Endogenous Extreme Events and the Dual Role of Prices

Jon Danielsson,[1] Hyun Song Shin,[2] and Jean-Pierre Zigrand[1]

[1]Department of Finance, London School of Economics, WC2A 2AE London, United Kingdom, email: j.danielsson@lse.ac.uk, j.p.zigrand@lse.ac.uk

[2]Bendheim Center for Finance, Princeton University, Princeton, New Jersey 08540; email: hsshin@princeton.edu

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Abstract

Extreme events in financial markets are often generated by shocks that come from within the system, rather than those that arrive from outside the system. The combination of risk-sensitive behavior rules and the coordinated actions implied by market-to-market accounting can result in outcome distributions with fat tails, even if the fundamental shocks are Gaussian. We illustrate such endogenous extreme events through the pricing density resulting from dynamic hedging of options and the flash crash of May 2010.