Index options and measuring co-movement behavior in stock markets.

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Abstract

We investigate the degree of co-movement or herd behavior between stock prices by comparing the observed market situation with the extreme (theoretical) situation under which the whole system is driven by a single factor.

We introduce a class of measures for the implied degree of herd behavior between stock prices. These forward looking measures are model-independent and based on observed option data. They are defined as the ratio of an option-based estimate of the risk neutral expectation of a function of the market index and an option-based estimate of the corresponding expectation in case of the extreme single factor market situation.

Any member of this class of model-independent measures can be determined for any market index provided an appropriate series of vanilla options is traded on this index as well as on its components.

Keywords: Co-movement, herd behavior, forward looking measure

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