Stock Markets

Daniel Drake

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1 Introduction

A basic model for the stock market.

2 Symbols

$\mathbb{R} = (-\infty, \infty)$
$\mathbb{R}_0^+ = [0, \infty)$
$\in$ means "in" or "included in"
$\exists$ means there exists.

3 Stock Market

Suppose that we are looking at the stock value for company E.

A stock is a function $S_E : T \to \mathbb{R}_0^+$ where $T \subset \mathbb{R}_0^+$ and $0 < card(T) < card(\mathbb{N})$ and where $1 \in \mathbb{R}_0^+$ is 1 second from 0. Further, there exists a time $\tau_0 \in T$ such that $\tau_0 \leq t$ for all $t \in T$. The time τ_0 is the point in time when the company E went public and the value $S_E(\tau_0)$ is the initial value of the companies stock.