

Statistical Properties of the Cross-Sectional Distribution of Daily Equity Returns

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Abstract: We present statistical properties of the daily cross sectional distribution of equity returns for the 1000 largest capitalization stocks in the CRSP database during the period 1991 to 2002. The investigation is motivated by the very large changes in the distribution that occurred between 1998 and 2001. Summary statistics for the dispersion, skewness, and tail length are presented. A skew t-distribution is used to model the distribution and daily MLE estimates for the parameters are presented. We find the change during 1998 to 2001 was concentrated in the scale parameter with little change in the tail length. In addition the cross sectional distribution shares the fat-tailed property of time series variation of prices with an estimated degrees of freedom parameter of about 3.4.