

### Abstract

Herd behavior in stock markets is a fairly well-studied subject. The earliest relevant literature dates back to the late 1980's [1], and since then a number of experiments and theoretical models have observed and characterized the behavior. These results established that herding exists and offer reasonable suggestions for modeling the phenomena. However, high-frequency trading has overhauled our conception of a securities market, and little to no published literature explores this phenomena.

We introduce a new model for evaluating herd behavior, specifically tailored to high-frequency markets. Through simulations we determine expected patterns of interactions and then evaluate their accuracy against real exchange data. **TODO: We show something very important**

## 1 Introduction

## 2 Background

### 2.1 High-Frequency Trading

### 2.2 Herd Behavior in Commodities Markets

## 3 Observations

## 4 Model

## 5 Simulation

## 6 Experiment

## 7 Evaluation

### 7.1 Results

### 7.2 Limitations

Here are some problems with our experiment. Regardless, we consider these issues non-fatal. The results are still worth noting.

## 8 Related Work

## 9 Conclusion and Future Work

## References

- [1] Sushil Bikhchandani and Sunil Sharma, *Herd behavior in financial markets*, IMF Staff papers (2000), 279–310.