

Abstract

Currently, there is no singular, codified, and widely accepted approach towards measuring the depth of financial crises. One of the approaches applied towards this problematic has been to build on the observed similarity between financial markets and dynamic systems in physics and to create analogous systems. The Scale of Market Shocks originally proposed for foreign exchange markets has been adapted for the US stock market in order to provide US policy makers with a tool to assess the severity of such crises. Using methodology adapted from relevant research and literature we used volatilities calculated with different sampling resolution as the basis for our scale as we believe that these capture the behavior of different market agents. The resultant scale correctly identifies sharp movements and assign them a numerical value that denotes the importance of a crash. This scale is applicable for US policy makers to assess outcomes of proposed policies, however, the use of Principal Component Analysis to ease the computational complexity proved to not yield required results.