

CONDITIONAL INVERSE STATISTICS

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By means of inverse statistics the *Gain-Loss Asymmetry* has been found and established as a stylized fact for financial time series [1,2]. Though not present in series of individual stocks constituting given indices, the indices themselves, as well as bond time series, show an inherent gain-loss asymmetry.

The gain-loss asymmetry shares basic properties with the *Leverage Effect* [3], but has been shown to possess several characteristics of its own [4]. Hence there is much speculation about the true origin of these stylized facts, deeply connected to fundamental human behavior resulting in skewness of return distributions.

We introduce conditional inverse statistics as a tool for investigating the actual cause of the Gain-Loss Asymmetry. By kernel smoothing of individual inverse statistics data points, conditional investment horizon distributions appear. Preliminary results show that only a few but extreme events are causing the asymmetry.

From these very simple methods we gain new knowledge about the anatomy of financial markets and the dynamics leading to extreme scenarios. The methodology provides new insight to the erratic conditions governing stressed market situations and can be used in development of adaptive risk measures and control tools.

References

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