

Measuring herd behavior in stock markets

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March 30, 2013

Abstract

We introduce several measures for the degree of co-movement between random variables. The distribution of the sum of these random variables and the distribution of their comonotonic sum are the main ingredients to construct these dependence measures, which we baptize 'herd behavior' measures. Our results can be used to construct new indices for the implied degree of co-movement between stock prices. Any such index is model-free and forward looking, based on option price data on a particular stock index as well as on the individual stocks of which it is composed. Such an index can be interpreted as a measure for the expectation of the market about future co-movement behavior between stock prices.

Keywords: measuring co-movement, comonotonicity, index options, VIX, HIX.