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THE DETERMINATES OF PROFITABILITY OF A SPECIFIC COMMUNITY BANK

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ABSTRACT

The purpose of this paper is to develop a methodology that any commercial bank may use to determine the factors influencing its net profit fluctuations and demonstrate use of that methodology in a specific community bank. This methodology is appropriate when dealing with time series data from an individual bank. The paper also presents an approach that bankers may take in determining the relationships that may exist between each of the independent variables and the entire set of such variables.

The authors are able to use this process to inform bank management of internal relationships between variables as well as to help explain the determinates of bank profitability. Bankers are able to examine the quantitative findings with additional insights given the level of expertise that possess about the variables and their interrelationships.

INTRODUCTION

The authors began by working with a set of seven endogenous independent variables and three exogenous independent variables and their pair-wise correlations with the dependent variable, net income. Various forms of each independent variable are examined to find the specific form of that variable that has the highest possible pair-wise correlation with the dependent variable. The possible forms of each variable that are examined are lagged values of the independent variables, as well as the change in value of the independent variable from one time period to the next, as well as lagged values of the same. Next, column vectors of correlation values are examined with the set of each independent variable (of a specific form) with all other variables to determine the inter-relationships of independent variables. Finally regressions are executed, by first examining multicolinearity relationships, and rationalizing appropriate models. These models are followed by regression runs using standard stepwise procedures.

This study was designed to develop a set of regression models for Citizens National Bank, the purpose of which was to explain profitability or more specifically, net income of the bank. Regression models were designed to identify critical factors influencing bank profitability and secondarily to provide bank officials insights into the relationship between bank management and profitability. The equations were constructed using the Citizens National Bank monthly data set from January 2000 to April 2009. The group of the internal factors that were investigated for their explanatory power with net income was: total commercial loans, total agriculture loans, consumer real estate, consumer other loans, total capital, total security, and total deposits. A group of external factors that were considered were Consumer Price Index (CPI), Gross Domestic Product (GDP), and Edgar County's unemployment rate.

In order to determine the precise form of each independent variable that would have the greatest explanatory power of the dependent variable, the study began by investigating the pair-wise correlations between the dependent variable with each independent variable, then lags of each independent variable, as well as investigation of correlations of the dependent variable with the change (increase or decrease) of each independent variable as well as lags of the same.

The authors, for comparison's sake, ran an initial forward stepwise regression using unaltered (raw) forms of the original variables with net income. This regression only had two variables that proved significant, (Deposits, with a positive coefficient, and Agricultural Term Notes, with a negative coefficient). The value of adjusted r^2 was .446. It quickly became apparent that alternative forms of each variable would provide additional insight into the forces determining Net Income.

The set of resulting correlation tables exhibit the pair wise relationship between the dependent variable and different forms of each independent variable. Individual examinations of the independent variables should be quite meaningful to those in bank management. That is to say, management should be able to glean significant insight into the bank operation by viewing and contrasting the level of the correlation of each variable as well as the format of each independent variable that yields the highest correlation. Why do some independent variables have their greatest significance with a lag of six months while others exhibit their highest correlations values with a much lengthier lag? Only individuals that are well versed in the specific operation of the bank would be able to attempt answers to these question. These questions should stimulate worthwhile examination of the banking philosophy that is in practice. However, some post-hoc explanations behind these correlations are attempted by the authors.

SUMMARY

The authors wanted to use the summary in order to direct management as how best to utilize this study. Much effort was made in determining the form of each variable that is most correlated with net income. The column charts of correlation values themselves should be very revealing to management in exhibiting net income patterns. Take, for example, Total Agricultural Loans. The form of this variable that turned out to be the most related to net income was when the variable was lagged sixteen months. Examine the pattern. At lag one, the correlation value with net income was only .07. Then it steadily increased to a value of .59 at a lag of sixteen months as mentioned. What is the rationale behind this systematic increase? Does it benefit the managers to understand this relationship? The correlation patterns that these column vectors exhibit are worthy of study and reflection.

Next, multicolinearity within the relationships of the independent variables was examined. Specifically, these were the forms of the individual variables that had the highest correlation value with Net Income. It should be of value to management to understand which set of independent variables have common movement. That is, which set of independent variables are highly interrelated? Take, for example, the variable Deposits (lagged six months) which appears in Table 14. This variable is very highly correlated with five of the other endogenous variables {Commercial Term (-6), r = .95; Total Commercial (-6), r = .94; Commercial Operation (-1), r = .87; Agricultural Operation Loans (-7), r = .87; and Commercial Real Estate (-6), r = .86}. Management should attempt to understand the forces behind these correlations and capitalize on the relationships.

Finally, the authors, using information gleaned from the correlation matrix of independent endogenous variables, selected variables to be included in two separate regression runs. After analyzing this output, two more mechanically derived stepwise regression runs were produced. The output of these four regression runs was examined for consistency in order to give management a sense of reliability concerning the coefficients and interpretation of the variables.

The regression results seem to indicate that management can take a more aggressive approach in making loans in those areas that have a higher risk. Of course, this must be done with great examination of the strengths and weaknesses of each specific loan. Nevertheless, the regression output does indicate that there are categories of loans that yield positive benefits to net income. Certainly, the bank must continue its role as a community bank, but, given that it has scare resources to invest, the regression results do seem to indicate that there are domains that are more profitable than others. Management, however, will have to lend its expertise in interpreting with caution the regression results.

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PRICING POLICIES AND ECONOMIC INDEPENDENCE OF ECAIS: EVIDENCE FROM FITCH, MOODY'S AND S&P

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ABSTRACT

The rating agencies recognized as External Credit Assessment Institutions (ECAI) usually charge fees of their rating assessments on the basis of the issuer paying model. This pricing policy, however, can expose agencies to a risk of collusion, which can undermine the investors' trust in the rating service.

An analysis of the available literature highlights the lack of investigation into the economic equilibrium of the single rating agencies and of assessments relating to the weight of the revenues received from each issuer, compared to the overall business relationships. Actually regulatory constraints define a monitoring procedure based only on the turnover of customers and on year by year revenues without considering a multi-period approach that seems to be more useful for a service like rating that is characterized by strong and long-lasting relationships.

The aim of this article is to investigate the relationships established by the three top rating agencies (Fitch, Moody's and S&P) with each customer served, using the Customer Lifetime Value model, for the time horizon 1999-2008. Results show that – as expected – a significant percentage of the agencies' revenues come from customers that require services on an ongoing basis and so, as for other business, the value of relationship is high also in the rating industry. The analysis of the characteristics of the agency-customer relationship is then completed with an assessment of the best/worst customers served, which has revealed the importance of the duration of the relationship and of the industry sector of the assessed entity in classifying the relevance of each customer. Through a study of the possible impact of differentiated pricing policies, within the range of variation declared by the agencies, the paper demonstrates that the degree of economic independence could decrease significantly if the pricing policies of services requested by best customers are more penalizing respect to those defined for others.

Keywords: Customer lifetime value, rating agency and economic independence

JEL codes: C81, G24, M31

A COMPARATIVE ANALYSIS OF NATIONAL RECESSIONS AND THE EFFECTS ON REAL ESTATE VALUES IN NORTHWEST NEBRASKA: A TWENTY YEAR PERSPECTIVE

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ABSTRACT

The real estate market for the past several years has been a roller coaster ride with home values going up at a rapid rate and down just as fast. Since 1937 there has been thirteen recessions including the current one. According to the National Bureau of Economic Research, NBER, the average length of the twelve prior recessions has averaged about 10.5 months with the longest being sixteen months. Our current recession officially started in December 2007, making it the longest since the Great Depression of 1937. On a positive note, following each recession has been a period of recovery and expansion, and some very rapid. The prior twelve periods of recovery/expansion have averaged sixty months. This expansion is sparked to some degree by an increase in jobs, a decrease in interest rates as well as many other factors. These expansion periods and other factors have placed a large demand on housing.

Historically real estate/housing has been used as a hedge against inflation and an investment for retirement. Increase in the value of real estate has changed dramatically with some communities showing phenomenal growth in the value of single family homes over the past ten to fifteen years. The recent recession has caused a decline in home prices, slowed building and purchases and has caused a sharp rise in mortgage foreclosures, which has resulted in losses of billions of dollars among the nation's leading banks.

Most of the large unemployment statistics have centered around large cities rural communities are not immune to recessions but have other factors that may affect the value of real estate. This study focuses on five counties in the northwest corner of Nebraska. These five counties are primarily agricultural based with limited if any manufacturing. Combined these five counties comprise 11% of the land area and less than 2% of the population of the state of Nebraska. During the past ten years these counties have averaged a population loss of 12.68%.

FOCUS OF PAPER

This paper will review the housing market in rural Nebraska for the past twenty years and compare the real estate values with the NASDAQ, S & P 500 and average fixed rate for the same period.

TAKE AWAY VALUE

This is a topic of interest for everyone that currently owns a home or who wishes to purchase one. The question of "Where should I invest my money" will be explored. The presentation will review the return a $100,000 investment has made on different indexes and compare those returns to the return on $100,000 invested in a home in rural Nebraska.