Testing for Breaks in Cointegrated Panels –
with an Application to the Feldstein-Horioka Puzzle

by F. Di Iorio and S. Fachin

In this paper a bootstrap procedure is suggested to test for structural breaks in the cointegration relationship when the data are organized in form of a panel data set. The small sample properties of the test are investigated by means of Monte Carlo simulations and an empirical application based on data from 14 European countries running from 1960 – 2002 is presented. The comments by Joakim Westerlund and the anonymous referee already discuss many points. I only have a few additional remarks:

1. I do not find the idea very appealing to assume that there is a structural break in the cointegration relationship. A true "long-run" relation should be characterized by constant parameters. If there is a fundamental change in the economic conditions (e.g. the World War or the collapse of the Bretton-Woods system) there is no need for an empirical procedure to identify such a break.

2. As Joakim already pointed out in his comments, the procedure for selecting the break date seems inappropriate. First, it is assumed that the location of breaks may be different for the panel units (see # 2 on p. 4). The suggested procedure employs the median of the estimated break dates as the date for a *common* break. I agree that there is a problem with the test procedure if no break occurs (which is exactly the null hypothesis!). The solution, however, is not really appealing as it imposes an additional restriction (all breaks occur at the same time) that may be violated.

3. The problem with a non-identified break date under the null hypothesis can be solved by simulating the model under the null (no breaks). As argued by the authors in their reply to Joakim's comments, the model is

estimated under the alternative of a break in order to obtain zero-mean residuals. However, whenever a constant is included in the regression, the bootstrap residuals will have a zero mean (since they are drawn from a population with mean zero). Therefore, the test has power even if the structural break is ignored in the initial estimation of the model. (Of course, there is also no problem with the size of such a test, as already pointed out by Joakim).