Implied dependence versus implied correlation

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Abstract:

We develop a new algorithm that can infer the dependence among distributions. We apply this idea to infer the dependence among asset returns under the risk neutral probability. Specifically, we use current prices of plain vanilla calls and puts on individual assets and their sum (basket) to get all risk neutral distributions. Next, we use our algorithm to infer all possible dependence structures among the asset returns that are consistent with option prices and we study their properties. In particular, we look for measures that are consistent across the different candidate dependence structures.

This is joint work with Steven Vanduffel.