

**Did U.S. Bank Supervisors Get Tougher During the Credit Crunch?
Did They Get Easier During the Banking Boom?
Did It Matter to Bank Lending?**

by

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In their ambitious and thought provoking paper, Allen N. Berger, Margaret K. Kyle and Joseph M. Scalise (BKS) ask the following three questions: (1) Did U.S. Bank Supervisors Get Tougher During the Credit Crunch? (2) Did They Get Easier During the Banking Boom? and (3) Did It Matter to Bank Lending? Their answers are yes, yes and maybe.

These questions are of interest both to students of banking and to researchers interested in macroeconomic phenomena more generally. In the latter case, the hope is that this work will shed additional light on the monetary transmission mechanism. Specifically, proponents of the lending view of the transmission mechanism posit that loan supply shifts are an important channel for the transmission of monetary policy changes to the real economy. Unfortunately, there are virtually no studies that have been able to distinguish loan supply from loan demand shifts in a convincing fashion — all we know for sure is that contractionary monetary policy precedes a reduction in the overall quantity of loans made by banks. The hope is that a change in supervisory toughness that is unrelated to any other macroeconomic variable will provide an instrument, in the econometric sense, that shifts loan supply but not loan demand. In these comments, I will begin with a brief overview of the methods the authors use to reach their conclusions, and then move on to evaluate what I believe

can be learned from the paper.

BKS examine a panel data set composed of 5500 to 9500 banks from 1986 to 1998. Employing the data both from examinations directly and from the call reports, they look for changes in supervisory toughness and bank lending behavior over three periods: 1986 to 1988, their base period; 1989 to 1992, the period generally thought to include a credit crunch; and 1993 to 1998, a boom period for banks and nearly everyone else.

To address the first two hypotheses, that regulators first became more harsh (H1) and then more lax (H2), BKS study classified assets and CAMEL ratings. As they discuss in detail, the first of these is a supervisory measure of bank asset health, while the second is an overall measure of bank soundness. In an attempt to uncover changes in the stance of examiners, BKS estimate two models. The first is a linear regression in which they estimate determinants of (scaled) classified assets, and the second is a probability model where they try to measure the odds of a shift in a bank's CAMEL rating. Each of their hypotheses is tested by examining dummy variables for the 1989 to 1992 and 1993 to 1998 subperiods. Included in their estimation as controls are numerous bank balance sheet variables as well as measures of regional economic conditions.

The results, reported in Table 8 of the paper, are encouraging. BKS find that total classified assets fell in the 1993 to 1998 period. They also find that the CAMEL rating for a bank with a given balance sheet in a given region of the country was on average worse in the crunch period of 1989 to 1992. Unfortunately, there is no real evidence that classified asset levels went up during the crunch period or that CAMEL ratings went down during the period of ease. Nevertheless, things do look pretty good.

But, as BKS point out, when we look further, the results suggest that the change in supervisory stance is statistically, but not economically, significant. That is, the effects are can be measured precisely, but are small. To show this, they compute

that the change from the pre-crunch to the crunch period increases the percentage of classified assets by about 0.04%. But since the mean in the data set as a whole is about 6%, this is not a big number. For the CAMEL ratings, again the probability of a shift is also small.

It is worth pausing for a moment and considering two important issues that bear on their results: sample selection problems, and the question of what else was going on during this period. With respect to sample selection, BKS provide us with a very thorough description of their data set, and make clear a number of things that are going on. They also spend substantial in Section 3 addressing sample selection issues and are aware of the difficulties. It is still worth spending a bit of time discussion one of the issues.

As shown in Table 5, the number of banks examined, (and consequently in the BKS data set) increased by about 50 percent from 1986 to 1993 and then declined by a similar amount. Furthermore, the fraction of banks examined increased dramatically during the “crunch” period, from 43% in 1986 to 85% in 1993. Even more importantly, as is reported in Panel B of Table 5, the total capital ratio of the banks examined went up during the capital crunch, but the capital ratio for the industry as a whole did not.

What does this all mean for the BKS results? The answer, I think, is that it biases the case against them. It does this for two reasons. First, banks that incurred the most serious wrath of the supervisors, those that were truly bad, will either merge with good banks or cease operation altogether, and so they will drop out of the sample during the crunch period. Second, the change in regulatory strategy meant that more banks were examined, and so more good banks entered the data set. Overall, then, the loss of the bad banks and the addition of the good ones, will make it more difficult to find an increase in supervisory toughness since the average bank is getting better and the worst banks are dropping out. The fact that the mean CAMEL rating (Table 4 Panel A) rises during this period is additional evidence of what was happening.

The second important issue to consider here is what was going around this time. There were several important events, but they were at the end of the BKS crunch period. First, there was the passage of FIDICIA in 1991, which Krozner and Strahan in this volume refer to as “the most important revision of U.S. supervision and regulations during the past two decades.” Associated with this was the implementation of prompt corrective action and the risk-based capital requirements based on the Basle accord. All of these came essentially in 1992, and would lead one to expect that the most significant regulatory changes should appear in the later part of the sample, not the middle.

Turning to the third hypothesis, BKS look at bank balance sheet variables to see if bank behavior was influenced by the changes in supervisory toughness. Here they examine the changes in the proportion of assets attributed to various types of loans and securities, and see if either changes in a banks CAMEL rating, or changes in its level of classified assets affect balance sheet composition. I will focus my attention on the changes in commercial and industrial loans (columns 2 and 3 of table 9) and the change in U.S. Treasuries (columns 8 and 9 of table 9), both measured as a percentage of total bank assets. The results are intriguing. Looking at the CAMEL rating, we find that any change, regardless of whether it is an *upgrade* or a *downgrade*, results in a decrease in the percentage of assets held as C&I loans, and increases the percentage of U.S. Treasuries. That is, simply having an examiner change the bank’s rating results in a reduction in lending. While one would expect this for downgrades, surely it is not the expected outcome for upgrades.

But, as was the case earlier, the results indicate that the impact is not quantitatively important. Changes in classified assets of the order we actually see result in bank portfolio movements that are on the order of 0.1% of their assets, at most. Again, BKS are aware of this and discuss it in the paper.

The overall message of my comment thus far is that the BKS results do not seem to be quantitatively important. But I have left one question unanswered. Is the BKS

finding really about supervisory toughness and shifts in loan supply, or, could it be about something else? In all of their work, BKS do control for economic condition's in a bank's state, but they are unable to remove economy-wide activity. How important might this be? To address this concern, I have taken the annual time dummy variables estimates that come from an extended form of the regressions reported in Table 8, and I have computed their correlation with a number of macroeconomic variables. That is, I examine relationship annual measures of what BKS interpret as supervisory stance with measures of the state of the aggregate economy. The results of this exercise for both the total classified assets and the CAMEL regressions are reported in Table A.

Looking at the table, we see that these dummy variables are highly correlated with both growth in industrial production and core inflation. For example, the contemporaneous correlation of the dummy variables with growth in industrial production is -0.61 for classified assets and 0.72 for the CAMEL rating. All of this suggests that what BKS are doing is picking up the supervisory reaction to the current general economic environment. As a result, I doubt very much that what they are finding are independent measures of toughness per se.

**Table A: Correlation of Year Dummy Coefficients
with Macroeconomic Variables**

	A. Classified Assets				
Correlation with	Lag			Lead	
	-2	-1	0	+1	+2
Risk Spread	0.66	0.59	0.03	-0.26	-0.59
Term Premium	-0.79	-0.25	-0.07	0.25	0.75
Core Inflation	0.54	0.65	0.50	0.25	0.04
M2 Growth	0.35	0.34	0.12	-0.16	-0.54
Indus. Prod. Growth	-0.16	-0.32	-0.61	-0.68	-0.27
Trade Weighted \$	-0.20	-0.07	0.09	0.19	-0.42
Unemployment Rate	-0.66	-0.37	0.11	0.46	0.67
	B. CAMEL				
Correlation with	Lag			Lead	
	-2	-1	0	+1	+2
Risk Spread	-0.51	-0.12	0.28	0.55	0.89
Term Premium	0.61	0.39	0.06	-0.43	-0.85
Core Inflation	-0.32	-0.42	-0.30	0.13	0.32
M2 Growth	0.03	-0.02	-0.01	0.26	0.66
Indus. Prod. Growth	-0.05	0.31	0.72	0.43	-0.07
Trade Weighted \$	0.42	0.18	-0.01	0.19	0.48
Unemployment Rate	0.66	0.42	-0.13	-0.51	-0.73

Source: Dummy variable coefficients were provided by Berger, Kyle and Scalise; Core inflation is measured by the median CPI, and the term spread is the difference between the 10 year and the 3 month Treasury (constant maturity); the risk spread is difference between the 3 month commercial paper rate and the 3 month treasury bill rate.