

Technology, Online Banks, and Credit Market Segmentation

Laura Bottazzi
MIT

Chiara Farronato
Harvard Business School

Rachel J. Nam
USI Lugano

Loriana Pelizzon
Leibniz Institute for Financial Research SAFE

Abstract

How does online bank expansion (digital-only depository institutions that originate loans without human intermediation) affect consumer credit markets? Using loan-level data from Germany, we show that online banks cherry-pick low-risk borrowers, generating adverse selection on traditional banks. We document three facts. First, the market is segmented across lender types. Online banks serve the lowest-risk borrowers, traditional banks the medium-risk segment, and fintech the highest-risk segment. Second, online banks attract these borrowers by offering substantially lower rates, an advantage that diminishes with risk. Using historical branch density as an instrument, we isolate the supply-side mechanism of this pattern. Third, traditional banks more exposed to online bank expansion experience a deterioration in their borrower pool and charge higher rates as a result. A parsimonious model with lenders who observe the same application information but use it differently rationalizes these facts. Traditional banks use coarse pricing, a legacy of costly manual underwriting for a standardized product, while online banks use automated finer pricing and cherry-pick the best borrowers from within traditional banks' pricing cells. Our findings highlight that technological development in credit markets can generate important distributional consequences.