

# Estimation and forecasting in RC-ZINAR(1) process with zero-inflated innovations

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## Abstract

In this manuscript we propose the first-order random coefficient integer-valued autoregressive process, with innovations following Zero-Inflated (ZI) distributions, denoted by RC-ZINAR(1). We present an efficient EM algorithm to estimate the parameters and developed a bootstrap method to obtain the confidence intervals for the parameters and the predictive distribution. We evaluate the performance of the proposed methodology through a simulation study and in order to show the applicability and utility of the process, we present an application to a real dataset.

*Keywords: Count time series, RCINAR(1) process, EM algorithm, Zero-inflated distributions*

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