



4-18-2008

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### Recommended Citation

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**Small Banking Conditions and their  
Impact on the Economic Activity of US Firms**

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18 April 2008

## ABSTRACT

This study is directed towards the effects of bank lending, delinquencies, and other economic shocks on the performance of economic activity. I estimate the effect of these factors on employment, payrolls, and number of firms by firm size in the United States. Addressing conditions within the realm of small banks, one conclusion is that banks increase their total supply of bank credit after a reduction in capital levels. A number of former studies arrive at this conclusion, and this paper applies that hypothesis to more recent data. A common theme in related literature is that a “credit crunch” causes particular stress on small businesses because of their heavy reliance on external financing, which is mainly provided by small “community” banks. Small banks have historically been thought to have special ties to small businesses, but with the consolidation of banks over recent years, this study suggests that relationship between small banks and small businesses has declined. Using data for banks with assets under \$300 million from 2001-2005, this study reveals ways in which real activity is affected by variations in bank credit conditions.

## I. INTRODUCTION

In a cyclical economy, it is no surprise that the Federal government’s recent decisions to cut interest rates are reminiscent of the cuts announced during the Savings and Loans Institutions crisis in the early 1990s. The Fed’s intervention is aimed at mitigating the economic downturn; however, historical data warns against relying on such an easy fix. Analysts covering the S&L crisis determined that it would take twelve to eighteen months for changes in interest rates to have much effect on the economy (Buttonwood, 2007), and conservative analysts today share a similar view warning that recent cuts will not magically cure and immediately reverse economic conditions.

A number of studies conducted in the 1990s and early 2000s provide considerable insight into today’s economic struggles and those of the 2001 recession. Hancock and Wilcox (1998) researched changes in the availability of credit to small businesses during the credit crunch of the early 1990s. Results confirmed that real economic activity shrank more for small businesses than for large businesses, and the per-dollar effect of capital

losses at small banks was larger than for large banks. Kayshap and Stein (2000) also focused on small banks' activity with an examination of lending behavior between 1976 and 1993. They concluded that small banks' lending channels are the most impacted by changes in monetary policy. Ariccia, et. al. (2006) considered sector dependence on external sources of finance when studying the banking industry's ability to hinder real economic activity. Results substantiated the hypotheses that industries more dependent on external sources of finance are hurt more severely after a banking crisis and that banking crises must have an independent negative effect on real economic activity.

The implications of these findings on my study are as follows: Local/regional businesses tend to be small and highly reliant on external financing which, according to Ariccia, et. al., means that these businesses should see declines in growth during banking crises. My study posits that conditions at local and regional banks have significant impact on regional economic activity because local banks are involved in more small business lending than larger national and international banks. Thus, small banks should have a highly statistically significant impact on economic activity.

The remainder of this paper is organized into six sections. Section II explores the credit crunch of the early 1990s and relates economic conditions then to those of the current crisis. Section III discusses a number of relevant studies and assesses existing evidence as it related to my hypothesis. Section IV presents the model of bank loans and real economic activity. Section V describes the data. Section VI outlines the results and Section VII concludes.

## II. BACKGROUND

The Savings and Loans crisis occurred with the cessation of the housing boom experienced throughout the 1980s. When the market went bust, prices fell in real terms by 20% from 1989-1996 (Gross, 2007). In addition, the median price of a new home dropped 2.4% between 1990 and 1992 (Hill, 2006). This time around, the bust in the housing market is expected to be much worse since it follows an even greater boom. A huge overhang of unsold home inventory will persist into 2008, with sellers spending an average of 10 months on the market (Ostroff, 2007). Analysts note this as an ominous sign for the rest of the economy since there has not been this much slack in the market since the slump and recession of 1990.

In the mid-1970s, S&Ls held 60% of the mortgage market while commercial banks held virtually nothing (Knowledge, 2007). Since that time, the banking industry has experienced multiple regulatory overhauls and consolidations resulting in mortgage market holdings of 10% for S&Ls and over 40% for commercial banks. Just as mortgage defaults in the late 1980s led to the S&L crisis in the early 1990s, current sub-prime defaults are arguably cause of tensions in the commercial banking industry.

In the late 1970s, interest rates soared and the yield curve became inverted (Knowledge, 2007). Over time, S&Ls feared insolvency because they were paying more for borrowed money than they received on long-term, fixed-rate loans. In response, the government lifted its ban on adjustable rate mortgages in the early Eighties. Under the Carter administration, S&L rules loosened to allow for a much broader range of lending (Ellis, 2007). First S&L practices became akin to banking activities, then products and services extended beyond. The FDIC increased coverage from \$40,000 to \$100,000,

which in effect allowed for greater risk taking by S&L Institutions. The resulting overextension contributed to the 1990s recession in a number of ways, particularly by distorting investments, creating a credit crunch, and widening the already huge federal deficit.

The current sub-prime crisis is often compared to the events leading to the S&L crisis. From loose regulations and moral hazard to a busting housing market and onslaught of mortgage defaults, the stage is set for a repeat of the past. To give a brief history, the resolution of the 1990s crisis spurred consolidation of segmented banks into multi-product financial institutions, and the Financial Service industry was born (Trumbell, 2007). With such overlapping this time around, the sub-prime debacle is expected to have an impact that reverberates beyond a bank credit crunch to affect bond trading volumes and the issuance of asset backed securities such as collateralized debt obligations (CDOs) and commercial or residential mortgage backed securities (CMBS & RMBS) (Ellis, 2007). In 1990, less than 50% of mortgages were secured and sold to investors (Hill, 2006). Today approximately 70% are funded in the secondary market. Rather than applying credit standards designed to maintain the soundness of the banking system, brokers began eliminating old rules and moved largely into the business of matching borrowers to investors willing to take increasing risk. Furthermore, US banks are now reporting the biggest jump in delinquent loans in 16 years, and we sit at the biggest quarterly increase in the share of past-due loans (10.6% in 2Q2007) since the end of 1990 (Kirchoff, 2007). A 4Q2007 survey of senior loan officers revealed that 19.2% were tightening lending standards across product lines. This was up from 8.5% three

months prior and 0% one-year prior. Standards are arguably at their most stringent level since mid 1991.

The 1990's crisis saw a \$150B industry loss, mainly borne by taxpayers. The government intervened, and the \$7 Trillion economy was stabilized by the \$300 Billion Resolution Trust Corporation (RTC) (Morgenson, 2007). The RTC was a US government-owned asset management company mandated to liquidate assets (primarily real estate-related assets, including mortgage loans) that had been assets of S&Ls. The current economy, at \$11 Trillion, is seeing \$2 Trillion in market capitalization going away (as of August 2007), and again the government is stepping in with funding. However, the contemporary practice of spreading risk beyond the banking system makes fixing this mess much more difficult, and federal interest rate easing can only do so much to help the housing market. Analysts expect the repair cycle to take much longer than it did in the nineties because the crisis is not concentrated to the banking system. Losses to commercial and investment banks are not yet pulling down taxpayers, but according to some economists, the threat to Wall Street profits will prove especially detrimental to the economy over time.

### **III. LITERATURE REVIEW**

Most attribute the initial deterioration of today's credit conditions to the crash in the real estate sector, and many studies of prior credit crunches address real estate issues as well. Hancock and Wilcox (1993) hypothesized that the flow of bank credit in the 1990s slowed considerably as a result of problems in the real estate sector, but only minimally by the sluggishness of the macroeconomy. They note that from 1982-1989, the dollar volume of banks loans was increasing 8% annually, but that rate fell to 4.5% in

1990 and then declined further in 1991. The study first compares the relationship between bank credit and overall economic activity for the period 1959-1992 confirming that bank credit is procyclical: bank credit and economic activities generally rise and fall together.

The study next questions if credit flows are impacted by a downward revision in the value of real estate collateral. If so, then business lending collateralized by real estate would be inhibited in addition to lending for real estate development and construction. Analyses of bank reactions to the S&L crisis reveal that many banks shrank balance sheets outright—particularly in business loan—and the shortage in equity capital resulting from defaults, smaller balance sheets, and huge LLPs limited banks' ability to make any type of loan.

In fact, data reveals that the volume of delinquent C&I loans had no detectable effect on bank lending while the volume of delinquent real estate loans significantly affect the flow of total bank credit: For every extra dollar of delinquent real estate loans in 1989, total credit flow shrank just over two dollars in 1990. The study concludes that increased delinquencies in any type of real estate loan deter both commercial and single family real estate lending. Further, a one-dollar shortfall in capital, as measured by a regulatory variable, leads to a fifty-cent decline in commercial real estate loans. As far as single-family real estate lending, the flow of residential mortgages dropped by an estimated fifty-seven cents for each one-dollar capital fell short of targets. Hancock and Wilcox conclude that these conditions trump the impact of macroeconomic conditions, and were key drivers of the 1990 recession.

Hancock and Wilcox (1994b) also explore the impact of capital shortfalls on asset composition hypothesizing that shortfalls resulting from loan delinquencies cause shifts



to low-risk assets such as securities and away from higher risk assets such as commercial real estate and commercial and industrial loans. Results contradict the hypotheses and reveal that capital shortfalls have no significant impact on C&I lending and in fact are associated with a rise in commercial real estate lending. Conclusions suggest that capital shortfalls due to loan delinquencies do not impair business lending.

A study conducted by Hoggarth, et. al. (2002) considers ways in which banking crises impose costs on the broader economy, speculating that under certain conditions, banking crises may reduce credit, income, and wealth in the economy as a whole. Particular attention is paid to households and small businesses, which face the most difficulty in obtaining alternative financing from the securities markets. The critical issue considered is whether banking crises cause reductions in output, or vice versa. Since banking crises often occur during business cycle downturns, this study attempts to separate declines in output due to crises from those due to cyclical downturns. Results are that cumulative output losses incurred during crisis periods are roughly 15-20%, on average, of annual GDP.

Demirguc-Kunt (2006) devises a study to address the aftermath of banking crises using both aggregate and bank-level data. The study also seeks to answer the question of whether or not bank distress propagates adverse economic shocks, thereby prolonging recessions. A sample of 36 crises in 25 countries reveals that banking crises are in fact accompanied by a sharp decline in output growth. Further, growth remains depressed in the year following the crisis, but returns to its pre-crisis level thereafter. Thus, the study concludes that while financial distress wreaks havoc in the banking system and takes many years to clean up, the effects on the real economy seem to be short-lived. Another

key finding is that credit as a share of GDP remains significantly above pre-crisis levels for the entire aftermath period, indicating that credit slows down less rapidly than output. In other words, credit growth remains depressed longer than output growth. A major implication of this study is the assumption that banking crises cause downturns in economic growth. This one-way causation is not highly substantiated, but the results provide some optimism in light of current economic conditions.

Kaminsky, et. al. (1999) pose findings that conflict with the previous study, suggesting that there is dual causation between banking crises and real economic activity. Results show that crises are typically preceded by a multitude of weak and deteriorating economic fundamentals, and the incidence of crises where the economic fundamentals were sound is rare. One of the most interesting findings is that, up to about 8 months before the banking crises, the average economy was recording rapid growth rates above those observed during tranquil periods. Further, results appear to suggest that the majority of crises have a multitude of weak economic fundamentals at their core. When considered in light of similar studies, the causation question between banking crises and downturns in economic activity remains unresolved.

Braun and Larrain (2004) conduct a similar study in an attempt to establish that causality goes effectively from financial to economic development and not the other way around. The main hypothesis is that recessions should have a larger impact on industries with higher external dependence since capital markets are imperfect. Secondly, as frictions increase, the difference between highly dependent industries and less dependent ones should be larger. Results confirm the hypotheses. Recessions are associated with a 4.7% decrease in growth for the typical industry, and the highly dependent (85<sup>th</sup>

percentile) industries experienced a 0.9% larger drop than those industries with little dependence (15<sup>th</sup> percentile). In terms of causation, Braun and Larrain argue the business cycles are largely dependent on the condition of the credit channel and that this dependence is a widespread phenomenon across countries.

A study conducted by Kashyap and Stein (2000) considers federal reactions to crises in the financial sector and finds that small banks' lending channels are the most impacted by changes in monetary policy. Their study examines lending behavior at the individual bank level using quarterly data from Call Reports 1976Q1-1993Q2. A pattern in the data reveals that on the asset side, small banks hold more in the way of securities, and make fewer loans, and on the liability side, are financed almost exclusively with deposits and common equity. Findings conclude that one year after a shock to the federal funds rate, the total C&I lending of all small banks is 0.41% lower than it would be if these small banks did not face liquidity constraints. Thus, within the class of small banks, changes in monetary policy matter most for the lending of those banks with the least liquid balance sheets. An implication to consider here is whether the Fed would be best suited to assist banks with assets less than \$300 million when combating slumping economic conditions.

A recent study by Ariccia, et. al. (2006) expands upon previous studies and provides evidence that sectors most dependent on external sources of finance perform worse during banking crises; therefore, distress in the banking industry does hinder real economic activity. The main hypothesis is that if industries more dependent on external finance are hurt more severely after a banking crisis, then it is likely that banking crises have an independent negative effect on real economic activity. Results reveal that the

most financially dependent sectors (those in the 4<sup>th</sup> quartile of the dependence distribution) lost an additional 1 percentage point of growth in each crisis year compared to less financially dependent sectors.

To reiterate, the implication of these findings on my study is that they provide insight into the relationship between small banks and economic activity. Small to mid-size local/regional businesses are most reliant on external financing which, according to Ariccia, et. al., means that these businesses should experience significant declines in growth during a credit crunch. My study posits that conditions at local and regional banks have significant impact on economic activity because local banks are involved in more small business lending than larger national and international banks. Thus, the relationship between small banks and economic activity should be statistically and economically significant.

Another study conducted by Hancock and Wilcox (1998) revisits the credit crunch of the early 1990s, this time exploring the availability of credit to small businesses in particular. The paper presents estimates of how much bank loans and real economic activity in small businesses respond to changes in banks' capital conditions, lending, and aggregate economic conditions. The study reveals that small banks shrink their loan portfolios considerably in response to declines in their own capital, and real economic activity is significantly reduced by capital declines and loan declines at small banks. My study will seek to derive the same conclusions, with particular attention to the 2001 credit crisis.

Results also suggest that real economic activity in small businesses shrinks relative to that of large businesses in the years surrounding 1990 (Hancock and Wilcox,

1998). From 1989-1992, employment, payrolls, and the number of firms grew more slowly for businesses with less than 500 employees than at large businesses. The study concludes by noting that while large banks suffered the largest capital depletions during this time period, the per-dollar effect of capital losses at small banks was larger.

Furthermore, gross state product declined more in response to capital losses at small banks than in response to large bank losses, which provides insight into the hypothesis that small banks make more “high-powered loans” and play a more crucial role in regional economic stability. In my study I also explore the relationships between small bank conditions, small businesses, and economic activity, but for the years 2001-2005 and only for banks with asset holdings less than or equal to \$300 million.

Figures 1 and 2 in Appendix A show real economic activity in small businesses relative to that of larger businesses. During 1997 to 2005, the number of firms, employment, and payrolls (as a percent of the total) by firm size grew more slowly for businesses with less than 500 employees than they grew at business with greater than 500 employees. Figures 1 and 2 also show that the larger classes of “small businesses” generally experienced the slowest growth in those measures of economic activity.

Expanding upon the previous study, Hancock, Peek, & Wilcox (2007) conduct an extensive study with state-level data from 1990-2000 to explore a number of hypotheses. One question they seek to answer is: How much does lower bank capital and higher interest rates affect businesses of various sizes? Operating under the assumption that small businesses are more adversely affected by negative shocks in the banking sector than large businesses, Hancock, et. al. predict that “lower bank capital at small banks impinged more on small business than on large business.” They extend their hypothesis

to assert that the small bank to small business relationship would be more significant than the large bank to large business relationship, in terms of affected real economic activity. Results reveal that when economic growth is slow or interest rates are high, the effects on small business of per unit change in bank capital, loan delinquencies, and SBA-guaranteed loans were larger than mid-size and large banks' effects on mid-size and large businesses, respectively. These findings are consistent with those of Hancock and Wilcox (1998) and Kashyap and Stein (2000), which supports the position that smaller banks are more useful for understanding how banking conditions influence the macroeconomy.

Drawing upon conclusions in the literature, my study is directed towards the effects of small bank lending activity, loan delinquencies, and other economic shocks on the performance of real economic activity. Real economic activity proxies include: number of firms, employment, payroll, and gross state product. Again, attention is paid to whether the relationship between lending and economic activity is positive, with particular focus on small businesses. Hancock and Wilcox (1998, 2007) found this association to be significant in 1991, and I expect to find confirming significance when analyzing more recent data. Small banks have historically been thought to have special ties to small businesses, and with the consolidation of the largest banks (and subsequent focus on relationships with the largest businesses) over recent years, I expect the relationship between small banks and small businesses to have increased.

The next two sections describe the empirical models and the data.

#### **IV. MODELS OF BANK LOANS AND REAL ECONOMIC ACTIVITY**

The model of bank supply of credit, first presented by Hancock and Wilcox (1994a), is used as a basis for my model. The original model posits that the bank supply

of loans depends positively on the loan interest rate, negatively on perceived risks to the bank (delinquency rates), positively on other factors that raised expected returns on the loans (consumer sentiment), and positively on bank capital. Appendix B defines the variables and appendix C outlines the expected and resultant coefficients.

My empirical model for bank loans borrows the explanatory variables used by Hancock and Wilcox (1998) in their revision and extension of the 1994a study. The model for bank loans includes the following explanatory variables: As indicators of risk to banks and borrowers, I include loan delinquency variables as well as two measures of economic conditions (consumer sentiment and the bank prime interest rate). Capital variables split by time period are also included, as they were in Hancock and Wilcox' studies.

In the empirical model for real economic activity, I consider specifications that directly include measures of bank loans. Just as in Hancock and Wilcox (1994), I posit that demand for output depends positively and directly on the supply of bank loans. Also, demand for output is expected to depend positively on consumer sentiment and negatively on loan delinquency rates and the interest rate. Hancock and Wilcox (1998) explained the difficulty in putting structural interpretation on the reduced-form coefficients used to explain real economic activity because these variables had "direct effects on spending and the demand for credit as well as indirect effects that operated through the supply of bank credit." Using consumer sentiment as an example, it is possible that increased consumer sentiment reflects increase demand for output and thus more jobs, firms and payrolls. Also, it is likely to increase supply of bank credit because banks use it as an information variable. Therefore, the estimated coefficient on consumer

sentiment reflects dual positive influences on demand for output (Hancock & Wilcox, 1998). See Appendix C.

The first model explains the relationship between the dependent total loan ratio variable (total loans to total assets) and six independent variables: capital ratio, delinquency ratios for each loan category (CRE, C&I, Consumer), consumer sentiment index, and the bank prime interest rate. The same independent variables are also used to explain the ratios of CRE, C&I, and Consumer loans to total assets.

$$\text{LOAN\_RATIO} = \alpha + \beta_1(\text{CAPITAL\_RATIO}) + \beta_2(\text{DQ\_CRE}) + \beta_3(\text{DQ\_CI}) + \beta_4(\text{DQ\_CONS}) + \beta_5(\text{CSI}) + \beta_6(\text{PRIME}) + \varepsilon \quad (1)$$

$$\text{CRE\_RATIO} = \alpha + \beta_1(\text{CAPITAL\_RATIO}) + \beta_2(\text{DQ\_CRE}) + \beta_3(\text{DQ\_CI}) + \beta_4(\text{DQ\_CONS}) + \beta_5(\text{CSI}) + \beta_6(\text{PRIME}) + \varepsilon \quad (2)$$

$$\text{CI\_RATIO} = \alpha + \beta_1(\text{CAPITAL\_RATIO}) + \beta_2(\text{DQ\_CRE}) + \beta_3(\text{DQ\_CI}) + \beta_4(\text{DQ\_CONS}) + \beta_5(\text{CSI}) + \beta_6(\text{PRIME}) + \varepsilon \quad (3)$$

$$\text{CONS\_RATIO} = \alpha + \beta_1(\text{CAPITAL\_RATIO}) + \beta_2(\text{DQ\_CRE}) + \beta_3(\text{DQ\_CI}) + \beta_4(\text{DQ\_CONS}) + \beta_5(\text{CSI}) + \beta_6(\text{PRIME}) + \varepsilon \quad (4)$$

In a second model, gross state product is the dependent variable. Explanatory variables include total loan ratio, delinquency ratios, consumer sentiment, and the bank prime interest rate. These independent variables are then tested against dependent firm data (employment, number of firms, and total payroll) to reveal the impact of said variables on small business activity.



$$\text{GSP} = \alpha + \beta_1(\text{LOAN\_RATIO}) + \beta_2(\text{DQ\_CRE}) + \beta_3(\text{DQ\_CI}) + \beta_4(\text{DQ\_CONS}) + \beta_5(\text{CSI}) + \beta_6(\text{PRIME}) + \varepsilon \quad (5)$$

$$\text{Firm Data} = \alpha + \beta_1(\text{LOAN\_RATIO}) + \beta_2(\text{DQ\_CRE}) + \beta_3(\text{DQ\_CI}) + \beta_4(\text{DQ\_CONS}) + \beta_5(\text{CSI}) + \beta_6(\text{PRIME}) + \varepsilon \quad (6)$$

## V. DATA

My data measures conditions at small commercial banks, real economic activity at firms of different sizes, and national economic conditions. Data is collected for the years 2001 to 2005 and represents 50 states. Data on asset allocation, loan holdings, loan delinquencies, and capital positions of individual banks is gathered as well as data on national economic activity and on number of firms, employment, and payrolls, as a percent of the total, by size of firm. Data sources are included in Appendix D.

### *V-I. Construction of Bank Data*

I obtain data for banks' dollar, book-value holdings of total assets, loans, and capital from Call Reports for the years 2001-2005. The sample consists of community/local banks, which are designated by asset holdings of \$300 million or less (Hancock & Wilcox, 1994). I use \$300 million as the cut-off because it is the standard set in Hancock and Wilcox's 1994, 1998, and 2007 papers. Total assets is subdivided into three categories. Group A includes cash, marketable securities, and federal funds. Group B includes loans and lease financing receivables. Group C includes trading assets, premises and fixed assets, other real estate owned, investments in unconsolidated subsidiaries and associated companies, customer liabilities to the bank on acceptances outstanding, intangible assets, and other. I remove banks with incomplete information

and whose report of total assets (RCON 2170) differs by more than \$10,000 from the summation of the three asset classes. A revision in the reporting of assets is also noted. From 2002 forward, federal funds is broken into two subgroups: federal funds sold and securities purchased under agreement to resell. Equity capital data also comes from the Call Reports and is the sum of perpetual preferred stock (including related surplus), common stockholders' equity, surplus, and undivided profits and capital reserves adjusted for net unrealized losses on marketable equity securities.

Dollar, book value holdings of total loans and leases, net of unearned income, is also obtained. The value of total commercial real estate loans includes all loans secured by real estate: construction, land development, and other land loans; secured by farmland; secured by 1-4 family residential properties (revolving, open-end loans and close-ended loans secured by first or junior liens); secured by multifamily residential properties; and secured by non-farm residential properties. The value of total commercial and industrial loans is gathered, as well as consumer loans, which includes: loans to individuals for household, family and other personal expenditures; credit cards; other revolving credit plans; and other consumer loans.

Loan delinquency data by bank is also collected by dollar, book-value holdings. Values for commercial real estate, commercial and industrial, and consumer loan delinquencies included those amounts for loans past due more than 30 days but still accruing interest and loans that are in non-accrual status. Loan delinquency ratios are the total loan delinquencies in each category divided by the total loans in each category.

Appendix B defines the variables. Appendix E contains descriptive statistics of the data for each year, including the number of banks actually used in this study. Mean, median, standard deviation, and minimum and maximum values are calculated.

*V-II: Measure of aggregate real economic activity.*

As measure of total economic activity, I used GSP (reported in 2000 dollars) for the years 2001-2005. I calculated the year-over-year growth rate for use in my study. This data is from the U.S. Bureau of Economic Analysis, a division of the U.S. Department of Commerce.

The consumer sentiment index is used as a proxy of economic conditions. The index measures consumers' attitudes towards the economy, and is normalized to the value of 100. The index surveys people on their feelings about their individual financial situation, and the overall economy's situation in the present and in the future. CSI is published monthly by the University of Michigan, and December data was obtained from the Federal Reserve Banks of St. Louis' FRED® research tool.

The nominal prime interest rate is the interest rate variable used. It is an indicator of monetary policy and overall economic conditions on a national level. Data is obtained from the Board of Governors of the Federal Reserve System.

*V-III: Measures of small business activity*

I use the number of employees as the measure of the size of a business because the Small Business Association defines a small business as an “independently owned and operated firm with fewer than 500 employees.” Data is obtained from the U.S. Census Bureau's Statistics of U.S. Businesses for the years 2001-2005. Data from 2006 is not included because it won't be available until mid to late summer 2008. Reports are

generated on a cost reimbursement basis: all participating agencies must pay for the tabulations before they are made public. Results are presented for firms over 499 employees (large businesses), and for three sizes of small businesses: firms with less than 20 employees, 20-99 employees, and 100-499 employees. Figures 1 and 2 are calculated with national level data, although state level data is used in my regressions. Variables include data on the number of firms of each size category as a percent of the total number of firms, employment in each size category as a percent of total employment, and annual payrolls as a percent of the total payrolls for businesses, by year.

Appendix E contains descriptive statistics for these variables.

## **VI. RESULTS**

Appendix C includes the expected sign of each coefficient versus the actual sign. Appendix F includes the regression results: value of the coefficient, t-statistic, and significance.

### *Table 1: Loan Ratios*

The expected sign for the relationship between the capital ratio and loan ratio is unknown, as there are two competing theories to explain this relationship. The “risk transformer”/ “risk absorption” view holds that higher capital improves banks’ ability to absorb risk and hence their ability to create loans (Diamond and Dybvig, 1983; Allen and Santomero, 1998; Allen and Gale, 2003). Alternatively, the “financial fragility” theory states that additional capital makes banks less fragile, which decreases a bank’s incentive to commit to monitoring clients and in turn hampers the banks’ ability to create loans (Gorton and Winton, 2000). Since small banks deal with more entrepreneurial-type small businesses, where close monitoring is important, the “financial fragility” effect is

strongest for small banks (Berger and Bouwman, 2007; Diamond and Rajan, 2001). O’Keefe (2006) provides an example of this negative relationship in his study of bank merger activity. He finds that target banks have, on average, a higher equity ratio than those of the acquirers. Merger targets tend to be small banks, and O’Keefe finds that in addition to the higher-than-average equity ratio, such target banks have a higher proportion of assets in cash balances and a lower proportion in loans. My results are also consistent with the financial fragility theory. Loans were increasing over my sample period, while the capital structure remained low and “fragile.” This fragility is incentive for banks to commit to monitoring their borrowers, which led to an increase in loans relative to other assets. This confirms Berger and Bouwman’s (2007) results linking capital to lending at small banks from 1993 to 2003.

My results reveal the expected negative correlation between delinquency rates and three loan ratio categories (total loan, CRE loan, and C&I loan): increases in delinquencies are associated with declines in loan origination. However, my ratio of delinquency rates to the consumer loan ratio is positively correlated. There are a number of explanations for this result. First, banks may have continued lending to consumers despite delinquencies in each loan category because of the period of economic growth. Growth in spending and borrowing by the household sector created strong growth in consumer lending by U.S. banks after the 1991 recession when non-mortgage consumer debt was growing at double-digit rates (Yellen, 1996). This rapid pace is not unusual for a period of economic expansion, and the period after 2001 was another expansionary period. Growth in credit card debt is a major component because increasing preference for credit cards over cash fuels growth in consumer loans despite delinquencies. Further,

large revenue earnings on consumer loans, relative to delinquency losses, may explain the positive correlation between delinquencies and consumer loans. Put another way, “lenders active in the credit card business are conscious of higher potential loss rates and expect returns that will fully absorb these losses and still provide an adequate profit margin” (Yellen, 1996).

The sample’s limitation to banks with \$300 million in assets or less may also explain the positive correlation. Small banks focus on relationship banking, so even during periods of high delinquencies, consumer lending may not be depressed since these banks focus on maintaining long-term relationships. Finally, changes in bankruptcy laws may explain part of the correlation. If banks expected the passage of the 2005 Bankruptcy Abuse Prevention and Consumer Protection Act, they may have continued lending despite delinquencies under the belief that new laws would give them more rights in the collection of bad debts.

As expected, all categories of loan supply were positively correlated with the prime rate and consumer sentiment index.

*Table 2: Economic Condition*

The resultant signs of the coefficients for the independent variables’ effect on gross state product match those expected and derived from Hancock and Wilcox’s 1998 study. The only exception is that total loan ratio is not found to have a significant impact on GSP during 2001-2005.

Results vary for the total loan ratio’s relationship to the percentage number of firms across firm sizes. The expected coefficient is positive: increases in lending increase the number of firms of each size, as more are able to obtain debt financing. This positive

correlation holds true for firms with 500 or more employees. However, there is not a significant relationship between small bank lending and firms with 20-99 and 100-499 employees. This could be due to the specifications of my bank sample. Firms with 20-499 employees are likely to meet the lending standards required by mid and large banks (assets >\$300 million). Such banks can offer more attractive, complex products than can small banks. As for businesses with less than 20 employees, the relationship between number of firms and loan ratio was significant and negative at the 1% level. This can be explained by the period of economic expansion following the 2001 recession: many small firms moved into the 20-99 employee category via growth or acquisition. In this case, increases in bank lending created growth in the economy, and the number of smallest firms as a percent of total firms fell as a result.

Hancock and Wilcox found bank lending to be positively correlated to payrolls and employment; however, my results, when significant, were negatively correlated for all firms but those with 100-499 employees. Since my sample is restricted to community banks with assets less than \$300 million, it is unlikely that large businesses (>499 employees) use their services. Therefore, I do not emphasize the resulting negative, though significant, coefficients for the relationships between small bank lending and large firm payrolls and small bank lending and large firm employment.

The negative relationship between payrolls at firms with less than 100 employees and lending by banks with \$300 million or less in assets must be addressed (loan ratio was not found to have a significant impact on employment at this firm size). This finding could be an issue of causation. As the smallest firms struggled to emerge from the recession in 2001, they may have first cut payrolls before turning to community banks for

financing. This would explain a decline in payrolls in conjunction with an increase in lending since these smallest firms tend to patronize community banks. The community banks' focus on "relationship" banking leads them to extend loans to less credit worthy customers while larger banks focus on formulaic lending. If these small businesses were struggling to remain alive, larger banks would have been disinclined to lend, leaving small firms with only community banks to turn to.

Results for the relationship between delinquency ratios and economic activity as measured by businesses vary across the board. When relationships are significant, each delinquency category is positively correlated with the percentage of firms with 20-99, 100-499, and over 499 employees. Firm growth in these categories during an economic expansion is often fueled by the acquisition of smaller, struggling firms. For example, delinquent firms will merge or be acquired by other firms, causing an increase in the percent of firms in the next size category up despite an increase in delinquencies. Following this logic, the percent of smallest firms should decline as the acquisitions move 'down the ladder.' A negative correlation is in fact observed between delinquencies and the percentage of firms with less than 20 employees. Again, this is expected since small firms have few financing options and defaulting generally leads to bankruptcy or acquisition.

As for employment and payrolls by firm size, my model reveals a negative correlation with CRE delinquencies at the largest two firm categories. Though expected, I again do not emphasize these results since large firms are not likely to be small bank clients. My coefficient for the relationship between commercial real estate delinquencies and employment/payrolls is positive for firms with less than 20 employees. Here I



address causation. During the economic expansion and small firms' struggle to grow, increasing employment via competitive wages is one of the first steps management can take. However, if growth does not occur, these firms begin defaulting. Because of their small size, banks require that loans be backed by commercial real estate, and defaults are recognized as an increase in CRE delinquencies.

When looking at consumer loan delinquencies, results are consistent with Hancock and Wilcox's negative correlation between delinquencies and employment/payrolls at firms with less than 20, 20-99, and 100-499 employees. Considering the causation issue once again, it is intuitive that increases in employment and payrolls would be associated with decreases in consumer delinquencies, and vice versa. As for firms with over 499 employees, however, consumer delinquencies and employment/payrolls are positively correlated. This discrepancy again may be due to my sample: small bank consumer delinquencies would not reliably relate to payrolls and employment growth at large firms since large firms bank with mid and large size banks.

Though significant, the consumer sentiment variable had coefficients equal to zero in each equation, which demonstrates that CSI had a negligible economic impact during this period. As for costs of borrowing, businesses with fewer than 20 employees and 20-99 employees reveal negative correlations between prime rate and number of firms, employment, and payrolls. This confirms Hancock and Wilcox's results and suggests that an increase in the prime rate impedes growth of small businesses since they are highly reliant on debt financing. The dependent variables for firms with 100-499 and over 499 employees were positively correlated to the prime rate, but the coefficients were extremely low. The low coefficient suggests that the cost of borrowing played only a

minimal role in large firms decisions. This is most likely due to their access to other sources of capital, such as equity financing. As for the positive relationship, rising interest rates may have encouraged equity financing, which then facilitated growth in firms, employment, and payrolls during this expansionary period.

## **VII. CONCLUSIONS**

A number of studies demonstrate that declines in capital ratios, economic conditions, and increases in loan delinquencies help explain the declines in bank loans during the 1991 recessionary period. This study applies a model similar to Hancock and Wilcox's 1998 model to the 2001-2005 time period in effort to compare elements of period following the 2001 recession to findings from the period surrounding the 1991 recession. This study also presents estimates of how economic activity at business of all sizes responded to changes in lending, delinquencies, and other economic conditions.

Using data from 2001 to 2005 organized by state, I estimate the independent variables' effects on banks' commercial real estate, commercial and industrial, and consumer loans, as well as on gross state product and firms, employees, and payrolls by firm size, as percents of the totals. In relation to capital decreases at their own banks, small banks (defined as those with assets less than \$300 million) experienced an increase in each lending category. Results suggest that small banks are subject to the "financial fragility" theory and increase loans to other assets when capital ratios decline. Not surprisingly, factors such as loan delinquency rates and macroeconomic conditions also affected banks' loan holdings, and the correlations matched findings from previous studies.

The results in Table 2 provide insight into the effect of small bank conditions on the economic activity of businesses. My study explores the hypothesis that small banks make more “high-powered loans” to see if small banks have a significant role in economic activity during the 2001-2005 period. I expected this relationship to be particularly strong between small banks and small businesses.

While this may have been the case during the 1989-1992 period, my results suggest that small banks no longer have the same economic influence. An explanation for this result is that merger and acquisition activity has led to an influx in large banks at the expense of growth in the number of small banks. Thus, my small coefficients relating small banks to business activity suggests that banks with assets less than \$300 million have a limited impact on greater economic conditions.

# Appendix A: Economic Activity

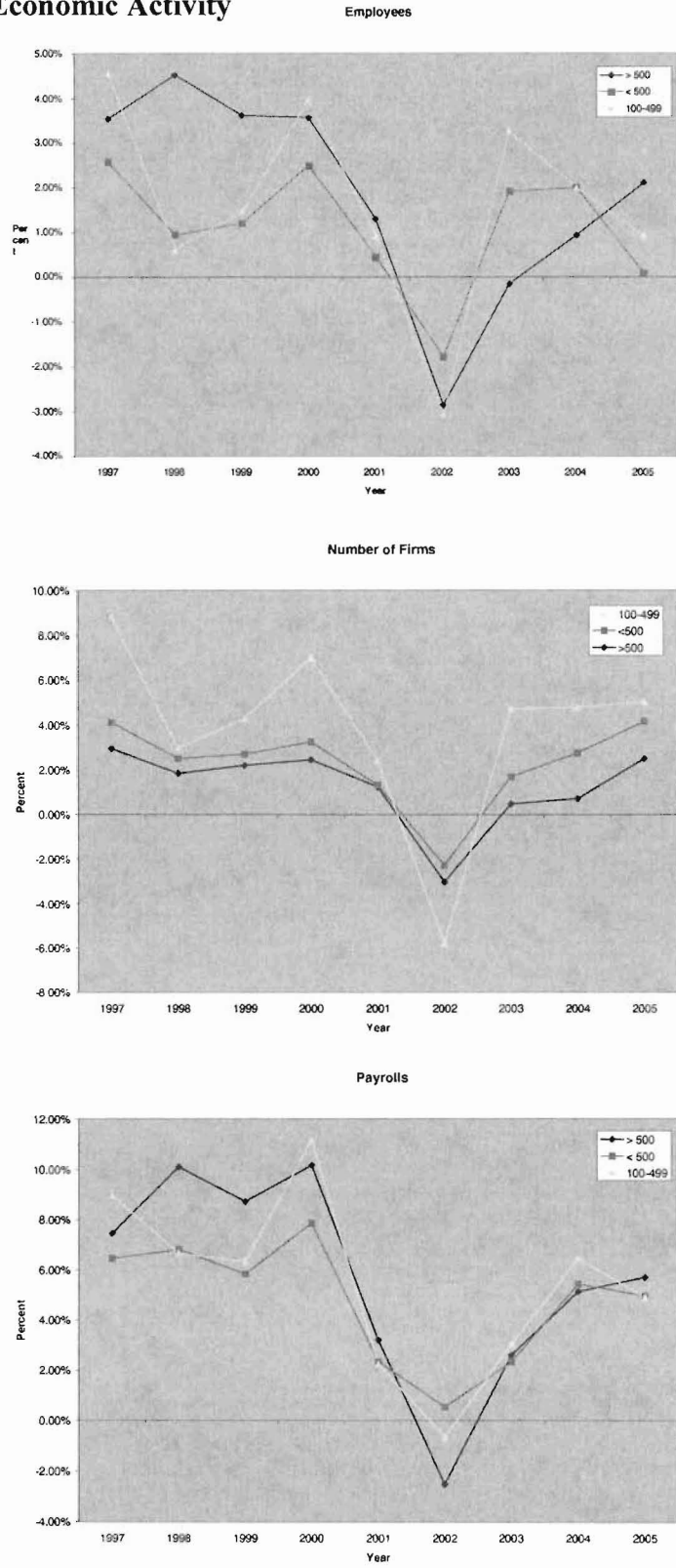


Fig. 1. The growth of employment, numbers of firms, and payrolls by firm size.

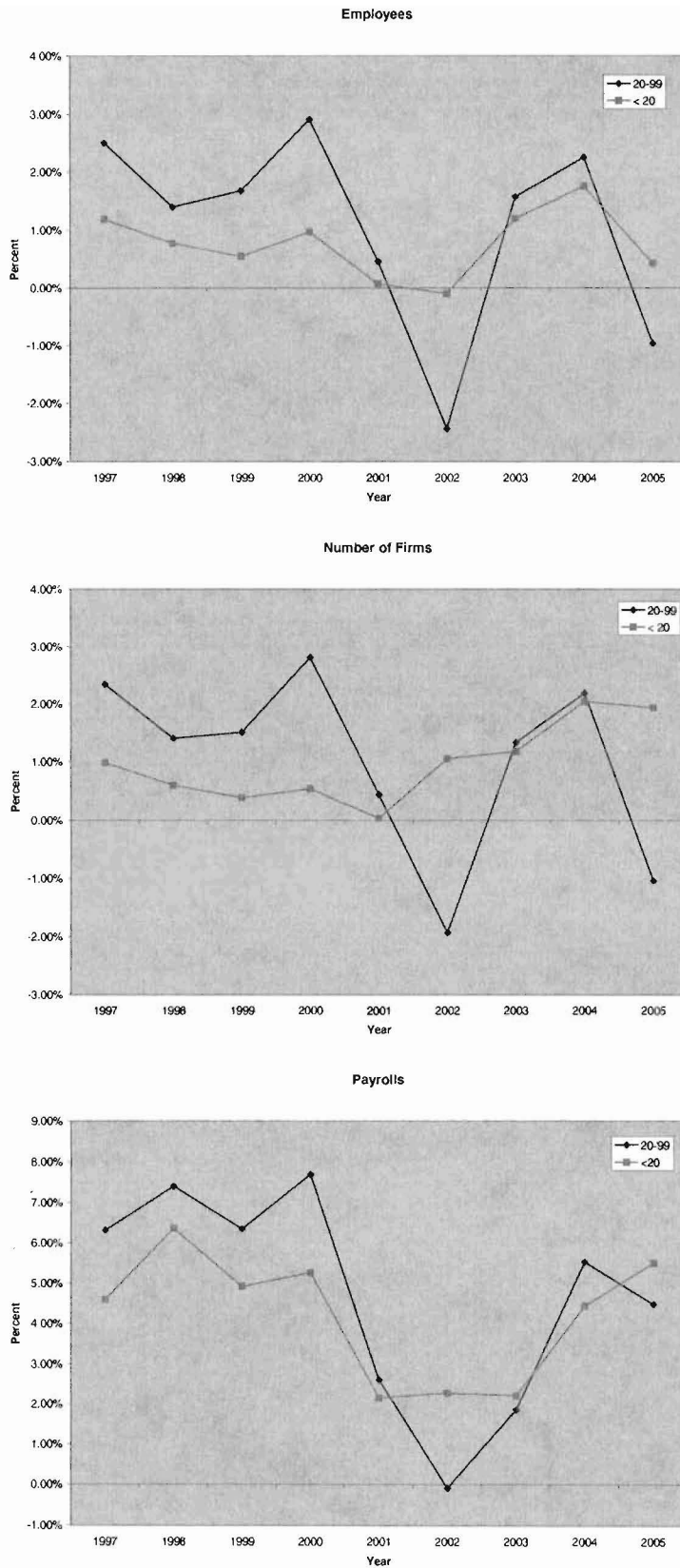


Fig. 2. The growth employment, numbers of firms, and payrolls by firm size

## Appendix B: Variable Definitions

<b>LOAN_RATIO</b>	Total loans and leases, net of unearned income, divided by total assets
<b>CRE_RATIO</b>	Total commercial real estate loans (all loans secured by real estate: construction, land development, and other land loans; secured by farmland; secured by 1-4 family residential properties (revolving, open-end loans and close-ended loans secured by first or junior liens); secured by multifamily residential properties; and secured by non-farm residential properties) divided by total assets
<b>CI_RATIO</b>	Total commercial and industrial loans divided by total assets
<b>CONS_RATIO</b>	Total consumer loans (all loans to individuals for household, family and other personal expenditures; credit cards; other revolving credit plans; and other consumer loans) divided by total assets
<b>CAPITAL_RATIO</b>	The sum of perpetual preferred stock (including related surplus), common stockholders' equity, surplus, and undivided profits and capital reserves adjusted divided by total assets
<b>DQ_CRE</b>	Delinquent commercial real estate loans defined as loans past due more than 30 days but still accruing interest and loans that were in non-accrual status divided by total commercial real estate loans
<b>DQ_CI</b>	Delinquent commercial and industrial loans defined as loans past due more than 30 days but still accruing interest and loans that

	were in non-accrual status divided by total commercial and industrial loans
<b>DQ_CONS</b>	Delinquent consumer loans defined as loans past due more than 30 days but still accruing interest and loans that were in non-accrual status divided by total consumer loans
<b>CSI</b>	Consumer sentiment index as a proxy for business owners' and lenders' views about current and future economic conditions
<b>PRIME</b>	Nominal prime interest rate
<b>GSP</b>	Gross State product reported in 2000 dollars
<b>FIRM_20</b>	Number of firms with less than 20 employees divided by total number of firms of all firm sizes, calculated yearly
<b>FIRM_20_99</b>	Number of firms with 20-99 employees divided by total number of firms of all firm sizes, calculated yearly
<b>FIRM_100_499</b>	Number of firms with 100-499 employees divided by total number of firms, calculated yearly
<b>FIRM_499</b>	Number of firms with over 499 employees divided by total number of firms of all firm sizes, calculated yearly
<b>EE_20</b>	Total number of employees employed by firms with less than 20 employees divided by total number of employees for all firm sizes, calculated yearly
<b>EE_20_99</b>	Total number of employees employed by firms with 20-99 employees divided by total number of employees for all firm sizes, calculated yearly

<b>EE_100_499</b>	Total number of employees employed by firms with 100-499 employees divided by total number of employees for all firm sizes, calculated yearly
<b>EE_499</b>	Total number of employees employed by firms with over 499 employees divided by total number of employees for all firm sizes, calculated yearly
<b>PAY_20</b>	Total payroll dollars of firms with less than 20 employees divided by total payroll dollars of all firm sizes, calculated yearly
<b>PAY_20_99</b>	Total payroll dollars of firms with 20-99 employees divided by total payroll dollars of all firm sizes, calculated yearly
<b>PAY_100_499</b>	Total payroll dollars of firms with 100-499 employees divided by total payroll dollars of all firm sizes, calculated yearly
<b>PAY_499</b>	Total payroll dollars of firms with over 499 employees divided by total payroll dollars of all firm sizes, calculated yearly



**Appendix C: Expected Coefficients**

**Table 1 Coefficients**

	<b>Dependent Variables (Supply Side)</b>							
	Total Loans		CRE Loans		C&i Loans		Consumer Loans	
	<i>Expected</i>	<i>Actual</i>	<i>Expected</i>	<i>Actual</i>	<i>Expected</i>	<i>Actual</i>	<i>Expected</i>	<i>Actual</i>
<i>Capital Ratio</i>	<b>+/-</b>	-	<b>+/-</b>	-	<b>+/-</b>	-	<b>+/-</b>	-
<i>Delinquency Ratios</i>	-	-	-	-	-	-	<b>+/-</b>	<b>+</b>
<i>CSI</i>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	-
<i>Prime Rate</i>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+</b>

**Table 2 Coefficients**

	<b>Dependent Variables</b>							
	GSP		Number of Firms		Number of Employees		Payroll	
	<i>Expected</i>	<i>Actual</i>	<i>Expected</i>	<i>Actual</i>	<i>Expected</i>	<i>Actual</i>	<i>Expected</i>	<i>Actual</i>
<i>Total Loan Ratio</i>	<b>+</b>	<b>NS</b>	<b>+</b>	<b>+/-/NS</b>	<b>+</b>	<b>+/-</b>	<b>+</b>	<b>+/-</b>
<i>Delinquency Ratios</i>	-	-	-	<b>+/-/NS</b>	-	<b>+/-</b>	-	<b>+/-</b>
<i>CSI</i>	<b>+</b>	<b>+</b>	<b>+</b>	<b>+/NS</b>	<b>+</b>	<b>+</b>	<b>+</b>	<b>NS</b>
<i>Prime Rate</i>	-	-	-	<b>-/NS</b>	-	<b>+/-</b>	-	<b>+/-</b>

## Appendix D: Data Sources

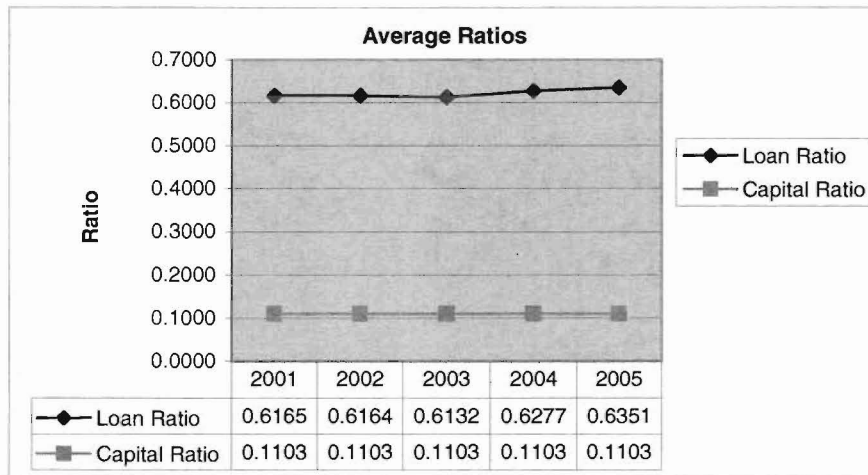
Variable	Source	Web Address
Bank Level Data	FDIC Call Reports, FFIEC-041	<a href="http://www.fdic.gov/regulations/resources/call/call2.html">http://www.fdic.gov/regulations/resources/call/call2.html</a>
Firm Level Data	US Census Bureau, Statistics of US Businesses	<a href="http://www.census.gov/csd/susb/susb.htm">http://www.census.gov/csd/susb/susb.htm</a>
GSP	US Department of Commerce, US Bureau of Economic Analysis	<a href="http://www.bea.gov/regional/index.htm#gsp">http://www.bea.gov/regional/index.htm#gsp</a>
Consumer Sentiment Data	Federal Reserve Bank of St. Louis, Economic Data-FRED®	<a href="http://research.stlouisfed.org/fred2/">http://research.stlouisfed.org/fred2/</a>
Interest Rates Data	Board of Governors of the Federal Reserve System	<a href="http://www.federalreserve.gov/econresdata/default.htm">http://www.federalreserve.gov/econresdata/default.htm</a>

## Appendix E: Descriptive Statistics

*Bank Data (ratio of loan type to total assets, ratio of delinquencies to total of loan type)*

### Statistics

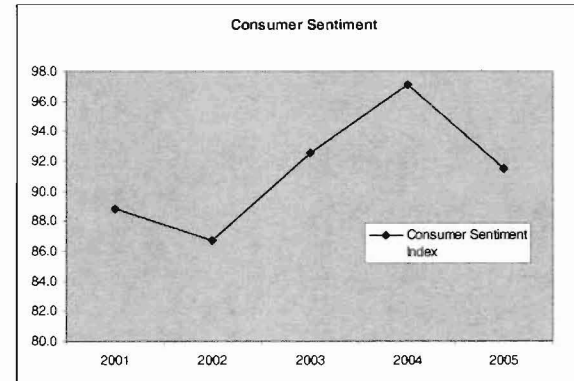
		LOAN_RATIO	CRE_RATIO	CI_RATIO	CONS_RATIO	CAPITAL_RATIO	DQ_CRE	DQ_CI	DQ_CONS
N	Valid	33494	33494	33494	33494	33494	33324	32810	33244
	Missing	0	0	0	0	0	170	684	250
Mean		.621548	.401145	.096457	.062856	.112790	.023065	.032207	.030715
Median		.639800	.398850	.079200	.048200	.098150	.015200	.012800	.022100
Std. Deviation		.1606415	.1729842	.0758891	.0649235	.0643935	.0277790	.0577405	.0383076
Minimum		.0001	.0000	.0000	.0000	-.0007	.0000	.0000	.0000
Maximum		1.2073	.9649	.9386	1.1724	1.0000	1.0000	1.0000	1.0000



*Economic Data*

**Statistics**

		PRIME	CSI	GSP
N	Valid	33494	33494	33494
	Missing	0	0	0
Mean		5.2457	91.324	2.1695
Median		4.6700	91.500	2.0500
Std. Deviation		1.11115	3.5899	1.68582
Minimum		4.12	86.7	-4.70
Maximum		6.91	97.1	9.26



*Firms by Firm Size (number of firms in each category as a percent of total)*

**Statistics**

		FIRM_20	FIRM_20_99	FIRM_99_499	FIRM_499
N	Valid	33494	33494	33494	33494
	Missing	0	0	0	0
Mean		.862829	.093150	.021964	.022058
Median		.861200	.094400	.022400	.021600
Std. Deviation		.0129558	.0081796	.0024937	.0070889
Minimum		.7447	.0645	.0132	.0078
Maximum		.9106	.1302	.0550	.0707

*Employees by Firm Size (number of employees in each category as a percent of total)*

**Statistics**

		EE_20	EE_20_99	EE_99_499	EE_499
N	Valid	33494	33494	33494	33494
	Missing	0	0	0	0
Mean		.184681	.180223	.145609	.489480
Median		.180000	.179900	.146700	.494600
Std. Deviation		.0240060	.0145795	.0121314	.0425786
Minimum		.1232	.1453	.1157	.2864
Maximum		.3279	.2398	.1992	.5711

*Payroll by Firm Size (payroll dollars in each category as percent of total)*

**Statistics**

		PAY_20	PAY_20_99	PAY_99_499	PAY_499
N	Valid	33494	33494	33494	33494
	Missing	0	0	0	0
Mean		.155987	.160055	.138242	.545648
Median		.148900	.160600	.138600	.553900
Std. Deviation		.0212075	.0135540	.0116772	.0394476
Minimum		.1176	.1345	.1004	.0322
Maximum		.2866	.2178	.1897	.6379

## Appendix F: Results Tables

Table 1: The effects on bank loans of bank capital, loan delinquencies, and economic conditions

Dependent Variable (Loan Category)	Explanatory Variables					
	Bank Capital Ratio	Loan Delinquency Rate			Economic Conditions	
		CRE	C&I	Consumer	CSI	Bank Prime Interest Rate
<u>Total Loans</u>						
<i>Beta</i>	-0.858	-0.538	-0.038	-0.071	0.001	0.004
<i>t-Statistic</i>	-51.916	-16.495	-2.475	-2.891	5.527	4.603
<i>Significance</i>	0.000	0.000	0.020	0.013	0.004	0.000
<u>Total CRE Ratio</u>						
<i>Beta</i>	-0.697	-0.757	-0.102	-0.206	0.003	0.001
<i>t-Statistic</i>	-38.702	-21.281	-6.129	-7.741	11.833	1.049
<i>Significance</i>	0.000	0.000	0.000	0.000	0.000	0.294
<u>Total C&amp;I Ratio</u>						
<i>Beta</i>	-0.102	-0.099	-0.063	-0.054	0.000	0.001
<i>t-Statistic</i>	-12.423	-6.124	-8.295	-4.437	-3.390	2.120
<i>Significance</i>	0.000	0.000	0.000	0.000	0.001	0.034
<u>Total Consumer Ratio</u>						
<i>Beta</i>	-0.078	0.224	0.027	0.155	-0.001	0.001
<i>t-Statistic</i>	-13.021	18.897	4.908	17.492	-11.924	3.096
<i>Significance</i>	0.000	0.000	0.000	0.000	0.000	0.002

**Table 2: The effects on economic activity of total bank loans, loan delinquencies, and economic conditions**

Dependent Variable (Loan Category)	Explanatory Variables					
	Total Bank Loan Ratio	Loan Delinquency Rate			Economic Conditions	
		CRE	C&I	Consumer	CSI	Bank Prime Interest Rate
<b><u>GSP</u></b>						
<i>Beta</i>	-0.005	-2.007	-0.373	-1.457	0.149	-0.385
<i>t-Statistic</i>	-0.088	-6.199	-2.470	-6.031	59.737	-47.794
<i>Significance</i>	0.930	0.000	0.014	0.000	0.000	0.000
<b><u>% Employment by Firm Size</u></b>						
<b><u>&gt;499 Employees</u></b>						
<i>Beta</i>	-0.003	-0.027	-0.025	0.053	-0.001	0.001
<i>t-Statistic</i>	-1.775	-2.871	-5.771	7.492	-12.809	5.652
<i>Significance</i>	0.076	0.004	0.000	0.000	0.000	0.000
<b><u>100-499 Employees</u></b>						
<i>Beta</i>	0.002	-0.007	0.007	-0.007	0.001	0.000
<i>t-Statistic</i>	5.360	-2.748	6.015	-3.751	25.606	4.847
<i>Significance</i>	0.000	0.006	0.000	0.000	0.000	0.000
<b><u>20-99 Employees</u></b>						
<i>Beta</i>	0.000	0.015	0.009	-0.013	0.000	0.000
<i>t-Statistic</i>	0.625	4.598	5.971	-5.488	10.585	-6.042
<i>Significance</i>	0.532	0.000	0.000	0.000	0.000	0.000
<b><u>&lt;20 Employees</u></b>						
<i>Beta</i>	0.000	0.020	0.009	-0.032	0.000	-0.001
<i>t-Statistic</i>	0.104	3.676	3.583	-8.050	3.456	-8.709
<i>Significance</i>	0.917	0.000	0.000	0.000	0.001	0.000

**Table 2, Cont'd.**

Dependent Variable (Loan Category)	Explanatory Variables					
	Total Bank Loan Ratio	Loan Delinquency Rate			Economic Conditions	
		CRE	C&I	Consumer	CSI	Bank Prime Interest Rate
<b><u>% of Firms by Firm Size</u></b>						
<u>&gt;499 Employees</u>						
<i>Beta</i>	0.002	0.016	0.000	0.004	0.000	0.000
<i>t-Statistic</i>	6.204	10.496	-0.007	3.091	-6.389	4.541
<i>Significance</i>	0.000	0.00	0.939	0.002	0.000	0.000
<u>100-499 Employees</u>						
<i>Beta</i>	0.000	0.002	0.000	0.003	0.000	0.000
<i>t-Statistic</i>	1.344	3.703	-1.881	8.035	-2.659	-3.940
<i>Significance</i>	0.179	0.000	0.06	0.000	0.008	0.000
<u>20-99 Employees</u>						
<i>Beta</i>	0.000	0.011	2.28E-05	0.011	0.00E+00	0.00E+00
<i>t-Statistic</i>	-1.089	6.08	0.027	8.104	-1.467	-1.406
<i>Significance</i>	0.276	0.000	0.978	0.000	0.142	0.160
<u>&lt;20 Employees</u>						
<i>Beta</i>	-0.001	-0.029	0.001	-0.018	0.000	0.00E+00
<i>t-Statistic</i>	-2.982	-10.292	0.394	-8.391	4.834	-0.837
<i>Significance</i>	0.003	0.000	0.693	0.000	0.000	0.403



**Table 2, Cont'd.**

Dependent Variable (Loan Category)	Explanatory Variables					
	Total Bank Loan Ratio	Loan Delinquency Rate			Economic Conditions	
		CRE	C&I	Consumer	CSI	Bank Prime Interest Rate
<b><u>% Real Payroll by Firm Size</u></b>						
<u>&gt;499 Employees</u>						
<i>Beta</i>	-0.005	-0.024	-0.017	0.059	0.000	0.002
<i>t-Statistic</i>	-3.185	-2.754	-4.082	9.024	-2.779	7.242
<i>Significance</i>	0.001	0.006	0.000	0.000	0.005	0.000
<u>100-499 Employees</u>						
<i>Beta</i>	0.004	-0.012	0.006	-0.011	0.000	0.000
<i>t-Statistic</i>	8.421	-4.598	5.327	-5.848	19.78	4.027
<i>Significance</i>	0.000	0.000	0.000	0.000	0.000	0.000
<u>20-99 Employees</u>						
<i>Beta</i>	-0.003	-0.018	0.007	-0.034	0.000	0.000
<i>t-Statistic</i>	-0.354	-4.274	1.098	-6.779	10.34	-8.272
<i>Significance</i>	0.041	0.000	0.015	0.000	0.000	0.000
<u>&lt;20 Employees</u>						
<i>Beta</i>	-0.001	0.017	0.004	-0.031	0.000	-0.001
<i>t-Statistic</i>	-1.915	3.643	2.01	-8.728	-5.459	-11.644
<i>Significance</i>	0.056	0.000	0.044	0.000	0.000	0.000

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