# AGENTS

## SSM (The Stochastic Simulation Model)

## Specifications:

* fully observable / partially observable
* deterministic / stochastic
* episodic / sequential
* static / dynamic
* discrete / continuous
* single agent / multiagent

## Aspects

### Stocks:

* Trade assets:
  + **risky**
* Fundamental value:
  + **log follows Wiener process (random IID increments)**

Orders:

* **Market orders**

Participants:

* Roles:
  + **Multiple investors**
  + **Single market maker**
* Representation investors:
  + **Groups (agents grouped by their strategies)**

Execution mechanism:

* Trading session:
  + **Call**
* Execution system:
  + **Single price auction**

Investment objective:

* **Maximize profit by arbitrage**

Strategy:

* Fundamental:
  + **Informed**
  + **Noisy**
* Technical
  + **Based on opinion of others and price trend**
* Set of strategies:
  + **Fixed**
* Traders’ choice for strategy:
  + **Switching**

Orders size and order side:

* **Excess demand functions that depend on the number of individuals in each group:**
  + **Optimists are buyers**
  + **Pessimists are sellers**

Timing:

* **Poisson process**

The price in single price auctions

* **Stochastic increase / decrease depending on the excess demand and risk aversion**