# Welfare analysis of bank merger with financial instability *

Akio Ino†
Yusuke Matsuki‡

January 8, 2020

**Abstract**

In this paper, we analyze the effect of a merger between banks by extending a structural model of banking industry with possibility of bank runs developed by **?**. This allows us to evaluate a merger in the banking sector, taking into account the effect on not only the merged bank itself, but also the stability of the entire financial system. We use our framework to analyse if the merger between Wells Fargo and Wachovia was beneficial to the social welfare. When the model is calibrated to the data in 2008, the merger increases the market share of the merged bank and thus allows it to set higher markup, which implies lower deposit interest rates. Through competition, this lowers the default probability of other banks in normal times. When crisis occurs to banks other than the merged bank, the default probability increases as the merged bank responds to crisis sharply. On the other hand, when the bank run occurs at the merged bank, the default probability is lower because it has higher profits. The merger increases the social welfare in normal times and when a bank run occurs at the mergerd bank, and decreases the social welfare when a bank run occurs at the other banks.

*We thank Hiroshi Uchida, Hiroshi Gunji, Iichiro Uesugi, Masaru Konishi, as well as seminar participant at the 13rd regional finance workshop. We thank Tokyo Center for Economic Research for financial support.

†Tokyo Foundation for Policy Research, Roppongi Grand Tower 34F, 3-2-1 Roppongi, Minato-ku, Tokyo, 106-6234, Japan.

‡Faculty of Economics, Nagasaki University, 4-2-1 Katafuchi, Nagasaki 850-8506, Japan.