

1145-91-1316

**Alexander Munson\***, 329 East King St. (2nd Floor), Chambersburg, PA 17201. *Order in chaos - decentralized hedging, BTW sand piles, and directed self-organized criticality, an explanatory mathematical model for causally connected defaults in the derivative market.* Preliminary report.

We consider a quantitative mechanism that describes the rate of default in a finite, partially connected system of rational actors. The mechanism, supported by a simple but rarely used frequency distribution, displays both sudden nonlinear growth and decentralization of distributional probabilities. We examine the mechanism both in its probability density function and in its applications and implications in the derivative market. (Received September 20, 2018)