

Just a Little Bit

Forecasting the Bitcoin/USD exchange rate using ARIMA and Local Level models

Jakob Torgander*

June 2019

Abstract

In this thesis we will compare the abilities of the ARIMA and Local Level model classes to predict future values of the Bitcoin/USD exchange rate. In particular we will compare how these two models approach non-stationary time series, i.e. when the means and covariances of the series are assumed to be time dependent. We will also discuss how the Bitcoin price relates to the concept of market efficiency and the random walk hypothesis.

*Postal address: Mathematical Statistics, Stockholm University, SE-106 91, Sweden.
E-mail: jakobtorgander@gmail.com. Supervisor: Mathias Millberg Lindholm Kristofer Lindensjö .