Decentralized Exchanges for Stablecoins

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This paper examines decentralized exchanges (DEXs) that specialize in stablecoin trading—such as Curve—in comparison with centralized exchanges (CEXs) like Binance. While traders on CEXs transact against limit orders with specified prices and quantities, traders on DEXs trade against liquidity pools whose prices are determined by a deterministic bonding curve. We develop a simple model in which a DEX's low-curvature bonding curve yields relatively low price impact for large trades. Liquidity traders choose between DEXs and CEXs based on trade size, and informed traders profit from private information when the stablecoin's common value shifts. Using trade-level data on stablecoins from both CEXs and DEXs, we validate the model's implications. In particular, larger trades are more likely to be executed on DEXs than on CEXs. Moreover, for trades driven by liquidity needs, stablecoin price variation is lower on DEXs. However, for trades triggered by shocks to the fundamental value of the stablecoin, liquidity providers on DEXs incur larger losses than those on CEXs.

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Song conducts academic research on fixed-income markets, financial intermediaries, monetary policy, and real estate finance, financial econometrics, China's financial markets and monetary policy, and FinTech. He has published in the *Journal of Finance*, *Review of Financial Studies*, *Journal of Financial Economics*, *Journal of Monetary Economics*, *Journal of Econometrics*, *Management Science*, *Real Estate Economics*, *China Economic Review*, *Journal of Investment Management*, and *Liberty Street Economics of the Federal Reserve Bank of New York*. He has served as an Academic Expert for the US Commodity Futures Trading Commission (CFTC), consulted with the Dimensional Fund Advisors (DFA) on fixed-income investment, been a visiting scholar at the Federal Reserve Bank of Philadelphia, and served as a scholar of the Thematic Research Programme at the Hong Kong Institute for Monetary and Financial Research.

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