

Market Maker Experiments

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1 Motivation

So... LMSR... while great in theory (why?? path independence), sucks in practice (why??). We want to

2 Goals

To test five different market maker mechanisms for their liquidity sensitivity, profit expectation and accuracy.

3 Definitions

In this document we care only about prediction markets. We denote time by $t \in \mathbb{R}_+$... An **event** has an outcome where we restrict our attention to a binary outcome: YES in case the event occurs and NO otherwise. We assume there is a way to unambiguously determine the outcome of an event. An **option** is a security that yields a return depending on the outcome of an event, has a price $p(o, t)$ at time t An **agent** $a \in A$ has a belief $v_{at} \in [0, 1]$ at time t is a measure of the degree ... A **prediction market** trades outcomes in an event. Formally, a prediction market is a tuple $\langle o_0, o_1, A, B \rangle$... A prediction market has a **book**... A book at time t records all the transactions made up to time t A transaction A **market maker** is ...

In this experiments we will test the following five market markers.

3.1 Market Maker 1

3.2 Market Maker 2

3.3 Market Maker 3

3.4 Market Maker 4

3.5 Market Maker 5

4 Setup

4.1 Types

4.2 Metrics