

**Exploring Presence of Long Memory in Emerging  
and Developed Stock Markets**

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*According to the market efficiency hypothesis in its weak form, asset prices incorporate all relevant information, rendering asset returns unpredictable. The most considerable economical implication of existence of long memory is the contradiction of the weak-form of market efficiency (Fama, 1970) by allowing investors and portfolio managers to make prediction and to construct speculative strategies. The price of an asset determined in an efficient market should follow a martingale process in which each price change is unaffected by its predecessor and has no memory. When return series exhibit long memory, they display significant autocorrelation between distant observations. Therefore, the series realizations are not independent over time and past returns can help predict futures returns, thus violating the market efficiency hypothesis.*

*Exploring long memory property is appealing for derivative market participants, risk managers and asset allocation decisions makers, whose interest is to reasonably forecast stock market movements. Generally markets are classified as developed or emerging on the basis of their level of efficiency. Since efficiency levels of developed and emerging stock markets are different, long memory properties displayed by them should be different. Motivated by this we investigate long-memory properties in ten stock exchanges from developed markets (USA, UK, Germany, Australia, New Zealand, Hong Kong, France, Netherlands, Japan and Singapore) and ten from emerging markets (Russia, Hungary, Brazil, Chile, Mexico, Malaysia, Korea, Taiwan, China, and India) using daily return, absolute return and squared return. We compute Hurst exponent, Lo's statistic, semi parametric GPH statistic to test the presence of long-memory in asset returns which would provide evidence against the weak form of market efficiency. We look into developed markets with emerging markets to determine if the returns-generating processes and presence or absence of long memory depends on the degree of market development.*

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