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# Bank insolvency risk and different approaches to aggregate Z-score measures: a note

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## Abstract

We discuss to what extent existing approaches to the construction of aggregate Z-score measures capture the notion of systemic soundness, propose some alternative ones that could be just as informative and have potential complementary value, and illustrate how these different approaches compare using a data set of Organisation for Economic Co-operation and Development (OECD) commercial, cooperative and savings banks for the period 1994–2008.

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systemic soundness

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## Notes

<sup>1</sup>It is most frequently attributed to Boyd and Graham ([1986](#)), Hannan and Hanweck ([1988](#)) and Boyd et al. ([1993](#)), although its roots can be traced back as far as Roy ([1952](#)).

<sup>2</sup>Hannan and Hanweck ([1988](#)) and Boyd et al. ([1993](#)) relaxed the normality assumption in related work, invoking the Bienaymé–Chebyshev inequality instead.

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