

Threshold cointegration in R

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The concept of cointegration suggests that even if two or more variables are non-stationary, there can exist a linear combination of them that is stationary (Engle and Granger 1987). It implies the existence of a stable long-run relationship between the variables. In this framework, however, every deviation from the long-run equilibrium results in an error correction mechanism.

The concept of threshold cointegration (Balke and Fomby 1997) extends the linear cointegration case by allowing the adjustment to occur only after the deviation exceeds some critical threshold. This allows the model to take into account possible effects of transaction costs or stickiness of prices. Further, it permits us to capture asymmetries in the adjustment process, where positive or negative deviations are not corrected to the same extent.

The presentation will review the concept of threshold cointegration, discuss recent developments in the field and show how to use the package "tsDyn" (di Narzo, Aznarte and Stigler 2009) in R to estimate and interpret threshold cointegration models.

References

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