

Fair Price Discovery with Decentrized Exchange

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Abstract

Ever since bitcoin solved peer to peer digital cash was possible, poeple have been trying to apply similar technoques to solve other hard problems. One such problem, peer to peer exchange, is one of the most difficult of these problems.

An exchange is a financial market, where trading of securities occur. The pupose of an exchange is two fold. 1) for price discovery, 2) for counter party settlement..

Centralized Exchanges (CEX), have been well researched and developed in traditional finaince for well over a century. [exchange cite] They evoled from trading under a tree, the Chicago trading pits, to electroic exchanges with continuous limit order books. Modern exchanges provide 24/7 trading, and offer co-location for the most proflc traders, High Freaquency Trading (HFT) bots.

Decentralized exchange (DEX), aims to bring tradition centralized exchanges into a peer to peer blockchain protocol. Due to early bitcoin CEX hacks, most DEXs have been focused on the settlement utility of exchange. As price discovery is an emergent property of the real-time trading and difficult to research.

We present a DEX with focus on providing price discovery. Our solution, Fair Price Discovery (FPD)

1 Introduction

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The word "central" is part of the common definition of an exchange. "A central place where buying and sellers come to find price and execute trades.

The purpose of exchange is two fold. 1 - for price discovery [cite] 2 - for counter party settlement

Due to early bitcoin exchange hacks, Decentralized Exchange or (DEX), has been mostly focused on the non-custodial side for the settlement utility.

We focusing on the real public service of an Exchange, the price discovery utility. We design price discovery within a DEX, with a purpose of "Fair Price Discovery".

With, Fair Price Discovery (FPD), as our goal. We focus on a mechanism designed exchange, for reaching equilibrium which produces price.

Taking inspiration from Rational Protocol Design analysis of Bitcoin, and looking back to the original Bitcoin white-paper.

examining the state of the art in price-discovery, High Frequency Market Making, and electronic exchange matching engines

Since Bitcoin showed us how peer to peer electronic cash was possible, we have re-searching if and how peer-to-peer exchange was possible.

Exchanges are a critical part of the financial markets.

Ecological balance otherwise the order-driven market can collapse Transparency is an important feature

first to win is most important

Price Discovery

Price discovery as a key goal in the design of the market structure. In fact, the goal of the architecture of an exchange mechanism, is to attract as much liquidity needed to for price discovery. (author?) [2][xxx]

Price discovery is described in microstructure research as a search for an equilibrium price, from new external information. This new information is reflected in the traders orders, and is ultimately converted into a market price. [4]

price discovery is dynamic in nature, and an efficient price discovery process is characterized by the fast adjustment of market prices from the old equilibrium to the new equilibrium with the arrival of new information

[5]

Central order book and price discovery are tightly related.

[3]

The High Frequency Trading Game

2 Results

[1]

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