

# Stress Testing with $f$ -divergences

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## Abstract

We discuss how sensitivity and (reverse and forward) stress testing of a risk management model can be tackled solving an optimisation problem where the  $f$ -divergence of an alternative scenario is minimised under some constraints. The cases of KL- and  $\chi^2$ -divergence are given special attention, and some features of the general  $f$ -divergence case are investigated.

**Keywords:** risk management; stress-testing;  $f$ -divergence; Kullback-Leibler;  $\chi^2$ -divergence.

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