REVISIT THE AR(1) MODEL FOR THE RETURNS FROM DJIA

PETER REN
College of Business, University of Houston-Downtown
One Main Street, Houston, Texas 77002
E-mail: renp8888@yahoo.com

Abstract

Two overlooked points for the suggested AR(1) model in the research of Brock, Lakonishok, and LeBaron (1992) are discussed in this paper. First, Durbin's h statistic shows that the error terms from the AR(1) process for the returns of DJIA are correlated. Secondly, the coefficient of determination is low at 0.2% for the returns from DJIA. In other words, the model suggested can only explain 0.2% of the variation of DJIA. Therefore, the AR(1) model is not an ideal representative for the returns from the price index. In fact, our study shows that the DJIA price index itself has a random walk like process with uncorrelated error terms but not necessarily i.i.d. This study concludes the market is not predictable.

Keywords: AR(1) process, DJIA price index, Durbin's h statistic, Efficient Market, random walk

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