

Referee Report:
Measuring background and systemic risk using financial
time series

The paper extends the SRISK technology proposed in Brownlees and Engle (2015, working paper) along different directions and uses the proposed methodology to analyse the Australian financial system.

The authors deal with an important and timely topic. The formalization and extensions of the SRISK methodology make an interesting contribution. However, I do have a number of serious concerns with this manuscript.

My first main complaint is that it is not clear to me what is the value added of the paper. Yes, the generalisation of the framework provided by the authors makes a lot of sense. I like for instance the decomposition in section 7 of background and systemic stress. However, it is not clear to me what is the significant value added of the refinement carried out by the authors. I do not find this clearly explained in the manuscript.

Theoretical consideration aside, the authors could have validated the methodology put forward in this paper by comparing it empirically with other approaches out there (including SRISK and CoVaR). However, the empirical application is quite limited in scope. There is no attempt to validate empirically the usefulness of the proposed approach. Moreover, there is no attempt to show that the approach pushed forward in this work is better than standard SRISK methodology. Last, I understand the authors want to focus on the case of Australia. However, I would be inclined to think that systemic risk measures are interesting for the pre-screening “large” financial systems (say hundreds of financial institutions). It is unclear to me how systemic risk measures are useful for monitoring a system in which it is already known that there are very few core banks only.

Last, it is my view that JBES typically publishes papers that make statistical/econometric contributions to the literature. This paper is not really about statistics/econometrics. In a way, an appropriately revised version of the paper could find a better fit in a finance journal.

Minor Comments.

- In general the structure of the paper is a bit strange. There are 19 sections! The data is discussed and showed in the introduction. Methodological part and empirical parts are presented in scattered order. This makes the paper harder to digest in my view.
- page 2: the 2nd paragraph of this page synthesizes the contribution of the paper. However, I did not find this paper particularly self explanatory.
- page 3: the 1st paragraph motivates why the application to Australia is particularly interesting. However, I found the motivation vague. Also, it is not clear to me what the authors mean when they write “Both these features of the Australian system suggest that it may be difficult to find useful additional information about systemic risk by refining quantitative measures like SRISK”.
- page 4: In a way, the Giglio paper finds “negative” evidence, in the sense that they document that most systemic risk measures do not predict deterioration of macro-economic conditions. The citation here is a bit confusing.
- page 5: Brownlees and Engle (2015) is the updated working paper version of Brownlees and Engle (2010). The SRISK index defined in the two papers is the same.
- page 8: In the phrase “the future return is unknown at time t but its probability distribution is assumed to be well understood” the expression “well understood” should be changed with something more appropriate.
- page 14: “The second, systemic stress”. The comma is a typo probably.
- page 17: I understand that the paper builds up on Brownlees and Engle but the authors should strive to make the paper as self-explanatory as possible. It is not clear to me how the computations of section 17 are carried out.