Learning from DeFi: Would Automated Market Makers Improve Equity Trading?

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Summary

Can AMMs improve traditional markets?

- Model AMM liquidity provision and calibrate to US equities
- Optimally designed AMMs could save U.S. investors up to 30% in annual transaction costs, leading to substantial welfare improvement.
- Save $54 billion in transaction costs

Welfare gains for liquidity demanders

- Using idle funds in brokerage accounts

Highlights the idea that AMMs do not have to be on-chain

- Bullish AMM (Centralized cryptocurrency exchange)

Break even liquidity provision and risk sharing

AMM liquidity provision is not competitive due to risk sharing

- Liquidity providing in AMMs would tend to approach break even fees but never arrive
- Rational liquidity provider would not enter a break even pool
- Rational liquidity provider would leave a break even pool

Paper only focuses on the benefits to liquidity demanders

- No benefit to the liquidity provider but assumes they take on risk for the benefit of liquidity demanders

Liquidity providers profit 3bp (8bp) a day for retail (institutions) (Aquilina et al. 2024)

How sensitive are the findings to liquidity providers earning a profit?

Coexisting or standalone

The paper is not very clear on if the AMM is trading alongside the existing market or completely replaces the existing market

- Key for the assumptions on volume, trade sizes and fee revenue

Having days with no AMM trading suggests that it is coexisting with the other markets

- Is this done by trade?
- What about arbitrage volume?

Free lunch?

Average daily savings per stock day: $8,303

Paper suggests that the savings come from

- Risk sharing
- Repurposed idle capital
- Overnight risk

Information generation is costly for liquidity providers in traditional markets

- Require a higher rate of return
- AMM liquidity providers pay for the information generation (Adverse selection)
- Savings could come from the AMM liquidity providers paying less for the information

Conclusion

Great paper, pleasure to read

Tackles an important question and highlights the potential benefits of AMMs