



An empirical note about estimation and forecasting Latin American Forex returns volatility: the role of long memory and random level shifts components

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Abstract

A set of RLS-type models with ARMA and ARFIMA dynamics is estimated and compared in a forecasting exercise with ARFIMA, GARCH and FIGARCH models. It is an extension of Rodríguez (N Am J Econ Financ 42:393–420, 2017) but using more countries and working with squared returns in the forecasting exercise. The estimation results show: (i) existence of RLS; (ii) measurement errors except in Chile and Colombia. Regarding the fractional parameter, the estimates are quite small indicating the possible absence of long memory with possible exceptions of Chile and Colombia. The forecast exercise using the 10% MCS of Hansen et al. (Econometrica 79:453–497, 2011) and the ratios of MSFE indicate absence of the *RLS-ARFIMA* models while RLS-ARMA models are selected. In general, the results of the estimations and forecasts indicate probable absence of long memory or its small magnitude, which would make this characteristic not only unnecessary but also irrelevant to capture the variations of the low frequencies of the series.

Keywords Random Level Shifts · Long memory · Latin American Forex Markets · Volatility · Time Varying Probability · Mean reversion · ARFIMA models · GARCH model · FIGARCH model

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