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ABSTRACT

Hooks and Robinson argue that moral hazard induced by deposit insurance induced banks to invest in riskier assets in Texas during the 1920s. Their regressions suggest this manifestation of moral hazard may explain a portion of the events that occurred during the 1920s, but some other phenomena, hitherto overlooked, must also be at work. Economic logic and evidence form the archives of the Board of Governors suggest that phenomenon is mismanagement and defalcation by corporate officers, which increases when insurance reduces depositors' incentives to monitor and react to the safety and soundness of banks.

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An article by Linda Hooks and Kenneth Robinson, "Deposit Insurance and Moral Hazard: Evidence from Texas Banking During the 1920s" contains a contradiction (Hooks and Robinson, 2002). Pondering it reveals an insight which the authors may have overlooked.

The Contradiction

Hooks and Robinson examine balance sheet data for banks in Texas. Table 3 focuses on state banks during the 1920s and finds "evidence that declines in capitalization led to increases in asset risk, as measured by loan concentrations. Such activity on the part of insured banks would indicate that banks with weakened financial conditions increased the riskiness of their asset portfolios, which would be consistent with a moral-hazard effect at work (p. 848)." Table 4 examines two control groups: state banks in 1909, and national banks during the 1920s. Neither group exhibits correlations between capitalization and loan concentration, suggesting that a difference between the control and treatment groups, one of which was deposit insurance, encouraged poorly capitalized state banks to invest in assets, such as loans to local farmers and businessmen, with higher expected return and risk.

According to Hooks and Robinson's regressions in Table 2, however, such behavior did NOT increase the likelihood that banks failed. Banks whose portfolios contained a higher proportion of loans had LOWER failure rates than other banks, all else being equal (see coefficient on the portfolio concentration variable, which measures the ration of loans to assets, *LOANASS*). The beneficial effect of additional loans was large. An extra $1 of loans reduced the probability of failure to the same extent as an additional

43 cents of retained earnings (-0.140/-0.327) (see Table 2, column 1). The authors acknowledge this result when they write "we expect a positive sign on *LOANASS* … However, *LOANASS* is negative and significant, the opposite of what was hypothesized."

Their hypothesis rests on the notion that "declines in capitalization can induce 'go-for-broke' strategies among insured banks. With less of their own funds at risk as capital declines, insured banks may be tempted to gamble on risky projects with a small probability of payoff. If these ventures prove successful, the bank gains, otherwise the insurance fund suffers the losses (p. 844)." The expectation of a "positive sign on *LOANASS*" presumes that investing in loans rather than safer assets, such as government securities and eligible commercial paper, actually resulted in large losses and high failure rates. Table 2's regressions indicate the opposite. Texas banks benefited from lending more money. Their *ex ante* gambles yielded *ex post* profits. This is understandable since the banks made these loans during the era known as the Roaring 20s, when the national economy prospered, and Texas experienced oil and industrial booms.

Table 2's regressions contain another variable, *INSURED*, an indicator for state banks, all of which had to participate in one of the two Texas deposit insurance systems. The author's argue that "if moral hazard incentives are present at insured banks, leading them to pursue excessively risky activities, then we would expect a positive sign on *INSURED* (p. 843)." The sign is indeed "positive and significant at the 10-percent level, indicating that deposit insurance significantly increased the likelihood of failure (p. 843)."

This brings us to the contradiction in the essay, and I believe, an overlooked insight. The author's interpretations of *LOANASS* and *INSURED* in Table 2 are inconsistent with their interpretations of Tables 3 and 4. For the latter tables, the authors

claim that the structure of a bank's assets, measured by loan concentrations in the portfolio, serves as a good proxy for risk. "Loans are one of the riskiest assets that banks can hold (p. 842)." "A higher proportion of loans leaves a bank more exposed to credit risk and more vulnerable to adverse economic shock (p. 843)." The statistically significant relationship between *LOANASS*, *TOTCAP*, and *CAPLOAN* reveals moral hazard at work. In Table 2, however, the authors' argue that the coefficient on *INSURED* indicates that moral hazard induced excess risk taking and influenced the survival of banks. But the regressions also contain the variable *LOANASS*. If *LOANASS* serves as a good proxy for *ex ante* portfolio risk, as the authors argue throughout their essay and in Tables 3 and 4, then the variable *INSURED* cannot also do so. Regression analysis imposes a ceteris paribus assumption. The coefficient on *INSURED* measures the correlation between insurance and failure that is orthogonal to *LOANASS*, that is holding the loan to asset ratio constant.

In other words, if the coefficient on INSURED reveals moral hazard at work, it must reveal moral hazard operating through a channel other than distorting banks decisions concerning the bearing of risk. What might that channel be?

Resolving the Contradiction

The literature on deposit insurance discusses two types of moral hazard. The first, which the authors explicitly search for in this essay, involves excess risk-taking among insured banks. The relationship at issue is that between managers and regulators, who indirectly underwrite gambles gone bad by zombie banks. The Savings and Loan crisis inspired this line of research.

The second occurs when the presence of insurance reduces the incentives for depositors to monitor the safety of their savings. Depositors stop monitoring the behavior of bankers, and no longer bother to move deposits from worse to better managed institutions. Mismanagement increases. Bad banks proliferate. Competitive pressures force good banks to cut costs and corners, initiating what may become a race to the bottom.

Mismanagement of this type does not generate predictable patterns in bank balance sheets. Some classic examples of mismanagement illustrate this point. One, a bank never bothers to make loans. Instead, it invests in eligible paper, deposits funds in correspondent banks, and keeps the bulk of its resources in its vault. Its costs exceed revenues, and it goes bankrupt, because its portfolio has too low of a return and too little risk. Two, a bank invests in a large, expensive building with beautiful new furniture and artwork, which it cannot afford on current revenues, and goes bankrupt. Three, bank managers do not perform due diligence and fail to collect outstanding debts. Losses rise. Bankruptcy results. In the first two examples, the balance sheets of the banks would exhibit low ratios of loans to assets. In the third example, the balance sheet of a bank could exhibit any level of investment risk.

This property of mismanagement makes it a likely explanation for the positive coefficient on *INSURED* in Table 2, since the logic of regression analysis dictates that the factor generating the coefficient must be orthogonal to *LOANASS* and to the underlying phenomena, portfolio concentration and overall asset risk, for which *LOANASS* proxies.

Data on the causes of bank suspensions during the 1920s that I have recently recovered from the archives of the Federal Reserve Board of Governors supports this supposition. Each year when deposit insurance existed in Texas between 1921 and 1926,

mismanagement forced an average of 3.2% of all state banks to suspend operations. That fraction amounted to nearly 80% of all state bank suspensions. In the four years after deposit insurance, mismanagement forced an average of only 1.2% of all state banks to suspend operations. The share of suspensions attributed to mismanagement fell similarly (see Chung and Richardson 2004 for a description of the source).

Conclusions

Hooks and Robinson indicate that their article provides additional evidence supporting the conventional academic wisdom. This comment argues that their essay does that and much more. Their regressions demonstrate that while the prevailing paradigm explains a portion of the events that occurred during the 1920s, some other phenomena, hitherto overlooked, must also be at work. Economic logic and evidence form the archives of the Board of Governors suggest that phenomenon is mismanagement, which increases when insurance reduces depositors' incentives to monitor and react to the safety and soundness of banks.

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