CONSISTENT AND ASYMPTOTICALLY NORMAL ESTIMATORS FOR CYCLICALLY TIME-DEPENDENT LINEAR MODELS

Abdelouahab Bibi^1 and $\mathsf{Christian}\ \mathsf{Francq}^2$

¹Département de Mathématiques, Université Mentouri de Constantine, 25000 Constantine, Algérie
²Université du Littoral – Côte d'Opale, LMPA Joseph Liouville, Centre Universitaire de la Mi-Voix, 50, rue Ferdinand Buisson – BP 699, 62228 Calais Cedex, France, e-mail: Christian.Francq@lmpa.univ-littoral.fr

(Received November 17, 2000; revised June 6, 2002)

Abstract. We consider a general class of time series linear models where parameters switch according to a known fixed calendar. These parameters are estimated by means of quasi-generalized least squares estimators. Conditions for strong consistency and asymptotic normality are given. Applications to cyclical ARMA models with non constant periods are considered.

Key words and phrases: Time varying models, nonstationary processes, quasi-generalized least squares estimator, consistency, asymptotic normality.