Animal Spirits in Regulation: Evidence from Banking

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“True law is ... of universal application, unchanging and everlasting; it ...”

Marcus Tullius Cicero, On The Republic

“At finance academics, we should care deeply about the way the financial industry is perceived by society.”

And even if we thought there were no truth, we should care about the effects that this reputation has on shaping regulation and government intervention in the financial industry.”

Lori Zangaro, 2015 AFA Presidential Address

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Caveat Emptor

Unfortunately we are unable to show some of our core results, as Federal Reserve (FRS) policy does swallow results based on confidential supervisee information until vested. We hope to be able to convey the “flavor” of our work with the results presented below.

Introduction

Are banking regulation and supervision consistent? There is evidence in the literature that they are not, at least across regulators. Agarwal et al. (2014) document how regulator incentives lead to state bank examiners being relatively lenient in their evaluations. Bischoff et al. (2015) document variation in risk disclosures of banks subject to quasi-identical disclosure rules under securities laws and banking regulation, but subject to enforcement by different regulators across time.

Two questions arise given this evidence. First, is it the case that there is also inconsistency in this sense, and that this inconsistency is influenced by variation in media sentiment and attention toward banks. This is of particular importance as we face an increasingly politically polarized media ecosystem: indeed, Engelberg et al. (2021) document growing partisanship among financial regulators.

To construct our base measure, we identify articles discussing our set of banks (DFAST banks in 2020q4), and perform sentiment scoring at the sentence level based on a financial dictionary (Henry, 2008). We briefly describe our variable disclosure rules under securities laws and banking regulation, but subject to enforcement by different regulators across time.

We use proprietary FRS data on bank-level operational losses, BHC and bank ratings, as well as MR(I)As and other supervisory actions. The textual corpus of bank-level newspaper coverage comes from the Factiva Analytics database. In analyses not shown, we use a 2SLS-IV strategy for identification, in which we estimate the first-stage equation in which \( \Delta NIE_k = \alpha_i Y_{it} + \beta_k \delta_k \text{Sentiment}_{it} + \epsilon_k \) \( \epsilon_k \) in which \( \Delta NIE_k \) is the estimate of net interest expense for bank \( k \) at time \( t \), instrumented by the \( k \)-th element of the instrument vector, \( \text{Sentiment}_{it} \) is a vector of controls, and \( \epsilon_k \) is a bank fixed effect.

We then estimate the second stage

\[ Y_{it} = \alpha_i + \beta_i \Delta NIE_{it} + \epsilon_{it} \]

in which \( \alpha_i \) and \( \beta_i \) are vector of dependent variables. Our identification rests upon the assumption that sentiment affects bank fundamentals at most through net interest expense. We believe that, given the relative stiffness of our dependent variables, this is reasonable.

Results

We first present results, in Table 1, for a set of baseline reduced-form regressions with the following general specification:

\[ Y_{it} = \alpha_i + \beta_i \text{Sentiment}_{it} + \epsilon_{it} \]

As dependent variables, we use the modified Z-Score of Noth & Schüwer (2018), bank ROA, and Tier 1 Capital ratio.

Finally, Table 3 shows results of our 2SLS estimation. As can be seen, the resulting loadings on both distance-to-default and Tier 1 capitalization are large and (mostly) significant. Taken together with our first stage results, we interpret these findings as offering support for our conjecture that there is significant variation in the effect of sentiment on bank flows through NIE.

Conclusions

• There is an apparent tension between short-term sentiment-driven profit objectives and long term bank stability
• There is some evidence that regulatory sentiment evolves counter to sentiment cycles: more nuanced results to be made available, based on analysis conducted using proprietary data.

We find common variation in sentiment exposure (a relatively good proxy of precautionary regulatory penalties) and sentiment; however, we cannot condition output on regulators’ information set using the data here reported. Results of such an exercise are forthcoming, which will allow us to provide causal interpretation to our findings.

References


Empirical Strategy

We use a 2SLS-IV strategy for identification, in which we estimate the first-stage equation

\[ \Delta NIE_{it} = \alpha_i Y_{it} + \beta_k \delta_k \text{Sentiment}_{it} + \epsilon_k \]

where \( \Delta NIE_{it} \) is the estimated net interest expense for bank \( k \) at time \( t \), instrumented by the \( k \)-th element of the instrument vector, \( \text{Sentiment}_{it} \) is a vector of controls, and \( \epsilon_k \) is a bank fixed effect.

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