

Poisson Autoregression for Corporate Default Counts

Arianna Agosto*, Giuseppe Cavaliere[†],
Dennis Kristensen[‡], Anders Rahbek[§]

PRELIMINARY VERSION - PLEASE DO NOT QUOTE

Abstract

We study persistence in the count time series of corporate defaults as a possible explanation of the empirical evidence of default clustering. We apply a Poisson time series model to the monthly count of corporate defaults in the US in the period 1970-2011 and we extend it by including realized volatility of S&P 500 as exogenous covariate. Results show that our model predicts real data well and that the value of estimated persistence is high.

1 Introduction

This paper examines persistence in the count time series of corporate defaults. Such study is motivated by the empirical evidence that defaults cluster in time. The default clustering phenomenon has been explored in the financial literature giving rise to a debate about its causes, with several works trying to distinguish between “contagion” effects and comovements in corporate solvency due to common macroeconomic and financial factors. In this framework, both Das et al. (2007) and Lando and Nielsen (2010) investigate

*Department of Statistical Sciences, University of Bologna, Italy; e-mail: arianna.agosto2@unibo.it.

[†]Department of Statistical Sciences, University of Bologna, Italy.

[‡]Department of Economics, University College of London, United Kingdom.

[§]Department of Economics, University of Copenhagen, Denmark.