

**THE FEASIBILITY OF CROP INSURANCE
AGENCY ACQUISITIONS**

by

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ABSTRACT

Crop insurance, in recent years, has displaced U.S. federal farm program payments as the most important safety net for net farm income. The business climate that crop insurance purchasers and providers face in the future is one of increasing premiums for producers and decreasing commissions for crop insurance companies and agents. The primary objective of this thesis is to assess the desirability of crop insurance agency acquisitions to increase market share for Farm Credit Services of America, considering the significant uncertainties in the future subsidy levels and commission levels for these products. Financial analysis and modeling crop insurance agency acquisitions is completed under a wide range of future economic and political scenarios. The wide range of assumptions, however, does contribute to a wide range of potential purchase prices and rates of return on crop insurance agency acquisitions. The crop insurance industry faces uncertainty in the future and general industry profitability will likely decline. However, an expansion strategy in a period of reduced commissions can be profitable if acquisitions are priced appropriately and can be made in locations where existing support services can be leveraged to support the acquisition.

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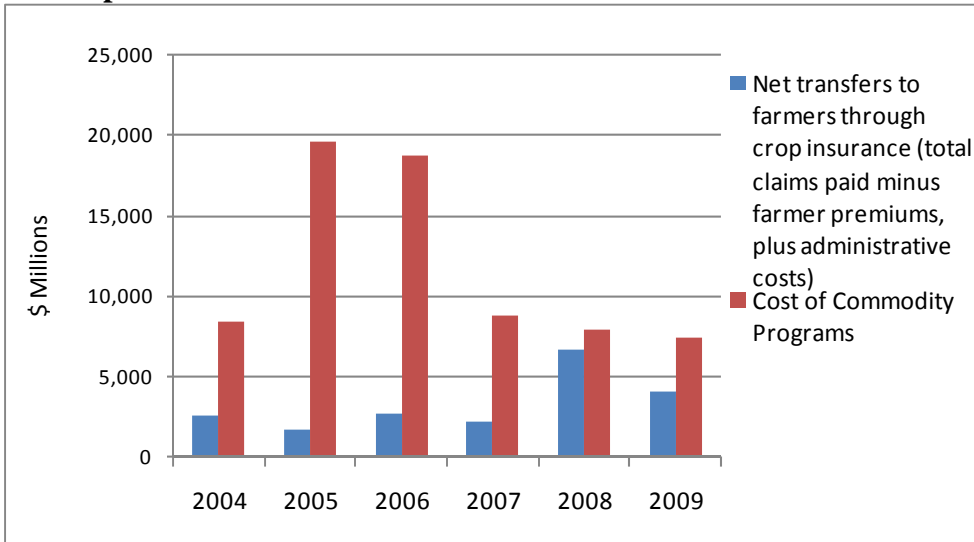
The author wishes to first thank my wife Tammy Davis, my daughter Kathryn Davis, and my son Alan Davis for supporting me in the pursuit of this degree. I would also like to thank the Insurance Leadership Team at Farm Credit Services of America for the advice and information they have contributed to this thesis project. Individuals on the Insurance Team who were instrumental in providing constructive feedback include Mike Barrett, Rhonda Smith, and Patti Bendgen. My thesis committee of Dr. Allen Featherstone, Dr. Art Barnaby, and Dr. Christine Wilson were also key contributors to my thesis project. I would also like to acknowledge and thank Lynnette Brummett and Mary Bowen for their technical and moral support throughout the last two and half years. The entire MAB program faculty delivered on the curriculum and made the entire program practical and interesting. Finally, I would like to thank Ken Keegan and Doug Stark at Farm Credit Services of America for encouraging me to pursue and accomplish this personal goal.

CHAPTER I: INTRODUCTION

1.1 Crop Insurance

Crop insurance has many different forms in the U.S. including multi-peril insurance, crop revenue coverage, revenue assurance, and traditional crop hail insurance. Crop insurance is a critical risk management tool for crop producers in the United States. Crop insurance is heavily subsidized through the Farm Bill by United States taxpayers. Net transfers to farmers through crop insurance have increased in recent years while government transfers through commodity programs have declined (Figure 1.1, Risk Management Agency. Federal Crop Insurance Corporation. cycost 2001-09, page 1). The subsidies provided by taxpayers are and will likely continue to be in the future, a target for reduction as the United States Congress searches for strategies to reduce the federal deficit. The business climate that crop insurance purchasers and providers face in the future is one of uncertainty for producers and decreasing commissions for crop insurance companies and agents.

Figure 1.1: Commodity Programs Decline While Government Transfers to Farmers via Crop Insurance Increase



Source: FCIC Financial Statements and USDA Budget Summary and Annual Performance Plans

1.2 Farm Credit Services of America

Farm Credit Services of America (FCSAmerica) is a cooperative financial services provider to over 75,000 farmers, ranchers, and rural residents in the states of Iowa, Nebraska, South Dakota, and Wyoming. Core products include mortgage loans, operating loans, equipment loans and leases, and crop insurance. FCSAmerica currently holds a significant market share of crop insurance in the four states and has a goal to increase market share to thirty-five percent in the four states. FCSAmerica has a broader business goal of increasing non-interest revenue sources to further diversify and increase earnings. Crop insurance represents the single largest potential non-interest revenue source that FCSAmerica can pursue under Farm Credit System regulations.

FCSAmerica has developed its current crop insurance business through direct sales activity performed by Insurance Specialists and Financial Officers. However, FCSAmerica has

limited experience with crop insurance agency acquisitions as FCSAmerica has completed only two agency acquisitions in its history.

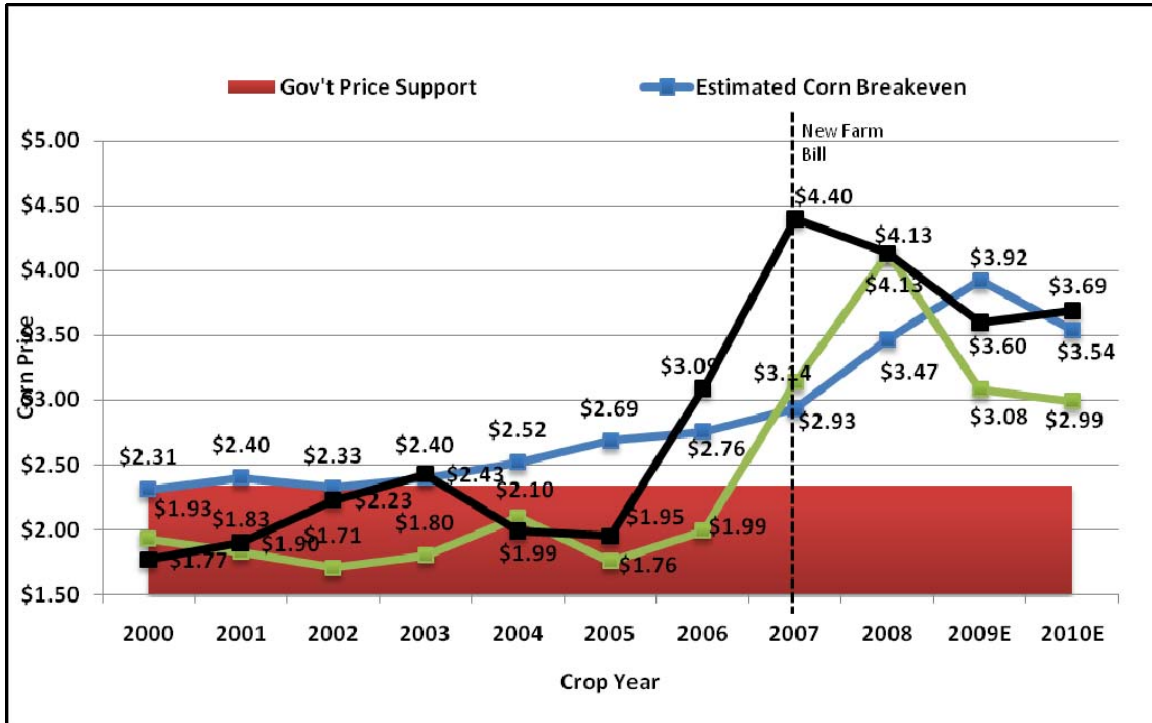
1.3 Objectives

The primary objective of this thesis is to determine whether agency acquisitions are a feasible business strategy to increase the market share for FCSAmerica, given the significant uncertainties in the future subsidy levels and commission levels for these products. The alternative to agency acquisitions would be to focus energy and resources on direct sales activity. A secondary objective of this project is to identify key factors, and the metrics of those factors to consider in the evaluation of crop insurance agency acquisition opportunities. Identification of these key factors would be helpful in development of analytical models that could be used to evaluate the viability of individual acquisition opportunities. These factors may also be useful in the determination of purchase price in acquisition contracts.

1.4 Relevance of Crop Insurance

Crop insurance is important to FCSAmerica and its stockholders for two critical reasons. First, crop insurance is a key risk management tool for crop producers. Promoting broad use of crop insurance coverage among FCSAmerica's loan customers provides a critical income stabilization mechanism that potentially reduces default risk in FCSAmerica's loan portfolio. This importance is illustrated from the perspective of an individual producer in Figure 1.2., that supports the increasing importance of crop insurance as an income stabilization tool for producers, as the importance of other government price support programs has diminished.

Figure 1.2: Iowa Corn Breakeven Costs



Source: Iowa State University – for cost of production and actual state price data
 *2009 estimated state price is based on January 12, 2010 WASDE average 09/10 Marketing Year price
 *2010 Crop Insurance Protection based on Dec 2010 Futures price of \$3.99
 *2010 estimated state price is based on Dec 2010 Futures price of \$3.99 less \$0.30/bushel basis

Figure 1.2 illustrates the relationships between the target price for corn, production cost, market price, and value insured by an 80% crop insurance policy. Prior to 2007, commodity program payments were the primary protection for farm income when market prices fall below cost of production. Since 2007, crop insurance has surpassed commodity payments as the primary protection for farm income when market prices fall below cost of production. Additionally, subsidies of producer premiums are currently exempt from maximum Federal payment limitations applied to farm commodity support payments.

Second, crop insurance agency commissions represent a significant revenue source to FCSAmerica, increasing net annual income that benefits FCSAmerica through the lowering

of average operating costs, the generation of revenue contributed to capital, and the addition of new customers that represent cross-selling opportunities for loan products.

1.5 Project Strategy

The recommendations and strategy researched and reported will also be used as a component of FCSAmerica's business strategy for its insurance division. The following chapters will research available literature and document the theory, methods, and procedures used to accomplish the objectives of this thesis.

First, a conclusion will need to be arrived at regarding the future viability and profitability of crop insurance products. Second, a relative expected return on investment will be determined. The information necessary to determine the required return on investment or opportunity cost will be obtained from FCSAmerica's internal business accounting records and opportunity cost will be measured based on FCSAmerica's incremental cost of capital and other competing opportunities for capital. Last, a valuation model will be used to determine the relevant characteristics that are important to valuing an agency as well as the major factors contributing to retention and renewal rates in an acquired agency.

FCSAmerica's data on two previous acquisitions are used extensively in this analysis.

CHAPTER II: LITERATURE REVIEW

2.1 Crop Insurance History

The United States Congress first authorized Federal crop insurance in the 1930s, creating the Federal Crop Insurance Corporation (FCIC). Crop insurance remained largely experimental until passage of the Federal Crop Insurance Act of 1980. The 1980 Act was targeted at encouraging participation to replace the disaster coverage, provided at no cost to producers, under previous Farm Bills. The 1980 Act authorized a subsidy equal to 30 percent of the premium at a 65 percent coverage level. In spite of the changes enacted by the 1980 Act, annual ad hoc disaster bills continued to compete with the crop insurance program. This led to the enactment of the Federal Crop Insurance Reform Act of 1994. Key changes with the 1994 Act included required participation at certain levels, catastrophic coverage (CAT) for producers to be eligible for other USDA program benefits, subsidies for higher coverage levels were increased, and the creation of the Risk Management Agency (RMA) to administer FCIC programs (Risk Management Agency, page 1).

Crop insurance, in its various forms, has a varied history in the United States. In many areas of the United States, multi-peril insurance products are not commercially viable without government premium subsidies. The reasons include, but are not limited to, various forms of incomplete markets, adverse selection, and/or moral hazards (Chambers). For these reasons, a unique aspect of the Federal crop insurance program has been the role of private insurance companies in program delivery and in risk sharing. Private insurance companies not only sell and service crop insurance policies, but also share underwriting risks with the Federal government (Coble, et. al.). The role of the Federal government is

believed to be necessary due to the widespread disparity in underwriting risks across regions and crops, and the desire of the United States Congress to make crop insurance available broadly to producers in all areas and across a broad range of crops. Risk sharing and servicing costs are shared between the Federal government and private insurance companies through the Standard Reinsurance Agreement (SRA). Key requirements under the SRA, include the requirement of a participating company to offer coverage to any farmer in a state the insurance company offers insurance. In exchange, the insurance company is allowed to place some crop insurance policies in an Assigned Risk Fund, where exposure to loss is minimal and other policies in funds where gains and losses are greater and retained by the company (Coble, et. al.). The RMA also sets the premium rates for all crop insurance products in the United States.

The Federal government provides subsidies for insurance through three basic mechanisms, subsidizing producer premiums, administrative and operating expense reimbursements, and providing reinsurance for high-risk production areas. The Farm Bills have encouraged increasing producer participation and increased producer coverage levels through increased subsidy levels up to and including the Agricultural Risk Protection Act (ARPA) of 2000 (Babcock and Hart). The ARPA set up a mechanism to increase the development of new products and focused on revenue insurance as well as yield insurance. Another goal of the ARPA was to increase the role and participation of private insurance companies in underwriting the risks of crop insurance products.

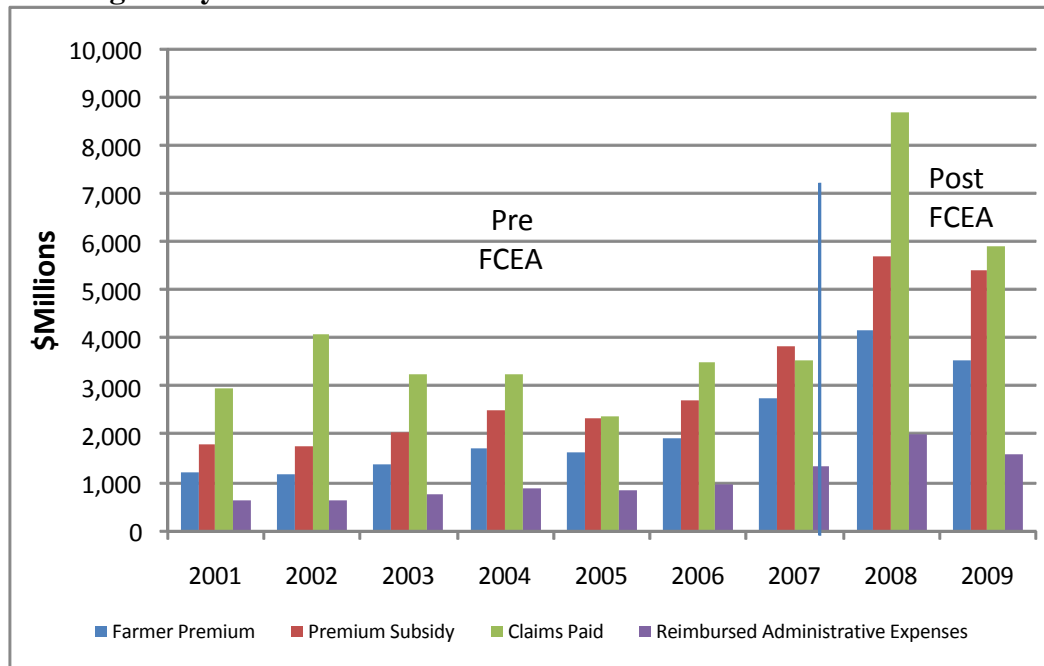
Currently, sixteen companies and over 15,000 agents provide delivery of the crop insurance program in the United States (Rain and Hail Insurance Society). The insurance policy is a

contract between the insured and the insurance company. For the producer to receive the Federal premium subsidy the private insurance company must use the Federal underwriting standards and rates set by the RMA (Rain and Hail Insurance Society).

2.2 Current Coverage and Subsidy Levels in the Industry

Based on statistics through the 2008 crop year, Federal crop insurance programs have been successful in increasing acreage and coverage levels and in reducing the need for disaster programs and other farm program subsidies. Figure 2.1 illustrates the evolution of crop insurance as a risk management tool and the cost of subsidy components before and after implementation of the 2008 Farm Bill.

Figure 2.1: Evolution of Crop Insurance from Risk Management Tool to a Complete Farming Safety Net



Source: FCIC Financial Statements February 2010

Based on 2008 information, 65% of eligible acres in the United States were insured and 89% of those acres were buy up contracts, defined as coverage greater than catastrophic coverage. The total premium paid for this coverage was \$9.8 billion. The federal paid premium was \$5.7 billion and the producer paid premium was \$4.1 billion (Rain and Hail Insurance Society). The crop value insured was \$89.9 billion. The covered acreage levels were higher in the Corn Belt states where acreage coverage levels are from 67% to 89%.

2.3 Impact of the 2008 Farm Bill on Future Subsidies and Insurance Company and Agent Compensation

The Food, Conservation, and Energy Security Act of 2008, known as the 2008 Farm Bill, was enacted on May 22, 2008. The passage of the 2008 Farm Bill marked a turning point in crop insurance. The 2008 Farm Bill was estimated by the Congressional Budget Office to reduce federal subsidies by \$3.9 billion in the years 2008 through 2012 (Parkerson and Tronnes). The spending cuts targeted Administrative and Operating payments to the insurance companies, but agent commissions are likely to be reduced by a similar amount as a result of the increased administrative payments that must be paid by the private insurance companies. The 2008 Farm Bill also allowed the United States Department of Agriculture (USDA) to renegotiate the Standard Reinsurance Agreement (SRA) once every five years, beginning with the 2010-2011 reinsurance year (Parkerson and Tronnes). This renegotiation process has generated several studies on the “reasonable” rate of return to the private insurance companies via the SRA. The crop insurance industry generally views the impact of the 2008 Farm Bill as making the crop insurance industry even less profitable relative to the property and casualty insurance sector than it has been in the past (Parkerson and Tronnes).

2.4 Current Industry Trends and Threats

In preparation for renegotiation of the SRA, the Risk Management Agency (RMA) engaged Milliman, Inc. to prepare a rate of return analysis. These reports were completed June 23, 2009 and August 18, 2009. The Milliman Reports generally concluded that the actual rate of return to MPCCI insurers from 1989 through 2008 was 17.1% as compared to a reasonable rate of return for the same period of 12.8%. Although the reports recognize the impact of the frequency of catastrophic loss events, the conclusion is that MPCCI insurers received a return in excess of the cost of capital for the period (Appel and Borba, August 18, 2009 and June 23, 2009). The Milliman Reports have generated an Industry Response by the National Crop Insurance Services, Inc. that cautions against drawing strong conclusions from the studies and concludes that the actual rate of return for the industry would be significantly below the reasonable rate of return. Six specific concerns not accounted for in the Milliman Reports were discussed, including the 2008 Farm Bill reductions in Administrative and Operating payments. These specific concerns and the report in general contend that historical rates of return are not an appropriate measure of the profitability of the current SRA (Grant Thornton). Other recent events and actions by Congress and the Obama Administration have raised the likelihood of a reduction in federal support for crop insurance programs. In late March of 2009, the Senate Budget Committee approved their budget resolution with cuts of \$350 million for crop insurance and increases of \$175 million for child nutrition programs (Parkerson). Secretary of Agriculture Vilsack has also made statements indicating that private insurance companies have made huge profits on crop insurance and that taxpayers need a fairer deal (Wyant).

2.5 Conclusions from the Literature Review

The literature provided substantial information outlining the history of crop insurance in the United States, particularly regarding the role of Federal subsidies, past and current.

Substantial positive support for the need for private insurance companies, including the role of agents in delivery of crop insurance products exists. There is also substantial support for premium subsidies and risk sharing. The literature did not yield any existing direct research or evaluation models on the specific objective of this thesis, which is the economics of crop insurance agency acquisitions. However, it did reveal support for the importance of understanding and evaluating the role and future level of Federal subsidies in crop insurance products. The literature also highlighted the state of change that the industry is experiencing in subsidy levels and the significant uncertainties this represents to future returns to private insurance companies in delivery costs and risk sharing of underwriting future crop policies. These uncertainties are highly correlated to future agent premium levels and essential to evaluate when considering an agency acquisition.

CHAPTER III: THEORY

3.1 Economic Theory

The primary objective of this thesis is to determine whether agency acquisitions are a feasible business strategy to increase market share for FCSAmerica, considering significant uncertainties in future subsidy levels and commission levels for these products. Insurance agency acquisition opportunities exist in the form of purchase opportunities on portfolios of existing crop insurance customers offered by independent agents desiring to exit the industry for various reasons. The assets being acquired consist of existing insurance policies as well as the relationships developed with customers by the previous agency. Since the choice of insurance agents by crop producers is relationship oriented, an agency acquisition has characteristics of a tangible asset in the form of the policies and characteristics and an intangible asset in the form of the relationships being acquired. In both cases, the assets being purchased are anticipated to produce a future cash flow in the form of commissions on future policies. Therefore, the basic economic theory selected to evaluate feasibility of agency acquisitions is investment analysis and more specifically net present value analysis (Brealey, Myers, and Allen).

Net present value theory is well suited to this project since the theory expresses the value of an investment in current dollars that can be equated to the potential purchase price of a crop insurance policy portfolio. Since the investment in this case is expected to generate policy commissions for years into the future, a discounted cash flow formula can be used to value that investment. The net present value of an agency acquisition will be determined by estimating a five year net cash flow from the acquisition, discounting that cash flow to

present dollars based on FCSAmerica's cost of capital, and deducting the proposed purchase price of the agency. A five year time frame was used primarily to match the business objectives of FCSAmerica, but this time period also matches the life of a farm bill. Assumptions used for the income and expense components of the cash flow model are from industry sources, research, and FCSAmerica's actual history.

Even though the use of discounted cash flow analysis may be relatively straightforward, there are many factors influencing the level of the net revenue to be evaluated. Some of the factors that influence future revenue include, but are not limited to, volatility of commodity prices, federal government subsidy levels, agent commission levels, retention rate of customers, and expansion or contraction of acres insured by customers. The factors selected for analysis include commodity price fluctuations including the levels used for commission rates, policy retention rates, and commission rates. Since commodity price levels and agent commission rates are both currently under negotiation through the SRA, a major component of this project will consist of a sensitivity analysis for a potential range of possibilities for these factors. The sensitivity analysis will also be useful in demonstrating the impact on purchase price and return on investment when these major factors change.

Another investment analysis tool is the internal rate of return. The advantage of the supplemental use of the internal rate of return is the ability to compare the degree of various scenarios in either exceeding or falling short of a targeted rate of return. However, net present value analysis delivers a single valuation in current dollars, which equates to and can be related to a potential purchase price of an agency.

CHAPTER IV: METHODS

4.1 Analysis of High Impact Components

To use NPV analysis to evaluate the feasibility of insurance agency acquisitions, it is necessary to build an income and expense forecasting model. Because NPV is forward looking, retained premium data and other forward looking assumptions are important factors for the analysis. Recent historical premium data can be made available from a prospective purchase target and the historical pricing of crop insurance agencies is usually determined as a multiple of the last year's commission income. Commission income is an estimate of the last year's premium income. The forecasting model must adjust for factors impacting the retained premium into the future, apply the commission percentage, and then determine the incremental expenses that are necessary to maintain and service the acquired policies. A review of the literature and experience in the industry reveals that the highest impact components to future crop insurance revenue streams are future values of commodities insured, future commission rates that are impacted by Federal crop insurance subsidy levels, and the retention rate of policies from the acquired agency. Another potential factor to consider in acquisition analysis is the impact on the purchasing company's local market share.

4.2 Gross Premiums and Commodity Prices

In the crop insurance industry, the gross premium is impacted by the underlying price of the commodity insured. If the price of the insured crop doubles, then the amount of the premium paid approximately doubles. Agent commissions vary by region, but are set from

16% to 19% of the premium (Rhonda Smith, e-mail message to author, March 11, 2010). Because of these premium and agent commission relationships, commodity price expectations have a high impact on future revenues. The challenge is to develop a forecast of premium levels and find a relationship between historical premium levels and expected future commodity prices. Commodity prices are forecasted using a regression model derived from U.S. farm price and crop insurance premium amounts for corn, soybeans, and wheat. To use a regression model tied to farm price, the analysis uses commodity price forecasts for farm prices for the three major insured commodities that are available from the Food and Agricultural Policy Research Institute (FAPRI). Historical USDA prices are used as the independent variables in the regression analysis.

Base case commodity price forecasts were modeled using FAPRI's 2009 forecasts for commodity prices and yields from 2010 through 2014 (Food and Agricultural Policy Research Institute), illustrated in Table 5.2. In addition to the base case commodity forecast, commodity price forecasts were also modeled on a +10% increase from FAPRI's commodity price forecasts for the years 2011 through 2014 set at levels currently proposed in RMA's SRA Draft2. These prices consist of a corn price of \$2.83 per bushel and a soybean price of \$7.07 per bushel in 2011, a corn price of \$2.70 per bushel and a soybean price of \$6.75 per bushel in 2012, and a corn price of \$2.57 per bushel and a soybean price of \$6.43 per bushel in 2013 and beyond. These prices are all subject to further reduction, if market prices are lower.

4.3 Accounting for Future Changes in Subsidy Levels

The literature and a general consensus in the industry indicate a reduction in Federal subsidies in the future. Currently, negotiations are underway with the industry and USDA's Risk Management Agency to adjust the servicing cost subsidy administered through the SRA. In addition, the subsidy levels of premiums paid by the Federal government are expected to be reduced in future farm bills. Consensus in the industry is that any reductions in servicing and premium subsidies to the insurance companies will be passed through to the agents in the form of lower agent premiums. The political nature of these factors makes forecasting future agent premiums difficult. Therefore, the model will adjust expected agent commission levels based on a percentage of anticipated reduction and crop year that specific reductions are expected to be effective. This will provide a dynamic modeling process that can be adjusted according to user assumptions and the latest information available. In addition, breakeven analysis and alternative scenarios will be analyzed.

4.4 Policy Retention Forecasting

Forecasting policy retention consists of estimating the percent of policies that are lost through the acquisition of the crop insurance agency. The crop insurance business is relationship oriented and there are generally several competing alternatives for a producer's business in the marketplace. The sale of an agency can cause other competitors to compete for customers. In this study, actual attrition levels in the first and second year after closing for two previous acquisitions are analyzed to establish a range of attrition rates, a recommended or default attrition rate for the base model, and a term of years to apply the attrition rate.

4.5 Allocation of Incremental Operating and Servicing Expenses

Additional sales and support staff may be needed to service additional policies from an acquisition. These costs are estimated based on the history of human resource needs and expenses in FCSAmerica's Insurance Division. Although the model can include other incremental expenses, these are relatively minor and not significant for acquisition evaluation, since most other expenses are fixed FCSAmerica overhead.

4.6 Assumptions on Opportunity Cost of Capital and ROI

The NPV model developed for this project assumes that insurance agency acquisitions are funded with 86% debt capital and 14% equity capital, which approximates the financial leverage position of FCSAmerica. The cost of debt capital is adjustable, but will initially be assumed to be 5.5%. This is an estimate of the long term average marginal cost of debt to FCSAmerica, even though current marginal cost of debt is significantly lower. The model will calculate an NPV that is directly comparable to the acquisition price of potential purchase opportunities. The model will also calculate a multiple of the last year's commission income, consistent with standard industry measures, as well as calculate an internal rate of return (IRR) for alternative investment analysis reference purposes for FCSAmerica.

4.7 Tax Issues

The NPV model developed for this project does not include any calculation or consideration of income taxes in the cash flow. The model is developed for comparison of crop insurance acquisitions for FCSAmerica and is consistent with the business view of other competing investment alternatives, which are analyzed on a pre-tax view. There are

also typically no depreciable fixed assets included in typical crop insurance agency acquisitions. Thus, the results of the analysis are not affected by tax rate assumptions.

CHAPTER V: ACQUISITION MODEL PROCEDURES

5.1 Crop Insurance Premium Forecasting

Crop insurance premiums have varied significantly over the last ten years and the variability has been even more significant in the last three years, due to increasing commodity prices and to an increase in the volatility of commodity prices. The gross premium over the last ten years for crop insurance for corn ranged from a low of \$613 million in 1999 to a high of \$3.8 billion in 2008 (Rain and Hail Insurance Society, pages 95-97). The primary determinants of crop insurance premiums are yield, commodity price levels, the type of policy purchased, and the level of coverage selected. The model used to forecast premium levels is a regression model with a dependent variable of gross U.S. premium for corn and the independent variables are the commodity price lagged one year and average yield. From 1999 through 2008, there is a 0.946 correlation between the one-year lagged corn price (U.S. farm price average) and the gross premium for all types of crop insurance policies written (Table 5.1). Commodity price is the most important factor that determines premiums and the lagged price correlates more closely than current year price (0.926), perhaps because the premium for most insurance products is set based on the average February closing price for corn in the year of the production of the insured crop (Table 5.1). The February average date correlates most closely with the average farm price of the previous marketing year.

Table 5.1: Crop Insurance Premium Correlation Analysis

	<u>3 Years</u>	<u>10 Years</u>
Corn		
Prem/Price (Current)	0.8468	0.9262
Prem/Price (Lagged)	0.9692	0.9456
Prem/Yield	0.9192	0.6287

Source: RMA Nationwide Summary by State/Commodity as of 5/7/09

The second independent variable is the national average yield. National average yield shows a 0.629 correlation factor to the gross premium for corn over the last ten years (Table 5.1). Crop insurance premiums are based on commodity price times yield. There is a trend of gradually increasing yields and premiums are based on a 10 year rolling average of actual proven historical yields (APH). APH's have been gradually rising, and should correlate with increasing single year national average yields. It is believed that this variable will provide some of the pull upward on crop insurance premiums and enhance the predictive capacity of the model compared with commodity prices alone.

The individual observations for the corn and soybean crop premium regression models are documented in Table 5.2. The turquoise shaded areas represent actual historical prices and yields from USDA and the yellow shaded areas represent forecasted prices and yields from FAPRI.

Table 5.2: Independent Variable Sources for Regression Equations

Year	Corn Premium (in 000s)	Corn Yield	Lagged Corn Price	SB Premium (in 000s)	SB Yield	Lagged SB Price
1999	\$ 612,806	133.8	1.94	\$ 374,954	36.6	4.93
2000	\$ 750,843	136.9	1.82	\$ 456,187	38.1	4.63
2001	\$ 877,214	138.2	1.85	\$ 509,905	39.6	4.54
2002	\$ 920,760	129.3	1.97	\$ 495,054	38.0	4.38
2003	\$ 1,107,311	142.2	2.32	\$ 615,901	33.9	5.53
2004	\$ 1,417,241	160.3	2.42	\$ 943,561	42.2	7.34
2005	\$ 1,276,114	147.9	2.06	\$ 873,155	43.1	5.74
2006	\$ 1,569,523	149.1	2.00	\$ 1,042,818	42.9	5.66
2007	\$ 3,129,615	150.7	3.04	\$ 1,066,062	41.7	6.43
2008	\$ 3,834,516	153.9	4.20	\$ 2,609,488	39.7	10.10
2009		165.2	3.90		44.0	9.25
2010		158.0	3.71		42.1	8.75
2011		160.0	3.69		42.5	8.78
2012		161.9	3.85		42.9	9.08
2013		163.9	3.88		43.2	9.30
2014		165.9	4.02		43.6	9.55
2015		168.0	4.09		44.0	9.78
2016		170.3	4.14		44.4	9.94
2017		172.3	4.11		44.9	9.99
2018		174.3	4.10		45.2	10.03

Source: RMA Nationwide Summary by State/Commodity 5/7/09

Source: FAPRI 2009 Agricultural Outlook

Source: USDA NASS

The model for crop insurance premium level for corn is:

$$\text{Corn Crop Premium}_t = B_0 + B_1(\text{Lagged Corn Price}_t) + B_2(\text{Yield}_t) + e_t$$

The results of the regression analysis indicate a good fit based on an adjusted R square of 88% and statistically significant parameter estimates. Table 5.3 summarizes the standard errors and significances.

Table 5.3: Corn Crop Insurance Premium Regression Model, 1999 - 2008

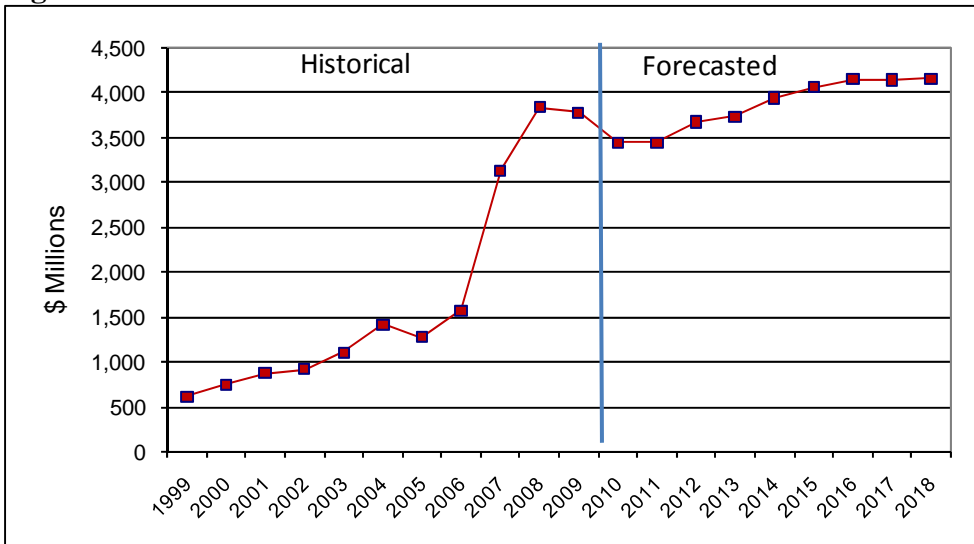
<i>Regression Statistics</i>				
R Square	0.904			
Adjusted R Square	0.877			
Standard Error	376456			
Observations	10			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-3403117	2032874	-1.674	0.138
Lagged Corn Price	1264595	207203	6.103	0.000
Corn Yield	13629	15755	0.865	0.416

The coefficients of both independent variables have the expected positive sign (Table 5.3), which is the logical expected impact on the dependent variable. The *t* statistic for the lagged corn price supports a strong statistical significance for this independent variable. The *t* statistic for corn yield does not support a statistical significance (< 1% level of significance) for this variable (41.6% level of significance). However, this variable was left in the equation due to the positive sign and the influence of yield on crop insurance premium. Overall, the regression model is believed to be adequate and reliable in forecasting corn premium amounts for the agency acquisition model.

Forecasts of the corn premiums for the U.S. for the years 2009 through 2018, as well as the historical premiums for the years 1998 through 2008, are illustrated in Figure 5.1. The independent variables for both yield and farm price are based on Food and Agricultural Policy Research Institute (FAPRI) forecasts (January 2010).

Figure 5.1: Historical & Forecasted Corn Premium



The same methodology was followed to estimate a regression based forecasting model for soybeans. Corn and soybeans, in varying percentages, constitute the major crops produced and insured in any potential agency acquisition in FCSAmerica’s targeted counties and states.

The result of the regression analysis for soybeans also indicates a good fit based on an adjusted R square of 87%. Table 5.4 summarizes the standard errors and significances.

Table 5.4: Soybean Crop Insurance Premium Regression Model, 1999 - 2008

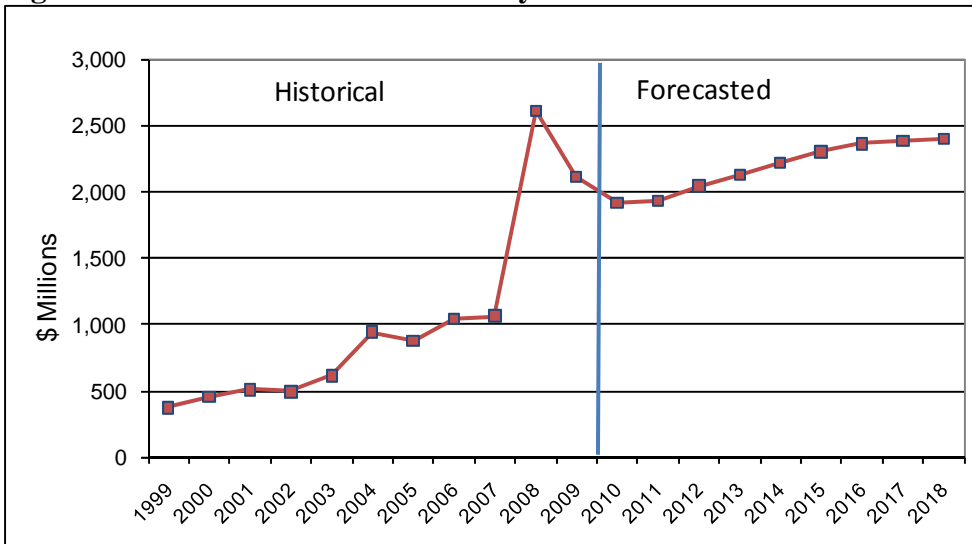
<i>Regression Statistics</i>				
R Square	0.898			
Adjusted R Square	0.868			
Standard Error	236995			
Observations	10			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-1600737	1047799	-1.528	0.170
Lagged Soybean Price	352420	47656	7.395	0.000
Soybean Yield	10366	27539	0.376	0.718

The coefficients of both independent variables have the expected positive sign, which is the logical expected impact on the dependent variable (Table 5.4). The *t* statistic for the lagged soybean price supports a strong statistical significance (< 1% level of significance) for this independent variable. The *t* statistic for soybean yield does not support a statistical significance for this variable (71.8% level of significance). However, this variable was left in the equation due to the positive sign and the influence of yield on soybean insurance premium. Overall, the regression model is believed to be adequate and reliable in forecasting soybean premium amounts for the agency acquisition model.

Forecasts of the soybean premiums for the years 2009 through 2018, as well as the historical premiums for the years 1998 through 2008, are illustrated in Figure 5.2. The independent variables for both national average yield and farm price are based on FAPRI forecasts (January 2010).

Figure 5.2: Historical & Forecasted Soybean Premium



A major change has been proposed by the RMA, SRA Draft 2 that would adjust the manner in which agent commissions are calculated. This proposal removes the volatility of commodity price cycles, and reduces federal subsidy levels under the current proposed formula by using a fixed commodity price on which agent commissions are calculated for the five year term of the SRA beginning in 2011. The potential impact to adjusted gross premiums for corn and soybeans is illustrated using the regression models. The estimates are calculated by using the fixed SRA Draft2 proposed commodity prices as the independent variables for prices in 2011 through 2018. This results in a reduction of adjusted gross premium for corn in 2011 of 31.58% and for soybeans of 31.16%. Reduction levels are similar in 2012 and the following years and are illustrated in Figure 5.3 and Figure 5.4.

Figure 5.3: Forecasted Corn Premium with SRA Draft2 Impact

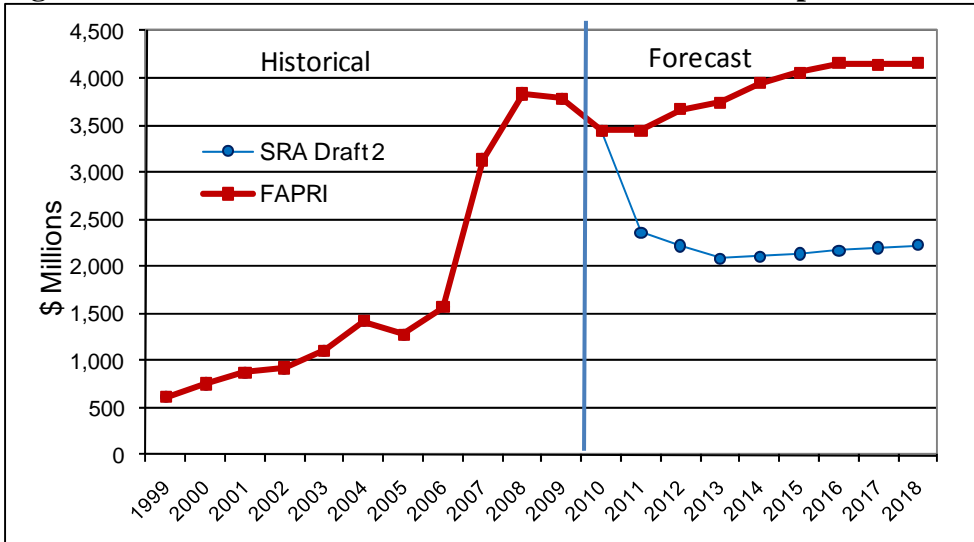
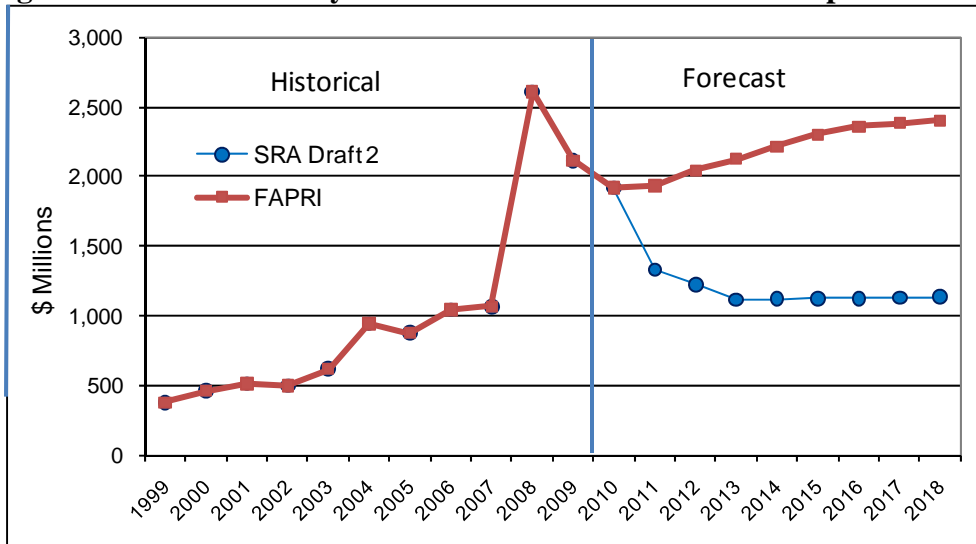


Figure 5.4: Forecasted Soybean Premium with SRA Draft2 Impact



The results of these premium forecasts are incorporated into the acquisition model through the use of an index factor table. The index factor uses the revenue forecast in a base year and then indexes the other years to that base year.

For a typical acquisition, a seller prices the agency from last year’s commission level, which directly relates to last year’s gross premiums. An example of the conversion of the

corn premium forecast to the corn index factors is shown in Table 5.5. This index table enables the conversion of the commodity crop insurance premium forecast to a basis that is relevant to the target agency's policy portfolio. In the example in Table 5.5, the base year is 2009. The base year coincides with the year that the agency's premium and commission are being priced from. The index for the first year in the forecast is 2010, so the ratio for 2010 is determined by the premium forecasted for 2010 of \$3,441,912,000 divided by the premium in the base year (2009) of \$3,780,314,000, which yields an index ratio for 2010 of 0.91. This ratio is then used in the agency acquisition model to forecast the agency premium for 2010.

Table 5.5: Corn Premium Forecast to Index Conversion

Year	Premium in 000s	Price Lagged	Yield	2009 Ratio
1999	\$ 612,806	1.94	133.8	0.16
2000	\$ 750,843	1.82	136.9	0.20
2001	\$ 877,214	1.85	138.2	0.23
2002	\$ 920,760	1.97	129.3	0.24
2003	\$ 1,107,311	2.32	142.2	0.29
2004	\$ 1,417,241	2.42	160.3	0.37
2005	\$ 1,276,114	2.06	147.9	0.34
2006	\$ 1,569,523	2.00	149.1	0.42
2007	\$ 3,129,615	3.04	150.7	0.83
2008	\$ 3,834,516	4.20	153.9	1.01
2009	\$ 3,780,314	3.90	165.2	1.00
2010	\$ 3,441,912	3.71	158.0	0.91
2011	\$ 3,443,879	3.69	160.0	0.91
2012	\$ 3,672,109	3.85	161.9	0.97
2013	\$ 3,737,305	3.88	163.9	0.99
2014	\$ 3,941,606	4.02	165.9	1.04
2015	\$ 4,058,749	4.09	168.0	1.07
2016	\$ 4,153,325	4.14	170.3	1.10
2017	\$ 4,142,645	4.11	172.3	1.10
2018	\$ 4,157,257	4.10	174.3	1.10

Source: RMA Nationwide Summary by State/Commodity as of 5/7/2009

Source: USDA NASS

Source: FAPRI 2009 Agricultural Outlook

Predicted US Corn Premium

5.2 Policy Retention Rates

The second major variable in the agency acquisition model is policy retention. Policy retention is defined as the remaining policies less the loss that occurs with a change of ownership in an agency. The data available to analyze retention rates are limited to actual results from two agency acquisitions made by FCSAmerica, both in 2007. Retention rates are measured routinely and annually on FCSAmerica's entire insurance portfolio. Some loss of policies occurs annually due to customers retiring or not purchasing coverage, but

the most frequent cause of loss is due to competition. FCSAmerica’s portfolio retention rate was 92% in 2008 and 91% in 2009 (Table 5.6).

Table 5.6: Crop Insurance Agency Acquisitions – Policy Retention

	Customers	Lost	Year 1		Year 2	
			Retention	Relative Retention	Retention	Relative Retention
Acquisition A	658	30	95%		88%	
Regional Peers	2,553	178	93%	2%	91%	-3%
Association Total	8,411	668	92%	3%	91%	-3%
Acquisition B	190	55	71%		88%	
Regional Peers	2,397	146	94%	-23%	93%	-5%
Association Total	8,411	668	92%	-21%	91%	-3%

FCSAmerica’s two acquisitions consisted of a large agency (Acquisition A) and a small agency (Acquisition B). Acquisition A had a gross premium in 2007 of \$11.5 million and commission income of 18.5% or \$2.13 million. Acquisition A was a multi-salesperson agency with a total of five sales agents and FCSAmerica employed and retained three of those sales agents. Acquisition B had a gross premium of \$1.5 million and commission income of 17.8% or \$270,000. Acquisition B was a single-salesperson agency with one other support employee. FCSAmerica did not retain either the agent/owner or the support employee.

Table 5.6 summarizes two years of post acquisition retention rates for Acquisitions A and B, as well as relative comparisons to their regional peer groups and the FCSAmerica

Association averages. Acquisition A experienced a 2% better retention rate in the first year than its peer group, while acquisition B experienced a 23% worse retention rate than its peer group in the first year following closing. In the second year, Acquisition A experienced a 3% worse retention rate than its peers, while Acquisition B experienced a 5% worse retention rate than its peers.

A review of the retention data with FCSAmerica's Insurance Leadership Team indicates that the two examples probably reveal close to a best case example and a worst case example of retention rates after an acquisition. Acquisition A represents a customer base that was accustomed to a larger company atmosphere with multiple employees interacting with customers, similar to the business style of FCSAmerica. Acquisition A also involved retaining a high percentage of the former employees that resulted in fewer new relationships for the customers. Conversely, Acquisition B represents a customer base that was not accustomed to interacting with multiple employees and there was no retention of the former agent as an employee, resulting in each customer experiencing a new personal relationship with their sales representative. This leaves the customers vulnerable to other sales representatives in the local marketplace. The performance indicates that the first year is the most vulnerable to lower than average retention rates in that the retention rate for the second year is nearly equal to FCSAmerica's current portfolio retention rate.

This analysis is incorporated into the acquisition model through separate policy retention factors for the first and second year following the acquisition. The model assumes that by the third year the customers have settled into the FCSAmerica portfolio and no additional attrition needs to be accounted for. The agency acquisition model assumes that organic

growth will off-set normal retention loss in years three through five. The agency acquisition model is designed so that the model can adjust the first and second year retention rates based on size of agency, local competitive environment, employees retained, seller retention incentives in the acquisition contract, and retention skills and efforts of the FCSAmerica specialists assigned to the acquired policies.

5.3 Commission Level Assumptions

The third major variable in the agency acquisition model is commission rate. Historically, commission rates have been relatively stable and predictable. Commission rates, however, are not universal in the industry as they are determined annually by the various insurance companies that agencies represent. An industry average for small to mid-sized agencies is 18.5%. The 18.5% commission factor is used in the model to estimate the commission multiple based on the acquisition price and gross premium for the base year for the potential acquisition.

Future commission rates, however, will likely face reductions in 2011 and beyond.

USDA's RMA has already enacted reductions in Administrative & Operating (A & O) reimbursements to crop insurance companies that will result in reductions in commissions passed through to agents. More significantly, the latest draft of the SRA proposed by RMA has a commission cap for agents at 80% of the proposed A & O reimbursement. For example, this proposal would, for an 80% coverage level policy, result in a limit on agency commission of 15.5% (Mike Barrett, e-mail message to author, February 26, 2010). There is significant industry and related party opposition to this size of cut in commissions and to the fixed commodity price proposal in the currently proposed draft of the SRA. This issue

will not be resolved until June of 2010 when the final decisions on the new SRA must be complete. However, it would appear that the industry will likely experience a commission reduction of 20%, with a potential range of 5-30% (Mike Barrett, personal discussion with author, March 15, 2010).

The agency acquisition model is designed with a commission adjustment factor that will reduce agent commission levels from the baseline year by a percentage factor, beginning with the 2011 insurance year and continuing through the remaining years in the model.

5.4 Other Model Assumptions

A five year income stream was assumed. The investment recovery period is estimated as five years, as it is anticipated that the agency policies would be fully integrated into the existing portfolio after year five to the point that it would not be determinable if the customers would have been attracted by other business development channels. It is also the desire of FCSAmerica leadership to see a full recovery of any acquisition investments in a three to five year timeframe.

Additional income sources that are added to the model include crop hail commissions and crop insurance company profit sharing. Both are sources of income that would occur from an agency acquisition, but neither revenue source is large relative to other net income sources. These revenue sources are estimated at 1.5% and 0.5% of retained premiums annually. These estimates represent FCSAmerica's average on its existing portfolio and are not varied in the analysis.

CHAPTER VI: SENSITIVITY AND VARIOUS SCENARIO COMPARISONS

6.1 Objectives of Sensitivity Analysis

The primary objective of the multiple scenario analysis is to test the reliability and reasonableness of the model in evaluating potential agency purchases. A secondary objective of the sensitivity analysis is to provide ranges to consider in the overall project objective of assessing the feasibility of crop insurance agency acquisitions.

6.2 Output Measures

Output measures selected for analysis include a comparison of the net present value of a purchase in 2010 for an agency located in western Iowa with similar characteristics of FCSAmerica's Acquisition A. Each scenario estimates the NPV using a purchase price of 2.5 times the 2009 commission generated by the agency, the internal rate of return using a purchase price at 2.5 times commission, the breakeven price that could be paid for the agency, and the breakeven commission multiple.

The sensitivity analysis examined alternative assumptions for commodity prices, policy retention rates, and commission reductions in 2011 and beyond. The sensitivity analysis summary is illustrated in Table 6.1. Figure 6.1 illustrates the model, with input components highlighted in yellow and turquoise for the base case commodity scenario with a 20% commission reduction and retention rates of 92% in year 1 and 90% in year 2.

Figure 6.1: Agency Acquisition Model – Base Case Commodity

Baseline Commodity						
WIA1 (dollar amounts in thousands)	\$5,550 Acquisition Price					
Acquisition Price Commission Multiple Based on Base Year Premium ⁽¹⁾	2.50		2.55	Commission Multiple @ Breakeven		
Acquisition Book of Business Commission Rate	18.5%					
Acquisition Price	(\$5,550)		(\$5,656)	Breakeven Price		
Amortization in Years	\$ 5					
Insurance Agency Acquisition	2009	2010	2011	2012	2013	2014
Base Year Gross Premium Acquired	\$ 12,000					
Premium % Corn (State, County, or Portfolio) (IA,NE,SD - 64%,64%,49%)	64%					
Premium % Soybeans (State, County, or Portfolio) (IA,NE,SD - 36%,30%,29%)	36%					
Premium % Wheat (State, County, or Portfolio) (IA,NE,SD - 0%,6%,22%)	0%					
Commodity Index Factor (<i>From Regression Model</i>) Corn	1.00	0.91	0.91	0.97	0.99	1.04
Commodity Index Factor (<i>From Regression Model</i>) Soybeans	1.00	0.91	0.91	0.97	1.00	1.05
Base Premium Forecast	12,000	10,920	10,920	11,640	11,923	12,523
Policy Retention Factor (<i>From Historical Experience</i>) Year1	0.92	0.92	0.828	0.828	0.828	0.828
Policy Retention Factor (<i>From Historical Experience</i>) Year2	0.90					
Adjusted Gross Premium Forecast		10,046	9,042	9,638	9,872	10,369
Commission Rate	0.195					
Commission Adjustment Factor (<i>From Expert Opinion on SRA</i>)	0.8					
Forecasted Commission Rate		0.195	0.156	0.156	0.156	0.156
Forecasted Commission from Acquisition		2,129	1,411	1,504	1,540	1,618
Profit Share (.50% of retained premium)		\$50.2	\$45.2	\$48.2	\$49.4	\$51.8
Hail Insurance Commissions (1.5% of Adjusted Gross Premium)		\$150.7	\$135.6	\$144.6	\$148.1	\$155.5
Acquisition Income Forecast		2,330	1,591	1,696	1,738	1,825
Additional Operating Expenses						
Salary & Benefits Per FTE Analysis Below (+ 3.5% per year inflation factor)	\$368.7	\$381.6	\$395.0	\$408.8	\$423.1	\$437.9
Other Expenses (21% of salary & benefits)	\$77.4	\$80.1	\$82.9	\$85.8	\$88.9	\$92.0
Additional Expenses						
Total Additional Operating and Other Expense		\$461.8	\$477.9	\$494.7	\$512.0	\$529.9
Annual Net Additional Income (Expense)	(\$5,550.0)	\$1,868.6	\$1,113.4	\$1,201.6	\$1,225.6	\$1,295.1
Cost of Debt Capital	5.50%					
Return on Equity	11.50%					
Weighted Average Cost of Capital (13.5% Equity & 86.5% Debt)	6.31%					
Internal Rate of Return	7.1%					
Net Present Value of Acquisition	\$106.17					
Additional FTE's						
Insurance Team Leaders	-	-	-	-	-	-
Insurance Specialists	1.00					
Insurance Coordinators	-					
Insurance Analysts	1.00					
Financial Officers	1.00					
Insurance Account Specialists	2.00					
Total FTE's Added	5.00	-	-	-	-	-
Retail Office Adjustments						
Financial Officers	-					
Other	-					
Total FTE's Added	5.00					

Table 6.1: Sensitivity Analysis Summary for Hypothetical Agency Acquisition

Scenario	000s NPV At 2.5X	IRR At 2.5X	000s Breakeven Price	Breakeven Multiple
Best Case Commodity (FAPRI + 10%)				
Best Retention (95% Year 1, 95% Year 2)	\$ 1,431	15.8%	\$ 6,981	3.14
Base Retention (92% Year 1, 90% Year 2)	\$ 878	12.3%	\$ 6,427	2.90
Worst Retention (75% Year 1, 85% Year 2)	\$ (559)	2.0%	\$ 4,991	2.25
Base Case Commodity (FAPRI Forecast)				
Best Retention (95% Year 1, 95% Year 2)	\$ 609	10.4%	\$ 6,159	2.77
Base Retention (92% Year 1, 90% Year 2)	\$ 106	7.1%	\$ 5,656	2.55
Worst Retention (75% Year 1, 85% Year 2)	\$(1,200)	-3.2%	\$ 4,350	1.96
Worst Case Commodity (SRA Draft2)				
Best Retention (95% Year 1, 95% Year 2)	\$(1,849)	-10.4%	\$ 3,701	1.67
Base Retention (92% Year 1, 90% Year 2)	\$(2,149)	-14.0%	\$ 3,400	1.53
Worst Retention (75% Year 1, 85% Year 2)	\$(2,936)	-26.1%	\$ 2,613	1.18
Commission Sensitivity (10-30% Reduction)				
Base Commodity, Base Retention (-10%)	\$ 718	11.1%	\$ 6,268	2.82
Base Commodity, Base Retention (-20%)	\$ 106	7.1%	\$ 5,656	2.55
Base Commodity, Base Retention (-30%)	\$ (506)	2.6%	\$ 5,044	2.27
Worst Commodity, Base Retention (-10%)	\$(1,787)	-9.7%	\$ 3,763	1.70
Worst Commodity, Base Retention (-20%)	\$(2,149)	-14.0%	\$ 3,400	1.53
Worst Commodity, Base Retention (-30%)	\$(2,511)	-19.0%	\$ 3,038	1.37

6.3 Commodity Price Variation Results

Base case commodity price forecasts were modeled on FAPRI's most recent forecasts for commodity prices and yields from 2010 through 2014 from Table 5.2. Results of the base case commodity scenarios are illustrated in section two of (Base Case Commodity) Table 6.1. Best case commodity price forecasts were also modeled on a +10% increase from FAPRI's forecast with results summarized in section one of (Best Case Commodity) Table 6.1. Worst case commodity prices were modeled with an adjustment for the years 2011 through 2014 set at levels proposed in RMA's SRA Draft2 with the results summarized in section three of (Worst Case Commodity) Table 6.1.

In comparing results for commodity price variations, at the most likely policy retention assumption of 92% in year 1 and 90% in year 2, the base case commodity scenario (Line 2, Section 2, Table 6.1) yielded a slight positive NPV of \$106,000 at a purchase price of 2.5 times 2009 commission, an internal rate of return of 7.1%, and a breakeven purchase price of 2.55 times 2009 commission or \$5.656 million. This seems logical considering the multiple paid for Acquisition A, based on 2007 commission income was 2.34 times 2007 commission income. In the best case scenario examined (Line 2, Section 1, Table 6.1), the model yielded a net present value of \$878,000, an internal rate of return of 12.3%, and a breakeven purchase price of \$6.426 million or 2.90 times 2009 commission. In the worst case scenario examined (Line 2, Section 3, Table 6.1), the model yielded a net present value of -\$2.149 million at a purchase price of 2.5 times 2009 commission income, a -14.0% internal rate of return, and a breakeven purchase price of \$3.400 million or 1.53 times 2009 commission income.

In considering the impact of commodity price only, with all other factors held constant, acquisition prices in the range of 2.50 times the 2009 commission would achieve the return target of approximately 6.31% IRR, if FAPRI's commodity price forecast is accurate and if there are no significant changes to the commodity formula in the SRA. However, in the worst case commodity price scenario, which incorporates the currently proposed changes in commodity prices for commission calculation in SRA Draft2, returns are negative on an acquisition at 2.5 times 2009 commission amount. This situation loses 38% of the initial investment in terms of NPV and produces an IRR of -14% over the course of five years. If the SRA is enacted at these proposed levels for commodity basis for commissions,

acquisition prices would need to be reduced by approximately 38%, which would yield a multiple of approximately 1.5 times the 2009 commission amount.

6.4 Policy Retention Variation Results

The policy retention scenarios were examined. The base retention scenario consists of 92% retention in year 1 and 90% retention in year 2. This retention scenario is consistent with results from a larger agency acquisition (Acquisition A) from FCSAmerica history. These retention rates are also consistent with, or slightly less than, FCSAmerica portfolio retention rates. The best case retention scenario assumes a 95% retention rate in years 1 and 2. Although this retention rate was achieved in year 1 with Acquisition A, these retention rates may not be attainable and represent the upper boundary for retention experience in an acquisition. The worst case retention scenario is estimated at a 75% in year 1 and an 85% retention rate in year 2. The two year net rate approximates the experience of FCSAmerica in Acquisition B, when all personal relationships turned over and there was not sufficient retention strategy in place to mitigate the circumstances.

Sensitivity results of the three retention rate scenarios, at base case commodity prices, yielded a NPV range from \$609,000 to \$-1.2 million (Column 1, Section 2, Table 6.1) and an internal rate of return range from 10.4% to -3.2% Column 2, Section 2, Table 6.1). The results and impact of retention rate differences were more significant in the best case, or increasing, commodity price scenario, with the range increasing to nearly a \$2 million in NPV difference (Column 1, Section 1, Table 6.1). In the worst case commodity price scenario, the range was reduced to a little over \$1 million in NPV difference (Column 1, Section 3, Table 6.1), but is still significant to the acquisition price and return on

investment. These results emphasize the critical importance of a pre-sale evaluation of factors impacting retention rates and a post-sale plan to mitigate competitive pressures, quickly establish new relationships, and thereby maximize policy retention rate.

6.5 Commission Variation Results

Commission rate reduction levels were also examined. The current consensus in the industry is an expectation of reduced commissions in 2011 and beyond, the result of current SRA negotiations underway. Current insurance company estimates are for a 20% reduction in commission rates and a possibility of a range from 5-30%. Therefore the sensitivity analysis was completed on a base assumption of a 20% reduction, and on reduction rates of 10% and 30%

Commission sensitivity results in the base commodity case reduced the NPV by \$612,000 for each 10 percentage point reduction in the commission rate (Column 1, Section 4, Table 6.1). In the worst case commodity scenario, the net impact was less, with a reduction in NPV of \$362,000 for each 10 percentage point reduction in the commission rate (Column 1, Section 5, Table 6.1). Results of the sensitivity analysis to commission rates, although not as significant as commodity prices and retention rates is an important factor to monitor and adjust once the SRA negotiations are final.

CHAPTER VII: SUMMARY AND CONCLUSIONS

7.1 Summary

The U.S. crop insurance program became an essential risk management tool for crop producers in the United States in the 1980s. Since the implementation of the 2008 Farm Bill and with the significant increase in crop production costs since 2008, Federal crop insurance subsidies have increased in importance relative to commodity program payments. At the individual producer level, Federal crop insurance subsidies may now be more critical as an income safety net than commodity program payments. The combined influence of these factors has underscored the importance of crop insurance as an important risk management mitigation tool for grain farmers and lenders in the U.S. An agricultural lender, such as FCSAmerica, may be able to justify a role in the delivery and sales of crop insurance to customers on these reasons alone. Assurance of broad availability of crop insurance products, sound counseling on insurance products for loan customers, and political support and influence at the Federal level can be justified because of the importance of crop insurance to a lender's risk management of the loan portfolio.

Currently subsidy levels are under pressure from the Obama Administration due to a general desire to reduce agricultural subsidies and the Federal budget deficit and the perception of excessive insurance industry profits. The objective of this thesis was to determine if an incremental crop insurance agency acquisition is still feasible for FCSAmerica. It is important to note that the objective and the acquisition evaluation model are focused on incremental acquisitions and incremental income and expenses. Even

though some conclusions regarding industry profit levels and returns may be drawn, it is not the objective of this thesis.

A survey of both the economic events and the political climate impacting the future of the crop insurance industry reveals two conclusions. First, the crop insurance industry has likely experienced a peak in commission revenues from 2007 through 2010. The industry should anticipate a decline in gross commissions due to lower federal subsidy levels.

Second, there is a great degree of uncertainty in the form and level of future federal subsidy levels. Federal support exists in the form of subsidies for producer premiums and insurance company administrative and operating expense reimbursements. Insurance company expense reimbursements are currently under pressure through negotiations on the Standard Reinsurance Agreement (SRA) and will likely experience a reduction from historical levels. The level and formula for reductions will likely not be known until July of 2010, but the reductions will affect commission revenues for crop insurance years beginning in 2011. Producer level subsidies are under debate, but are not likely to be significantly impacted until the next major farm bill. The level of premium subsidy impact for producers, and the likely affects of any reduction, is not known, but current trends would not likely increase subsidy or producer participation levels. Uncertainty can also exist in the form of future changes to individual products approved by RMA, which could have an impact to producer participation levels or to insurance commission levels.

Any analysis of crop insurance agency acquisitions, and any valuation modeling, must account for the general trends in the industry and be adaptable to accommodate future changes in federal subsidies. The current status of the re-negotiation of the SRA is of

importance to industry agent commissions and, as a result, places a caution on any acquisition action until the SRA is final because this will likely reduce commissions and decrease profit opportunities for the next several years. However, these subsidy pressures may also represent opportunities to acquire agencies due to reduced competition, a general concern with the future of the industry, and a further drive toward consolidation resulting from cost efficiencies gained by larger scale agencies and potential insurance company consolidations.

Analysis of the net present value (NPV) of incremental agency acquisitions indicates that the most important variables in agency net revenue are commodity price levels, commission rates, and policy retention rates. This project focused on building an agency acquisition analysis model with these three components driving income based on FCSAmerica's experience.

Financial analysis and acquisition modeling support that crop insurance agency acquisitions are and will be feasible under a wide range of future economic and political scenarios. The wide range of assumptions, however, will contribute to a range of potential purchase prices and return rates on purchases. Model results are based on two measures, the internal rate of return (IRR) and the commission multiple. The IRR measure is broadly recognized and permits evaluation of the acquisition relative to other investment opportunities and broad company business goals. The commission multiple is the most typical index reference used in the crop insurance industry relative to agency acquisitions. It is typically derived from the last year's commission revenue and is often used in the bid and ask process in agency acquisition negotiations.

NPV results indicate that a hypothetical agency acquisition at 2.5 times the 2009 commission amount would yield an internal rate of return of 7.1% under the base case assumptions for commodity prices, commission rates, and policy retention rate. The base case is for commodity prices to follow the forecast of the Food and Agricultural Policy Research Institute (FAPRI), commission rates to be reduced by 20% in 2011 and forward, and a historical average policy retention rate based on FCSAmerica's range of experiences. The base case model would meet FCSAmerica's target for return based on a weighted average cost of capital of 6.3%. Some upside potential exists if commodity prices are higher than FAPRI's forecast and/or if policy retention rates are better than average. A 10% increase in commodity prices could yield an IRR of 12.3%, or support a 2.90 multiple. Using an optimistic policy retention rate would result in a 10.4% IRR, or support a 2.77 multiple.

The pessimistic case modeling scenarios assumed commodity prices at levels currently proposed in the second draft of the SRA in years 2011 through 2015 for corn and for soybeans. Although it is unlikely that the final SRA will be at these levels, it is believed to be a plausible level of commodity prices to base commission income on. Although the implied pricing levels would be substantially below the base case price levels and well below historical sales levels, the model indicates that agency acquisitions could be made to meet FCSAmerica investment yield targets. The range of multiples imply that this pessimistic case commodity price scenario would be from 1.18 to 1.67 times the 2009 commission level. These multiples would imply a 39% reduction in the value of an agency with implementation of the changes currently proposed in the second draft of the SRA.

7.2 Conclusions

An initial observation resulting from this project is the degree of influence that policy retention levels have on the profitability of an acquisition. Even though the high impact of policy retention and the influence of personal relationships on retention are well known, the project quantifies the impact of various retention levels. By measuring the impact, this project emphasizes that policy retention factors should also be considered in the initial price negotiation and valuation modeling of individual agency acquisition opportunities. The analysis and research underscores the need for a very active policy retention strategy for up to two years post closing. Policy retention and the orderly transition of business relationships are critical to the profit potential in the first two years of an acquisition. Price negotiations must include a non-compete clause and should consider an employment retention package for key sales person and/or owners. The agency acquisition model completed for this project would indicate that a post acquisition employment agreement for key transition employees could be attractive for both parties. Targeting this package to a two year net retention rate in the range of 70-95% could essentially profit share on the net income from those policies and benefit both parties.

Other observations from this project can be summarized as potential acquisition strategy and contract term opportunities in the forthcoming crop insurance business environment. First, the current negative environment may provide more acquisition opportunities than in the past when commissions were rising and agents were enjoying strong profitability. The current environment not only has negative implications for commission levels, but the longer term outlook is also negative with respect to the general level of subsidy to producer

premium amounts. A well researched and flexible acquisition strategy and valuation model may be useful in more of a buyer's market than the last several years have represented. In addition, this environment may present more of an opportunity for a flexible purchase agreement. Consideration should be given to deferring a portion of the acquisition price with the deferred portion being dependent on policy retention rates, commission amounts, a commodity price index, or some combination of these factors.

Final conclusions from this project center on the main objective from the perspective a large agency in this industry. The crop insurance sales industry faces a good deal of uncertainty in the near future, but almost certainly will be an industry where the available market is limited and general industry profitability will decline significantly relative to 2007 to 2010. The crop insurance agency at FCSAmerica represents a key risk management service for FCSAmerica stockholders and a key risk mitigation tool for FCSAmerica's loan portfolio. These are intrinsic benefits that are difficult to value, but necessary to consider in decisions to expand, maintain, or shrink the insurance services division. FCSAmerica currently has a substantial regional market share and represents one of the largest crop insurance agencies in the U.S. An expansion strategy can make sense in an industry with declining profit margins, if acquisitions are priced such that net incremental policy acquisitions generate more income over incremental expenses and contribute to the dilution of fixed or overhead expenses and investments that FCSAmerica has already made. With reduced commissions and general industry profit levels, incremental acquisitions may be profitable provided these acquisitions can be made in locations where existing infrastructure and support services can support the acquisition.

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