

The Herd Behavior Index: a new measure for estimating the degree of systemic risks in financial markets

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We introduce a new index for measuring systemic risk / herd behavior in financial markets via the theory of comonotonicity. We call this index the HIX (Herd Behavior Index). The index takes values in $[0,1]$. The closer the index is equal to 1, the more systemic risk (fear) is implied in the option prices. In the theoretical case that the market is fully driven by a single factor (systemic risk), the index is equal to 1. The HIX is model-independent and is straightforward to determine from observed option prices. The HIX can be seen as an alternative to implied correlation. The practical applicability of the HIX is illustrated by determining its historical values for the Dow Jones Index over a recent period.