Measuring the Systemic Risk in Interfirm Transaction Networks*

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Abstract

Using a unique and massive data set that contains information on interfirm transaction relationships, we examine default propagation along the trade credit channel and for the first time provide direct and systematic evidence of its existence and relevance. Not only do we implement simulations in order to detect prospective defaulters, we also estimate the probabilities of actual firm bankruptcies and compare the predicted defaults and actual defaults. We find, first, that an economically sizable number of firms are predicted to fail when their customers default on their trade debt. Second, these prospective defaulters are indeed more likely to go bankrupt than other firms. Third, a certain type of firm-bank relationships, in which a bank extends loans to many of the firms in the same supply chain, significantly reduces firms' bankruptcy probability, providing evidence for the existence and relevance of "deep pockets" as documented in Kiyotaki and Moore (1997).

Keywords: interfirm networks, trade credit, default propagation

JEL classification: E32, G21, G32, G33

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