

# Evaluation of Parameter Risk via First Order Approximation of Distortion Risk Measures

by

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In this paper we address the issue of parameter risk in the loss distribution approach to operational risk management. When the risk measure belongs to the class of distortion risk measures and the asymptotic distribution of the estimate of the parameters is normal, we use a linearization of the risk measure to examine how parameter changes can be mapped into corresponding risk measure changes. With this methodology, it is possible to approximate the confidence interval for the risk measure estimate associated with parameter uncertainty. We discuss computation time of these estimates, which we have found to be very reasonable. Examples are given for some common risk measures, including value-at-risk and conditional value-at-risk.