

The Formation of Hidden Negative Capital in Banking: A Product Mismatch Hypothesis

Alexander Kostrov ¹, Mikhail Mamonov ²

This draft: March 2019

Abstract

This paper investigates the phenomenon of hidden negative capital (HNC) associated with bank failures and introduces a product mismatch hypothesis to explain the formation of HNC. Given that troubled banks tend to hide negative capital in financial statements from regulators to keep their licenses, we attempt to capture this gambling behavior by evaluating product mismatches reflecting disproportions between the allocation of bank assets and the sources of funding. We manually collect unique data on HNC and test our hypothesis using U.S. and Russian banking statistics for the 2004–2017 period (external validity argument). To manage the sample selection concerns, we apply the Heckman selection approach. Our results clearly indicate that product mismatch matters and works similarly in both U.S. and Russian banking systems. Specifically, an increase in mismatch has two effects: it leads to a higher probability that a bank’s capital is negative and raises the conditional size of the bank’s HNC. Further, we demonstrate that the mismatch effect is heterogeneous with respect to bank size being at least partially consistent with the informational asymmetry view. Our results may facilitate improvements in the prudential regulation of banking activities in other countries that share similar features with either the U.S. or Russian banking systems.

Keywords: Bank failure, Hidden negative capital, Product mismatch, Misreporting, Heckman selection model.

JEL: G21 G33 C34

¹Chair of Mathematics and Statistics, University of St. Gallen, Bodanstrasse 6, 9000 St Gallen, Switzerland, +41 71 224 2475, alexander.kostrov@unisg.ch.

²Corresponding author. CERGE-EI, a joint workplace of Charles University and the Economics Institute of the Czech Academy of Sciences, Politických veznu 7, 111 21 Prague, Czech Republic, +420 776 071 490, mikhail.mamonov@cerge-ei.cz.

We are grateful to Francesco Audrino, Zuzana Fungacova, Vasily Korovkin, Grayson Krueger, Ion Lapteacru, Nicolas Mittag, Simona Nistor, Steven Ongena, Juan-Pablo Ortega, Laura Solanko, Laurent Weill, and the participants of the BOFIT Research Seminar on March 8, 2016 (Helsinki), the 6th CInSt Banking workshop (Moscow, 2016), 2016 RCEA Money-Macro-Finance Workshop (Rimini), 36th International Symposium on Forecasting (Santander, 2016), 19th INFER Annual Conference, special session on bank risk-taking (Bordeaux, 2017), 34th International Symposium on Money, Banking and Finance (Nanterre, 2017), IFABS 2018 Porto Conference “Ten Years After the 2008 Financial Crisis: Where Are We Heading Now?”, and 10th Biennial Conference of the Czech Economic Society (Prague, 2018) for their helpful comments and suggestions. Mikhail Mamonov acknowledges the financial support received from RFBR under the research project No. 16-36-60037.