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Agricultural and Rural Finance Markets in Transition
Proceedings of Regional Research Committee NC-1014
Washington, DC
October 2-3, 2006

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by

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<u>Abstract</u>

Data from a survey of Midwest producers are used to examine the credit-source decisions of farm borrowers. The lender attributes preferred by producers are identified in terms of their importance in selecting credit providers. The influence of farm business information on farmers' interest rate sensitivity and loyalty is investigated. Regression results indicate that patrons of the Farm Credit System are more likely to be highly price-sensitive. Furthermore, the likelihood for strong borrower loyalty is found to be higher for smaller, less leveraged, and more tenured farms and by those who source financing from bank institutions.

Key words: binomial logit, interest rate sensitivity, lender attributes, lender-borrower relationships.

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Changes in the agricultural and financial sectors continue to impact the delivery of financial services and products and alter the role that agricultural lenders play in the market. One of the catalysts for change in the agricultural credit market continues to be increased competition among lenders. This pressure is not a new characteristic of the financial industry; however, certain aspects of the evolving market structure represent a new degree of heightened competition. Competitive forces are not only increasing, but coming from a wider range of market participants as the dominance of traditional lenders, domestic commercial banks and the FCS, is being threatened through various dimensions.

The aggressiveness of emerging sources of agricultural credit pressures lenders to be more responsive to the needs of borrowers. Captive finance companies continue to build market share, while the U.S. market entry of international financial institutions is reshaping the competitive arena. One such multinational bank, Rabobank, exemplifies the increase in transnational lending in U.S. agriculture. This Dutch finance company has made substantial investments in the U.S. farm credit sector through purchases of banks, agricultural mortgage firms, and crop input lenders. New credit suppliers to the farm market, as well as traditional ones, need to understand the attributes of the lender-borrower relationship highly valued by borrowers to compete successfully in the evolving credit marketplace.

In light of the changes occurring in agricultural production and finance, it is increasingly important for lenders to understand the factors that influence producers' decisions in selecting sources of farm credit. Lending relationships can certainly generate profitability over time. Halloway (1996) uses data from 12,000 retail-banking customers to illustrate that customer satisfaction, customer loyalty, and profitability are related to one another. Gunderson, Gloy, and LaDue (2006) use survey data on agricultural loans and simulation models to estimate the value of longer term lending relationships. Their results suggest that after accounting for risk, large loan relationships generate more lifetime value, but smaller loans tend to add more value per dollar of loan.

As farmers' demographics change, so may their preferences for lender attributes. Some customer segments are more likely to be interest rate sensitive, while other segments place considerable value on the credit relationship. Identifying and responding to borrower expectations and offering the proper product mix are critical to lenders' profitability and success. Prior studies on producers' preferences for lender attributes have focused primarily on evaluating the importance farmers place on certain factors associated with selecting a credit source. Bard, Craig, and Boehlje (2002) use attribute ratings and conjoint analysis to ascertain preferred lender characteristics. Their results indicate that the time-to-loan decision, amount of loan provided, lender's interest rate, and lender's specialization in agriculture are key attributes farmers prefer in a credit provider. The conjoint analysis confirms that producers are not willing to trade a higher interest rate for other lender qualities. Similar attribute rating research is regularly published in trade journals, such as *Ag Lender* and *American Banker*.

Theories on lending relationships argue that establishing a credit relationship is valuable to small firms. Empirical research suggests that small businesses benefit from a strong lender-borrower

relationship in both credit availability and credit terms. Petersen and Rajan (1994) find that a small firm's access to financing increases as its relationship with the credit institution matures. However, they do not observe a significant association between the duration of the lender-borrower relationship and the pricing of credit. Berger and Udell (1995) investigate only lines of credit to analyze the link between loan rates and collateral and the length of the banking relationship. They conclude that small firms with longer credit relationships pay less for borrowing, except for very small businesses (firms with less than $500,000 in total assets). Their results also indicate that borrowers with longer banking relationships are less likely to pledge collateral to secure loans. Cole (1998) explores how a pre-existing relationship between a small business and a potential lender influences the likelihood of the business receiving credit. Cole's findings reveal that interacting with a lender through the use of savings accounts and financial management services improves the firm's chance of securing financing from the lending institution.

The empirical evidence suggests that small businesses using debt capital have incentives to develop a relationship with a lender. Furthermore, the literature argues that these incentives increase as the lender-borrower relationship progresses, thereby explaining the motivation for the relationship to evolve into strong borrower loyalty. This study extends the analysis to farm businesses in an effort to investigate if the credit relationship plays a significant role in producers' selection of a lending institution.

Most of the statistically-based research on relationships in agricultural lending explores how these interactions influence customer loyalty. Barry, Ellinger, and Moss (1997) collect data from a survey of Midwestern agricultural banks. Their study employs an ordered probit method to regress each respondent's loyalty rating for agricultural borrowers against three groups of predictor variables comprised of different lender attributes. They conclude that lenders consider the relationship with the loan officer to be the most important factor in determining borrower loyalty. Furthermore, they observe that relationship-intensive financing is essential to a bank's competitiveness. Ninety-one percent of respondent banks rate long-term service from the same loan officer as highly important to maintaining a competitive position in the farm lending market. Using the lender-borrower relationship as a proxy for customer loyalty, their study can be extended by identifying loyal farm borrowers and examining their farm business information.

This study provides an analysis of the attributes that factor into producers' credit-source decisions. The structural change in production agriculture and the financial services sector warrants a review of borrower values. In an effort to build upon previous research, this study examines the statistical influence of selected farm business and financing characteristics in identifying which producers are likely to be highly price-sensitive and which ones may exhibit strong loyalty to a single lender.

The primary objective of this research is to understand the information that farmers use to select agricultural lenders. Specific objectives are to: (1) compare mean lender attribute importance ratings among producers with different credit preferences, (2) identify farmers who are highly interest rate sensitive and those who exhibit strong degrees of borrower loyalty, and (3) determine how levels of farm business and financing characteristics influence borrower price sensitivity and loyalty.

Data and Methods

Data are generated through a mail survey of producers in Illinois, Indiana, and Iowa. Respondents are randomly selected from the Progressive Insight database, a market research database of 1.2 million farm operators. This list is maintained by *Progressive Farmer*, a company that interacts extensively with agricultural producers through farm magazines, surveys, and other means. The database can be segmented by demographic criteria. The criteria used for this study require that the farmer operates more than 300 acres and resides in Illinois, Indiana, or Iowa. Several previous surveys seeking similar information and a pilot study administered through a community bank contribute to survey development. Items in the survey investigate farm business information, financing characteristics, incidence of changing lending institutions, and the importance of selected lender attributes (a copy of the survey form is available from the authors upon request). Surveys are distributed such that 1,500 Illinois farmers, 750 Indiana farmers, and 750 Iowa farmers receive the questionnaire. Receiving 538 usable surveys yields an effective response rate of 18 percent.

Variables analyzed include age, education, farm size, tenure, leverage, off-farm income, and sources of credit. The anticipated influences of these measures on the price sensitivity and loyalty of producers are explored in the following discussion.

Age and Education[*]

Little empirical evidence exists regarding the price sensitivity of banking services by age (Amel and Starr-McCluer, 2001). Older producers are more likely to have built a relationship with a specific debt capital provider and may have experienced the benefits of the lender-borrower relationship through periods of poor and strong economic times. Furthermore, the credit relationship is likely to strengthen as farmers age, resulting in less sensitivity to marginal changes in debt costs. Therefore, agricultural borrowers greater in age are anticipated to be less interest rate sensitive. The expected relationship with education is not assigned. A well-educated borrower is likely to be better informed about loan terms. A positive relationship may suggest a better understanding of the farm's financial position and how lower interest rates relate to financial performance. However, a negative relationship could imply a better understanding of the importance of establishing advisory teams of professionals and how knowledge of agriculture in general and knowledge of the borrower's specific business relates to the long-run success of the business.

Farm Size[†]

Acres farmed serves as a proxy for the size of the farm business. Managers of larger farm operations are hypothesized to be more price-sensitive and demonstrate less borrower loyalty. Larger commercial farms tend to carry greater amounts of debt and are generally more highly

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[*] The age variable is excluded from the borrower loyalty analysis because respondent age is used to build the loyalty dependent variable.
[†] This study explored using annual farm sales as a measure of farm size. Results from incorporating acres farmed and annual farm sales separately into the regression equations are not significantly different. Furthermore, acres farmed yields stronger levels of significance.

leveraged conscious (Ellinger et al., 2005 and U.S Department of Agriculture, 2006). Hence, larger farms may be more price-sensitive. With larger outstanding loan balances, and therefore greater interest expenses, these producers are expected to be more acute to marginal changes in interest rates and less committed to a specific financial source. Moreover, lenders will likely compete more aggressively for larger borrowers and thereby provide more opportunities for these borrowers to switch lenders.

Farmland Lease Ratio

The farmland lease ratio is the percentage of acres operated under a lease arrangement. The anticipated relationships between this measure and both price sensitivity and relationship strength are ambiguous. On the one hand, producers leasing a larger percentage of acres farmed may be less responsive to marginal changes in debt costs and more inclined to build loyalty with a single lender. Greater reliance on leased farmland may reflect a weaker financial position, thereby placing more importance on the operator's creditworthiness in a lender's decision to extend debt capital. As a result, farms leasing a high proportion of acres may value a solid credit relationship by exhibiting strong customer loyalty. On the contrary, profit margins on leased acres are often lower than owned acres (Schnitkey and Lattz, 2006). Hence, farmers may strive to acquire the lowest price credit available to maintain profit margins or to allow them to increase cash rent bid prices.

Leverage

Leverage is measured by the debt-to-asset ratio. The expected relationships between leverage and both price sensitivity and relationship strength are also ambiguous. Farm operators with higher levels of debt compared to assets may exhibit strong borrower loyalty. Highly leveraged producers may have access to a limited number of lenders willing to serve their credit needs, thereby reducing their opportunities to secure lower-cost financing. This situation may encourage borrowers to build a strong credit relationship with a single supplier to ensure a dependable source of capital. On the other hand, higher degrees of leverage also indicate higher potential interest costs. These borrowers may not exhibit strong lender loyalty and attempt to acquire the lowest cost of credit.

Off-Farm Income

Higher levels of off-farm income contribute to the financial stability of the farm business. Thus, producers with greater earnings from non-farm sources (by the farm operator and/or spouse) may choose to be more price-conscious when selecting a credit provider and less loyal to a single financing source.

Credit Sources

Sources of agricultural operating credit are represented by two categories of lenders: the FCS and bank institutions. Respondents are asked to indicate the use of one or both lenders in financing operating activities during a three-year period. Consequently, these two credit sources are not

mutually exclusive. The directions of the effect of credit sources on price sensitivity and customer loyalty are ambiguous.

The mean importance scores of lender attributes are compared across two measures of borrower price sensitivity and loyalty using a multiple comparison procedure. The Tukey-Kramer means separation test is used to detect significant differences between individual treatment means.[‡]

The examination of survey data is expanded through logit analysis by utilizing regression models to investigate the characteristics of price-sensitive and loyal agricultural borrowers. The econometric techniques explore how selected farm business and financing characteristics of survey respondents explain the outcomes of two dichotomous response variables: (i) high versus not high borrower price sensitivity and (ii) strong versus not strong borrower loyalty. Because these decisions are reflected by discrete outcomes, a binary logit model is employed to determine the significance of relationships. The results of logit analysis indicate the probability of association between the independent variables and the dependent variables. Binomial logistic regression describes the relationships between a dichotomous dependent variable and a set of discrete explanatory measures (Greene, 1993).

The price sensitivity dependent variable is mapped using respondents' reasons to switch primary lending institutions. Respondents are asked to rate the importance of 13 different incentives for changing credit providers. The influence of a 50 basis points interest rate difference between lenders is used to define price sensitivity for the price sensitivity logit model. The dependent price sensitivity variable for an interest rate difference of 50 basis points has a value of 1 (highly sensitive) for importance ratings of 4 and 5 and a value of 0 (not highly sensitive) for importance ratings of 1, 2, and 3.[§, **]

In the borrower loyalty model, loyalty is a function of three respondent characteristics: age, years with current primary lender, and borrowing life. Borrowing life is defined as the maximum number of years a producer could have been borrowing. Responding farmers are classified as highly loyal if they satisfy at least one of three criteria: (1) twenty-six years old and five years or more with current lender, (2) forty years of age or older and 10 years or more with current

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[‡] The Tukey-Kramer test is applicable for pairwise comparisons for unequal sample sizes. Two means are considered significantly different if

$$\frac{\left|\bar{y}_i - \bar{y}_j\right|}{s\sqrt{\dfrac{\left(1/n_i + 1/n_j\right)}{2}}} \geq q(\alpha; k, v),$$

where $\bar{y}_i$ and $\bar{y}_j$ are means for group i and j, s is the root mean square error, also known as the pooled standard deviation, n_i and n_j are the number of observations in the ith and jth group, and $q(\alpha; k, v)$ is the critical value for the studentized distribution of k normally distributed variables with v degrees of freedom at the α significance level.

[§] Importance ratings are based in a Likert scale (1 = not important; 5 = very important).

[**] Other methods for gauging interest rate sensitivity are inspected, such as the importance of a 25 basis points margin in considering switching lenders. The alternative measures are each separately incorporated as dependent variables in the price sensitivity model. The regression analyses produce no statistically significant differences in results among the different measures.

lender, or (3) at least half of borrowing life spent with current lender. Borrower loyalty serves as a binary response variable by equating "strong loyalty" with 1 and "not strong loyalty" with 0. The loyalty measure relies primarily on the duration of the financial relationship with respect to borrower age. Akhavein, Goldberg, and White (2004) provide support for the length of the lender-borrower relationship serving as a proxy for the strength of the credit relationship. Furthermore, Moss, Barry, and Ellinger (1997) and Hanson, Robison, and Siles (1996) conclude that the borrowers' relationship with a financial institution is a significant factor in building customer loyalty.[††]

This study considers price sensitivity and loyalty to not be mutually exclusive. A producer can rate both price and the lender-borrower relationship as important attributes when selecting a credit source. The statistical analyses examine the price sensitivity and strength of loyalty exhibited by all respondents using debt capital.

Results

Tables 1 through 4 convey the results from the evaluation of survey participants who demonstrate a high degree of price sensitivity and a strong level of customer loyalty. Because respondents in this research can fall into both categories, high price sensitivity and strong loyalty, a cross tabulation indicating the joint distribution of the two dependent variables is reported in Table 1. Of borrowers classified as highly price-sensitive, 60 percent also fall under the strong loyalty label. Twenty-four percent of producers not considered to be highly price-sensitive are also regarded as not demonstrating strong borrower loyalty. When examining respondents who are characterized as very loyal, 69 percent belong to the high price sensitivity group. Of farmers described as displaying less loyalty, 49 percent are also less sensitive to price.

Table 2 reports the frequency distribution of respondent demographic and farm business information categorized by high versus not high price sensitivity and strong versus not strong loyalty. Significantly different proportions between the two levels of price sensitivity and loyalty are denoted by different letters. Findings from these descriptive statistics are largely consistent across each classification for both dependent variables. The largest percentage of respondents is between 46 and 55 years of age. The majority of producers manage between 500 and 1,500 acres. A significantly greater portion of "not highly price sensitive" farmers fall in this acres bracket compared to the percentage of highly price sensitive producers. A majority of respondents source financing from bank institutions, while a smaller proportion patronize the FCS. Statistically proportional differences are identified between the two loyalty levels for the "Bank Use" variable and between the two price sensitivity levels for the "FCS Use" variable.

The education level of responding producers is less consistent between each class within both dependent variables. Of the farmers who demonstrate high price sensitivity and low customer loyalty, the largest percentage have a four-year degree, while most of the highly loyal and less price sensitive respondents have only a high school education. Across measures of interest rate sensitivity and loyalty, the largest percentage of survey participants lease more than 75 percent

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of total acres operated, exhibit a debt-to-asset ratio between .11 and .40, and earn less than $25,000 in annual off-farm income.

Table 3 reports the average importance scores for selected lender attributes. These attributes are listed in order of importance according to the average ratings from all survey respondents. Even though differences in preference scores between each category are observed for each treatment variable, only two attributes exhibit significantly different mean ratings, according to the Tukey-Kramer means separation test. Highly price-sensitive respondents provide a statistically higher mean rating to the lender's interest rate compared to farmers less sensitive to financing costs. All other attributes have insignificantly different mean scores between the two classes. In the borrower loyalty variable analysis, the only lender characteristic with a statistically significant difference in ratings between the two groups is the lender's dependability as a source of credit. Respondents strongly committed to a single financial institution rate this attribute significantly higher in importance.

Results from the means tests support the validity of the methods used to build the treatment variables. One would expect highly price-sensitive respondents to assign a significantly higher average importance score to the "interest rate" attribute compared to their counterparts. Furthermore, as one would anticipate inferring, borrowers with stronger customer loyalty place greater importance on their lender's dependability as a credit source than producers who exhibit less customer loyalty.

Table 4 reports the estimated logit coefficients, *p*-values, and associated means for the borrower price sensitivity and loyalty models. The two dependent variables reflect high price sensitivity versus not high price sensitivity and strong loyalty versus not strong loyalty. Positive (negative) coefficient estimates of independent variables indicate that the variables increase (decrease) the likelihood of high price sensitivity in the borrower price sensitivity model and high loyalty in the borrower loyalty model.

The results in Table 4 suggest that sourcing financing from the FCS significantly increases the likelihood of high price sensitivity at the 10 percent level. None of the remaining variables significantly influence farmers' interest rate sensitivity. In the borrower loyalty equation, Table 4 indicates that highly loyal farm borrowers are characterized by significantly less acres, lower debt-to-asset ratios, and greater tenure positions at the 10 percent level. Use of bank financing also significantly increases the likelihood of strong producer loyalty.

The findings in Table 4 also reveal the absence of statistical significance, particularly in the price sensitivity results where FCS use is the only significant difference between the two groups. Highly and not highly interest rate sensitive borrowers are not statistically different in farm size, tenure, leverage, off-farm income, and age. The FCS's reputation of being price competitive likely explains its popularity with cost driven borrowers.

Figure 1 portrays the marginal effects on the likelihood of strong borrower loyalty for different levels of treatment variables. Only statistically significant measures are reported: acreage, farmland lease ratio, and leverage. Each graph depicts the probability of strong loyalty as one

independent variable changes while holding all other explanatory variables at their mean values. Summing response probabilities for each depiction equals 100 percent.

The graphs in Figure 1 illustrate the decreasing likelihood of responding producers' loyalty to a single credit provider as levels of the independent variables increase. For instance, as acres farmed increases from the mean level of 1,471 to 3,000, the probability of strong borrower loyalty decreases from 69.5 percent to 63.7 percent. The maximum rates of change across the ranges of acreage, farmland lease ratio, and leverage are 24.3, 13.9, and 25.7 percent, respectively.

The regression analyses help identify producers who are likely to be sensitive to marginal interest rate changes and those who may demonstrate strong degrees of borrower loyalty. The econometric models reveal a significant, negative association for both leverage and the percentage of leased acres in the loyalty model. One plausible explanation suggests that the desire to reduce costs when profit margins are tight overwhelms the perceived benefits of lender relationships.

This study produces intriguing findings on the behavior of FCS and bank patrons. Regression results indicate that respondents who secure financing from the FCS are more likely to be highly price-sensitive, while users of bank-supplied credit are more likely to be highly loyal producers. As noted before, the FCS tends to be price competitive, and therefore may attract borrowers that place a high value on price.

The farm business characteristics that influence producers' decisions to be price sensitive and/or loyal borrowers are similar to the factors compelling farmers to use FCS and/or bank financing. Dodson and Koenig (2003) explore a related issue by examining the customers of the FCS and commercial banks using USDA's 2001 and 2002 Agricultural Resource Management Survey. They conduct multivariate analysis using a binomial logit model to test the null hypothesis that the characteristics of FCS customers are statistically different from the attributes of bank patrons. Their results indicate significant differences between borrowers receiving loans from the FCS and those receiving credit from commercial banks in 2001 and 2002. FCS borrowers manage larger farm operations, carry lower debt-to-asset levels, and exhibit less financial stress compared to bank customers.

Findings from this analysis assert that FCS borrowers are more likely to be highly sensitive to debt costs, even though the farm size and leverage variables are not significant predictors of price sensitivity. Dodson and Koenig (2003) argue that these variables are significant characteristics of FCS customers. In the evaluation of borrower loyalty, customers of bank institutions are more likely to be strongly committed to a single lender. Furthermore, survey participants displaying strong loyalty are more likely to manage fewer acres and be less financially leveraged. The impact of the farm size variable in the regression equation is consistent with Dodson and Koenig's (2003) judgment of commercial bank customers operating smaller farms. However, leverage has a significantly negative relationship. The relationships and differences between the FCS and commercial banks warrant further investigation that is beyond the initial scope of this study.

Conclusions

The results from this study of Midwestern U.S. agricultural producers reveal the farm business characteristics of borrowers who are likely to be highly price sensitive purchasers of credit and those who tend to demonstrate strong loyalty to a single credit provider. Findings suggest that FCS customers are more likely to be highly responsive to the lender's interest rates, whereas farmers who are less leveraged and tenured, operate fewer acres, and patronize bank institutions are more likely to build strong, loyal credit relationships. Results from this study provide empirical support for theories in financial economics literature predicting that small firms benefit from establishing credit relationships and progressing these interactions to high levels of borrower loyalty.

From a lender's perspective, the knowledge of farm borrowers' profiles will help isolate the factors producers consider when making credit-source decisions. In an industry characterized by intense competition, as indicated by the recent growth of captive finance companies and the emergence of international financial institutions, the need for agricultural credit providers to differentiate themselves on various attributes is becoming necessary to enhance market strength. Business success will depend on developing borrower-driven marketing strategies where market segmentation is based on perceived customer needs and preferences. The ability of agricultural lenders to attract new clients and maintain existing customers depends on understanding the aspects of the lender-borrower relationship most important to credit users.

Future studies could further address the lender preferences of FCS and commercial bank borrowers. Supplemental research could evaluate the credit attributes valued by each group and determine significant similarities and differences in preferred lender characteristics. Based on findings from this survey, it would be interesting to examine why FCS patrons are more likely to be highly cost-driven and why users of bank financing are more likely to build strong loyalty.

Table 1. Price Sensitivity and Loyalty Cross Tabulation

	Price Sensitivity		Loyalty	
	High	Not High	Strong	Not Strong
Strong Loyalty	60%	76%	--	--
Not Strong Loyalty	40%	24%	--	--
High Price Sensitivity	--	--	69%	51%
Not High Price Sensitivity	--	--	31%	49%

Table 2. Respondent Characteristics by Price Sensitivity and Loyalty[a]

Demographics	Borrower Price Sensitivity		Borrower Loyalty	
	High	Not High	Strong	Not Strong
Age				
< 35	4%	4%	3%	6%
36-45	18%[A]	25%[B]	17%[A]	27%[B]
46-55	41%	38%	40%	37%
56-65	24%	22%	27%[A]	18%[B]
> 65	13%	11%	14%	12%
Tillable Acres				
< 500	13%	13%	13%	15%
500-1,500	51%[A]	59%[B]	56%	51%
1,501-2,500	25%	20%	23%	21%
2,501-5,000	8%	6%	7%	9%
> 5,000	3%	2%	1%[A]	5%[B]
Bank Use				
Yes	72%	77%	76%[A]	68%[B]
No	28%	23%	24%[A]	32%[B]
FCS Use				
Yes	37%[A]	28%[B]	32%	34%
No	63%[A]	72%[B]	68%	66%
Education				
Less than high school	0%	1%	1%	0%
High school	24%[A]	34%[B]	32%	26%
Some college	23%	22%	22%	21%
2-year degree	16%	12%	12%	17%
4-year degree	29%	30%	29%	28%
Graduate degree	7%	2%	4%	7%
Farmland Lease Ratio				
0-.10	14%	15%	16%	14%
.11-.20	7%	7%	8%	4%
.21-.50	25%	21%	23%	21%
.51-.75	26%	23%	25%	22%
> .75	29%	34%	28%[A]	39%[B]
Leverage				
.01-.10	32%[A]	23%[B]	29%	28%
.11-.40	48%[A]	59%[B]	54%	48%
.41-.70	18%	15%	15%	18%
> .70	2%	3%	1%[A]	5%[B]
Off-Farm Income				
0	18%	18%	19%	18%
< 25,000	37%	40%	40%	36%
25,000-50,000	24%	28%	25%	24%
50,001-75,000	14%[A]	8%[B]	11%	14%
> 75,000	8%	5%	6%	8%

[a]Sample proportions denoted by different letters within each dependent variable are significantly different ($p > 0.05$).

Table 3. Importance of Lender Attributes by Price Sensitivity and Loyalty[a, b]

Lender Attributes	Borrower Price Sensitivity		Borrower Loyalty	
	High	Not High	Strong	Not Strong
Interest rate	4.54[A]	4.37[B]	4.43	4.56
Institution's stability	4.46	4.39	4.42	4.45
Lender's dependability	4.37	4.41	4.45[A]	4.27[B]
Ability to meet needs	4.35	4.32	4.34	4.31
Knowledge of agriculture	4.23	4.26	4.24	4.27
Timeliness in loan decisions	4.23	4.20	4.21	4.21
Lender relationship	4.19	4.14	4.20	4.13

[a]Importance ratings are based on a Likert scale (1 = not important; 5 = very important).
[b]Means denoted by different letters within each treatment variable are significantly different ($p > 0.05$).

Table 4. Econometric Results for Price Sensitivity and Loyalty Models

	Borrower Price Sensitivity			Borrower Loyalty		
	Coefficient	*p*-value	Mean	Coefficient	*p*-value	Mean
Constant	-2.2334	0.0501		1.8233	0.0506	
Acres Farmed	0.000107	0.2709	1,494	-0.00017	0.0693*	1,471
Bank Institutions	0.244	0.4306	0.74	0.5321	0.0888*	0.74
Education	0.0915	0.1338	13.98	-0.0298	0.6318	13.93
Farm Credit System	0.5564	0.0539*	0.35	0.098	0.7416	0.34
Farmland Lease Ratio	0.0731	0.8501	0.52	-0.6596	0.092*	0.52
Leverage	-0.6229	0.3021	0.26	-1.337	0.0601*	0.26
Off-Farm Income	0.000005912	0.1861	27,594	-0.00000448	0.3215	27,195
Age	0.0127	0.2128	52.09	--	--	--
Likelihood Ratio	13.9527	0.083		16.6936	0.0195	

*Significant at the 10 percent level.

Figure 1. Effects of Acres Farmed, Farmland Lease Ratio, and Debt-to-Asset Ratio on the Probability of Strong Borrower Loyalty

**Probability of Strong Loyalty
by Acres Farmed**

**Probability of Strong Loyalty
by Farmland Lease Ratio**

**Probability of Strong Loyalty
by Debt-to-Asset Ratio**
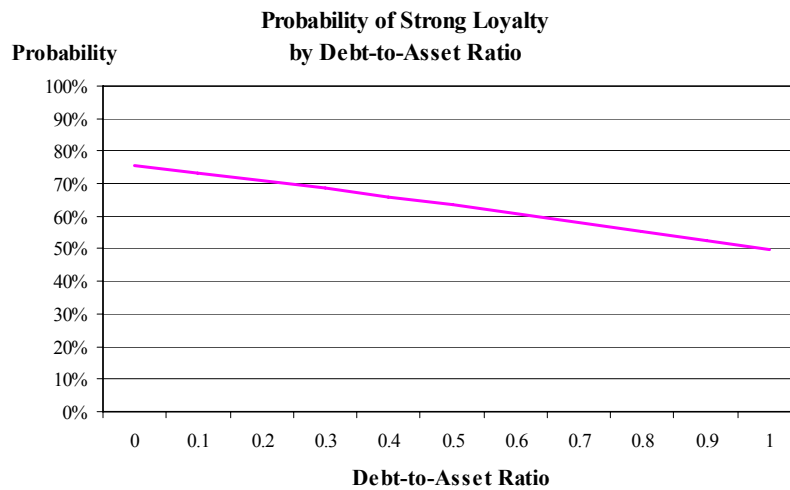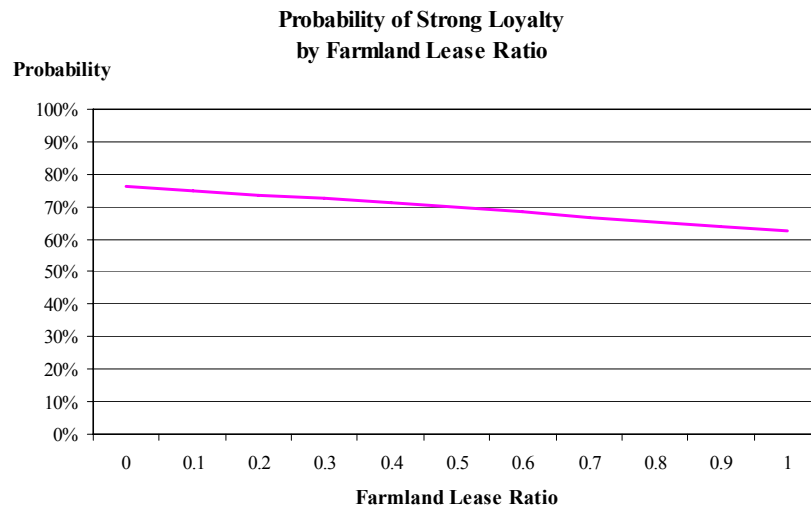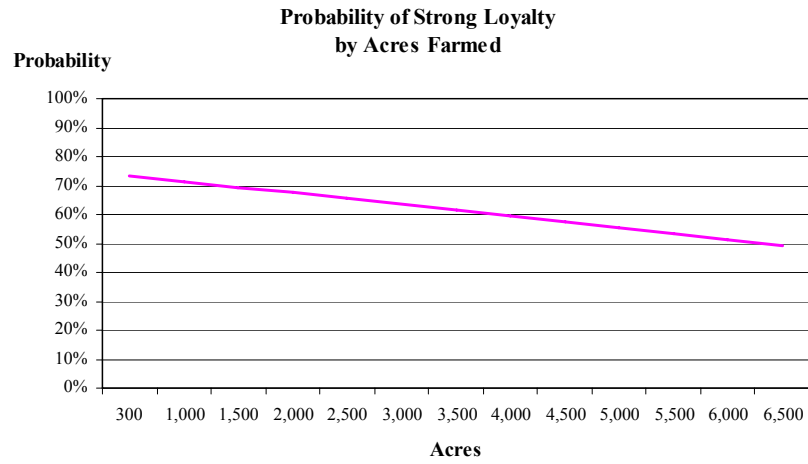
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