



The University of Chicago
Department of Statistics

Master's Seminar

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**An Investigation of a Time Series Model For Forecasting
of Insurance Claim Runoff Triangles**

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ABSTRACT

Modeling and forecasting of incurred, but not reported (IBNR) claim reserves for long-term reinsurance involves the analysis of runoff triangle data. De Jong (2006) describes an approach using several time series models to deal with such data. The proposed models in the paper are stated in terms of the year-to-year log-link ratios as a measure of cumulative claim development and consider an error variance structure that allows for the inherent decrease in variability as claims develop over the years. The introduction of an autocorrelation term in the error structure for stochastic models runoff triangles is an improvement made by De Jong (2006). Here, we study one of the proposed time series models and explore some extended approaches that first smooth the data in order to remove a structural aspect of these data that leads to differential treatment of the first claim development year compared to subsequent years.