NBER WORKING PAPER SERIES

WHEN CREDIT BITES BACK: LEVERAGE, BUSINESS CYCLES, AND CRISES

Òscar Jordà Moritz HP. Schularick Alan M. Taylor

Working Paper 17621 http://www.nber.org/papers/w17621

NATIONAL BUREAU OF ECONOMIC RESEARCH 1050 Massachusetts Avenue Cambridge, MA 02138 November 2011

The authors gratefully acknowledge financial support through a grant of the Institute for New Economic Thinking (INET) administered by the University of Virginia. Part of this research was undertaken when Schularick was a visitor at the Economics Department, Stern School of Business, New York University. The authors wish to thank, without implicating, David Backus, Philipp Engler, Richard Sylla, and Paul Wachtel for discussion and comments. Alan Taylor served as a Senior Advisor at Morgan Stanley in 2010-2011. The views expressed herein are solely the responsibility of the authors and should not be interpreted as reflecting the views of the Federal Reserve Bank of San Francisco, the Board of Governors of the Federal Reserve System, or the National Bureau of Economic Research.

NBER working papers are circulated for discussion and comment purposes. They have not been peer-reviewed or been subject to the review by the NBER Board of Directors that accompanies official NBER publications.

© 2011 by Oscar Jordà, Moritz HP. Schularick, and Alan M. Taylor. All rights reserved. Short sections of text, not to exceed two paragraphs, may be quoted without explicit permission provided that full credit, including © notice, is given to the source.

When Credit Bites Back: Leverage, Business Cycles, and Crises Òscar Jordà, Moritz HP. Schularick, and Alan M. Taylor NBER Working Paper No. 17621 November 2011 JEL No. C14,C52,E51,F32,F42,N10,N20

ABSTRACT

This paper studies the role of leverage in the business cycle. Based on a study of nearly 200 recession episodes in 14 advanced countries between 1870 and 2008, we document a new stylized fact of the modern business cycle: more credit-intensive booms tend to be followed by deeper recessions and slower recoveries. We find a close relationship between the rate of credit growth relative to GDP in the expansion phase and the severity of the subsequent recession. We use local projection methods to study how leverage impacts the behavior of key macroeconomic variables such as investment, lending, interest rates, and inflation. The effects of leverage are particularly pronounced in recessions that coincide with financial crises, but are also distinctly present in normal cycles. The stylized facts we uncover lend support to the idea that financial factors play an important role in the modern business cycle.

Oscar Jordà
Department of Economics
University of California, Davis
One Shields Ave.
Davis, CA 95616
ojorda@ucdavis.edu

Moritz HP. Schularick John-F.-Kennedy-Institute, Free University of Berlin, Berlin, Germany moritz.schularick@fu-berlin.de Alan M. Taylor
Department of Economics
University of Virginia
Monroe Hall
Charlottesville, VA 22903
and NBER
alan.m.taylor@virginia.edu