

The aim of this thesis is to provide an empirical evidence of multifractality in financial time series and to discuss the relevance of this concept for the current financial theory. We have applied two methods, the Multifractal Detrended Fluctuation analysis and the Generalized Hurst exponent method, on components of the Dow Jones Industrial Average. We analyzed daily data of 30 companies traded on U.S. stock markets from 2002 to 2012. We present results supporting presence of multiscaling in open-close returns. Contrary to published literature, we were not able to find any significant multiscaling in volatility. Moreover based on our analysis, multiscaling is not present in standardized returns and as multifractality requires relatively complicated models, this is our most valuable result.