

# Author's Accepted Manuscript

Financial fragility and distress propagation in a network of regions

Stefania Vitali, Stefano Battiston, Mauro Gallegati



PII: S0165-1889(15)00192-X  
DOI: <http://dx.doi.org/10.1016/j.jedc.2015.10.003>  
Reference: DYNCON3255

To appear in: *Journal of Economic Dynamics and Control*

Received date: 23 July 2013  
Revised date: 14 July 2015  
Accepted date: 8 October 2015

Cite this article as: Stefania Vitali, Stefano Battiston and Mauro Gallegati  
Financial fragility and distress propagation in a network of regions, *Journal of Economic Dynamics and Control*, <http://dx.doi.org/10.1016/j.jedc.2015.10.003>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# Financial fragility and distress propagation in a network of regions

Stefania Vitali<sup>a,b</sup>, Stefano Battiston<sup>a</sup>, Mauro Gallegati<sup>b</sup>

<sup>a</sup>*University of Zurich, Department of Banking and Finance, Plattenstrasse 14, 8032, Zurich, Switzerland*

<sup>b</sup>*Department of Economics, Università Politecnica delle Marche, Piazz.le Martelli 8, 60121 Ancona, Italy*

---

## Abstract

We investigate how the financial fragility in the real economy is affected by the average level of interdependence among agents across different regions of the economy. To this end, we develop a parsimonious agent-based model of firms and banks organized in geographic regions. The model is built on the framework of an existing class of models for business fluctuations. The goal of our exercise is to clarify the effect on systemic failures of the interplay between network interconnectedness and financial acceleration. In particular, we investigate the probability of individual and systemic failures with varying levels of interconnectedness. We find that, in the absence of financial acceleration, connectivity makes the system more resilient. In contrast, in the presence of financial acceleration, the probability of both individual and systemic failures are minimized at intermediate level of diversification.

*Keywords:* Networks; Financial Fragility; Contagion; Business Fluctuations; Bankruptcy; Financial Acceleration

*JEL:* F4; E32; G01; L14

---

## 1. Introduction

In the current discussion on financial crises, two dimensions are attracting growing interest. The first is the role of geographic space, given that most financial crises of the few last decades have originated in one country and propagated to several others (Dornbusch et al., 2000; Vitali and Battiston, 2011a). The second is the role of network spillover in the propagation of financial distress, both at the level of financial institutions within a single

Download English Version:

<https://daneshyari.com/en/article/5098204>

Download Persian Version:

<https://daneshyari.com/article/5098204>

[Daneshyari.com](https://daneshyari.com)