

The paper by Bjørnstad and Nymoen is a careful and interesting attempt to tackle an important issue. However, looking at the section on econometrics issues (many, and not easy to deal with) I run into an inconsistency which is unfortunately related to a critical point of the analysis, namely the existence of cointegration in a panel sense.

When introducing the Pedroni panel cointegration tests (page 9), the authors correctly point out that

While macro panels typically exhibit cross-sectional dependence, the Pedroni panel data cointegration tests all assume cross-country independence. As shown by Banerjee, Marcellino and Osbat (2004, 2005) using Monte Carlo simulations, falsely assuming cross-sectional independence causes severe size distortions. We have included common time dummies to capture some of the common shocks and thus to some extent correct for this form of cross-sectional dependence in the panel. [...].

Although not explicitly said, it is obvious (as well as well-known) that the size distortions are positive. In other terms, if the common time dummies<sup>1</sup> are not sufficient to capture the cross-section dependence, as it will be the case when this is not constant across time, we must expect some overrejection of the null of no cointegration even when this holds. Hence, the authors are essentially warning the reader that the evidence for rejection provided by the tests employed should be particularly strong in order to be believed. However, in the following sentence the results are not interpreted in this way:

The Pedroni-tests in Table 1 show that the null of no cointegration is generally not rejected, hence the formal evidence in favour of cointegration is weak. However, since [...] the cointegration tests have low power we continue our modelling strategy assuming that the long-run variables are in fact cointegrated.

Clearly, the problem is that the tests are not adequate to the problem at hand. Using one of the various tests robust to cross-section dependence now available (e.g., Westerlund, 2008, as well as my own contribution, Fachin, 2007) without common time dummies may possibly deliver more sensible results.

## 1 References

Fachin, S. (2007) "Long-Run Trends in Internal Migrations in Italy: a Study in Panel Cointegration with Dependent Units" *Journal of Applied Econometrics* 22, 401-428.

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<sup>1</sup>Incidentally: in a panel with a substantial time dimension the common time dummies represent a broken linear deterministic trend. Are we sure this makes sense here?

Westerlund, J. (2008) "Panel Cointegration Tests of the Fisher Effect" *Journal of Applied Econometrics* 23, 193-233.