Finite Sample Inference in Multivariate Instrumental Regressions with an Application to Catastrophe Bonds [1, 2]

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[1] This work was supported by the Social Sciences and Humanities Research Council of Canada, Natural Sciences and Engineering Research Council of Canada and the Chaire RBC en innovations financières.

[2] The views expressed in this paper are those of the authors and do not necessarily represent the views of the Bank of Canada.

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Abstract

We propose exact exogeneity tests and weak-instruments-robust tests on factor loadings for a system of regressions with possibly non-Gaussian disturbances. Our methodology is valid in finite samples and accounts for common cross-sectional factors. Analytical invariance results are derived, with companion simulation studies. Finally, a total-effect parameter is introduced that embeds the unobservable endogeneity factor. Proposed tests are applied to assess whether Catastrophe bond mutual funds co-move with financial markets. Significant risk premiums are detected globally and over time, although they are less pervasive from a domestic currency perspective. Findings underscore the importance of instrumenting and assessing direct and total effects.

Keywords: Finite-sample multivariate test; Instrumental variable test; Weak instruments; Endogeneity; Catastrophe bond mutual funds; Zero-beta asset.

Classification Codes: C1; C3; C58.