

# Reinforcing Constraints\*

Francesca Zucchi<sup>†</sup>

April 15, 2019

## Abstract

Small firms face financing frictions, and their shares are traded at non-negligible bid-ask spreads. This paper develops a model that explores how these frictions are related and investigates their real effects. Bid-ask spreads increase a firm's cost of equity and the opportunity cost of retained earnings, which leads to tighter financial constraints, higher liquidation risk, and less investment. The ensuing decline in firm value makes the firm less followed by liquidity providers, then widening the firm's bid-ask spread further and amplifying their real effects. The model provides predictions on unintended consequences of financial market regulation, like firm-funded designated market makers or financial transaction taxes.

**Keywords:** Financial constraints, transaction costs, real effects of financial markets, small firms

**JEL Classification Numbers:** G32; G35

---

\*I thank Erwan Morellec for many insightful conversations and Pierre Collin-Dufresne, Sebastian Gryglewicz, Semyon Malamud, and Boris Nikolov for valuable advice. I also thank Jack Bao, Isabella Blengini, Anna Cieslak, Stefano Colonnello, Marco Della Seta, Michael Fishman, Luigi Guiso, Giang Hoang, Julien Hugonnier, Dalida Kadyrzhanova, Nataliya Klimenko, Arvind Krishnamurthy, Antonio Mello, Konstantin Milbradt, Kjell Nyborg, Dimitris Papanikolaou, Sebastian Pfeil, Paola Sapienza, Costis Skiadas, Philip Valta, Zexi Wang, Peng Zhun, and the seminar participants at the Bank of Italy, Caltech, Copenhagen Business School, EPFL/University of Lausanne, the Federal Reserve Board, HEC Paris, Johns Hopkins University, Northwestern University, KU Leuven, the London School of Economics, the Stockholm School of Economics, the Toulouse School of Economics, the University of Wisconsin - Madison, the University of Zurich, and WU Vienna. Any remaining errors are my own. The views expressed are those of the author and do not necessarily reflect those of the Federal Reserve System or its staff.

<sup>†</sup>Federal Reserve Board. E-mail: francesca.zucchi@frb.gov