

# The importance of non-linearities and macroeconomic uncertainty in stress testing

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## **Abstract**

The focus of this paper is on macro stress-testing models used to assess credit risks. In the setting of the models typically used for this purpose, we address two types of issues: the importance of non-linearities, and the impact of macroeconomic uncertainty on the assessments arrived at in these exercises. We show that the assumption of linearity has several implications which are quite unappealing in the context of stress testing, and propose a simple non-linear specification that can greatly improve our ability to model the behaviour of defaults around their peaks. We also show that the uncertainty of forecasts of macroeconomic variables can have a large impact on the stress testing results. The feasibility of taking this uncertainty into account depends on the types of models used to generate macroeconomic scenarios. Several examples illustrate both types of issues.