

Abstract Submitted
for the MAR06 Meeting of
The American Physical Society

Sorting Category: 12.7.9 (C)

An empirical analysis of waiting times for price changes and orders in a financial market NAOYA SAZUKA, Sony Corporation — We discuss an empirical analysis of waiting time distribution for price changes and orders in a financial market and its Weibull approximation. It is widely assumed that trades in financial markets occur independently and the waiting time distribution is exponential. However, recent empirical results [Raberto et al 2002, Scalas et al 2005 etc] of high frequency financial data show that the distribution is non-exponential. Therefore, in order to understand market behavior quantitatively and systematically, it is important to check the validity of the exponential distribution hypothesis and which non-exponential distribution is appropriate. In this talk, we analyze the waiting times of Sony bank USD/JPY rate and orders. We show that the waiting time distribution for not only price changes, but also orders, is non-exponential by using non-double auction market data. We also measure exactly how much better the Weibull distribution is as an approximation by using the Weibull paper and divergence measurements. Moreover, the estimated value of the shape parameter in Weibull distribution is similar in both price changes and orders waiting time distributions.

Prefer Oral Session
 Prefer Poster Session

Naoya Sazuka
Naoya.Sazuka@jp.sony.com
Sony Corporation

Date submitted: 28 Nov 2005

Electronic form version 1.4