Fractional Integration in the West African Economic and Monetary Union

Authors : Hector Carcel Luis Alberiko Gil-Alana

Abstract : This paper examines the time series behavior of three variables (GDP, Price level of Consumption and Population) in the eight countries that belong to the West African Economic and Monetary Union (WAEMU), which are Benin, Burkina Faso, Côte d'Ivoire, Guinea-Bissau, Mali, Niger, Senegal and Togo. The reason for carrying out this study lies in the considerable heterogeneity that can be perceived in the data from these countries. We conduct a long memory and fractional integration modeling framework and we also identify potential breaks in the data. The aim of the study is to perceive up to which degree the eight West African countries that belong to the same monetary union follow the same economic patterns of stability. Testing for mean reversion, we only found strong evidence of it in the case of Senegal for the Price level of Consumption, and in the cases of Benin, Burkina Faso and Senegal for GDP.