

## **Contagion of the Global Financial Crisis and Its Impact on Systemic Risk in the Banking System: Extreme Value Theory Analysis in Six Emerging Asia Economies**

**Authors :** Ratna Kuswardani

**Abstract :** This paper aims to study the impact of recent Global Financial Crisis (GFC) on 6 selected emerging Asian economies (Indonesia, Malaysia, Thailand, Philippines, Singapore, and South Korea). We first figure out the contagion of GFC from the US and Europe to the selected emerging Asian countries by studying the tail dependence of market stock returns between those countries. We apply the concept of Extreme Value Theory (EVT) to model the dependence between multiple returns series of variables under examination. We explore the factors causing the contagion between the regions. We find dependencies between markets that are influenced by their size, especially for large markets in emerging Asian countries that tend to have a higher dependency to the market in the more advanced country such as the U.S. and some countries in Europe. The results also suggest that the dependencies between market returns and bank stock returns in the same region tend to be higher than dependencies between these returns across two different regions. We extend our analysis by studying the impact of GFC on the systemic in the banking system. We also find that larger institution has more dependencies with the market stock, suggesting that larger size bank can cause disruption in the market. Further, the higher probability of extreme loss can be seen during the crisis period, which is shown by the non-linear dependency between the pre-crisis and the post-crisis period. Finally, our analysis suggests that systemic risk appears in the domestic banking systems in emerging Asia, as shown by the extreme dependencies within banks in the system. Overall, our results provide caution to policy makers and investors alike on the possible contagion of the impact of global financial crisis across different markets.

**Keywords :** contagion, extreme value theory, global financial crisis, systemic risk

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