

## RESPONSE TO REFEREE REPORT NUMBER 1

- 1) **COMMENT:** *“Overall, I think the conclusions in this paper are relevant and interesting from the point of view of empirical research.”*

**RESPONSE:** Thank you. The reviewer’s comments raise a number of ways the paper can be improved, which I address below.

- 2) **COMMENT:** *“The problem analyzed in this paper is a finite-sample problem. This should be emphasized. Asymptotically the problem disappears.”*

**RESPONSE:** The revision will do a better job of emphasizing that this is a finite sample problem that disappears as the sample becomes sufficiently large.

- 3) **COMMENT:** *“The analysis can be boiled down to the following problem: We observe a process, say  $X_t$ , which is generated as the sum of a random walk, say  $Z_t$ , and a stationary process, say  $Y_t$ . That is, we observe  $X_t = Z_t + Y_t$ . It is well known that in such a setup, the power of unit root tests on  $X_t$  depends on the signal-to-noise ratio and on the amount of serial dependence in  $Y_t$ . In the present paper, these two features are essentially controlled by the cointegration parameters. What I mean to say is that the problem is not new, but it is nevertheless interesting to analyze from the point of view of cointegrated variables.”*

**RESPONSE:** As I understand it, the reviewer is saying that the contribution of my paper is that it specifically makes the connection to cointegrated variables. While this is somewhat implied by previous concerns about the performance of unit root tests in the presence of serial correlation with poor signal-to-noise ratios, the application to cointegrated variables has not been previously made. It would be helpful if the reviewer could suggest some references that he/she believes are most relevant here.

- 4) **COMMENT:** *“Some of the conclusions should be toned down a bit. This relates for example to my point (1) above.”*

**RESPONSE:** The revised version will tone down the conclusions.