Aggregate and Bank-specific Information in Bank Stress Tests

Mei Li
Department of Economics and Finance, University of Guelph

June 2020

Summary

This paper studies welfare effects of a bank regulator's aggregate and bank-specific information disclosure policy. We apply global games to studying an economy where depositors, with strategic complementarities among them, face uncertainties about both aggregate and bank-specific information of a bank. Thus, depositors face two types of uncertainty: (1) the uncertainty about bank fundamentals, that is, the aggregate and bank-specific performance; (2) the strategic uncertainty about other depositors' actions due to strategic complementarities among depositors. Then we examine how a bank regulator's disclosure policy on the bank's aggregate and bank-specific information affects welfare.

Our models produce the following major results: (1) When bank fundamentals are either strong or weak, more precise aggregate and bank-specific information tends to improve welfare. (2) When bank fundamentals are in the intermediate range where coordination matters, more precise aggregate information can worsen welfare by inducing more severe coordination failure. Specifically, we find that more precise aggregate information tends to worsen welfare, while more precise bank-specific information tends to improve welfare.

We find that the welfare effects of the bank regulator's information disclosure depend crucially on the interaction of the two types of uncertainty at different levels of bank fundamentals as follows:

When the fundamentals are either strong or weak, depositors' optimal strategy is determined by the fundamentals, and other depositors' actions are irrelevant. More precise aggregate and bank-specific information reduces the first type of uncertainty in the absence of the second type of uncertainty. As a result, welfare increases unambiguously with information precision. However, when the fundamentals are in the intermediate range, depositors' optimal strategy is determined not only by the fundamentals, but also by other depositors' actions. More precise aggregate and bank-specific information reduces the first type of uncertainty but may cause more severe coordination failure due to the second type of uncertainty. As a result, welfare may increase or decrease with information precision. The different welfare effects of aggregate and bank-specific information when the fundamentals are in the intermediate range originate from our assumption that bank depositors lack private information about aggregate bank information but have precise private information about bank-specific information. Due to this assumption, we find that more precise aggregate information tends to cause more severe coordination failure, while more precise bank-specific information tends to alleviate coordination failure.