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TL;DR

- This proposal analyzes decreasing Uniswap v3 market share on Base to Aerodrome, and conjectures that a core input into that change in market share is Aerodrome's 4bp fee tier ETH/USDC pool. The pool undercuts Uniswap v3's 5bp fee tier pool.
- We propose the creation of 2, 3, and 4 bps fee tiers on Base in order to win back DEX market share from Aerodrome.

Primer

The Uniswap Protocol has long since been the dominant AMM trading venue in EVM markets. The crown jewel of this trading is the ETH/USDC pool on Ethereum mainnet. The pool between ETH/USD trading pairs is the most important pool within a chain's ecosystem because it represents the transition between flight-to-safety and risk-taking.

Most other pools within the AMM ecosystem utilize ETH as their pair asset. Pools generally do this, because ETH is correlated with most assets trading on blockchain-based markets. However, ETH is by definition not correlated with USDC, thus making it the most difficult pair to provide liquidity for in AMM markets.

On July 27th, Aerodrome ETH/USDC overtook both the Uniswap ETH/USDC both on Base and Ethereum - marking the first time for this newcomer DEX.

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https://x.com/jessepollak/status/1817225900737654863

One could say that Aerodrome has now entered the decentralized exchange thunderdome. Many have asked why has Aerodrome seen such a surge in volumes and what new technologies has it used to get here?

General DEX Marketshare

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Source: https://dune.com/queries/3946918/6639606

Across EVM chains, the Uniswap Protocol is by far the dominant trading protocol. While the volume share of the protocol shifts day to day and in different market conditions, the share generally sits around 50%.

On Base specifically, the share of the Uniswap Protocol by volume is around the same, but has generally been trending downward from highs above 80% to most recently below 40% since April 28th.

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Source: https://dune.com/sealaunch/dex-metrics-on-base

As we can see from the chart above, there is a stark difference between the Uniswap Protocol + Aerodrome vs. the other DEXs. We will focus only on those two protocols for the rest of the piece.

Share by Volume

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Source: https://dune.com/queries/3946723/6639218

The volume of Uniswap Protocol on Base has not seen a huge decrease. The majority of the change in volume share is actually from Aerodrome's increase in volume.

The increase in volume from Aerodrome can mainly be attributed to their introduction of their "Slipstream Protocol", which is a self-described Uniswap v3 fork, which made "only strictly necessary changes to the existing implementation due to the complexity and risk of introducing any regressions or potential security issues."

Aerodrome Volume by Pool

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Source: https://dune.com/queries/3946737/6639241

The USD volume from Aerodrome is concentrated around one singular pool, which is their ETH/USDC 4 bps pool, which is shown in black. Over 70% of the entire volume share of the protocol comes from this pool. The next highest pool has 6.4%, which is the 4 bps ETH/USD+ pool.

Uniswap Protocol Volume by Pool

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Source: https://dune.com/queries/3946743/6639254

This is in great contrast to the USD volume share of the Uniswap Protocol on Base, which has the largest pool at 28.4%. This is the ETH/USDC 5 bps pool, which is also shown in black. For reference, the large orange share (labeled 52.4%) above is all pools outside of the top 10 combined.

Observant readers will notice the difference between these two pools right away - the Aerodrome ETH/USDC pool has a 4 bps fee while the Uniswap v3 pool has a 5 bps fee. Because most retail users have nearly 0 price impact on their trades, liquidity differences between the two pools will not bring back flow. This is because the fee from the trade dominates the cost of trading on that pool. Liquidity mining alone will not bring back the flow. For the rest of this piece, we will focus on the ETH/USDC pools on both of the protocols.

Most retail users' trades are semi-sophisticated because they use interfaces to find the best routes for their trades. Because of this, the difference in 1 bp will cause sophisticated interfaces to choose Aerodrome over Uniswap.

To test this, we labeled the top 400 interface contracts by volume as either retail or non-retail (ie MEV). We checked where interfaces were routing their volume to and how much volume is from arbitrage volume (volume routed from MEV bots). These lists can be seen in the queries below.

Our sample is over the last 14 days as of the time of writing. On Uniswap Protocol, $293m of retail flow went into Uniswap v3. On Aerodrome, $425m of retail flow went into their Protocol. This is about a 45% difference in retail flow. This is significant, but the difference is not without a cost.

The higher fee tier of the pool protects LPs more from arbitrage losses. For reference, the arbitrage volumes on Aerodrome are $2.18b while the Uniswap Protocol was $588m, almost a 4 times increase. While there is a retail volume difference, the volume generated from arbitrage is massively different as well.

Notice that while Aerodrome has higher retail volumes, the arbitrage volumes are also significantly higher. More importantly, the volume of non-retail trades is proportionately much more than on Uniswap Protocol. This means much more of the flow that the LPs of Aerodrome are taking is worse. Because fee-tiers are inversely proportional to arbitrage losses, while the difference between 4 bps and 5 bps may seem small, the inverse relationship combined means the impact of these fee differences is super-linear.

ETH/USDC volume categorized by originator on Aerodrome

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Source: https://dune.com/queries/3946817/6639387

Note: The data is Jul 13th - Jul 27th and the selected ETH/USDC pool

ETH/USDC volume categorized by originator on Uniswap v3

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Source: https://dune.com/queries/3946818/6639388

Note: The data is Jul 13th - Jul 27th and the selected ETH/USDC pool

Not all flow is equal, and more volumes may not necessarily be better for LPs. However, there is alsoevidence that Layer 2 Protocols significantly lower losses and increase LP capital efficiency - this is due to lower blocktimes and lower fees. Because of this, the market clearing fee for LPs on L2s may actually be lower than 5 bps. Because Uniswap v3 has fee-tiers chosen by governance + the initial deployers, it is likely that these fee tiers may not totally be accurate.

Proposal

In the analysis above, we suppose that the reason why Uniswap has lost market share to Aerodrome over the last 4 months is Aerodrome's lower fee tier on its ETH-USDC pool. This pool has attracted more retail flow as Uniswap's flows have remained similar. The increase in retail flow and lower fees have in turn attracted significant non-retail flow.

Since Aerodrome is a Uniswap v3 fork, we see this analysis as good evidence of the viability of a lower fee pool for ETH-USDC on Base and suggest it as evidence to governance that this proposal has merit.

Cons:

One benefit of Uniswap v3 is the incentive to collect liquidity into one pool, creating network effects. We posted atweet about it here

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Source: https://x.com/whetstonedotcc/status/1803821112020676694

However, we believe that liquidity providers will respond quickly to updates of the fee. This will overcome the effects from liquidity fragmentation.

Proposal

Just like the 1 bp fee tier originally proposed 3 years ago by Getty Hill, we propose to additionally add a 2, 3, 4 bps fee tier to Uniswap v3 on Base.

You may question why we are proposing the creation of three new fee tiers when our analysis only focused on 4 bps. There are two reasons for this. For one, Aerodrome is able to adjust fees automatically on Base. We anticipate they may respond by lowering fees below 4 bps and want Uniswap Protocol to allow LPs to move without governance intervention if this happens.

Second, we believe this analysis may be a single case study into a larger finding that the required fee for LPs on L2s may be lower than 5 bps. While Aerodrome highlights the success of a 4 bp fee tier, it's unclear whether that's the right market rate. It may be lower.

Lastly, we note that this change should not be blindly repeated on other chains. The community should do further research on the success or failures of this program before executing it on another chain.