Corrigendum to "The Model Confidence Set"*

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In Hansen et al. (2011) we detailed two procedures for implementing the model confidence set. One procedure was based on a maximum t-statistic, denoted $T_{\max,\mathcal{M}}$, and a corresponding elimination rule, denoted $e_{\max,\mathcal{M}}$. The simulation study in section 5.1 and the empirical application in section 6.1 was, due to a programming error, based on a different test statistic – the minimum t-statistic – $T_{\min,\mathcal{M}}$, so this statistics must be used to replicate the results in Hansen et al. (2011, sections 5.1 and 6.1). Although the test statistic $T_{\min,\mathcal{M}}$ is also suitable for testing the null hypothesis, it does not furnish a natural elimination rule, as do $T_{\max,\mathcal{M}}$. The unintended combination of $T_{\min,\mathcal{M}}$ and the elimination rule, $e_{\max,\mathcal{M}}$ does not satisfy the coherency condition of Definition 3, except in special cases. The lack of coherency can result in poor finite sample coverage, as indicated by some of our simulation results, and we do not recommend this implementation in practice.

The second procedure detailed in Hansen et al. (2011) was based on the range statistic, $T_{R,\mathcal{M}}$ and the corresponding elimination rule, denoted $e_{R,\mathcal{M}}$. This procedure is coherent and was the basis for the simulation study in section 5.2 and the empirical results in section 6.2. So these results are unaffected. In the supplementary material to this corrigendum, we have reproduced the results in sections 5.1 and 6.1 based on both coherent implementations. The results based on $(T_{\max,\mathcal{M}}, e_{\max,\mathcal{M}})$ are conservative and produce relatively large model confidence sets, whereas the preferred implementation, based on the range statistic, $(T_{R,\mathcal{M}}, e_{R,\mathcal{M}})$, have better power properties

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and produce smaller model confidence sets with proper coverage probabilities. Based on these results we recommend the range based procedure over that based on the the maximum t-statistic.

References

Hansen, P. R., Lunde, A. and Nason, J. M. (2011), 'The model confidence set', *Econometrica* **79**, 456–497.