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Abstract title:

Non stationarity of high order return distribution moments and the Irrational Fractional Brownian Motion modelling

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A discussion of financial indices is presented in the spirit of behavioral finance. Thus, a new methodology, or rather "hypothesis" is presented. Results on the forecast of the numerical value of the fat tail(s) in asset price distributions obtained from stock market indices are to be discussed. Using the Irrational fractional Brownian Motion (IFBM) model, instead of the Geometric Brownian Motion (GBM) mapping a log normal random walk, is outlined. This is in accordance with the hypothesis that investors are so called rational, supporting the efficient market hypothesis, subsequently leading to normally distributed distributions of returns, however empirically not observed. Indeed distributions of returns of assets are found to be leptokurtic, showing fat tails. The origin, value and range of the fat tails are the source of arguments in favor of a IFBM behavior of investors.