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**The Identification of Long Memory Process in the Asean-4
Stock Markets by Fractional and Multifractional Brownian
Motion**

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Abstract

This research identifies the presence of long memory given return series of the stock markets in the ASEAN-4 countries, namely, Indonesia, Malaysia, the Philippines and Thailand. Daily stock prices from 1994 to 2004, which were neither adjusted for dividends nor inflation, were employed in the study. The Global Hurst Parameter is estimated to provide an indication of long memory. The sliding window method, quarterly, and annual estimations of the Hurst parameter were also undertaken to explore further on the behavior of the financial time series in question. The computed Hurst parameters across the windowed data, quarterly, and annual data has been shown to be time-varying. Stock prices behavior in this region is mildly persistent indicated by the following Global Hurst Parameters: Indonesia, 0.61, Malaysia, 0.58, the Philippines, 0.59, Thailand, 0.59.

Keywords: *Long Memory Processes, Multifractional Brownian Motion, Fractional Brownian Motion, Asian Stock Markets.*