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Presentation

Automated Exchange Economies

Central limit order books, like those used on traditional exchanges, are impractical with blockchain technology. Instead, DeFi exchanges like Uniswap and Curve use Automated Market Makers (AMMs) to facilitate trading. AMMs employ a pre-defined pricing function based on token quantities to determine trade terms. In this setting, we characterize the optimal behavior of liquidity providers and takers. Our findings suggest that the common advice for liquidity providers to post token quantities in equal value is not optimal. Instead, token postings should balance gains from liquidity takers trading for non-market reasons with losses from those trading on new information. We explore the welfare implications of different "pricing curve" shapes used in AMMs.