-	237.60	237.60	7.99	21.75	10.77	237.60	245.59	259.35	248.37
1983	149.88	-	109.75	259.63	(8.03)	(16.43)	(18.65)	259.63	251.60	243.20	240.98
1984	26.20	-	202.36	228.56	(5.16)	19.34	12.25	228.56	223.40	247.90	240.81
1985	-	-	227.45	227.45	(6.64)	(11.05)	(13.03)	227.45	220.81	216.40	214.42
1986	19.15	-	200.38	219.54	(5.89)	(11.92)	(13.76)	219.54	213.65	207.62	205.78
1987	112.73	-	156.09	268.82	(6.07)	(14.45)	(16.23)	268.82	262.75	254.37	252.59
1988	155.28	-	48.49	203.77	57.79	18.77	83.83	203.77	261.56	222.54	287.60
1989	-	-	272.63	272.63	(9.32)	14.11	3.83	272.63	263.31	286.74	276.46
1990	68.99	-	182.57	251.56	(6.30)	(10.48)	(12.45)	251.56	245.26	241.08	239.11
1991	23.05	-	179.18	202.22	9.26	41.80	34.89	202.22	211.48	244.02	237.12
1992	22.45	-	260.60	283.05	(7.25)	(14.79)	(17.07)	283.05	275.80	268.26	265.98
1993	144.15	-	174.31	318.46	(6.15)	(10.60)	(12.58)	318.46	312.31	307.86	305.88
1994	25.54	-	280.37	305.91	(7.24)	(12.78)	(15.07)	305.91	298.67	293.13	290.84
1995	73.57	-	192.13	265.71	(4.72)	(11.64)	(13.72)	265.71	260.99	254.07	251.99
1996	88.94	-	220.36	309.30	(8.49)	(15.14)	(17.79)	309.30	300.81	294.16	291.50
1997	27.59	-	274.35	301.94	(8.29)	(16.49)	(19.12)	301.94	293.65	285.45	282.82
1998	-	-	219.79	219.79	(8.26)	(4.48)	(9.55)	219.79	211.53	215.30	210.24
1999	-	-	173.26	173.26	9.38	(13.22)	(15.25)	173.26	182.64	160.04	158.01
2000	20.67	-	192.56	213.23	(6.76)	(7.86)	(11.09)	213.23	206.47	205.37	202.14
2001	57.53	-	149.54	207.06	(5.20)	(12.28)	(14.16)	207.06	201.86	194.78	192.90
2002	115.55	-	127.85	243.40	(5.17)	(12.83)	(14.65)	243.40	238.23	230.57	228.75
2003	137.14	-	80.08	217.22	42.83	(12.11)	55.55	217.22	260.05	205.11	272.77
2004	171.23	-	190.58	361.81	(8.98)	2.66	(6.00)	361.81	352.83	364.47	355.81
2005	138.40	-	112.37	250.78	(7.25)	(19.71)	(22.13)	250.78	243.53	231.07	228.65
2006	-	-	369.72	369.72	(8.39)	(23.63)	(26.35)	369.72	361.33	346.09	343.37
2007	207.02	-	262.62	469.65	(10.56)	(25.68)	(29.14)	469.65	459.09	443.97	440.51
2008	338.22	-	221.83	560.05	84.28	151.67	73.10	560.05	644.33	711.72	633.14

Descriptive Statistics

Average	83.71	-	193.14	276.85	1.44	(1.74)	(3.21)	276.85	278.29	275.11	273.64
Standard Deviation	78.87	-	66.02	79.49	20.92	31.53	27.15	79.49	86.46	97.54	85.61
Minimum	-	-	48.49	173.26	(10.56)	(25.68)	(29.14)	173.26	182.64	160.04	158.01
Maximum	338.22	-	369.72	560.05	84.28	151.67	83.83	560.05	644.33	711.72	633.14
Median	73.57	-	192.13	257.77	(6.30)	(11.92)	(13.72)	257.77	260.05	247.90	252.59

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.10. Soybeans, La Salle County, Nonaggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

		Revenue Ratio			
	Expected	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
Year	Revenue	(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	205.80	1.25	1.22	1.20	1.23
1977	290.07	1.05	1.02	1.12	1.08
1978	244.83	0.89	0.91	0.86	0.85
1979	293.36	1.11	1.08	1.06	1.05
1980	315.15	1.13	1.10	1.09	1.08
1981	364.32	0.64	0.68	0.58	0.57
1982	292.36	0.81	0.84	0.89	0.85
1983	274.12	0.95	0.92	0.89	0.88
1984	311.59	0.73	0.72	0.80	0.77
1985	270.18	0.84	0.82	0.80	0.79
1986	231.42	0.95	0.92	0.90	0.89
1987	215.24	1.25	1.22	1.18	1.17
1988	295.04	0.69	0.89	0.75	0.97
1989	328.75	0.83	0.80	0.87	0.84
1990	268.64	0.94	0.91	0.90	0.89
1991	276.65	0.73	0.76	0.88	0.86
1992	271.02	1.04	1.02	0.99	0.98
1993	266.83	1.19	1.17	1.15	1.15
1994	303.42	1.01	0.98	0.97	0.96
1995	280.29	0.95	0.93	0.91	0.90
1996	341.91	0.90	0.88	0.86	0.85
1997	327.14	0.92	0.90	0.87	0.86
1998	314.86	0.70	0.67	0.68	0.67
1999	249.19	0.70	0.73	0.64	0.63
2000	250.48	0.85	0.82	0.82	0.81
2001	217.43	0.95	0.93	0.90	0.89
2002	213.73	1.14	1.11	1.08	1.07
2003	252.27	0.86	1.03	0.81	1.08
2004	315.85	1.15	1.12	1.15	1.13
2005	257.00	0.98	0.95	0.90	0.89
2006	289.62	1.28	1.25	1.19	1.19
2007	390.97	1.20	1.17	1.14	1.13
2008	645.16	0.87	1.00	1.10	0.98
Descriptive Statistics					
Average	292.87	0.95	0.95	0.94	0.94
Standard Deviation	76.45	0.18	0.16	0.16	0.16
Minimum	205.80	0.64	0.67	0.58	0.57
Maximum	645.16	1.28	1.25	1.20	1.23
Median	280.29	0.95	0.93	0.90	0.89

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.11. Soybeans, La Salle County, Sell all Postharvest Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------			------$/acre------			
1976	-	-	286.72	286.72	(6.07)	(11.54)	(3.92)	286.72	280.65	275.18	282.80
1977	-	-	289.03	289.03	(8.62)	19.38	8.95	289.03	280.41	308.40	297.98
1978	-	-	226.40	226.40	4.58	(9.09)	(10.80)	226.40	230.98	217.31	215.60
1979	-	-	285.32	285.32	(8.23)	(13.03)	(15.23)	285.32	277.09	272.29	270.09
1980	-	-	332.80	332.80	(8.41)	(12.69)	(14.96)	332.80	324.39	320.11	317.84
1981	-	-	233.34	233.34	12.95	(23.01)	(26.48)	233.34	246.29	210.33	206.86
1982	-	-	237.60	237.60	7.99	21.75	10.77	237.60	245.59	259.35	248.37
1983	-	-	261.49	261.49	(8.03)	(16.43)	(18.65)	261.49	253.46	245.06	242.84
1984	-	-	221.34	221.34	(5.16)	19.34	12.25	221.34	216.18	240.68	233.59
1985	-	-	227.45	227.45	(6.64)	(11.05)	(13.03)	227.45	220.81	216.40	214.42
1986	-	-	217.12	217.12	(5.89)	(11.92)	(13.76)	217.12	211.23	205.20	203.36
1987	-	-	296.27	296.27	(6.07)	(14.45)	(16.23)	296.27	290.20	281.82	280.04
1988	-	-	197.27	197.27	57.79	18.77	83.83	197.27	255.06	216.04	281.10
1989	-	-	272.63	272.63	(9.32)	14.11	3.83	272.63	263.31	286.74	276.46
1990	-	-	240.52	240.52	(6.30)	(10.48)	(12.45)	240.52	234.22	230.04	228.07
1991	-	-	198.20	198.20	9.26	41.80	34.89	198.20	207.46	240.00	233.09
1992	-	-	280.11	280.11	(7.25)	(14.79)	(17.07)	280.11	272.86	265.32	263.04
1993	-	-	307.24	307.24	(6.15)	(10.60)	(12.58)	307.24	301.09	296.64	294.66
1994	-	-	299.87	299.87	(7.24)	(12.78)	(15.07)	299.87	292.63	287.09	284.80
1995	-	-	272.87	272.87	(4.72)	(11.64)	(13.72)	272.87	268.15	261.23	259.15
1996	-	-	301.85	301.85	(8.49)	(15.14)	(17.79)	301.85	293.36	286.70	284.05
1997	-	-	297.09	297.09	(8.29)	(16.49)	(19.12)	297.09	288.80	280.60	277.97
1998	-	-	219.79	219.79	(8.26)	(4.48)	(9.55)	219.79	211.53	215.30	210.24
1999	-	-	173.26	173.26	9.38	(13.22)	(15.25)	173.26	182.64	160.04	158.01
2000	-	-	208.90	208.90	(6.76)	(7.86)	(11.09)	208.90	202.14	201.04	197.81
2001	-	-	199.85	199.85	(5.20)	(12.28)	(14.16)	199.85	194.65	187.57	185.69
2002	-	-	256.78	256.78	(5.17)	(12.83)	(14.65)	256.78	251.61	243.95	242.13
2003	-	-	269.44	269.44	42.83	(12.11)	55.55	269.44	312.27	257.33	324.99
2004	-	-	316.09	316.09	(8.98)	2.66	(6.00)	316.09	307.11	318.76	310.09
2005	-	-	229.86	229.86	(7.25)	(19.71)	(22.13)	229.86	222.61	210.15	207.73
2006	-	-	369.72	369.72	(8.39)	(23.63)	(26.35)	369.72	361.33	346.09	343.37
2007	-	-	546.63	546.63	(10.56)	(25.68)	(29.14)	546.63	536.07	520.95	517.49
2008	-	-	447.46	447.46	84.28	151.67	73.10	447.46	531.75	599.13	520.56

Descriptive Statistics

Average	-	-	273.34	273.34	1.44	(1.74)	(3.21)	273.34	274.79	271.60	270.13
Standard Deviation	-	-	73.81	73.81	20.92	31.53	27.15	73.81	78.50	86.02	77.46
Minimum	-	-	173.26	173.26	(10.56)	(25.68)	(29.14)	173.26	182.64	160.04	158.01
Maximum	-	-	546.63	546.63	84.28	151.67	83.83	546.63	536.07	599.13	520.56
Median	-	-	269.44	269.44	(6.30)	(11.92)	(13.72)	269.44	263.31	259.35	263.04

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.12. Soybeans, La Salle County, Sell all Postharvest Pricing Strategy, Expected Revenue and Revenue Ratios by Year

		Revenue Ratio			
	Expected	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
Year	Revenue	(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	205.80	1.39	1.36	1.34	1.37
1977	290.07	1.00	0.97	1.06	1.03
1978	244.83	0.92	0.94	0.89	0.88
1979	293.36	0.97	0.94	0.93	0.92
1980	315.15	1.06	1.03	1.02	1.01
1981	364.32	0.64	0.68	0.58	0.57
1982	292.36	0.81	0.84	0.89	0.85
1983	274.12	0.95	0.92	0.89	0.89
1984	311.59	0.71	0.69	0.77	0.75
1985	270.18	0.84	0.82	0.80	0.79
1986	231.42	0.94	0.91	0.89	0.88
1987	215.24	1.38	1.35	1.31	1.30
1988	295.04	0.67	0.86	0.73	0.95
1989	328.75	0.83	0.80	0.87	0.84
1990	268.64	0.90	0.87	0.86	0.85
1991	276.65	0.72	0.75	0.87	0.84
1992	271.02	1.03	1.01	0.98	0.97
1993	266.83	1.15	1.13	1.11	1.10
1994	303.42	0.99	0.96	0.95	0.94
1995	280.29	0.97	0.96	0.93	0.92
1996	341.91	0.88	0.86	0.84	0.83
1997	327.14	0.91	0.88	0.86	0.85
1998	314.86	0.70	0.67	0.68	0.67
1999	249.19	0.70	0.73	0.64	0.63
2000	250.48	0.83	0.81	0.80	0.79
2001	217.43	0.92	0.90	0.86	0.85
2002	213.73	1.20	1.18	1.14	1.13
2003	252.27	1.07	1.24	1.02	1.29
2004	315.85	1.00	0.97	1.01	0.98
2005	257.00	0.89	0.87	0.82	0.81
2006	289.62	1.28	1.25	1.19	1.19
2007	390.97	1.40	1.37	1.33	1.32
2008	645.16	0.69	0.82	0.93	0.81
Descriptive Statistics					
Average	292.87	0.95	0.95	0.93	0.93
Standard Deviation	76.45	0.21	0.19	0.18	0.20
Minimum	205.80	0.64	0.67	0.58	0.57
Maximum	645.16	1.40	1.37	1.34	1.37
Median	280.29	0.92	0.91	0.89	0.88

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Central Illinois (High Productivity) – Sangamon County

Table C.13. Soybeans, Sangamon County, Cash Sale at Harvest, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		------$/acre------				------$/acre------				------$/acre------	
1976	-	255.85	-	255.85	(6.33)	(11.22)	(13.57)	255.85	249.52	244.63	242.28
1977	-	234.71	-	234.71	(8.94)	14.27	4.25	234.71	225.77	248.98	238.96
1978	-	274.99	-	274.99	(6.30)	(8.38)	(11.07)	274.99	268.68	266.60	263.92
1979	-	305.55	-	305.55	(8.40)	(12.50)	(15.64)	305.55	297.15	293.05	289.91
1980	-	297.32	-	297.32	(8.75)	(12.03)	(15.37)	297.32	288.57	285.29	281.95
1981	-	277.51	-	277.51	(11.70)	(0.04)	(9.80)	277.51	265.81	277.46	267.71
1982	-	227.57	-	227.57	(4.04)	5.71	(3.02)	227.57	223.53	233.28	224.55
1983	-	299.33	-	299.33	1.40	(16.09)	28.26	299.33	300.73	283.24	327.59
1984	-	268.07	-	268.07	(8.85)	45.62	34.01	268.07	259.22	313.69	302.08
1985	-	248.87	-	248.87	(6.89)	(10.52)	(13.45)	248.87	241.98	238.35	235.42
1986	-	236.68	-	236.68	(6.12)	(11.71)	(14.29)	236.68	230.56	224.97	222.39
1987	-	233.09	-	233.09	(6.25)	(14.31)	(16.96)	233.09	226.84	218.78	216.13
1988	-	284.09	-	284.09	7.71	(8.06)	65.59	284.09	291.80	276.03	349.68
1989	-	281.32	-	281.32	(9.57)	11.23	0.32	281.32	271.75	292.55	281.64
1990	-	292.34	-	292.34	(6.48)	(9.78)	(12.90)	292.34	285.86	282.56	279.44
1991	-	323.53	-	323.53	(6.95)	(11.32)	(14.46)	323.53	316.58	312.21	309.07
1992	-	276.32	-	276.32	(7.37)	(14.59)	(17.81)	276.32	268.95	261.73	258.51
1993	-	324.73	-	324.73	(6.27)	(9.90)	(13.06)	324.73	318.46	314.83	311.67
1994	-	260.63	-	260.63	(7.33)	(8.05)	(12.15)	260.63	253.30	252.58	248.48
1995	-	297.12	-	297.12	(6.38)	(11.17)	(13.32)	297.12	290.74	285.95	283.80
1996	-	394.63	-	394.63	(8.64)	(15.30)	(19.15)	394.63	385.98	379.32	375.48
1997	-	301.84	-	301.84	(8.47)	(16.23)	(19.99)	301.84	293.37	285.61	281.85
1998	-	289.71	-	289.71	(8.45)	9.93	1.14	289.71	281.26	299.64	290.85
1999	-	224.91	-	224.91	(5.98)	(13.11)	(16.00)	224.91	218.93	211.80	208.91
2000	-	224.91	-	224.91	(3.32)	(4.33)	(9.16)	224.91	221.59	220.58	215.75
2001	-	208.74	-	208.74	(5.31)	(12.19)	(14.88)	208.74	203.43	196.55	193.86
2002	-	301.50	-	301.50	(5.28)	(12.75)	(15.42)	301.50	296.22	288.75	286.06
2003	-	332.76	-	332.76	(5.74)	(11.84)	(14.81)	332.76	327.02	320.92	317.95
2004	-	273.63	-	273.63	(6.30)	12.74	0.40	273.63	267.33	286.36	274.03
2005	-	266.99	-	266.99	(7.45)	(19.76)	(23.41)	266.99	259.54	247.22	243.58
2006	-	319.29	-	319.29	(8.60)	(23.55)	(27.90)	319.29	310.69	295.74	291.39
2007	-	467.48	-	467.48	(10.85)	(25.59)	(30.87)	467.48	456.63	441.89	436.61
2008	-	487.35	-	487.35	48.25	186.31	91.62	487.35	535.60	673.66	578.97
Descriptive Statistics											
Average	-	290.71	-	290.71	(4.85)	(1.17)	(4.94)	290.71	285.86	289.54	285.77
Standard Deviation	-	61.46	-	61.46	10.14	36.28	25.42	61.46	66.88	83.80	72.59
Minimum	-	208.74	-	208.74	(11.70)	(25.59)	(30.87)	208.74	203.43	196.55	193.86
Maximum	-	487.35	-	487.35	48.25	186.31	91.62	487.35	535.60	673.66	578.97
Median	-	281.32	-	281.32	(6.48)	(11.22)	(13.45)	281.32	271.75	283.24	281.64

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.14. Soybeans, Sangamon County, Cash Sale at Harvest, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	200.27	1.28	1.25	1.22	1.21
1977	284.96	0.82	0.79	0.87	0.84
1978	239.64	1.15	1.12	1.11	1.10
1979	295.41	1.03	1.01	0.99	0.98
1980	311.93	0.95	0.93	0.91	0.90
1981	352.26	0.79	0.75	0.79	0.76
1982	285.05	0.80	0.78	0.82	0.79
1983	266.18	1.12	1.13	1.06	1.23
1984	303.76	0.88	0.85	1.03	0.99
1985	266.36	0.93	0.91	0.89	0.88
1986	229.58	1.03	1.00	0.98	0.97
1987	213.78	1.09	1.06	1.02	1.01
1988	293.21	0.97	1.00	0.94	1.19
1989	325.66	0.86	0.83	0.90	0.86
1990	269.13	1.09	1.06	1.05	1.04
1991	284.42	1.14	1.11	1.10	1.09
1992	288.29	0.96	0.93	0.91	0.90
1993	282.89	1.15	1.13	1.11	1.10
1994	325.26	0.80	0.78	0.78	0.76
1995	296.20	1.00	0.98	0.97	0.96
1996	365.94	1.08	1.05	1.04	1.03
1997	356.28	0.85	0.82	0.80	0.79
1998	343.18	0.84	0.82	0.87	0.85
1999	270.49	0.83	0.81	0.78	0.77
2000	278.77	0.81	0.79	0.79	0.77
2001	240.85	0.87	0.84	0.82	0.80
2002	228.18	1.32	1.30	1.27	1.25
2003	274.39	1.21	1.19	1.17	1.16
2004	350.10	0.78	0.76	0.82	0.78
2005	287.49	0.93	0.90	0.86	0.85
2006	321.76	0.99	0.97	0.92	0.91
2007	426.25	1.10	1.07	1.04	1.02
2008	712.41	0.68	0.75	0.95	0.81
Descriptive Statistics					
Average	305.16	0.97	0.95	0.96	0.95
Standard Deviation	87.12	0.16	0.15	0.13	0.15
Minimum	200.27	0.68	0.75	0.78	0.76
Maximum	712.41	1.32	1.30	1.27	1.25
Median	287.49	0.96	0.93	0.94	0.91

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.15. Soybeans, Sangamon County, Aggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***		CRC*	GRIP-BP**	GRIP-HP***
	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance			
	------$/acre------				------$/acre------				------$/acre------		
1976	190.41	-	61.45	251.87	(6.33)	(11.22)	(13.57)	251.87	245.54	240.65	238.30
1977	214.54	-	82.15	296.69	(8.94)	14.27	4.25	296.69	287.75	310.96	300.94
1978	207.44	-	47.45	254.90	(6.30)	(8.38)	(11.07)	254.90	248.60	246.52	243.83
1979	246.02	-	51.51	297.53	(8.40)	(12.50)	(15.64)	297.53	289.13	285.03	281.89
1980	241.13	-	23.09	264.22	(8.75)	(12.03)	(15.37)	264.22	255.47	252.19	248.85
1981	255.99	-	50.95	306.94	(11.70)	(0.04)	(9.80)	306.94	295.24	306.89	297.14
1982	211.18	-	47.47	258.66	(4.04)	5.71	(3.02)	258.66	254.61	264.37	255.64
1983	241.30	(9.77)	-	231.53	1.40	(16.09)	28.26	231.53	232.93	215.44	259.79
1984	236.11	-	36.28	272.39	(8.85)	45.62	34.01	272.39	263.54	318.01	306.40
1985	200.13	-	67.51	267.64	(6.89)	(10.52)	(13.45)	267.64	260.75	257.12	254.19
1986	176.72	-	63.27	239.99	(6.12)	(11.71)	(14.29)	239.99	233.87	228.28	225.70
1987	188.45	-	46.53	234.98	(6.25)	(14.31)	(16.96)	234.98	228.73	220.67	218.02
1988	290.50	(16.86)	-	273.64	7.71	(8.06)	65.59	273.64	281.36	265.58	339.23
1989	237.24	-	71.96	309.20	(9.57)	11.23	0.32	309.20	299.63	320.43	309.52
1990	226.21	-	59.87	286.09	(6.48)	(9.78)	(12.90)	286.09	279.61	276.31	273.19
1991	223.58	-	97.39	320.96	(6.95)	(11.32)	(14.46)	320.96	314.01	309.64	306.50
1992	228.49	-	69.35	297.84	(7.37)	(14.59)	(17.81)	297.84	290.47	283.25	280.03
1993	243.02	-	88.59	331.61	(6.27)	(9.90)	(13.06)	331.61	325.34	321.71	318.55
1994	245.32	-	50.37	295.69	(7.33)	(8.05)	(12.15)	295.69	288.36	287.64	283.54
1995	249.64	-	38.23	287.87	(6.38)	(11.17)	(13.32)	287.87	281.49	276.70	274.55
1996	309.73	-	90.50	400.22	(8.64)	(15.30)	(19.15)	400.22	391.58	384.92	381.07
1997	275.62	-	39.08	314.71	(8.47)	(16.23)	(19.99)	314.71	306.24	298.48	294.72
1998	244.53	-	49.65	294.18	(8.45)	9.93	1.14	294.18	285.73	304.11	295.31
1999	204.33	-	20.46	224.79	(5.98)	(13.11)	(16.00)	224.79	218.81	211.68	208.79
2000	214.80	-	20.35	235.15	(3.32)	(4.33)	(9.16)	235.15	231.82	230.82	225.99
2001	191.52	-	20.69	212.21	(5.31)	(12.19)	(14.88)	212.21	206.90	200.02	197.33
2002	205.67	-	89.06	294.72	(5.28)	(12.75)	(15.42)	294.72	289.44	281.97	279.30
2003	230.91	-	22.60	253.51	(5.74)	(11.84)	(14.81)	253.51	247.77	241.67	238.70
2004	289.63	-	62.04	351.68	(6.30)	12.74	0.40	351.68	345.38	364.41	352.08
2005	272.78	-	37.56	310.34	(7.45)	(19.76)	(23.41)	310.34	302.89	290.58	286.93
2006	252.23	-	92.30	344.53	(8.60)	(23.55)	(27.90)	344.53	335.93	320.98	316.63
2007	351.31	-	88.94	440.25	(10.85)	(25.59)	(30.87)	440.25	429.40	414.66	409.38
2008	547.32	-	117.87	665.19	48.25	186.31	91.62	665.19	713.44	851.50	756.80

Descriptive Statistics

Average	246.78	(0.81)	54.68	300.66	(4.85)	(1.17)	(4.94)	300.66	295.81	299.49	295.72
Standard Deviation	65.55	3.35	28.80	81.42	10.14	36.28	25.42	81.42	88.52	110.44	95.24
Minimum	176.72	(16.86)	-	212.21	(11.70)	(25.59)	(30.87)	212.21	206.90	200.02	197.33
Maximum	547.32	-	117.87	665.19	48.25	186.31	91.62	665.19	713.44	851.50	756.80
Median	237.24	-	50.95	294.18	(6.48)	(11.22)	(13.45)	294.18	285.73	283.25	281.89

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.16. Soybeans, Sangamon County, Aggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	200.27	1.26	1.23	1.20	1.19
1977	284.96	1.04	1.01	1.09	1.06
1978	239.64	1.06	1.04	1.03	1.02
1979	295.41	1.01	0.98	0.96	0.95
1980	311.93	0.85	0.82	0.81	0.80
1981	352.26	0.87	0.84	0.87	0.84
1982	285.05	0.91	0.89	0.93	0.90
1983	266.18	0.87	0.88	0.81	0.98
1984	303.76	0.90	0.87	1.05	1.01
1985	266.36	1.00	0.98	0.97	0.95
1986	229.58	1.05	1.02	0.99	0.98
1987	213.78	1.10	1.07	1.03	1.02
1988	293.21	0.93	0.96	0.91	1.16
1989	325.66	0.95	0.92	0.98	0.95
1990	269.13	1.06	1.04	1.03	1.02
1991	284.42	1.13	1.10	1.09	1.08
1992	288.29	1.03	1.01	0.98	0.97
1993	282.89	1.17	1.15	1.14	1.13
1994	325.26	0.91	0.89	0.88	0.87
1995	296.20	0.97	0.95	0.93	0.93
1996	365.94	1.09	1.07	1.05	1.04
1997	356.28	0.88	0.86	0.84	0.83
1998	343.18	0.86	0.83	0.89	0.86
1999	270.49	0.83	0.81	0.78	0.77
2000	278.77	0.84	0.83	0.83	0.81
2001	240.85	0.88	0.86	0.83	0.82
2002	228.18	1.29	1.27	1.24	1.22
2003	274.39	0.92	0.90	0.88	0.87
2004	350.10	1.00	0.99	1.04	1.01
2005	287.49	1.08	1.05	1.01	1.00
2006	321.76	1.07	1.04	1.00	0.98
2007	426.25	1.03	1.01	0.97	0.96
2008	712.41	0.93	1.00	1.20	1.06
Descriptive Statistics					
Average	305.16	0.99	0.97	0.98	0.97
Standard Deviation	87.12	0.12	0.11	0.12	0.11
Minimum	200.27	0.83	0.81	0.78	0.77
Maximum	712.41	1.29	1.27	1.24	1.22
Median	287.49	1.00	0.98	0.98	0.98

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.17. Soybeans, Sangamon County, Aggressive Dynamic Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------				------$/acre------		
1976	184.55	-	61.45	246.00	(6.33)	(11.22)	(13.57)	246.00	239.67	234.78	232.43
1977	123.88	-	179.98	303.87	(8.94)	14.27	4.25	303.87	294.93	318.13	308.12
1978	218.13	-	47.45	265.58	(6.30)	(8.38)	(11.07)	265.58	259.28	257.20	254.51
1979	267.87	-	51.51	319.38	(8.40)	(12.50)	(15.64)	319.38	310.98	306.88	303.74
1980	278.93	-	23.09	302.02	(8.75)	(12.03)	(15.37)	302.02	293.27	289.99	286.65
1981	-	-	244.84	244.84	(11.70)	(0.04)	(9.80)	244.84	233.14	244.80	235.04
1982	-	-	241.91	241.91	(4.04)	5.71	(3.02)	241.91	237.87	247.63	238.90
1983	247.18	(9.77)	-	237.41	1.40	(16.09)	28.26	237.41	238.81	221.32	265.67
1984	42.95	-	204.51	247.46	(8.85)	45.62	34.01	247.46	238.61	293.08	281.47
1985	-	-	239.39	239.39	(6.89)	(10.52)	(13.45)	239.39	232.50	228.87	225.94
1986	31.87	-	204.38	236.25	(6.12)	(11.71)	(14.29)	236.25	230.13	224.54	221.96
1987	190.56	-	46.53	237.09	(6.25)	(14.31)	(16.96)	237.09	230.84	222.78	220.13
1988	262.38	(16.86)	-	245.52	7.71	(8.06)	65.59	245.52	253.24	237.46	311.11
1989	-	-	266.75	266.75	(9.57)	11.23	0.32	266.75	257.18	277.98	267.07
1990	117.21	-	158.22	275.43	(6.48)	(9.78)	(12.90)	275.43	268.95	265.65	262.53
1991	40.36	-	263.59	303.95	(6.95)	(11.32)	(14.46)	303.95	297.00	292.63	289.49
1992	40.94	-	250.55	291.49	(7.37)	(14.59)	(17.81)	291.49	284.12	276.90	273.68
1993	260.39	-	88.59	348.98	(6.27)	(9.90)	(13.06)	348.98	342.71	339.08	335.92
1994	46.87	-	225.91	272.78	(7.33)	(8.05)	(12.15)	272.78	265.45	264.73	260.63
1995	132.40	-	183.68	316.08	(6.38)	(11.17)	(13.32)	316.08	309.70	304.91	302.76
1996	162.57	-	238.68	401.25	(8.64)	(15.30)	(19.15)	401.25	392.61	385.95	382.10
1997	51.12	-	250.34	301.46	(8.47)	(16.23)	(19.99)	301.46	292.99	285.23	281.47
1998	-	-	238.09	238.09	(8.45)	9.93	1.14	238.09	229.64	248.02	239.22
1999	-	-	213.46	213.46	(5.98)	(13.11)	(16.00)	213.46	207.48	200.35	197.46
2000	39.07	-	174.78	213.86	(3.32)	(4.33)	(9.16)	213.86	210.53	209.53	204.70
2001	107.54	-	114.86	222.41	(5.31)	(12.19)	(14.88)	222.41	217.10	210.22	207.53
2002	209.66	-	89.06	298.72	(5.28)	(12.75)	(15.42)	298.72	293.44	285.97	283.30
2003	252.86	-	22.60	275.46	(5.74)	(11.84)	(14.81)	275.46	269.72	263.62	260.65
2004	324.74	-	62.04	386.78	(6.30)	12.74	0.40	386.78	380.48	399.52	387.18
2005	265.28	-	37.56	302.83	(7.45)	(19.76)	(23.41)	302.83	295.38	283.07	279.42
2006	-	-	383.19	383.19	(8.60)	(23.55)	(27.90)	383.19	374.59	359.64	355.29
2007	372.86	-	88.94	461.80	(10.85)	(25.59)	(30.87)	461.80	450.95	436.21	430.93
2008	633.51	-	117.87	751.38	48.25	186.31	91.62	751.38	799.63	937.69	842.99

Descriptive Statistics

Average	148.66	(0.81)	151.93	299.78	(4.85)	(1.17)	(4.94)	299.78	294.94	298.62	294.85
Standard Deviation	143.31	3.35	98.49	99.60	10.14	36.28	25.42	99.60	106.88	127.62	112.30
Minimum	-	(16.86)	-	213.46	(11.70)	(25.59)	(30.87)	213.46	207.48	200.35	197.46
Maximum	633.51	-	383.19	751.38	48.25	186.31	91.62	751.38	799.63	937.69	842.99
Median	123.88	-	174.78	275.43	(6.48)	(11.22)	(13.45)	275.43	268.95	276.90	273.68

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.18. Soybeans, Sangamon County, Aggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	200.27	1.23	1.20	1.17	1.16
1977	284.96	1.07	1.03	1.12	1.08
1978	239.64	1.11	1.08	1.07	1.06
1979	295.41	1.08	1.05	1.04	1.03
1980	311.93	0.97	0.94	0.93	0.92
1981	352.26	0.70	0.66	0.69	0.67
1982	285.05	0.85	0.83	0.87	0.84
1983	266.18	0.89	0.90	0.83	1.00
1984	303.76	0.81	0.79	0.96	0.93
1985	266.36	0.90	0.87	0.86	0.85
1986	229.58	1.03	1.00	0.98	0.97
1987	213.78	1.11	1.08	1.04	1.03
1988	293.21	0.84	0.86	0.81	1.06
1989	325.66	0.82	0.79	0.85	0.82
1990	269.13	1.02	1.00	0.99	0.98
1991	284.42	1.07	1.04	1.03	1.02
1992	288.29	1.01	0.99	0.96	0.95
1993	282.89	1.23	1.21	1.20	1.19
1994	325.26	0.84	0.82	0.81	0.80
1995	296.20	1.07	1.05	1.03	1.02
1996	365.94	1.10	1.07	1.05	1.04
1997	356.28	0.85	0.82	0.80	0.79
1998	343.18	0.69	0.67	0.72	0.70
1999	270.49	0.79	0.77	0.74	0.73
2000	278.77	0.77	0.76	0.75	0.73
2001	240.85	0.92	0.90	0.87	0.86
2002	228.18	1.31	1.29	1.25	1.24
2003	274.39	1.00	0.98	0.96	0.95
2004	350.10	1.10	1.09	1.14	1.11
2005	287.49	1.05	1.03	0.98	0.97
2006	321.76	1.19	1.16	1.12	1.10
2007	426.25	1.08	1.06	1.02	1.01
2008	712.41	1.05	1.12	1.32	1.18
Descriptive Statistics					
Average	305.16	0.99	0.97	0.97	0.96
Standard Deviation	87.12	0.16	0.16	0.16	0.15
Minimum	200.27	0.69	0.66	0.69	0.67
Maximum	712.41	1.31	1.29	1.32	1.24
Median	287.49	1.02	1.00	0.98	0.98

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.19. Soybeans, Sangamon County, Nonaggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	-----$/acre-----				-----$/acre-----				-----$/acre-----		
1976	112.01	-	157.05	269.06	(6.33)	(11.22)	(13.57)	269.06	262.73	257.84	255.49
1977	126.20	-	162.72	288.92	(8.94)	14.27	4.25	288.92	279.98	303.19	293.17
1978	122.03	-	143.01	265.03	(6.30)	(8.38)	(11.07)	265.03	258.73	256.65	253.96
1979	144.72	-	134.29	279.00	(8.40)	(12.50)	(15.64)	279.00	270.60	266.50	263.36
1980	141.84	-	122.19	264.04	(8.75)	(12.03)	(15.37)	264.04	255.29	252.01	248.67
1981	150.58	-	130.78	281.37	(11.70)	(0.04)	(9.80)	281.37	269.67	281.32	271.57
1982	124.23	-	127.54	251.76	(4.04)	5.71	(3.02)	251.76	247.72	257.48	248.74
1983	141.94	-	95.38	237.32	1.40	(16.09)	28.26	237.32	238.72	221.23	265.58
1984	138.89	-	119.41	258.30	(8.85)	45.62	34.01	258.30	249.45	303.92	292.31
1985	117.72	-	138.29	256.01	(6.89)	(10.52)	(13.45)	256.01	249.12	245.49	242.56
1986	103.95	-	132.99	236.95	(6.12)	(11.71)	(14.29)	236.95	230.83	225.24	222.66
1987	110.85	-	141.50	252.35	(6.25)	(14.31)	(16.96)	252.35	246.10	238.04	235.39
1988	170.88	-	89.43	260.32	7.71	(8.06)	65.59	260.32	268.03	252.26	325.91
1989	139.55	-	152.17	291.72	(9.57)	11.23	0.32	291.72	282.15	302.95	292.04
1990	133.07	-	140.86	273.93	(6.48)	(9.78)	(12.90)	273.93	267.45	264.15	261.03
1991	131.52	-	179.51	311.03	(6.95)	(11.32)	(14.46)	311.03	304.08	299.71	296.57
1992	134.40	-	158.88	293.29	(7.37)	(14.59)	(17.81)	293.29	285.92	278.70	275.48
1993	142.95	-	187.21	330.17	(6.27)	(9.90)	(13.06)	330.17	323.90	320.27	317.11
1994	144.31	-	137.11	281.41	(7.33)	(8.05)	(12.15)	281.41	274.08	273.37	269.26
1995	146.85	-	158.01	304.86	(6.38)	(11.17)	(13.32)	304.86	298.48	293.69	291.54
1996	182.19	-	212.53	394.72	(8.64)	(15.30)	(19.15)	394.72	386.08	379.42	375.57
1997	162.13	-	143.47	305.60	(8.47)	(16.23)	(19.99)	305.60	297.13	289.37	285.61
1998	143.84	-	127.24	271.08	(8.45)	9.93	1.14	271.08	262.63	281.01	272.22
1999	120.19	-	99.93	220.13	(5.98)	(13.11)	(16.00)	220.13	214.15	207.02	204.13
2000	126.35	-	96.66	223.01	(3.32)	(4.33)	(9.16)	223.01	219.69	218.68	213.85
2001	112.66	-	98.24	210.90	(5.31)	(12.19)	(14.88)	210.90	205.59	198.71	196.02
2002	120.98	-	185.42	306.40	(5.28)	(12.75)	(15.42)	306.40	301.12	293.65	290.98
2003	135.83	-	166.59	302.42	(5.74)	(11.84)	(14.81)	302.42	296.68	290.58	287.61
2004	170.37	-	158.54	328.91	(6.30)	12.74	0.40	328.91	322.61	341.65	329.31
2005	160.46	-	131.25	291.71	(7.45)	(19.76)	(23.41)	291.71	284.26	271.95	268.30
2006	148.37	-	212.08	360.45	(8.60)	(23.55)	(27.90)	360.45	351.85	336.90	332.55
2007	206.65	-	299.16	505.81	(10.85)	(25.59)	(30.87)	505.81	494.96	480.22	474.94
2008	321.95	-	291.36	613.31	48.25	186.31	91.62	613.31	661.57	799.63	704.93

Descriptive Statistics

Average	145.17	-	152.45	297.61	(4.85)	(1.17)	(4.94)	297.61	292.77	296.45	292.68
Standard Deviation	38.56	-	47.84	78.93	10.14	36.28	25.42	78.93	85.24	104.74	90.23
Minimum	103.95	-	89.43	210.90	(11.70)	(25.59)	(30.87)	210.90	205.59	198.71	196.02
Maximum	321.95	-	299.16	613.31	48.25	186.31	91.62	613.31	661.57	799.63	704.93
Median	139.55	-	141.50	281.37	(6.48)	(11.22)	(13.45)	281.37	270.60	278.70	272.22

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.20. Soybeans, Sangamon County, Nonaggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	200.27	1.34	1.31	1.29	1.28
1977	284.96	1.01	0.98	1.06	1.03
1978	239.64	1.11	1.08	1.07	1.06
1979	295.41	0.94	0.92	0.90	0.89
1980	311.93	0.85	0.82	0.81	0.80
1981	352.26	0.80	0.77	0.80	0.77
1982	285.05	0.88	0.87	0.90	0.87
1983	266.18	0.89	0.90	0.83	1.00
1984	303.76	0.85	0.82	1.00	0.96
1985	266.36	0.96	0.94	0.92	0.91
1986	229.58	1.03	1.01	0.98	0.97
1987	213.78	1.18	1.15	1.11	1.10
1988	293.21	0.89	0.91	0.86	1.11
1989	325.66	0.90	0.87	0.93	0.90
1990	269.13	1.02	0.99	0.98	0.97
1991	284.42	1.09	1.07	1.05	1.04
1992	288.29	1.02	0.99	0.97	0.96
1993	282.89	1.17	1.14	1.13	1.12
1994	325.26	0.87	0.84	0.84	0.83
1995	296.20	1.03	1.01	0.99	0.98
1996	365.94	1.08	1.06	1.04	1.03
1997	356.28	0.86	0.83	0.81	0.80
1998	343.18	0.79	0.77	0.82	0.79
1999	270.49	0.81	0.79	0.77	0.75
2000	278.77	0.80	0.79	0.78	0.77
2001	240.85	0.88	0.85	0.83	0.81
2002	228.18	1.34	1.32	1.29	1.28
2003	274.39	1.10	1.08	1.06	1.05
2004	350.10	0.94	0.92	0.98	0.94
2005	287.49	1.01	0.99	0.95	0.93
2006	321.76	1.12	1.09	1.05	1.03
2007	426.25	1.19	1.16	1.13	1.11
2008	712.41	0.86	0.93	1.12	0.99
Descriptive Statistics					
Average	305.16	0.99	0.97	0.97	0.96
Standard Deviation	87.12	0.15	0.15	0.14	0.14
Minimum	200.27	0.79	0.77	0.77	0.75
Maximum	712.41	1.34	1.32	1.29	1.28
Median	287.49	0.96	0.94	0.98	0.97

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.21. Soybeans, Sangamon County, Nonaggressive Dynamic Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				(Indemnity minus premium) ------$/acre------			------$/acre------			
1976	108.56	-	157.05	265.61	(6.33)	(11.22)	(13.57)	265.61	259.28	254.39	252.04
1977	72.87	-	220.26	293.14	(8.94)	14.27	4.25	293.14	284.20	307.41	297.39
1978	128.31	-	143.01	271.32	(6.30)	(8.38)	(11.07)	271.32	265.02	262.94	260.25
1979	157.57	-	134.29	291.86	(8.40)	(12.50)	(15.64)	291.86	283.46	279.36	276.22
1980	164.08	-	122.19	286.27	(8.75)	(12.03)	(15.37)	286.27	277.52	274.24	270.90
1981	-	-	244.84	244.84	(11.70)	(0.04)	(9.80)	244.84	233.14	244.80	235.04
1982	-	-	241.91	241.91	(4.04)	5.71	(3.02)	241.91	237.87	247.63	238.90
1983	145.40	-	95.38	240.78	1.40	(16.09)	28.26	240.78	242.18	224.69	269.04
1984	25.26	-	218.37	243.63	(8.85)	45.62	34.01	243.63	234.78	289.25	277.64
1985	-	-	239.39	239.39	(6.89)	(10.52)	(13.45)	239.39	232.50	228.87	225.94
1986	18.75	-	216.00	234.75	(6.12)	(11.71)	(14.29)	234.75	228.63	223.04	220.46
1987	112.09	-	141.50	253.59	(6.25)	(14.31)	(16.96)	253.59	247.34	239.28	236.63
1988	154.34	-	89.43	243.78	7.71	(8.06)	65.59	243.78	251.49	235.72	309.37
1989	-	-	266.75	266.75	(9.57)	11.23	0.32	266.75	257.18	277.98	267.07
1990	68.95	-	198.71	267.66	(6.48)	(9.78)	(12.90)	267.66	261.18	257.88	254.76
1991	23.74	-	277.28	301.02	(6.95)	(11.32)	(14.46)	301.02	294.07	289.70	286.56
1992	24.08	-	265.47	289.55	(7.37)	(14.59)	(17.81)	289.55	282.18	274.96	271.74
1993	153.17	-	187.21	340.38	(6.27)	(9.90)	(13.06)	340.38	334.11	330.48	327.32
1994	27.57	-	240.36	267.94	(7.33)	(8.05)	(12.15)	267.94	260.61	259.89	255.78
1995	77.88	-	243.57	321.45	(6.38)	(11.17)	(13.32)	321.45	315.07	310.28	308.14
1996	95.63	-	299.70	395.33	(8.64)	(15.30)	(19.15)	395.33	386.69	380.03	376.18
1997	30.07	-	267.74	297.81	(8.47)	(16.23)	(19.99)	297.81	289.34	281.58	277.82
1998	-	-	238.09	238.09	(8.45)	9.93	1.14	238.09	229.64	248.02	239.22
1999	-	-	213.46	213.46	(5.98)	(13.11)	(16.00)	213.46	207.48	200.35	197.46
2000	22.98	-	187.50	210.49	(3.32)	(4.33)	(9.16)	210.49	207.16	206.16	201.33
2001	63.26	-	153.64	216.90	(5.31)	(12.19)	(14.88)	216.90	211.59	204.71	202.02
2002	123.33	-	185.42	308.76	(5.28)	(12.75)	(15.42)	308.76	303.48	296.01	293.34
2003	148.74	-	166.59	315.33	(5.74)	(11.84)	(14.81)	315.33	309.59	303.49	300.52
2004	191.02	-	158.54	349.56	(6.30)	12.74	0.40	349.56	343.26	362.30	349.96
2005	156.05	-	131.25	287.29	(7.45)	(19.76)	(23.41)	287.29	279.84	267.53	263.88
2006	-	-	383.19	383.19	(8.60)	(23.55)	(27.90)	383.19	374.59	359.64	355.29
2007	219.33	-	299.16	518.49	(10.85)	(25.59)	(30.87)	518.49	507.64	492.90	487.62
2008	372.65	-	291.36	664.01	48.25	186.31	91.62	664.01	712.27	850.33	755.63

Descriptive Statistics

Average	87.45	-	209.66	297.10	(4.85)	(1.17)	(4.94)	297.10	292.25	295.93	292.17
Standard Deviation	84.30	-	66.54	90.00	10.14	36.28	25.42	90.00	96.48	115.37	100.78
Minimum	-	-	89.43	210.49	(11.70)	(25.59)	(30.87)	210.49	207.16	200.35	197.46
Maximum	372.65	-	383.19	664.01	48.25	186.31	91.62	664.01	712.27	850.33	755.63
Median	72.87	-	216.00	271.32	(6.48)	(11.22)	(13.45)	271.32	265.02	274.24	270.90

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.22. Soybeans, Sangamon County, Nonaggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	200.27	1.33	1.29	1.27	1.26
1977	284.96	1.03	1.00	1.08	1.04
1978	239.64	1.13	1.11	1.10	1.09
1979	295.41	0.99	0.96	0.95	0.94
1980	311.93	0.92	0.89	0.88	0.87
1981	352.26	0.70	0.66	0.69	0.67
1982	285.05	0.85	0.83	0.87	0.84
1983	266.18	0.90	0.91	0.84	1.01
1984	303.76	0.80	0.77	0.95	0.91
1985	266.36	0.90	0.87	0.86	0.85
1986	229.58	1.02	1.00	0.97	0.96
1987	213.78	1.19	1.16	1.12	1.11
1988	293.21	0.83	0.86	0.80	1.06
1989	325.66	0.82	0.79	0.85	0.82
1990	269.13	0.99	0.97	0.96	0.95
1991	284.42	1.06	1.03	1.02	1.01
1992	288.29	1.00	0.98	0.95	0.94
1993	282.89	1.20	1.18	1.17	1.16
1994	325.26	0.82	0.80	0.80	0.79
1995	296.20	1.09	1.06	1.05	1.04
1996	365.94	1.08	1.06	1.04	1.03
1997	356.28	0.84	0.81	0.79	0.78
1998	343.18	0.69	0.67	0.72	0.70
1999	270.49	0.79	0.77	0.74	0.73
2000	278.77	0.76	0.74	0.74	0.72
2001	240.85	0.90	0.88	0.85	0.84
2002	228.18	1.35	1.33	1.30	1.29
2003	274.39	1.15	1.13	1.11	1.10
2004	350.10	1.00	0.98	1.03	1.00
2005	287.49	1.00	0.97	0.93	0.92
2006	321.76	1.19	1.16	1.12	1.10
2007	426.25	1.22	1.19	1.16	1.14
2008	712.41	0.93	1.00	1.19	1.06
Descriptive Statistics					
Average	305.16	0.98	0.96	0.97	0.96
Standard Deviation	87.12	0.17	0.17	0.16	0.16
Minimum	200.27	0.69	0.66	0.69	0.67
Maximum	712.41	1.35	1.33	1.30	1.29
Median	287.49	0.99	0.97	0.95	0.96

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.23. Soybeans, Sangamon County, Sell all Postharvest Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				------$/acre------				------$/acre------		
1976	-	-	293.62	293.62	(6.33)	(11.22)	(13.57)	293.62	287.29	282.40	280.05
1977	-	-	277.81	277.81	(8.94)	14.27	4.25	277.81	268.87	292.08	282.06
1978	-	-	279.52	279.52	(6.30)	(8.38)	(11.07)	279.52	273.22	271.14	268.45
1979	-	-	252.54	252.54	(8.40)	(12.50)	(15.64)	252.54	244.14	240.04	236.90
1980	-	-	263.77	263.77	(8.75)	(12.03)	(15.37)	263.77	255.02	251.74	248.40
1981	-	-	244.84	244.84	(11.70)	(0.04)	(9.80)	244.84	233.14	244.80	235.04
1982	-	-	241.91	241.91	(4.04)	5.71	(3.02)	241.91	237.87	247.63	238.90
1983	-	-	242.94	242.94	1.40	(16.09)	28.26	242.94	244.34	226.85	271.20
1984	-	-	238.16	238.16	(8.85)	45.62	34.01	238.16	229.31	283.78	272.17
1985	-	-	239.39	239.39	(6.89)	(10.52)	(13.45)	239.39	232.50	228.87	225.94
1986	-	-	232.60	232.60	(6.12)	(11.71)	(14.29)	232.60	226.48	220.89	218.31
1987	-	-	277.17	277.17	(6.25)	(14.31)	(16.96)	277.17	270.92	262.86	260.21
1988	-	-	237.29	237.29	7.71	(8.06)	65.59	237.29	245.00	229.23	302.88
1989	-	-	266.75	266.75	(9.57)	11.23	0.32	266.75	257.18	277.98	267.07
1990	-	-	256.56	256.56	(6.48)	(9.78)	(12.90)	256.56	250.08	246.78	243.66
1991	-	-	296.83	296.83	(6.95)	(11.32)	(14.46)	296.83	289.88	285.51	282.37
1992	-	-	286.79	286.79	(7.37)	(14.59)	(17.81)	286.79	279.42	272.20	268.98
1993	-	-	328.11	328.11	(6.27)	(9.90)	(13.06)	328.11	321.84	318.21	315.05
1994	-	-	261.02	261.02	(7.33)	(8.05)	(12.15)	261.02	253.69	252.97	248.86
1995	-	-	329.13	329.13	(6.38)	(11.17)	(13.32)	329.13	322.75	317.96	315.81
1996	-	-	386.87	386.87	(8.64)	(15.30)	(19.15)	386.87	378.23	371.57	367.72
1997	-	-	292.59	292.59	(8.47)	(16.23)	(19.99)	292.59	284.12	276.36	272.60
1998	-	-	238.09	238.09	(8.45)	9.93	1.14	238.09	229.64	248.02	239.22
1999	-	-	213.46	213.46	(5.98)	(13.11)	(16.00)	213.46	207.48	200.35	197.46
2000	-	-	205.67	205.67	(3.32)	(4.33)	(9.16)	205.67	202.35	201.34	196.51
2001	-	-	209.04	209.04	(5.31)	(12.19)	(14.88)	209.04	203.73	196.85	194.16
2002	-	-	323.09	323.09	(5.28)	(12.75)	(15.42)	323.09	317.81	310.34	307.67
2003	-	-	372.29	372.29	(5.74)	(11.84)	(14.81)	372.29	366.55	360.45	357.48
2004	-	-	296.39	296.39	(6.30)	12.74	0.40	296.39	290.09	309.13	296.79
2005	-	-	265.10	265.10	(7.45)	(19.76)	(23.41)	265.10	257.65	245.34	241.69
2006	-	-	383.19	383.19	(8.60)	(23.55)	(27.90)	383.19	374.59	359.64	355.29
2007	-	-	599.48	599.48	(10.85)	(25.59)	(30.87)	599.48	588.63	573.89	568.61
2008	-	-	539.21	539.21	48.25	186.31	91.62	539.21	587.47	725.52	630.83
Descriptive Statistics											
Average	-	-	293.07	293.07	(4.85)	(1.17)	(4.94)	293.07	288.22	291.90	288.13
Standard Deviation	-	-	85.21	85.21	10.14	36.28	25.42	85.21	89.70	104.04	91.60
Minimum	-	-	205.67	205.67	(11.70)	(25.59)	(30.87)	205.67	202.35	196.85	194.16
Maximum	-	-	599.48	599.48	48.25	186.31	91.62	599.48	588.63	725.52	630.83
Median	-	-	266.75	266.75	(6.48)	(11.22)	(13.45)	266.75	257.65	271.14	268.98

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.24. Soybeans, Sangamon County, Sell all Postharvest Pricing Strategy, Expected Revenue and Revenue Ratios by Year

		Revenue Ratio			
	Expected	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
Year	Revenue	(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	200.27	1.47	1.43	1.41	1.40
1977	284.96	0.97	0.94	1.02	0.99
1978	239.64	1.17	1.14	1.13	1.12
1979	295.41	0.85	0.83	0.81	0.80
1980	311.93	0.85	0.82	0.81	0.80
1981	352.26	0.70	0.66	0.69	0.67
1982	285.05	0.85	0.83	0.87	0.84
1983	266.18	0.91	0.92	0.85	1.02
1984	303.76	0.78	0.75	0.93	0.90
1985	266.36	0.90	0.87	0.86	0.85
1986	229.58	1.01	0.99	0.96	0.95
1987	213.78	1.30	1.27	1.23	1.22
1988	293.21	0.81	0.84	0.78	1.03
1989	325.66	0.82	0.79	0.85	0.82
1990	269.13	0.95	0.93	0.92	0.91
1991	284.42	1.04	1.02	1.00	0.99
1992	288.29	0.99	0.97	0.94	0.93
1993	282.89	1.16	1.14	1.12	1.11
1994	325.26	0.80	0.78	0.78	0.77
1995	296.20	1.11	1.09	1.07	1.07
1996	365.94	1.06	1.03	1.02	1.00
1997	356.28	0.82	0.80	0.78	0.77
1998	343.18	0.69	0.67	0.72	0.70
1999	270.49	0.79	0.77	0.74	0.73
2000	278.77	0.74	0.73	0.72	0.70
2001	240.85	0.87	0.85	0.82	0.81
2002	228.18	1.42	1.39	1.36	1.35
2003	274.39	1.36	1.34	1.31	1.30
2004	350.10	0.85	0.83	0.88	0.85
2005	287.49	0.92	0.90	0.85	0.84
2006	321.76	1.19	1.16	1.12	1.10
2007	426.25	1.41	1.38	1.35	1.33
2008	712.41	0.76	0.82	1.02	0.89
Descriptive Statistics					
Average	305.16	0.98	0.96	0.96	0.96
Standard Deviation	87.12	0.22	0.22	0.20	0.20
Minimum	200.27	0.69	0.66	0.69	0.67
Maximum	712.41	1.47	1.43	1.41	1.40
Median	287.49	0.91	0.90	0.92	0.91

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table C.25. Soybeans, Vermilion County, Cash Sale at Harvest, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------			------$/acre------			
1976	-	178.50	-	178.50	4.66	(10.61)	(12.18)	178.50	183.16	167.89	166.32
1977	-	201.18	-	201.18	(8.50)	25.47	14.00	201.18	192.68	226.65	215.18
1978	-	240.73	-	240.73	(6.06)	(8.49)	(10.12)	240.73	234.67	232.24	230.61
1979	-	276.80	-	276.80	(8.08)	(12.11)	(14.22)	276.80	268.72	264.69	262.58
1980	-	219.82	-	219.82	13.89	(11.87)	(14.08)	219.82	233.71	207.95	205.74
1981	-	223.50	-	223.50	6.40	39.54	23.63	223.50	229.90	263.04	247.13
1982	-	186.02	-	186.02	1.42	2.16	(4.33)	186.02	187.44	188.18	181.69
1983	-	290.82	-	290.82	(8.03)	(15.41)	(17.61)	290.82	282.79	275.41	273.21
1984	-	190.99	-	190.99	7.57	40.33	30.57	190.99	198.55	231.32	221.55
1985	-	274.79	-	274.79	(6.73)	(10.48)	(12.44)	274.79	268.06	264.31	262.35
1986	-	125.34	-	125.34	28.92	13.50	10.14	125.34	154.26	138.84	135.48
1987	-	211.04	-	211.04	(6.04)	(13.70)	(15.44)	211.04	205.00	197.34	195.60
1988	-	139.64	-	139.64	103.50	27.11	89.68	139.64	243.14	166.75	229.32
1989	-	248.08	-	248.08	(9.26)	56.19	36.70	248.08	238.82	304.27	284.78
1990	-	230.35	-	230.35	(6.38)	(10.11)	(12.06)	230.35	223.97	220.24	218.29
1991	-	130.10	-	130.10	59.22	76.46	66.47	130.10	189.32	206.56	196.57
1992	-	274.37	-	274.37	(7.36)	(14.23)	(16.45)	274.37	267.01	260.14	257.92
1993	-	260.95	-	260.95	(6.19)	(10.28)	(12.26)	260.95	254.76	250.67	248.69
1994	-	284.13	-	284.13	(7.29)	(12.39)	(14.69)	284.13	276.84	271.74	269.44
1995	-	272.36	-	272.36	(6.27)	(11.30)	(13.41)	272.36	266.09	261.06	258.95
1996	-	331.49	-	331.49	(8.46)	(15.24)	(17.90)	331.49	323.02	316.25	313.59
1997	-	289.52	-	289.52	(8.19)	(16.02)	(18.66)	289.52	281.33	273.50	270.86
1998	-	216.26	-	216.26	(8.12)	53.75	38.39	216.26	208.14	270.01	254.65
1999	-	211.14	-	211.14	(5.72)	(12.91)	(14.92)	211.14	205.42	198.23	196.22
2000	-	238.68	-	238.68	(6.54)	(3.44)	(7.18)	238.68	232.14	235.24	231.50
2001	-	242.82	-	242.82	(5.05)	(12.03)	(13.91)	242.82	237.77	230.79	228.91
2002	-	256.28	-	256.28	(5.04)	(12.56)	(14.43)	256.28	251.24	243.71	241.84
2003	-	223.41	-	223.41	55.72	(11.89)	35.56	223.41	279.13	211.52	258.97
2004	-	243.78	-	243.78	5.80	3.09	(5.62)	243.78	249.57	246.87	238.15
2005	-	282.96	-	282.96	(7.07)	(19.39)	(21.86)	282.96	275.89	263.57	261.10
2006	-	308.28	-	308.28	(8.23)	(23.26)	(26.07)	308.28	300.05	285.02	282.21
2007	-	440.51	-	440.51	(10.30)	(25.35)	(28.96)	440.51	430.21	415.16	411.55
2008	-	370.20	-	370.20	168.52	161.79	80.10	370.20	538.72	531.99	450.30
Descriptive Statistics											
Average	-	245.90	-	245.90	8.99	6.25	2.62	245.90	254.89	252.16	248.52
Standard Deviation	-	64.38	-	64.38	37.68	37.88	30.74	64.38	71.50	71.03	59.88
Minimum	-	125.34	-	125.34	(10.30)	(25.35)	(28.96)	125.34	154.26	138.84	135.48
Maximum	-	440.51	-	440.51	168.52	161.79	89.68	440.51	538.72	531.99	450.30
Median	-	242.82	-	242.82	(6.19)	(10.61)	(12.26)	242.82	243.14	246.87	247.13

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.26. Soybeans, Vermilion County, Cash Sale at Harvest, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	187.31	0.95	0.98	0.90	0.89
1977	253.23	0.79	0.76	0.90	0.85
1978	211.82	1.14	1.11	1.10	1.09
1979	262.32	1.06	1.02	1.01	1.00
1980	277.27	0.79	0.84	0.75	0.74
1981	308.18	0.73	0.75	0.85	0.80
1982	247.58	0.75	0.76	0.76	0.73
1983	228.10	1.27	1.24	1.21	1.20
1984	262.50	0.73	0.76	0.88	0.84
1985	226.71	1.21	1.18	1.17	1.16
1986	199.64	0.63	0.77	0.70	0.68
1987	181.36	1.16	1.13	1.09	1.08
1988	250.11	0.56	0.97	0.67	0.92
1989	267.21	0.93	0.89	1.14	1.07
1990	220.85	1.04	1.01	1.00	0.99
1991	233.98	0.56	0.81	0.88	0.84
1992	223.15	1.23	1.20	1.17	1.16
1993	223.92	1.17	1.14	1.12	1.11
1994	252.88	1.12	1.09	1.07	1.07
1995	237.93	1.14	1.12	1.10	1.09
1996	287.24	1.15	1.12	1.10	1.09
1997	292.50	0.99	0.96	0.94	0.93
1998	283.64	0.76	0.73	0.95	0.90
1999	229.05	0.92	0.90	0.87	0.86
2000	237.46	1.01	0.98	0.99	0.97
2001	211.36	1.15	1.12	1.09	1.08
2002	217.97	1.18	1.15	1.12	1.11
2003	257.88	0.87	1.08	0.82	1.00
2004	327.33	0.74	0.76	0.75	0.73
2005	264.60	1.07	1.04	1.00	0.99
2006	300.42	1.03	1.00	0.95	0.94
2007	401.27	1.10	1.07	1.03	1.03
2008	669.59	0.55	0.80	0.79	0.67
Descriptive Statistics					
Average	264.74	0.95	0.98	0.96	0.96
Standard Deviation	84.61	0.22	0.16	0.15	0.15
Minimum	181.36	0.55	0.73	0.67	0.67
Maximum	669.59	1.27	1.24	1.21	1.20
Median	250.11	1.01	1.00	0.99	0.99

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.27. Soybeans, Vermilion County, Aggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				------$/acre------			------$/acre------			
1976	177.32	(9.91)	-	167.41	4.66	(10.61)	(12.18)	167.41	172.07	156.80	155.23
1977	189.18	-	65.60	254.77	(8.50)	25.47	14.00	254.77	246.27	280.24	268.77
1978	181.92	-	49.33	231.26	(6.06)	(8.49)	(10.12)	231.26	225.20	222.77	221.14
1979	216.83	-	47.42	264.25	(8.08)	(12.11)	(14.22)	264.25	256.17	252.14	250.03
1980	212.77	(19.59)	-	193.18	13.89	(11.87)	(14.08)	193.18	207.07	181.31	179.10
1981	222.05	-	29.00	251.06	6.40	39.54	23.63	251.06	257.46	290.60	274.69
1982	181.79	-	34.21	216.00	1.42	2.16	(4.33)	216.00	217.42	218.16	211.67
1983	204.76	-	26.68	231.43	(8.03)	(15.41)	(17.61)	231.43	223.40	216.02	213.82
1984	202.15	-	11.70	213.85	7.57	40.33	30.57	213.85	221.42	254.19	244.42
1985	168.62	-	117.33	285.96	(6.73)	(10.48)	(12.44)	285.96	279.23	275.48	273.52
1986	152.36	(23.26)	-	129.10	28.92	13.50	10.14	129.10	158.02	142.61	139.25
1987	158.27	-	57.24	215.52	(6.04)	(13.70)	(15.44)	215.52	209.48	201.82	200.08
1988	245.39	(111.66)	-	133.72	103.50	27.11	89.68	133.72	237.22	160.83	223.40
1989	192.22	-	77.41	269.63	(9.26)	56.19	36.70	269.63	260.37	325.82	306.33
1990	183.33	-	39.42	222.75	(6.38)	(10.11)	(12.06)	222.75	216.37	212.64	210.69
1991	181.73	(50.58)	-	131.15	59.22	76.46	66.47	131.15	190.37	207.61	197.62
1992	174.07	-	119.64	293.72	(7.36)	(14.23)	(16.45)	293.72	286.36	279.49	277.27
1993	189.67	-	69.31	258.98	(6.19)	(10.28)	(12.26)	258.98	252.79	248.70	246.72
1994	187.95	-	110.25	298.20	(7.29)	(12.39)	(14.69)	298.20	290.91	285.81	283.51
1995	198.08	-	69.46	267.54	(6.27)	(11.30)	(13.41)	267.54	261.27	256.24	254.13
1996	239.75	-	115.25	355.00	(8.46)	(15.24)	(17.90)	355.00	346.54	339.76	337.10
1997	223.81	-	74.79	298.61	(8.19)	(16.02)	(18.66)	298.61	290.42	282.59	279.95
1998	199.99	-	39.72	239.71	(8.12)	53.75	38.39	239.71	231.59	293.46	278.10
1999	171.53	-	38.38	209.90	(5.72)	(12.91)	(14.92)	209.90	204.18	196.99	194.98
2000	181.43	-	61.31	242.74	(6.54)	(3.44)	(7.18)	242.74	236.20	239.30	235.56
2001	166.94	-	78.99	245.93	(5.05)	(12.03)	(13.91)	245.93	240.88	233.90	232.02
2002	196.01	-	51.58	247.59	(5.04)	(12.56)	(14.43)	247.59	242.55	235.03	233.16
2003	216.36	(56.70)	-	159.65	55.72	(11.89)	35.56	159.65	215.37	147.76	195.21
2004	269.87	-	45.70	315.57	5.80	3.09	(5.62)	315.57	321.37	318.66	309.95
2005	250.00	-	71.34	321.35	(7.07)	(19.39)	(21.86)	321.35	314.28	301.96	299.49
2006	234.70	-	99.30	334.00	(8.23)	(23.26)	(26.07)	334.00	325.77	310.74	307.93
2007	329.73	-	85.71	415.44	(10.30)	(25.35)	(28.96)	415.44	405.14	390.09	386.48
2008	512.85	(16.07)	-	496.77	168.52	161.79	80.10	496.77	665.29	658.57	576.88

Descriptive Statistics

Average	212.53	(8.72)	51.09	254.90	8.99	6.25	2.62	254.90	263.89	261.15	257.52
Standard Deviation	64.64	23.06	37.65	77.30	37.68	37.88	30.74	77.30	88.45	92.01	77.68
Minimum	152.36	(111.66)	-	129.10	(10.30)	(25.35)	(28.96)	129.10	158.02	142.61	139.25
Maximum	512.85	-	119.64	496.77	168.52	161.79	89.68	496.77	665.29	658.57	576.88
Median	196.01	-	49.33	247.59	(6.19)	(10.61)	(12.26)	247.59	242.55	252.14	246.72

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.28. Soybeans, Vermilion County, Aggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	187.31	0.89	0.92	0.84	0.83
1977	253.23	1.01	0.97	1.11	1.06
1978	211.82	1.09	1.06	1.05	1.04
1979	262.32	1.01	0.98	0.96	0.95
1980	277.27	0.70	0.75	0.65	0.65
1981	308.18	0.81	0.84	0.94	0.89
1982	247.58	0.87	0.88	0.88	0.85
1983	228.10	1.01	0.98	0.95	0.94
1984	262.50	0.81	0.84	0.97	0.93
1985	226.71	1.26	1.23	1.22	1.21
1986	199.64	0.65	0.79	0.71	0.70
1987	181.36	1.19	1.16	1.11	1.10
1988	250.11	0.53	0.95	0.64	0.89
1989	267.21	1.01	0.97	1.22	1.15
1990	220.85	1.01	0.98	0.96	0.95
1991	233.98	0.56	0.81	0.89	0.84
1992	223.15	1.32	1.28	1.25	1.24
1993	223.92	1.16	1.13	1.11	1.10
1994	252.88	1.18	1.15	1.13	1.12
1995	237.93	1.12	1.10	1.08	1.07
1996	287.24	1.24	1.21	1.18	1.17
1997	292.50	1.02	0.99	0.97	0.96
1998	283.64	0.85	0.82	1.03	0.98
1999	229.05	0.92	0.89	0.86	0.85
2000	237.46	1.02	0.99	1.01	0.99
2001	211.36	1.16	1.14	1.11	1.10
2002	217.97	1.14	1.11	1.08	1.07
2003	257.88	0.62	0.84	0.57	0.76
2004	327.33	0.96	0.98	0.97	0.95
2005	264.60	1.21	1.19	1.14	1.13
2006	300.42	1.11	1.08	1.03	1.02
2007	401.27	1.04	1.01	0.97	0.96
2008	669.59	0.74	0.99	0.98	0.86

Descriptive Statistics

Average	264.74	0.98	1.00	0.99	0.98
Standard Deviation	84.61	0.21	0.14	0.17	0.14
Minimum	181.36	0.53	0.75	0.57	0.65
Maximum	669.59	1.32	1.28	1.25	1.24
Median	250.11	1.01	0.98	0.98	0.96

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.29. Soybeans, Vermilion County, Aggressive Dynamic Pricing Strategy, Revenues by Year

Year	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
					(Indemnity minus premium)						
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	171.86	(9.91)	-	161.95	4.66	(10.61)	(12.18)	161.95	166.61	151.34	149.77
1977	109.24	-	151.86	261.10	(8.50)	25.47	14.00	261.10	252.60	286.56	275.09
1978	191.29	-	49.33	240.63	(6.06)	(8.49)	(10.12)	240.63	234.57	232.14	230.51
1979	236.09	-	47.42	283.51	(8.08)	(12.11)	(14.22)	283.51	275.43	271.40	269.29
1980	246.11	(19.59)	-	226.53	13.89	(11.87)	(14.08)	226.53	240.42	214.66	212.45
1981	-	-	197.19	197.19	6.40	39.54	23.63	197.19	203.59	236.73	220.82
1982	-	-	197.97	197.97	1.42	2.16	(4.33)	197.97	199.40	200.14	193.64
1983	209.75	-	26.68	236.42	(8.03)	(15.41)	(17.61)	236.42	228.39	221.01	218.81
1984	36.77	-	145.04	181.80	7.57	40.33	30.57	181.80	189.37	222.14	212.37
1985	-	-	262.16	262.16	(6.73)	(10.48)	(12.44)	262.16	255.43	251.68	249.72
1986	27.48	-	98.85	126.33	28.92	13.50	10.14	126.33	155.24	139.83	136.47
1987	160.04	-	57.24	217.28	(6.04)	(13.70)	(15.44)	217.28	211.24	203.58	201.84
1988	221.64	(111.66)	-	109.97	103.50	27.11	89.68	109.97	213.47	137.08	199.65
1989	-	-	235.23	235.23	(9.26)	56.19	36.70	235.23	225.97	291.42	271.93
1990	94.99	-	119.12	214.11	(6.38)	(10.11)	(12.06)	214.11	207.73	204.00	202.05
1991	32.80	-	89.77	122.57	59.22	76.46	66.47	122.57	181.79	199.03	189.04
1992	31.19	-	257.69	288.88	(7.36)	(14.23)	(16.45)	288.88	281.52	274.65	272.43
1993	203.22	-	69.31	272.54	(6.19)	(10.28)	(12.26)	272.54	266.35	262.26	260.28
1994	35.91	-	244.74	280.65	(7.29)	(12.39)	(14.69)	280.65	273.36	268.26	265.96
1995	105.05	-	182.54	287.60	(6.27)	(11.30)	(13.41)	287.60	281.33	276.30	274.19
1996	125.84	-	229.96	355.80	(8.46)	(15.24)	(17.90)	355.80	347.34	340.56	337.90
1997	41.51	-	246.34	287.85	(8.19)	(16.02)	(18.66)	287.85	279.66	271.83	269.19
1998	-	-	193.22	193.22	(8.12)	53.75	38.39	193.22	185.10	246.97	231.61
1999	-	-	200.39	200.39	(5.72)	(12.91)	(14.92)	200.39	194.67	187.48	185.47
2000	33.00	-	190.87	223.87	(6.54)	(3.44)	(7.18)	223.87	217.33	220.43	216.69
2001	93.74	-	161.08	254.82	(5.05)	(12.03)	(13.91)	254.82	249.77	242.79	240.91
2002	199.82	-	51.58	251.40	(5.04)	(12.56)	(14.43)	251.40	246.36	238.84	236.97
2003	236.92	(56.70)	-	180.21	55.72	(11.89)	35.56	180.21	235.93	168.32	215.78
2004	302.59	-	45.70	348.28	5.80	3.09	(5.62)	348.28	354.08	351.37	342.66
2005	243.13	-	71.34	314.47	(7.07)	(19.39)	(21.86)	314.47	307.40	295.08	292.61
2006	-	-	369.98	369.98	(8.23)	(23.26)	(26.07)	369.98	361.75	346.72	343.91
2007	349.96	-	85.71	435.67	(10.30)	(25.35)	(28.96)	435.67	425.37	410.32	406.71
2008	593.61	(16.07)	-	577.54	168.52	161.79	80.10	577.54	746.06	739.33	657.64

Descriptive Statistics

Average	131.32	(6.48)	129.65	254.48	8.99	6.25	2.62	254.48	263.47	260.73	257.10
Standard Deviation	132.27	21.68	97.50	92.09	37.68	37.88	30.74	92.09	105.30	105.47	91.58
Minimum	-	(111.66)	-	109.97	(10.30)	(25.35)	(28.96)	109.97	155.24	137.08	136.47
Maximum	593.61	-	369.98	577.54	168.52	161.79	89.68	577.54	746.06	739.33	657.64
Median	105.05	-	119.12	240.63	(6.19)	(10.61)	(12.26)	240.63	240.42	242.79	236.97

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table C.30. Soybeans, Vermilion County, Aggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
				Revenue Ratio	
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	187.31	0.86	0.89	0.81	0.80
1977	253.23	1.03	1.00	1.13	1.09
1978	211.82	1.14	1.11	1.10	1.09
1979	262.32	1.08	1.05	1.03	1.03
1980	277.27	0.82	0.87	0.77	0.77
1981	308.18	0.64	0.66	0.77	0.72
1982	247.58	0.80	0.81	0.81	0.78
1983	228.10	1.04	1.00	0.97	0.96
1984	262.50	0.69	0.72	0.85	0.81
1985	226.71	1.16	1.13	1.11	1.10
1986	199.64	0.63	0.78	0.70	0.68
1987	181.36	1.20	1.16	1.12	1.11
1988	250.11	0.44	0.85	0.55	0.80
1989	267.21	0.88	0.85	1.09	1.02
1990	220.85	0.97	0.94	0.92	0.91
1991	233.98	0.52	0.78	0.85	0.81
1992	223.15	1.29	1.26	1.23	1.22
1993	223.92	1.22	1.19	1.17	1.16
1994	252.88	1.11	1.08	1.06	1.05
1995	237.93	1.21	1.18	1.16	1.15
1996	287.24	1.24	1.21	1.19	1.18
1997	292.50	0.98	0.96	0.93	0.92
1998	283.64	0.68	0.65	0.87	0.82
1999	229.05	0.87	0.85	0.82	0.81
2000	237.46	0.94	0.92	0.93	0.91
2001	211.36	1.21	1.18	1.15	1.14
2002	217.97	1.15	1.13	1.10	1.09
2003	257.88	0.70	0.91	0.65	0.84
2004	327.33	1.06	1.08	1.07	1.05
2005	264.60	1.19	1.16	1.12	1.11
2006	300.42	1.23	1.20	1.15	1.14
2007	401.27	1.09	1.06	1.02	1.01
2008	669.59	0.86	1.11	1.10	0.98
Descriptive Statistics					
Average	264.74	0.97	0.99	0.98	0.97
Standard Deviation	84.61	0.23	0.17	0.18	0.15
Minimum	181.36	0.44	0.65	0.55	0.68
Maximum	669.59	1.29	1.26	1.23	1.22
Median	250.11	1.03	1.00	1.03	1.01

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table C.31. Soybeans, Vermilion County, Nonaggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	104.31	-	77.67	181.98	4.66	(10.61)	(12.18)	181.98	186.64	171.37	169.80
1977	111.28	-	136.64	247.92	(8.50)	25.47	14.00	247.92	239.42	273.38	261.91
1978	107.01	-	132.02	239.03	(6.06)	(8.49)	(10.12)	239.03	232.97	230.54	228.91
1979	127.55	-	120.57	248.11	(8.08)	(12.11)	(14.22)	248.11	240.03	236.00	233.89
1980	125.16	-	69.68	194.84	13.89	(11.87)	(14.08)	194.84	208.73	182.97	180.76
1981	130.62	-	98.26	228.88	6.40	39.54	23.63	228.88	235.28	268.42	252.51
1982	106.94	-	101.64	208.58	1.42	2.16	(4.33)	208.58	210.00	210.74	204.24
1983	120.45	-	114.33	234.77	(8.03)	(15.41)	(17.61)	234.77	226.74	219.36	217.16
1984	118.91	-	77.58	196.50	7.57	40.33	30.57	196.50	204.06	236.83	227.06
1985	99.19	-	176.97	276.16	(6.73)	(10.48)	(12.44)	276.16	269.43	265.68	263.72
1986	89.63	-	37.30	126.93	28.92	13.50	10.14	126.93	155.84	140.43	137.07
1987	93.10	-	137.00	230.10	(6.04)	(13.70)	(15.44)	230.10	224.06	216.40	214.66
1988	144.35	(8.11)	-	136.23	103.50	27.11	89.68	136.23	239.73	163.34	225.91
1989	113.07	-	142.39	255.46	(9.26)	56.19	36.70	255.46	246.20	311.66	292.17
1990	107.84	-	105.05	212.90	(6.38)	(10.11)	(12.06)	212.90	206.52	202.79	200.84
1991	106.90	-	21.43	128.33	59.22	76.46	66.47	128.33	187.55	204.78	194.80
1992	102.40	-	187.85	290.25	(7.36)	(14.23)	(16.45)	290.25	282.89	276.02	273.80
1993	111.57	-	145.28	256.85	(6.19)	(10.28)	(12.26)	256.85	250.66	246.57	244.59
1994	110.56	-	176.71	287.26	(7.29)	(12.39)	(14.69)	287.26	279.97	274.87	272.57
1995	116.51	-	162.59	279.10	(6.27)	(11.30)	(13.41)	279.10	272.83	267.80	265.69
1996	141.03	-	209.72	350.75	(8.46)	(15.24)	(17.90)	350.75	342.29	335.51	332.85
1997	131.65	-	159.56	291.21	(8.19)	(16.02)	(18.66)	291.21	283.02	275.19	272.55
1998	117.64	-	102.93	220.57	(8.12)	53.75	38.39	220.57	212.45	274.32	258.96
1999	100.90	-	105.09	205.99	(5.72)	(12.91)	(14.92)	205.99	200.27	193.08	191.07
2000	106.73	-	125.33	232.05	(6.54)	(3.44)	(7.18)	232.05	225.51	228.61	224.87
2001	98.20	-	146.59	244.79	(5.05)	(12.03)	(13.91)	244.79	239.74	232.76	230.88
2002	115.30	-	143.42	258.72	(5.04)	(12.56)	(14.43)	258.72	253.68	246.16	244.29
2003	127.27	-	68.66	195.93	55.72	(11.89)	35.56	195.93	251.65	184.04	231.50
2004	158.75	-	135.61	294.36	5.80	3.09	(5.62)	294.36	300.16	297.45	288.74
2005	147.06	-	156.26	303.32	(7.07)	(19.39)	(21.86)	303.32	296.25	283.93	281.46
2006	138.06	-	210.76	348.82	(8.23)	(23.26)	(26.07)	348.82	340.59	325.56	322.75
2007	193.96	-	283.02	476.98	(10.30)	(25.35)	(28.96)	476.98	466.68	451.63	448.02
2008	301.68	-	146.15	447.83	168.52	161.79	80.10	447.83	616.35	609.62	527.93
Descriptive Statistics											
Average	125.02	(0.25)	127.70	252.47	8.99	6.25	2.62	252.47	261.46	258.72	255.09
Standard Deviation	38.02	1.41	56.46	76.11	37.68	37.88	30.74	76.11	85.31	86.40	73.91
Minimum	89.63	(8.11)	-	126.93	(10.30)	(25.35)	(28.96)	126.93	155.84	140.43	137.07
Maximum	301.68	-	283.02	476.98	168.52	161.79	89.68	476.98	616.35	609.62	527.93
Median	115.30	-	135.61	244.79	(6.19)	(10.61)	(12.26)	244.79	239.74	246.16	244.29

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.32. Soybeans, Vermilion County, Nonaggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	187.31	0.97	1.00	0.91	0.91
1977	253.23	0.98	0.95	1.08	1.03
1978	211.82	1.13	1.10	1.09	1.08
1979	262.32	0.95	0.92	0.90	0.89
1980	277.27	0.70	0.75	0.66	0.65
1981	308.18	0.74	0.76	0.87	0.82
1982	247.58	0.84	0.85	0.85	0.82
1983	228.10	1.03	0.99	0.96	0.95
1984	262.50	0.75	0.78	0.90	0.87
1985	226.71	1.22	1.19	1.17	1.16
1986	199.64	0.64	0.78	0.70	0.69
1987	181.36	1.27	1.24	1.19	1.18
1988	250.11	0.54	0.96	0.65	0.90
1989	267.21	0.96	0.92	1.17	1.09
1990	220.85	0.96	0.94	0.92	0.91
1991	233.98	0.55	0.80	0.88	0.83
1992	223.15	1.30	1.27	1.24	1.23
1993	223.92	1.15	1.12	1.10	1.09
1994	252.88	1.14	1.11	1.09	1.08
1995	237.93	1.17	1.15	1.13	1.12
1996	287.24	1.22	1.19	1.17	1.16
1997	292.50	1.00	0.97	0.94	0.93
1998	283.64	0.78	0.75	0.97	0.91
1999	229.05	0.90	0.87	0.84	0.83
2000	237.46	0.98	0.95	0.96	0.95
2001	211.36	1.16	1.13	1.10	1.09
2002	217.97	1.19	1.16	1.13	1.12
2003	257.88	0.76	0.98	0.71	0.90
2004	327.33	0.90	0.92	0.91	0.88
2005	264.60	1.15	1.12	1.07	1.06
2006	300.42	1.16	1.13	1.08	1.07
2007	401.27	1.19	1.16	1.13	1.12
2008	669.59	0.67	0.92	0.91	0.79
Descriptive Statistics					
Average	264.74	0.97	0.99	0.98	0.97
Standard Deviation	84.61	0.22	0.15	0.16	0.15
Minimum	181.36	0.54	0.75	0.65	0.65
Maximum	669.59	1.30	1.27	1.24	1.23
Median	250.11	0.98	0.97	0.96	0.95

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.33. Soybeans, Vermilion County, Nonaggressive Dynamic Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				------$/acre------			------$/acre------			
1976	101.09	-	77.67	178.77	4.66	(10.61)	(12.18)	178.77	183.42	168.16	166.59
1977	64.26	-	187.38	251.64	(8.50)	25.47	14.00	251.64	243.14	277.10	265.63
1978	112.53	-	132.02	244.54	(6.06)	(8.49)	(10.12)	244.54	238.48	236.05	234.42
1979	138.88	-	120.57	259.44	(8.08)	(12.11)	(14.22)	259.44	251.36	247.33	245.22
1980	144.77	-	69.68	214.46	13.89	(11.87)	(14.08)	214.46	228.35	202.59	200.38
1981	-	-	197.19	197.19	6.40	39.54	23.63	197.19	203.59	236.73	220.82
1982	-	-	197.97	197.97	1.42	2.16	(4.33)	197.97	199.40	200.14	193.64
1983	123.38	-	114.33	237.71	(8.03)	(15.41)	(17.61)	237.71	229.68	222.30	220.10
1984	21.63	-	156.02	177.64	7.57	40.33	30.57	177.64	185.21	217.98	208.21
1985	-	-	262.16	262.16	(6.73)	(10.48)	(12.44)	262.16	255.43	251.68	249.72
1986	16.16	-	108.87	125.03	28.92	13.50	10.14	125.03	153.95	138.53	135.17
1987	94.14	-	137.00	231.14	(6.04)	(13.70)	(15.44)	231.14	225.10	217.44	215.70
1988	130.37	(8.11)	-	122.26	103.50	27.11	89.68	122.26	225.76	149.37	211.94
1989	-	-	235.23	235.23	(9.26)	56.19	36.70	235.23	225.97	291.42	271.93
1990	55.88	-	151.94	207.82	(6.38)	(10.11)	(12.06)	207.82	201.44	197.71	195.76
1991	19.30	-	100.90	120.19	59.22	76.46	66.47	120.19	179.41	196.65	186.66
1992	18.35	-	269.05	287.40	(7.36)	(14.23)	(16.45)	287.40	280.04	273.17	270.95
1993	119.54	-	145.28	264.83	(6.19)	(10.28)	(12.26)	264.83	258.64	254.55	252.57
1994	21.12	-	255.81	276.94	(7.29)	(12.39)	(14.69)	276.94	269.65	264.55	262.25
1995	61.80	-	229.11	290.90	(6.27)	(11.30)	(13.41)	290.90	284.63	279.60	277.49
1996	74.02	-	277.19	351.21	(8.46)	(15.24)	(17.90)	351.21	342.75	335.97	333.31
1997	24.42	-	260.46	284.88	(8.19)	(16.02)	(18.66)	284.88	276.69	268.86	266.22
1998	-	-	193.22	193.22	(8.12)	53.75	38.39	193.22	185.10	246.97	231.61
1999	-	-	200.39	200.39	(5.72)	(12.91)	(14.92)	200.39	194.67	187.48	185.47
2000	19.41	-	201.54	220.95	(6.54)	(3.44)	(7.18)	220.95	214.41	217.51	213.77
2001	55.14	-	194.88	250.02	(5.05)	(12.03)	(13.91)	250.02	244.97	237.99	236.11
2002	117.54	-	143.42	260.97	(5.04)	(12.56)	(14.43)	260.97	255.93	248.41	246.54
2003	139.36	-	68.66	208.03	55.72	(11.89)	35.56	208.03	263.75	196.14	243.59
2004	177.99	-	135.61	313.60	5.80	3.09	(5.62)	313.60	319.40	316.69	307.98
2005	143.02	-	156.26	299.27	(7.07)	(19.39)	(21.86)	299.27	292.20	279.88	277.41
2006	-	-	369.98	369.98	(8.23)	(23.26)	(26.07)	369.98	361.75	346.72	343.91
2007	205.86	-	283.02	488.88	(10.30)	(25.35)	(28.96)	488.88	478.58	463.53	459.92
2008	349.18	-	146.15	495.34	168.52	161.79	80.10	495.34	663.86	657.13	575.44

Descriptive Statistics

Average	77.25	(0.25)	175.12	252.12	8.99	6.25	2.62	252.12	261.11	258.37	254.74
Standard Deviation	77.80	1.41	76.65	84.87	37.68	37.88	30.74	84.87	95.52	94.60	82.28
Minimum	-	(8.11)	-	120.19	(10.30)	(25.35)	(28.96)	120.19	153.95	138.53	135.17
Maximum	349.18	-	369.98	495.34	168.52	161.79	89.68	495.34	663.86	657.13	575.44
Median	61.80	-	156.26	244.54	(6.19)	(10.61)	(12.26)	244.54	243.14	246.97	243.59

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.34. Soybeans, Vermilion County, Nonaggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	187.31	0.95	0.98	0.90	0.89
1977	253.23	0.99	0.96	1.09	1.05
1978	211.82	1.15	1.13	1.11	1.11
1979	262.32	0.99	0.96	0.94	0.93
1980	277.27	0.77	0.82	0.73	0.72
1981	308.18	0.64	0.66	0.77	0.72
1982	247.58	0.80	0.81	0.81	0.78
1983	228.10	1.04	1.01	0.97	0.96
1984	262.50	0.68	0.71	0.83	0.79
1985	226.71	1.16	1.13	1.11	1.10
1986	199.64	0.63	0.77	0.69	0.68
1987	181.36	1.27	1.24	1.20	1.19
1988	250.11	0.49	0.90	0.60	0.85
1989	267.21	0.88	0.85	1.09	1.02
1990	220.85	0.94	0.91	0.90	0.89
1991	233.98	0.51	0.77	0.84	0.80
1992	223.15	1.29	1.25	1.22	1.21
1993	223.92	1.18	1.16	1.14	1.13
1994	252.88	1.10	1.07	1.05	1.04
1995	237.93	1.22	1.20	1.18	1.17
1996	287.24	1.22	1.19	1.17	1.16
1997	292.50	0.97	0.95	0.92	0.91
1998	283.64	0.68	0.65	0.87	0.82
1999	229.05	0.87	0.85	0.82	0.81
2000	237.46	0.93	0.90	0.92	0.90
2001	211.36	1.18	1.16	1.13	1.12
2002	217.97	1.20	1.17	1.14	1.13
2003	257.88	0.81	1.02	0.76	0.94
2004	327.33	0.96	0.98	0.97	0.94
2005	264.60	1.13	1.10	1.06	1.05
2006	300.42	1.23	1.20	1.15	1.14
2007	401.27	1.22	1.19	1.16	1.15
2008	669.59	0.74	0.99	0.98	0.86

Descriptive Statistics

Average	264.74	0.96	0.99	0.98	0.97
Standard Deviation	84.61	0.23	0.17	0.17	0.16
Minimum	181.36	0.49	0.65	0.60	0.68
Maximum	669.59	1.29	1.25	1.22	1.21
Median	250.11	0.97	0.98	0.97	0.94

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table C.35. Soybeans, Vermilion County, Sell all Postharvest Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	-	-	204.85	204.85	4.66	(10.61)	(12.18)	204.85	209.51	194.24	192.67
1977	-	-	238.12	238.12	(8.50)	25.47	14.00	238.12	229.62	263.59	252.12
1978	-	-	250.14	250.14	(6.06)	(8.49)	(10.12)	250.14	244.08	241.65	240.02
1979	-	-	225.06	225.06	(8.08)	(12.11)	(14.22)	225.06	216.98	212.95	210.84
1980	-	-	193.88	193.88	13.89	(11.87)	(14.08)	193.88	207.77	182.01	179.80
1981	-	-	197.19	197.19	6.40	39.54	23.63	197.19	203.59	236.73	220.82
1982	-	-	197.97	197.97	1.42	2.16	(4.33)	197.97	199.40	200.14	193.64
1983	-	-	239.55	239.55	(8.03)	(15.41)	(17.61)	239.55	231.52	224.14	221.94
1984	-	-	171.70	171.70	7.57	40.33	30.57	171.70	179.27	212.04	202.27
1985	-	-	262.16	262.16	(6.73)	(10.48)	(12.44)	262.16	255.43	251.68	249.72
1986	-	-	123.18	123.18	28.92	13.50	10.14	123.18	152.09	136.68	133.32
1987	-	-	250.94	250.94	(6.04)	(13.70)	(15.44)	250.94	244.90	237.24	235.50
1988	-	-	118.28	118.28	103.50	27.11	89.68	118.28	221.78	145.39	207.96
1989	-	-	235.23	235.23	(9.26)	56.19	36.70	235.23	225.97	291.42	271.93
1990	-	-	198.82	198.82	(6.38)	(10.11)	(12.06)	198.82	192.44	188.71	186.76
1991	-	-	116.79	116.79	59.22	76.46	66.47	116.79	176.01	193.25	183.26
1992	-	-	285.30	285.30	(7.36)	(14.23)	(16.45)	285.30	277.94	271.07	268.85
1993	-	-	253.81	253.81	(6.19)	(10.28)	(12.26)	253.81	247.62	243.53	241.55
1994	-	-	271.64	271.64	(7.29)	(12.39)	(14.69)	271.64	264.35	259.25	256.95
1995	-	-	295.63	295.63	(6.27)	(11.30)	(13.41)	295.63	289.36	284.33	282.22
1996	-	-	344.67	344.67	(8.46)	(15.24)	(17.90)	344.67	336.21	329.43	326.77
1997	-	-	280.65	280.65	(8.19)	(16.02)	(18.66)	280.65	272.46	264.63	261.99
1998	-	-	193.22	193.22	(8.12)	53.75	38.39	193.22	185.10	246.97	231.61
1999	-	-	200.39	200.39	(5.72)	(12.91)	(14.92)	200.39	194.67	187.48	185.47
2000	-	-	216.78	216.78	(6.54)	(3.44)	(7.18)	216.78	210.24	213.34	209.60
2001	-	-	243.17	243.17	(5.05)	(12.03)	(13.91)	243.17	238.12	231.14	229.26
2002	-	-	274.63	274.63	(5.04)	(12.56)	(14.43)	274.63	269.59	262.07	260.20
2003	-	-	261.39	261.39	55.72	(11.89)	35.56	261.39	317.12	249.50	296.96
2004	-	-	264.06	264.06	5.80	3.09	(5.62)	264.06	269.85	267.15	258.43
2005	-	-	277.56	277.56	(7.07)	(19.39)	(21.86)	277.56	270.49	258.17	255.70
2006	-	-	369.98	369.98	(8.23)	(23.26)	(26.07)	369.98	361.75	346.72	343.91
2007	-	-	564.89	564.89	(10.30)	(25.35)	(28.96)	564.89	554.59	539.54	535.93
2008	-	-	378.39	378.39	168.52	161.79	80.10	378.39	546.91	540.18	458.50
Descriptive Statistics											
Average	-	-	248.49	248.49	8.99	6.25	2.62	248.49	257.48	254.74	251.10
Standard Deviation	-	-	83.68	83.68	37.68	37.88	30.74	83.68	88.67	86.21	77.46
Minimum	-	-	116.79	116.79	(10.30)	(25.35)	(28.96)	116.79	152.09	136.68	133.32
Maximum	-	-	564.89	564.89	168.52	161.79	89.68	564.89	554.59	540.18	535.93
Median	-	-	243.17	243.17	(6.19)	(10.61)	(12.26)	243.17	238.12	243.53	240.02

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.36. Soybeans, Vermilion County, Sell all Postharvest Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
			Revenue Ratio		
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	187.31	1.09	1.12	1.04	1.03
1977	253.23	0.94	0.91	1.04	1.00
1978	211.82	1.18	1.15	1.14	1.13
1979	262.32	0.86	0.83	0.81	0.80
1980	277.27	0.70	0.75	0.66	0.65
1981	308.18	0.64	0.66	0.77	0.72
1982	247.58	0.80	0.81	0.81	0.78
1983	228.10	1.05	1.01	0.98	0.97
1984	262.50	0.65	0.68	0.81	0.77
1985	226.71	1.16	1.13	1.11	1.10
1986	199.64	0.62	0.76	0.68	0.67
1987	181.36	1.38	1.35	1.31	1.30
1988	250.11	0.47	0.89	0.58	0.83
1989	267.21	0.88	0.85	1.09	1.02
1990	220.85	0.90	0.87	0.85	0.85
1991	233.98	0.50	0.75	0.83	0.78
1992	223.15	1.28	1.25	1.21	1.20
1993	223.92	1.13	1.11	1.09	1.08
1994	252.88	1.07	1.05	1.03	1.02
1995	237.93	1.24	1.22	1.19	1.19
1996	287.24	1.20	1.17	1.15	1.14
1997	292.50	0.96	0.93	0.90	0.90
1998	283.64	0.68	0.65	0.87	0.82
1999	229.05	0.87	0.85	0.82	0.81
2000	237.46	0.91	0.89	0.90	0.88
2001	211.36	1.15	1.13	1.09	1.08
2002	217.97	1.26	1.24	1.20	1.19
2003	257.88	1.01	1.23	0.97	1.15
2004	327.33	0.81	0.82	0.82	0.79
2005	264.60	1.05	1.02	0.98	0.97
2006	300.42	1.23	1.20	1.15	1.14
2007	401.27	1.41	1.38	1.34	1.34
2008	669.59	0.57	0.82	0.81	0.68

Descriptive Statistics

	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
Average	264.74	0.96	0.98	0.97	0.96
Standard Deviation	84.61	0.26	0.21	0.19	0.19
Minimum	181.36	0.47	0.65	0.58	0.65
Maximum	669.59	1.41	1.38	1.34	1.34
Median	250.11	0.96	0.93	0.98	0.97

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Southern Illinois – Effingham County

Table C.37. Soybeans, Effingham County, Cash Sale at Harvest, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------			------$/acre------			
1976	-	214.20	-	214.20	(6.83)	(9.11)	(11.12)	214.20	207.37	205.09	203.08
1977	-	124.54	-	124.54	31.36	(1.01)	(6.34)	124.54	155.90	123.53	118.20
1978	-	185.46	-	185.46	(7.00)	(7.96)	(9.91)	185.46	178.46	177.49	175.55
1979	-	237.65	-	237.65	(9.18)	(10.90)	(13.52)	237.65	228.47	226.75	224.13
1980	-	202.02	-	202.02	(9.59)	(10.93)	(13.61)	202.02	192.43	191.09	188.41
1981	-	228.54	-	228.54	(12.50)	(1.30)	(9.22)	228.54	216.04	227.24	219.31
1982	-	186.07	-	186.07	(9.77)	(6.15)	(11.13)	186.07	176.30	179.92	174.94
1983	-	81.56	-	81.56	135.99	78.46	128.12	81.56	217.55	160.02	209.68
1984	-	165.14	-	165.14	3.15	111.38	91.52	165.14	168.28	276.52	256.65
1985	-	149.38	-	149.38	(7.67)	(9.69)	(12.07)	149.38	141.71	139.69	137.31
1986	-	187.46	-	187.46	(6.78)	(9.93)	(12.19)	187.46	180.68	177.53	175.27
1987	-	158.05	-	158.05	(6.73)	(11.45)	(13.88)	158.05	151.32	146.60	144.17
1988	-	131.99	-	131.99	62.86	19.45	70.90	131.99	194.85	151.45	202.90
1989	-	190.56	-	190.56	(10.39)	42.41	25.78	190.56	180.17	232.97	216.34
1990	-	157.30	-	157.30	(7.33)	(9.58)	(11.92)	157.30	149.97	147.72	145.38
1991	-	190.14	-	190.14	(7.78)	(4.04)	(7.22)	190.14	182.36	186.10	182.92
1992	-	208.27	-	208.27	(8.18)	(12.54)	(15.41)	208.27	200.09	195.73	192.86
1993	-	152.82	-	152.82	(7.19)	(9.76)	(12.15)	152.82	145.63	143.06	140.67
1994	-	159.33	-	159.33	(8.29)	(5.55)	(9.37)	159.33	151.04	153.78	149.96
1995	-	216.65	-	216.65	(7.31)	(10.52)	(13.10)	216.65	209.34	206.13	203.55
1996	-	263.84	-	263.84	(9.56)	(13.89)	(17.24)	263.84	254.27	249.94	246.60
1997	-	258.72	-	258.72	(9.31)	(14.38)	(17.74)	258.72	249.41	244.34	240.98
1998	-	186.84	-	186.84	(9.15)	3.07	(3.67)	186.84	177.69	189.91	183.17
1999	-	165.24	-	165.24	(6.64)	7.82	4.24	165.24	158.60	173.06	169.48
2000	-	206.55	-	206.55	(7.44)	(14.19)	(17.28)	206.55	199.11	192.36	189.27
2001	-	187.44	-	187.44	(5.92)	(10.67)	(13.09)	187.44	181.52	176.77	174.35
2002	-	155.78	-	155.78	(1.49)	(11.00)	6.31	155.78	154.29	144.78	162.08
2003	-	256.12	-	256.12	(6.47)	(10.89)	(13.50)	256.12	249.65	245.23	242.62
2004	-	238.80	-	238.80	(9.69)	(19.71)	(23.90)	238.80	229.11	219.09	214.90
2005	-	220.08	-	220.08	(7.89)	(16.38)	(19.87)	220.08	212.19	203.70	200.21
2006	-	264.24	-	264.24	(9.05)	(19.41)	(23.56)	264.24	255.19	244.83	240.68
2007	-	342.18	-	342.18	(11.44)	(22.01)	(7.02)	342.18	330.74	320.17	335.16
2008	-	462.75	-	462.75	(21.76)	69.54	17.61	462.75	440.99	532.29	480.36

Descriptive Statistics

Average	-	204.11	-	204.11	(0.45)	1.49	0.16	204.11	203.66	205.60	204.28
Standard Deviation	-	68.02	-	68.02	28.42	30.26	33.48	68.02	59.04	73.26	65.40
Minimum	-	81.56	-	81.56	(21.76)	(22.01)	(23.90)	81.56	141.71	123.53	118.20
Maximum	-	462.75	-	462.75	135.99	111.38	128.12	462.75	440.99	532.29	480.36
Median	-	190.14	-	190.14	(7.67)	(9.76)	(11.92)	190.14	192.43	191.09	192.86

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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Table C.38. Soybeans, Effingham County, Cash Sale at Harvest, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	147.26	1.45	1.41	1.39	1.38
1977	216.20	0.58	0.72	0.57	0.55
1978	172.33	1.08	1.04	1.03	1.02
1979	211.28	1.12	1.08	1.07	1.06
1980	226.15	0.89	0.85	0.84	0.83
1981	254.41	0.90	0.85	0.89	0.86
1982	209.06	0.89	0.84	0.86	0.84
1983	200.48	0.41	1.09	0.80	1.05
1984	218.65	0.76	0.77	1.26	1.17
1985	188.07	0.79	0.75	0.74	0.73
1986	158.38	1.18	1.14	1.12	1.11
1987	147.14	1.07	1.03	1.00	0.98
1988	206.14	0.64	0.95	0.73	0.98
1989	223.96	0.85	0.80	1.04	0.97
1990	183.27	0.86	0.82	0.81	0.79
1991	189.54	1.00	0.96	0.98	0.97
1992	184.98	1.13	1.08	1.06	1.04
1993	180.04	0.85	0.81	0.79	0.78
1994	209.47	0.76	0.72	0.73	0.72
1995	189.87	1.14	1.10	1.09	1.07
1996	239.20	1.10	1.06	1.04	1.03
1997	229.90	1.13	1.08	1.06	1.05
1998	227.46	0.82	0.78	0.83	0.81
1999	182.78	0.90	0.87	0.95	0.93
2000	189.08	1.09	1.05	1.02	1.00
2001	171.60	1.09	1.06	1.03	1.02
2002	169.79	0.92	0.91	0.85	0.95
2003	196.85	1.30	1.27	1.25	1.23
2004	262.63	0.91	0.87	0.83	0.82
2005	223.07	0.99	0.95	0.91	0.90
2006	252.43	1.05	1.01	0.97	0.95
2007	339.60	1.01	0.97	0.94	0.99
2008	556.69	0.83	0.79	0.96	0.86
Descriptive Statistics					
Average	216.90	0.95	0.95	0.95	0.95
Standard Deviation	71.66	0.21	0.16	0.17	0.16
Minimum	147.14	0.41	0.72	0.57	0.55
Maximum	556.69	1.45	1.41	1.39	1.38
Median	206.14	0.92	0.95	0.96	0.97

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.39. Soybeans, Effingham County, Aggressive Mechanical Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	-----$/acre-----				-----$/acre-----			-----$/acre-----			
1976	136.86	-	78.95	215.81	(6.83)	(9.11)	(11.12)	215.81	208.98	206.70	204.69
1977	159.58	-	1.87	161.46	31.36	(1.01)	(6.34)	161.46	192.82	160.45	155.11
1978	145.70	-	25.51	171.22	(7.00)	(7.96)	(9.91)	171.22	164.22	163.26	161.31
1979	171.79	-	56.04	227.84	(9.18)	(10.90)	(13.52)	227.84	218.66	216.94	214.32
1980	170.92	-	8.62	179.54	(9.59)	(10.93)	(13.61)	179.54	169.95	168.61	165.93
1981	180.67	-	63.49	244.15	(12.50)	(1.30)	(9.22)	244.15	231.65	242.85	234.93
1982	151.58	-	61.48	213.05	(9.77)	(6.15)	(11.13)	213.05	203.28	206.90	201.92
1983	178.25	(146.93)	-	31.31	135.99	78.46	128.12	31.31	167.30	109.78	159.44
1984	166.06	-	10.01	176.06	3.15	111.38	91.52	176.06	179.21	287.45	267.58
1985	137.92	-	24.06	161.97	(7.67)	(9.69)	(12.07)	161.97	154.30	152.28	149.90
1986	118.80	-	72.01	190.81	(6.78)	(9.93)	(12.19)	190.81	184.03	180.88	178.62
1987	126.43	-	31.03	157.45	(6.73)	(11.45)	(13.88)	157.45	150.72	146.00	143.57
1988	199.37	(72.16)	-	127.21	62.86	19.45	70.90	127.21	190.07	146.66	198.11
1989	158.91	-	57.69	216.60	(10.39)	42.41	25.78	216.60	206.21	259.01	242.38
1990	149.96	-	7.66	157.62	(7.33)	(9.58)	(11.92)	157.62	150.29	148.04	145.70
1991	144.86	-	41.46	186.32	(7.78)	(4.04)	(7.22)	186.32	178.54	182.28	179.10
1992	142.18	-	79.64	221.82	(8.18)	(12.54)	(15.41)	221.82	213.64	209.28	206.41
1993	149.97	-	7.91	157.89	(7.19)	(9.76)	(12.15)	157.89	150.70	148.13	145.74
1994	153.53	-	28.15	181.68	(8.29)	(5.55)	(9.37)	181.68	173.39	176.13	172.32
1995	155.54	-	58.75	214.28	(7.31)	(10.52)	(13.10)	214.28	206.97	203.76	201.18
1996	197.05	-	85.78	282.82	(9.56)	(13.89)	(17.24)	282.82	273.26	268.93	265.58
1997	172.96	-	91.71	264.67	(9.31)	(14.38)	(17.74)	264.67	255.36	250.29	246.93
1998	157.97	-	36.99	194.96	(9.15)	3.07	(3.67)	194.96	185.81	198.03	191.29
1999	134.89	-	29.14	164.03	(6.64)	7.82	4.24	164.03	157.39	171.85	168.27
2000	142.36	-	66.05	208.42	(7.44)	(14.19)	(17.28)	208.42	200.98	194.23	191.14
2001	133.81	-	55.41	189.22	(5.92)	(10.67)	(13.09)	189.22	183.30	178.55	176.13
2002	150.46	(4.00)	-	146.46	(1.49)	(11.00)	6.31	146.46	144.97	135.46	152.76
2003	162.52	-	54.89	217.40	(6.47)	(10.89)	(13.50)	217.40	210.93	206.51	203.90
2004	213.74	-	85.73	299.47	(9.69)	(19.71)	(23.90)	299.47	289.78	279.76	275.57
2005	208.69	-	43.74	252.43	(7.89)	(16.38)	(19.87)	252.43	244.54	236.05	232.56
2006	195.26	-	91.93	287.19	(9.05)	(19.41)	(23.56)	287.19	278.14	267.78	263.63
2007	276.46	-	13.26	289.72	(11.44)	(22.01)	(7.02)	289.72	278.28	267.71	282.69
2008	421.98	-	148.14	570.12	(21.76)	69.54	17.61	570.12	548.36	639.66	587.72

Descriptive Statistics

Average	171.73	(6.76)	45.97	210.94	(0.45)	1.49	0.16	210.94	210.49	212.43	211.10
Standard Deviation	54.48	28.12	34.92	83.97	28.42	30.26	33.48	83.97	72.94	89.79	79.42
Minimum	118.80	(146.93)	-	31.31	(21.76)	(22.01)	(23.90)	31.31	144.97	109.78	143.57
Maximum	421.98	-	148.14	570.12	135.99	111.38	128.12	570.12	548.36	639.66	587.72
Median	157.97	-	43.74	194.96	(7.67)	(9.76)	(11.92)	194.96	192.82	198.03	198.11

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.40. Soybeans, Effingham County, Aggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	147.26	1.47	1.42	1.40	1.39
1977	216.20	0.75	0.89	0.74	0.72
1978	172.33	0.99	0.95	0.95	0.94
1979	211.28	1.08	1.03	1.03	1.01
1980	226.15	0.79	0.75	0.75	0.73
1981	254.41	0.96	0.91	0.95	0.92
1982	209.06	1.02	0.97	0.99	0.97
1983	200.48	0.16	0.83	0.55	0.80
1984	218.65	0.81	0.82	1.31	1.22
1985	188.07	0.86	0.82	0.81	0.80
1986	158.38	1.20	1.16	1.14	1.13
1987	147.14	1.07	1.02	0.99	0.98
1988	206.14	0.62	0.92	0.71	0.96
1989	223.96	0.97	0.92	1.16	1.08
1990	183.27	0.86	0.82	0.81	0.79
1991	189.54	0.98	0.94	0.96	0.94
1992	184.98	1.20	1.15	1.13	1.12
1993	180.04	0.88	0.84	0.82	0.81
1994	209.47	0.87	0.83	0.84	0.82
1995	189.87	1.13	1.09	1.07	1.06
1996	239.20	1.18	1.14	1.12	1.11
1997	229.90	1.15	1.11	1.09	1.07
1998	227.46	0.86	0.82	0.87	0.84
1999	182.78	0.90	0.86	0.94	0.92
2000	189.08	1.10	1.06	1.03	1.01
2001	171.60	1.10	1.07	1.04	1.03
2002	169.79	0.86	0.85	0.80	0.90
2003	196.85	1.10	1.07	1.05	1.04
2004	262.63	1.14	1.10	1.07	1.05
2005	223.07	1.13	1.10	1.06	1.04
2006	252.43	1.14	1.10	1.06	1.04
2007	339.60	0.85	0.82	0.79	0.83
2008	556.69	1.02	0.99	1.15	1.06
Descriptive Statistics					
Average	216.90	0.98	0.98	0.98	0.97
Standard Deviation	71.66	0.22	0.15	0.18	0.15
Minimum	147.14	0.16	0.75	0.55	0.72
Maximum	556.69	1.47	1.42	1.40	1.39
Median	206.14	0.99	0.95	0.99	0.98

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.41. Soybeans, Effingham County, Aggressive Dynamic Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				(Indemnity minus premium) ------$/acre------			------$/acre------			
1976	132.64	-	78.95	211.60	(6.83)	(9.11)	(11.12)	211.60	204.77	202.49	200.48
1977	92.15	-	74.64	166.79	31.36	(1.01)	(6.34)	166.79	198.15	165.78	160.45
1978	153.21	-	25.51	178.72	(7.00)	(7.96)	(9.91)	178.72	171.72	170.76	168.81
1979	187.05	-	56.04	243.10	(9.18)	(10.90)	(13.52)	243.10	233.92	232.20	229.58
1980	197.71	-	8.62	206.33	(9.59)	(10.93)	(13.61)	206.33	196.74	195.40	192.72
1981	-	-	200.33	200.33	(12.50)	(1.30)	(9.22)	200.33	187.83	199.03	191.10
1982	-	-	198.03	198.03	(9.77)	(6.15)	(11.13)	198.03	188.26	191.88	186.89
1983	182.59	(146.93)	-	35.66	135.99	78.46	128.12	35.66	171.65	114.12	163.78
1984	30.20	-	120.43	150.64	3.15	111.38	91.52	150.64	153.79	262.02	242.16
1985	-	-	142.51	142.51	(7.67)	(9.69)	(12.07)	142.51	134.84	132.82	130.44
1986	21.42	-	166.86	188.29	(6.78)	(9.93)	(12.19)	188.29	181.51	178.36	176.10
1987	127.84	-	31.03	158.86	(6.73)	(11.45)	(13.88)	158.86	152.13	147.41	144.98
1988	180.07	(72.16)	-	107.91	62.86	19.45	70.90	107.91	170.77	127.36	178.81
1989	-	-	188.16	188.16	(10.39)	42.41	25.78	188.16	177.77	230.58	213.95
1990	77.70	-	72.85	150.55	(7.33)	(9.58)	(11.92)	150.55	143.22	140.97	138.63
1991	26.15	-	149.15	175.30	(7.78)	(4.04)	(7.22)	175.30	167.52	171.26	168.07
1992	25.48	-	187.95	213.43	(8.18)	(12.54)	(15.41)	213.43	205.25	200.89	198.02
1993	160.69	-	7.91	168.60	(7.19)	(9.76)	(12.15)	168.60	161.41	158.84	156.45
1994	29.34	-	139.66	169.00	(8.29)	(5.55)	(9.37)	169.00	160.71	163.45	159.63
1995	82.49	-	149.37	231.86	(7.31)	(10.52)	(13.10)	231.86	224.55	221.34	218.76
1996	103.42	-	180.05	283.48	(9.56)	(13.89)	(17.24)	283.48	273.92	269.59	266.24
1997	32.08	-	224.28	256.36	(9.31)	(14.38)	(17.74)	256.36	247.05	241.98	238.62
1998	-	-	158.72	158.72	(9.15)	3.07	(3.67)	158.72	149.57	161.79	155.05
1999	-	-	155.35	155.35	(6.64)	7.82	4.24	155.35	148.71	163.17	159.59
2000	25.90	-	168.41	194.31	(7.44)	(14.19)	(17.28)	194.31	186.87	180.12	177.03
2001	75.14	-	120.39	195.53	(5.92)	(10.67)	(13.09)	195.53	189.61	184.86	182.44
2002	153.38	(4.00)	-	149.38	(1.49)	(11.00)	6.31	149.38	147.89	138.38	155.69
2003	177.96	-	54.89	232.85	(6.47)	(10.89)	(13.50)	232.85	226.38	221.96	219.35
2004	239.65	-	85.73	325.37	(9.69)	(19.71)	(23.90)	325.37	315.68	305.66	301.47
2005	202.95	-	43.74	246.69	(7.89)	(16.38)	(19.87)	246.69	238.80	230.31	226.82
2006	-	-	317.13	317.13	(9.05)	(19.41)	(23.56)	317.13	308.08	297.72	293.57
2007	293.42	-	13.26	306.68	(11.44)	(22.01)	(7.02)	306.68	295.24	284.67	299.66
2008	488.43	-	148.14	636.57	(21.76)	69.54	17.61	636.57	614.81	706.11	654.18

Descriptive Statistics

Average	106.03	(6.76)	111.15	210.43	(0.45)	1.49	0.16	210.43	209.97	211.92	210.59
Standard Deviation	108.03	28.12	79.24	96.91	28.42	30.26	33.48	96.91	87.03	101.66	91.78
Minimum	-	(146.93)	-	35.66	(21.76)	(22.01)	(23.90)	35.66	134.84	114.12	130.44
Maximum	488.43	-	317.13	636.57	135.99	111.38	128.12	636.57	614.81	706.11	654.18
Median	82.49	-	120.43	194.31	(7.67)	(9.76)	(11.92)	194.31	187.83	191.88	186.89

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.42. Soybeans, Effingham County, Aggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

		Revenue Ratio			
	Expected	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
Year	Revenue	(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	147.26	1.44	1.39	1.38	1.36
1977	216.20	0.77	0.92	0.77	0.74
1978	172.33	1.04	1.00	0.99	0.98
1979	211.28	1.15	1.11	1.10	1.09
1980	226.15	0.91	0.87	0.86	0.85
1981	254.41	0.79	0.74	0.78	0.75
1982	209.06	0.95	0.90	0.92	0.89
1983	200.48	0.18	0.86	0.57	0.82
1984	218.65	0.69	0.70	1.20	1.11
1985	188.07	0.76	0.72	0.71	0.69
1986	158.38	1.19	1.15	1.13	1.11
1987	147.14	1.08	1.03	1.00	0.99
1988	206.14	0.52	0.83	0.62	0.87
1989	223.96	0.84	0.79	1.03	0.96
1990	183.27	0.82	0.78	0.77	0.76
1991	189.54	0.92	0.88	0.90	0.89
1992	184.98	1.15	1.11	1.09	1.07
1993	180.04	0.94	0.90	0.88	0.87
1994	209.47	0.81	0.77	0.78	0.76
1995	189.87	1.22	1.18	1.17	1.15
1996	239.20	1.19	1.15	1.13	1.11
1997	229.90	1.12	1.07	1.05	1.04
1998	227.46	0.70	0.66	0.71	0.68
1999	182.78	0.85	0.81	0.89	0.87
2000	189.08	1.03	0.99	0.95	0.94
2001	171.60	1.14	1.10	1.08	1.06
2002	169.79	0.88	0.87	0.82	0.92
2003	196.85	1.18	1.15	1.13	1.11
2004	262.63	1.24	1.20	1.16	1.15
2005	223.07	1.11	1.07	1.03	1.02
2006	252.43	1.26	1.22	1.18	1.16
2007	339.60	0.90	0.87	0.84	0.88
2008	556.69	1.14	1.10	1.27	1.18
Descriptive Statistics					
Average	216.90	0.97	0.97	0.97	0.96
Standard Deviation	71.66	0.25	0.18	0.19	0.16
Minimum	147.14	0.18	0.66	0.57	0.68
Maximum	556.69	1.44	1.39	1.38	1.36
Median	206.14	0.95	0.92	0.99	0.96

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.43. Soybeans, Effingham County, Nonaggressive Mechanical Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				(Indemnity minus premium) ------$/acre------			------$/acre------			
1976	80.51	-	147.66	228.17	(6.83)	(9.11)	(11.12)	228.17	221.34	219.06	217.05
1977	93.87	-	61.80	155.67	31.36	(1.01)	(6.34)	155.67	187.03	154.67	149.33
1978	85.71	-	92.63	178.34	(7.00)	(7.96)	(9.91)	178.34	171.34	170.38	168.43
1979	101.06	-	113.85	214.90	(9.18)	(10.90)	(13.52)	214.90	205.72	204.00	201.38
1980	100.54	-	78.87	179.41	(9.59)	(10.93)	(13.61)	179.41	169.82	168.48	165.80
1981	106.27	-	119.83	226.11	(12.50)	(1.30)	(9.22)	226.11	213.61	224.81	216.88
1982	89.16	-	117.70	206.87	(9.77)	(6.15)	(11.13)	206.87	197.10	200.72	195.73
1983	104.85	(52.81)	-	52.04	135.99	78.46	128.12	52.04	188.03	130.51	180.17
1984	97.68	-	64.57	162.25	3.15	111.38	91.52	162.25	165.40	273.63	253.77
1985	81.13	-	72.83	153.96	(7.67)	(9.69)	(12.07)	153.96	146.29	144.27	141.89
1986	69.88	-	118.88	188.76	(6.78)	(9.93)	(12.19)	188.76	181.98	178.83	176.57
1987	74.37	-	94.73	169.10	(6.73)	(11.45)	(13.88)	169.10	162.37	157.65	155.22
1988	117.28	-	10.13	127.40	62.86	19.45	70.90	127.40	190.26	146.86	198.31
1989	93.48	-	111.41	204.89	(10.39)	42.41	25.78	204.89	194.50	247.30	230.67
1990	88.21	-	61.35	149.56	(7.33)	(9.58)	(11.92)	149.56	142.23	139.98	137.64
1991	85.21	-	94.67	179.88	(7.78)	(4.04)	(7.22)	179.88	172.10	175.85	172.66
1992	83.64	-	133.16	216.79	(8.18)	(12.54)	(15.41)	216.79	208.61	204.25	201.38
1993	88.22	-	68.78	157.00	(7.19)	(9.76)	(12.15)	157.00	149.81	147.24	144.85
1994	90.31	-	83.25	173.56	(8.29)	(5.55)	(9.37)	173.56	165.27	168.01	164.20
1995	91.49	-	133.38	224.87	(7.31)	(10.52)	(13.10)	224.87	217.56	214.35	211.77
1996	115.91	-	163.41	279.32	(9.56)	(13.89)	(17.24)	279.32	269.76	265.43	262.08
1997	101.74	-	157.21	258.95	(9.31)	(14.38)	(17.74)	258.95	249.64	244.57	241.21
1998	92.92	-	87.12	180.04	(9.15)	3.07	(3.67)	180.04	170.89	183.11	176.37
1999	79.35	-	81.11	160.46	(6.64)	7.82	4.24	160.46	153.82	168.28	164.70
2000	83.74	-	116.63	200.37	(7.44)	(14.19)	(17.28)	200.37	192.93	186.18	183.09
2001	78.71	-	108.93	187.64	(5.92)	(10.67)	(13.09)	187.64	181.72	176.97	174.55
2002	88.51	-	66.22	154.72	(1.49)	(11.00)	6.31	154.72	153.24	143.72	161.03
2003	95.60	-	156.23	251.83	(6.47)	(10.89)	(13.50)	251.83	245.36	240.94	238.33
2004	125.73	-	156.94	282.67	(9.69)	(19.71)	(23.90)	282.67	272.98	262.96	258.77
2005	122.76	-	114.62	237.38	(7.89)	(16.38)	(19.87)	237.38	229.49	221.00	217.51
2006	114.86	-	184.66	299.52	(9.05)	(19.41)	(23.56)	299.52	290.47	280.11	275.96
2007	162.62	-	178.69	341.31	(11.44)	(22.01)	(7.02)	341.31	329.87	319.30	334.29
2008	248.22	-	281.90	530.13	(21.76)	69.54	17.61	530.13	508.37	599.67	547.73
Descriptive Statistics											
Average	101.02	(1.60)	110.10	209.51	(0.45)	1.49	0.16	209.51	209.06	211.00	209.68
Standard Deviation	32.05	9.19	52.95	79.75	28.42	30.26	33.48	79.75	69.70	84.36	75.26
Minimum	69.88	(52.81)	-	52.04	(21.76)	(22.01)	(23.90)	52.04	142.23	130.51	137.64
Maximum	248.22	-	281.90	530.13	135.99	111.38	128.12	530.13	508.37	599.67	547.73
Median	92.92	-	111.41	188.76	(7.67)	(9.76)	(11.92)	188.76	190.26	186.18	195.73

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.44. Soybeans, Effingham County, Nonaggressive Mechanical Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	147.26	1.55	1.50	1.49	1.47
1977	216.20	0.72	0.87	0.72	0.69
1978	172.33	1.03	0.99	0.99	0.98
1979	211.28	1.02	0.97	0.97	0.95
1980	226.15	0.79	0.75	0.75	0.73
1981	254.41	0.89	0.84	0.88	0.85
1982	209.06	0.99	0.94	0.96	0.94
1983	200.48	0.26	0.94	0.65	0.90
1984	218.65	0.74	0.76	1.25	1.16
1985	188.07	0.82	0.78	0.77	0.75
1986	158.38	1.19	1.15	1.13	1.11
1987	147.14	1.15	1.10	1.07	1.05
1988	206.14	0.62	0.92	0.71	0.96
1989	223.96	0.91	0.87	1.10	1.03
1990	183.27	0.82	0.78	0.76	0.75
1991	189.54	0.95	0.91	0.93	0.91
1992	184.98	1.17	1.13	1.10	1.09
1993	180.04	0.87	0.83	0.82	0.80
1994	209.47	0.83	0.79	0.80	0.78
1995	189.87	1.18	1.15	1.13	1.12
1996	239.20	1.17	1.13	1.11	1.10
1997	229.90	1.13	1.09	1.06	1.05
1998	227.46	0.79	0.75	0.81	0.78
1999	182.78	0.88	0.84	0.92	0.90
2000	189.08	1.06	1.02	0.98	0.97
2001	171.60	1.09	1.06	1.03	1.02
2002	169.79	0.91	0.90	0.85	0.95
2003	196.85	1.28	1.25	1.22	1.21
2004	262.63	1.08	1.04	1.00	0.99
2005	223.07	1.06	1.03	0.99	0.98
2006	252.43	1.19	1.15	1.11	1.09
2007	339.60	1.01	0.97	0.94	0.98
2008	556.69	0.95	0.91	1.08	0.98
Descriptive Statistics					
Average	216.90	0.97	0.97	0.97	0.97
Standard Deviation	71.66	0.23	0.17	0.18	0.16
Minimum	147.14	0.26	0.75	0.65	0.69
Maximum	556.69	1.55	1.50	1.49	1.47
Median	206.14	0.99	0.94	0.98	0.98

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.45. Soybeans, Effingham County, Nonaggressive Dynamic Pricing Strategy, Revenues by Year

	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest	Harvest	Postharvest	Total	CRC*	GRIP-BP**	GRIP-HP***				
Year	Revenue	Revenue	Revenue	Revenue	(Indemnity minus premium)			No Insurance	CRC*	GRIP-BP**	GRIP-HP***
	------$/acre------				------$/acre------			------$/acre------			
1976	78.03	-	147.66	225.69	(6.83)	(9.11)	(11.12)	225.69	218.86	216.58	214.57
1977	54.21	-	104.60	158.81	31.36	(1.01)	(6.34)	158.81	190.17	157.80	152.47
1978	90.12	-	92.63	182.75	(7.00)	(7.96)	(9.91)	182.75	175.75	174.79	172.84
1979	110.03	-	113.85	223.88	(9.18)	(10.90)	(13.52)	223.88	214.70	212.98	210.36
1980	116.30	-	78.87	195.17	(9.59)	(10.93)	(13.61)	195.17	185.58	184.24	181.56
1981	-	-	200.33	200.33	(12.50)	(1.30)	(9.22)	200.33	187.83	199.03	191.10
1982	-	-	198.03	198.03	(9.77)	(6.15)	(11.13)	198.03	188.26	191.88	186.89
1983	107.41	(52.81)	-	54.60	135.99	78.46	128.12	54.60	190.59	133.06	182.72
1984	17.77	-	129.53	147.29	3.15	111.38	91.52	147.29	150.44	258.68	238.81
1985	-	-	142.51	142.51	(7.67)	(9.69)	(12.07)	142.51	134.84	132.82	130.44
1986	12.60	-	174.68	187.28	(6.78)	(9.93)	(12.19)	187.28	180.50	177.35	175.09
1987	75.20	-	94.73	169.93	(6.73)	(11.45)	(13.88)	169.93	163.20	158.48	156.05
1988	105.92	-	10.13	116.05	62.86	19.45	70.90	116.05	178.91	135.51	186.96
1989	-	-	188.16	188.16	(10.39)	42.41	25.78	188.16	177.77	230.58	213.95
1990	45.71	-	99.70	145.40	(7.33)	(9.58)	(11.92)	145.40	138.07	135.82	133.48
1991	15.38	-	158.02	173.40	(7.78)	(4.04)	(7.22)	173.40	165.62	169.36	166.18
1992	14.99	-	196.87	211.86	(8.18)	(12.54)	(15.41)	211.86	203.68	199.32	196.45
1993	94.52	-	68.78	163.30	(7.19)	(9.76)	(12.15)	163.30	156.11	153.54	151.15
1994	17.26	-	148.84	166.10	(8.29)	(5.55)	(9.37)	166.10	157.81	160.55	156.73
1995	48.52	-	186.68	235.21	(7.31)	(10.52)	(13.10)	235.21	227.90	224.69	222.11
1996	60.84	-	218.87	279.71	(9.56)	(13.89)	(17.24)	279.71	270.15	265.82	262.47
1997	18.87	-	235.19	254.07	(9.31)	(14.38)	(17.74)	254.07	244.76	239.69	236.33
1998	-	-	158.72	158.72	(9.15)	3.07	(3.67)	158.72	149.57	161.79	155.05
1999	-	-	155.35	155.35	(6.64)	7.82	4.24	155.35	148.71	163.17	159.59
2000	15.23	-	176.84	192.07	(7.44)	(14.19)	(17.28)	192.07	184.63	177.88	174.79
2001	44.20	-	147.15	191.35	(5.92)	(10.67)	(13.09)	191.35	185.43	180.68	178.26
2002	90.23	-	66.22	156.44	(1.49)	(11.00)	6.31	156.44	154.96	145.44	162.75
2003	104.68	-	156.23	260.91	(6.47)	(10.89)	(13.50)	260.91	254.44	250.02	247.41
2004	140.97	-	156.94	297.91	(9.69)	(19.71)	(23.90)	297.91	288.22	278.20	274.01
2005	119.38	-	114.62	234.01	(7.89)	(16.38)	(19.87)	234.01	226.12	217.63	214.14
2006	-	-	317.13	317.13	(9.05)	(19.41)	(23.56)	317.13	308.08	297.72	293.57
2007	172.60	-	178.69	351.29	(11.44)	(22.01)	(7.02)	351.29	339.85	329.28	344.27
2008	287.31	-	281.90	569.21	(21.76)	69.54	17.61	569.21	547.45	638.76	586.82

Descriptive Statistics

Average	62.37	(1.60)	148.44	209.21	(0.45)	1.49	0.16	209.21	208.76	210.70	209.37
Standard Deviation	63.55	9.19	67.13	87.66	28.42	30.26	33.48	87.66	78.30	91.65	82.80
Minimum	-	(52.81)	-	54.60	(21.76)	(22.01)	(23.90)	54.60	134.84	132.82	130.44
Maximum	287.31	-	317.13	569.21	135.99	111.38	128.12	569.21	547.45	638.76	586.82
Median	48.52	-	155.35	191.35	(7.67)	(9.76)	(11.92)	191.35	185.58	184.24	186.89

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.46. Soybeans, Effingham County, Nonaggressive Dynamic Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		Revenue Ratio			
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	147.26	1.53	1.49	1.47	1.46
1977	216.20	0.73	0.88	0.73	0.71
1978	172.33	1.06	1.02	1.01	1.00
1979	211.28	1.06	1.02	1.01	1.00
1980	226.15	0.86	0.82	0.81	0.80
1981	254.41	0.79	0.74	0.78	0.75
1982	209.06	0.95	0.90	0.92	0.89
1983	200.48	0.27	0.95	0.66	0.91
1984	218.65	0.67	0.69	1.18	1.09
1985	188.07	0.76	0.72	0.71	0.69
1986	158.38	1.18	1.14	1.12	1.11
1987	147.14	1.15	1.11	1.08	1.06
1988	206.14	0.56	0.87	0.66	0.91
1989	223.96	0.84	0.79	1.03	0.96
1990	183.27	0.79	0.75	0.74	0.73
1991	189.54	0.91	0.87	0.89	0.88
1992	184.98	1.15	1.10	1.08	1.06
1993	180.04	0.91	0.87	0.85	0.84
1994	209.47	0.79	0.75	0.77	0.75
1995	189.87	1.24	1.20	1.18	1.17
1996	239.20	1.17	1.13	1.11	1.10
1997	229.90	1.11	1.06	1.04	1.03
1998	227.46	0.70	0.66	0.71	0.68
1999	182.78	0.85	0.81	0.89	0.87
2000	189.08	1.02	0.98	0.94	0.92
2001	171.60	1.12	1.08	1.05	1.04
2002	169.79	0.92	0.91	0.86	0.96
2003	196.85	1.33	1.29	1.27	1.26
2004	262.63	1.13	1.10	1.06	1.04
2005	223.07	1.05	1.01	0.98	0.96
2006	252.43	1.26	1.22	1.18	1.16
2007	339.60	1.03	1.00	0.97	1.01
2008	556.69	1.02	0.98	1.15	1.05
Descriptive Statistics					
Average	216.90	0.97	0.97	0.97	0.97
Standard Deviation	71.66	0.24	0.19	0.19	0.17
Minimum	147.14	0.27	0.66	0.66	0.68
Maximum	556.69	1.53	1.49	1.47	1.46
Median	206.14	1.02	0.98	0.98	0.96

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.47. Soybeans, Effingham County, Sell all Postharvest Pricing Strategy, Revenues by Year

Year	Revenue without insurance				Insurance revenue			Total Revenue with insurance			
	Preharvest Revenue	Harvest Revenue	Postharvest Revenue	Total Revenue	CRC*	GRIP-BP**	GRIP-HP***	No Insurance	CRC*	GRIP-BP**	GRIP-HP***
					(Indemnity minus premium)						
	------$/acre------				------$/acre------			------$/acre------			
1976	-	-	245.82	245.82	(6.83)	(9.11)	(11.12)	245.82	238.99	236.71	234.70
1977	-	-	147.41	147.41	31.36	(1.01)	(6.34)	147.41	178.77	146.40	141.07
1978	-	-	188.51	188.51	(7.00)	(7.96)	(9.91)	188.51	181.51	180.55	178.60
1979	-	-	196.42	196.42	(9.18)	(10.90)	(13.52)	196.42	187.24	185.52	182.90
1980	-	-	179.23	179.23	(9.59)	(10.93)	(13.61)	179.23	169.64	168.30	165.62
1981	-	-	200.33	200.33	(12.50)	(1.30)	(9.22)	200.33	187.83	199.03	191.10
1982	-	-	198.03	198.03	(9.77)	(6.15)	(11.13)	198.03	188.26	191.88	186.89
1983	-	-	66.19	66.19	135.99	78.46	128.12	66.19	202.18	144.66	194.32
1984	-	-	142.52	142.52	3.15	111.38	91.52	142.52	145.67	253.90	234.04
1985	-	-	142.51	142.51	(7.67)	(9.69)	(12.07)	142.51	134.84	132.82	130.44
1986	-	-	185.83	185.83	(6.78)	(9.93)	(12.19)	185.83	179.05	175.90	173.64
1987	-	-	185.75	185.75	(6.73)	(11.45)	(13.88)	185.75	179.02	174.30	171.87
1988	-	-	111.80	111.80	62.86	19.45	70.90	111.80	174.66	131.26	182.71
1989	-	-	188.16	188.16	(10.39)	42.41	25.78	188.16	177.77	230.58	213.95
1990	-	-	138.04	138.04	(7.33)	(9.58)	(11.92)	138.04	130.71	128.46	126.12
1991	-	-	170.69	170.69	(7.78)	(4.04)	(7.22)	170.69	162.91	166.65	163.46
1992	-	-	209.61	209.61	(8.18)	(12.54)	(15.41)	209.61	201.43	197.07	194.20
1993	-	-	155.73	155.73	(7.19)	(9.76)	(12.15)	155.73	148.54	145.97	143.58
1994	-	-	161.96	161.96	(8.29)	(5.55)	(9.37)	161.96	153.67	156.41	152.60
1995	-	-	239.99	239.99	(7.31)	(10.52)	(13.10)	239.99	232.68	229.47	226.89
1996	-	-	274.33	274.33	(9.56)	(13.89)	(17.24)	274.33	264.77	260.44	257.09
1997	-	-	250.79	250.79	(9.31)	(14.38)	(17.74)	250.79	241.48	236.41	233.05
1998	-	-	158.72	158.72	(9.15)	3.07	(3.67)	158.72	149.57	161.79	155.05
1999	-	-	155.35	155.35	(6.64)	7.82	4.24	155.35	148.71	163.17	159.59
2000	-	-	188.88	188.88	(7.44)	(14.19)	(17.28)	188.88	181.44	174.69	171.60
2001	-	-	185.37	185.37	(5.92)	(10.67)	(13.09)	185.37	179.45	174.70	172.28
2002	-	-	166.93	166.93	(1.49)	(11.00)	6.31	166.93	165.44	155.93	173.24
2003	-	-	301.00	301.00	(6.47)	(10.89)	(13.50)	301.00	294.53	290.11	287.50
2004	-	-	258.67	258.67	(9.69)	(19.71)	(23.90)	258.67	248.98	238.96	234.77
2005	-	-	215.88	215.88	(7.89)	(16.38)	(19.87)	215.88	207.99	199.50	196.01
2006	-	-	317.13	317.13	(9.05)	(19.41)	(23.56)	317.13	308.08	297.72	293.57
2007	-	-	415.02	415.02	(11.44)	(22.01)	(7.02)	415.02	403.58	393.01	408.00
2008	-	-	472.99	472.99	(21.76)	69.54	17.61	472.99	451.23	542.53	490.60

Descriptive Statistics

Average	-	-	206.53	206.53	(0.45)	1.49	0.16	206.53	206.08	208.02	206.70
Standard Deviation	-	-	80.68	80.68	28.42	30.26	33.48	80.68	71.68	82.51	75.42
Minimum	-	-	66.19	66.19	(21.76)	(22.01)	(23.90)	66.19	130.71	128.46	126.12
Maximum	-	-	472.99	472.99	135.99	111.38	128.12	472.99	451.23	542.53	490.60
Median	-	-	188.16	188.16	(7.67)	(9.76)	(11.92)	188.16	181.44	180.55	182.90

*Crop Revenue Coverage, 85% coverage level

**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level

***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

Table C.48. Soybeans, Effingham County, Sell all Postharvest Pricing Strategy, Expected Revenue and Revenue Ratios by Year

Year	Expected Revenue	Revenue Ratio			
		No Insurance	CRC*	GRIP-BP**	GRIP-HP***
		(Total Revenue with insurance divided by Expected Revenue)			
	----$/acre----				
1976	147.26	1.67	1.62	1.61	1.59
1977	216.20	0.68	0.83	0.68	0.65
1978	172.33	1.09	1.05	1.05	1.04
1979	211.28	0.93	0.89	0.88	0.87
1980	226.15	0.79	0.75	0.74	0.73
1981	254.41	0.79	0.74	0.78	0.75
1982	209.06	0.95	0.90	0.92	0.89
1983	200.48	0.33	1.01	0.72	0.97
1984	218.65	0.65	0.67	1.16	1.07
1985	188.07	0.76	0.72	0.71	0.69
1986	158.38	1.17	1.13	1.11	1.10
1987	147.14	1.26	1.22	1.18	1.17
1988	206.14	0.54	0.85	0.64	0.89
1989	223.96	0.84	0.79	1.03	0.96
1990	183.27	0.75	0.71	0.70	0.69
1991	189.54	0.90	0.86	0.88	0.86
1992	184.98	1.13	1.09	1.07	1.05
1993	180.04	0.86	0.83	0.81	0.80
1994	209.47	0.77	0.73	0.75	0.73
1995	189.87	1.26	1.23	1.21	1.19
1996	239.20	1.15	1.11	1.09	1.07
1997	229.90	1.09	1.05	1.03	1.01
1998	227.46	0.70	0.66	0.71	0.68
1999	182.78	0.85	0.81	0.89	0.87
2000	189.08	1.00	0.96	0.92	0.91
2001	171.60	1.08	1.05	1.02	1.00
2002	169.79	0.98	0.97	0.92	1.02
2003	196.85	1.53	1.50	1.47	1.46
2004	262.63	0.98	0.95	0.91	0.89
2005	223.07	0.97	0.93	0.89	0.88
2006	252.43	1.26	1.22	1.18	1.16
2007	339.60	1.22	1.19	1.16	1.20
2008	556.69	0.85	0.81	0.97	0.88

Descriptive Statistics

Average	216.90	0.96	0.96	0.96	0.96
Standard Deviation	71.66	0.27	0.23	0.22	0.21
Minimum	147.14	0.33	0.66	0.64	0.65
Maximum	556.69	1.67	1.62	1.61	1.59
Median	206.14	0.95	0.93	0.92	0.91

*Crop Revenue Coverage, 85% coverage level
**Group Risk Income Protection without harvest price option, 90% coverage level, 100% protection level
***Group Risk Income Protection with harvest price option, 90% coverage level, 100% protection level

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