COHERENT ACCEPTABILITY INDICES

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A basic characteristic of a trade is its degree of quality, or the degree of acceptability. Known measures of the acceptability/quality are the Sharpe ratio, RAROC, and Gain-Loss ratio. In a recent paper with D. Madan we addressed the question: *Which axioms a proper measure of acceptability should satisfy?* We formulated a set of axioms that define what we called a *coherent acceptability index.* The characterization theorem for this class shows that a coherent acceptability index is closely linked to a family of coherent risk measures with various degrees of risk aversion. (The notion of a coherent risk measure was introduced by Artzner, Delbaen, Eber, and Heath.)

In the talk I will describe the axioms and the representation theorem and then will discuss which of the classical performance measures satisfy these axioms. After that, I will compare between different coherent acceptability indices and introduce some new ones, having the most desirable properties. The basic tool for comparing between different indices will be the notion of a *coherent state-price density.*

It is worth noting that coherent indices provide new approaches to measuring the degree of market efficiency, pricing and hedging, as well as portfolio choice.

References

[1] *P. Artzner, F. Delbaen, J.-M. Eber, D. Heath.* Thinking coherently. Risk, **10** (1997), No. 11, p. 68–71.

[2] *A.S. Cherny, D.B. Madan.* On measuring the degree of market efficiency. Preprint, availble at: `www.ssrn.com`.