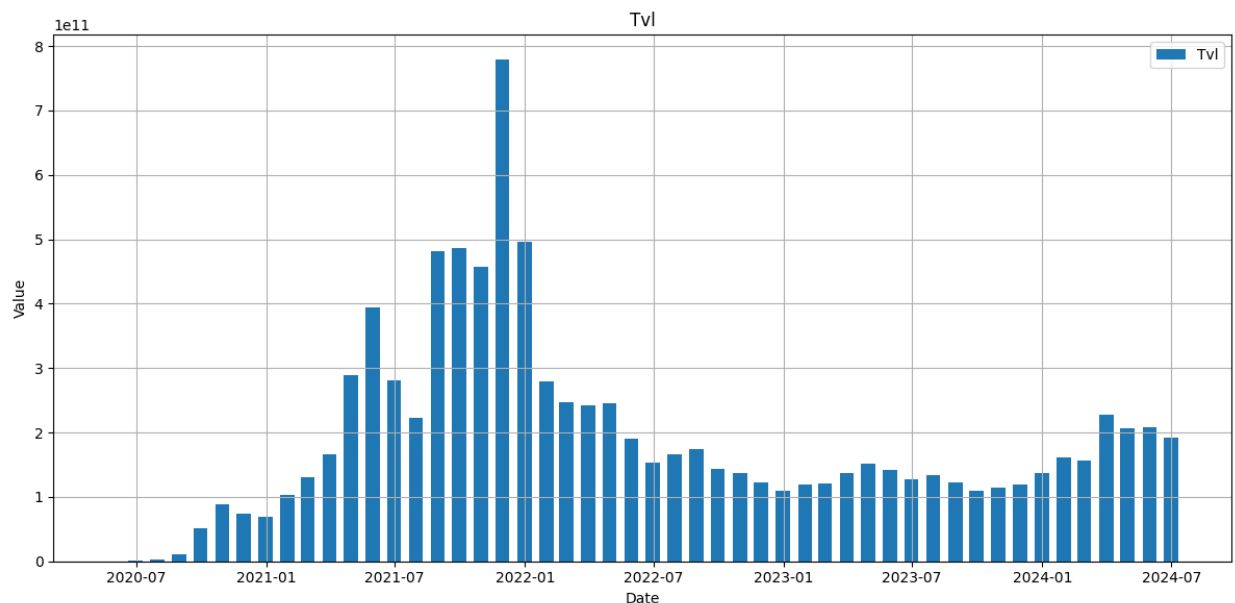


Uniswap traction study

Uniswap: Past & Present

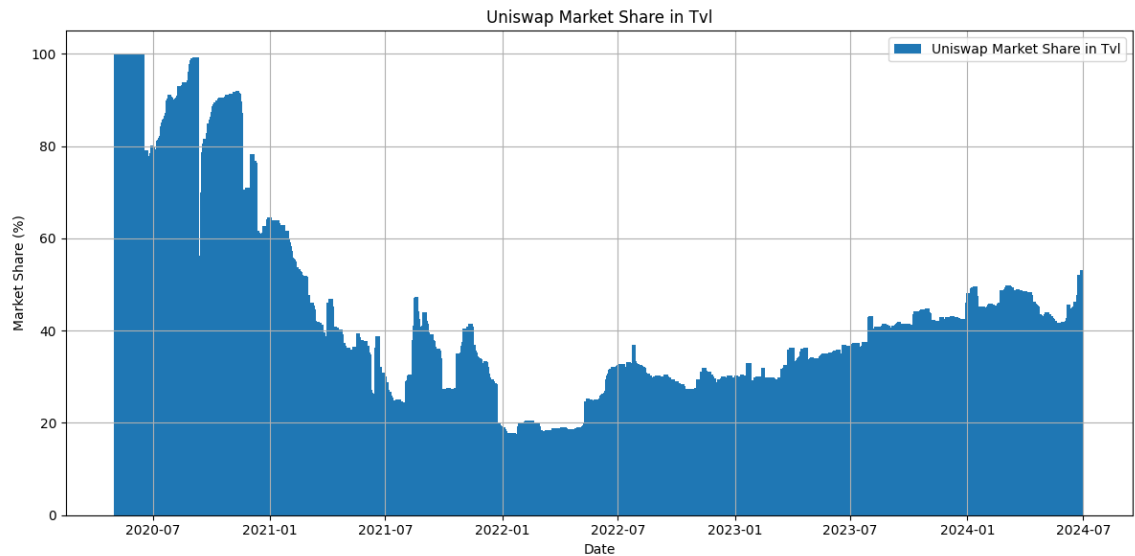
Token Value locked



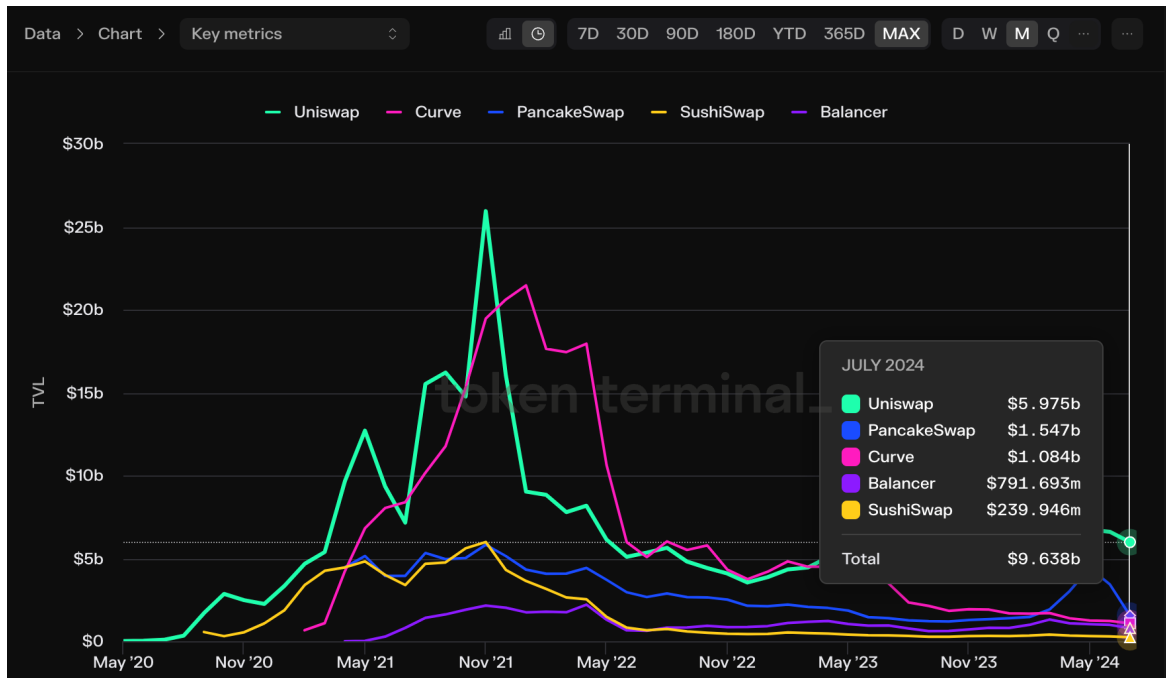
Analysis:

- **Overall Trend:** The plot shows a general steady evolution of the Total Value Locked (TVL) since mid-2020.
- **Huge spike in 2021:**
 - The most important point of the plot is the sharp increase of TVL in the second half of 2021, peaking at over 3 billion dollars. This surge in TVL is linked with the boom of the DeFi narrative where AAVE and UNI were the leaders of this trend.
 - The TVL on Uniswap has been quite stable since July 2022 around \$1.3B. However, there has been a steady increase since the beginning of 2024 with the regaining of the crypto market traction.

- However, even though Uniswap's TVL was stable during more than 2 years, it looks that the overall DEX market was decreasing on the same period. Thus, Uniswap's market has been increasing since its low in early 2021. One of the main explanation of this increase is the deprecation of its main competitors which were Curve and Pancakeswap.

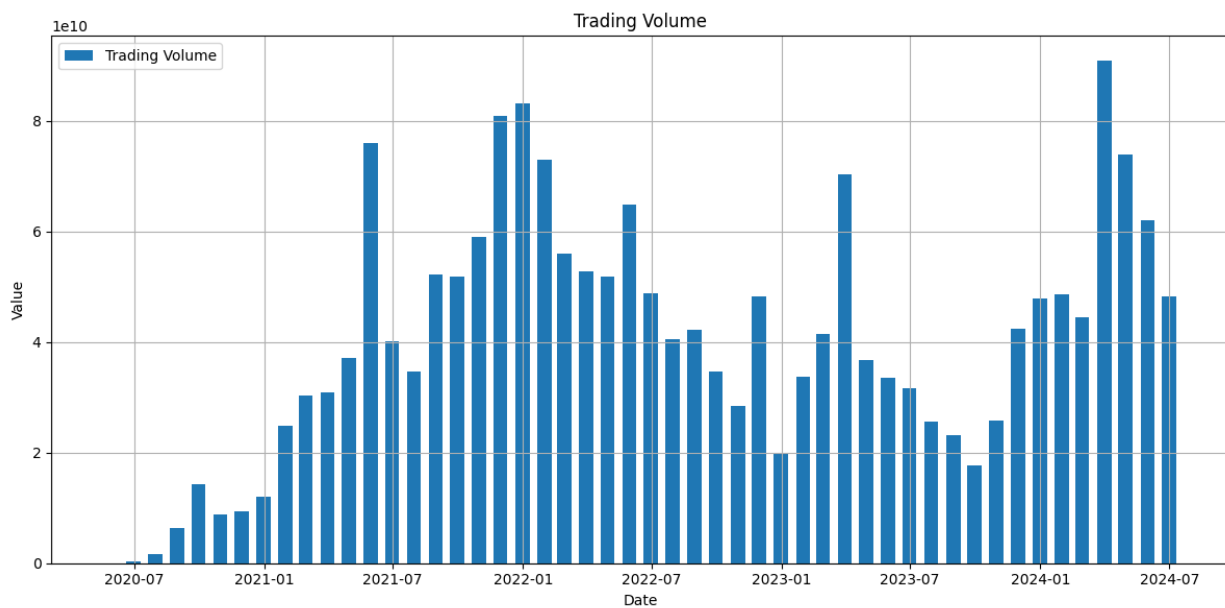


- Indeed, in 2023, Curve suffered a major hack that drastically slashed its Total Value Locked (by a factor of five), causing it to fall to the fourth position among DEX platforms by TVL. Also, as shown below, Curve's TVL has seen a sharp and then steady decline since early 2022, a period during which Uniswap's market share has been on the rise.
Meanwhile, Uniswap's competitors maintained their TVL but were unable to challenge Uniswap's dominant market position.



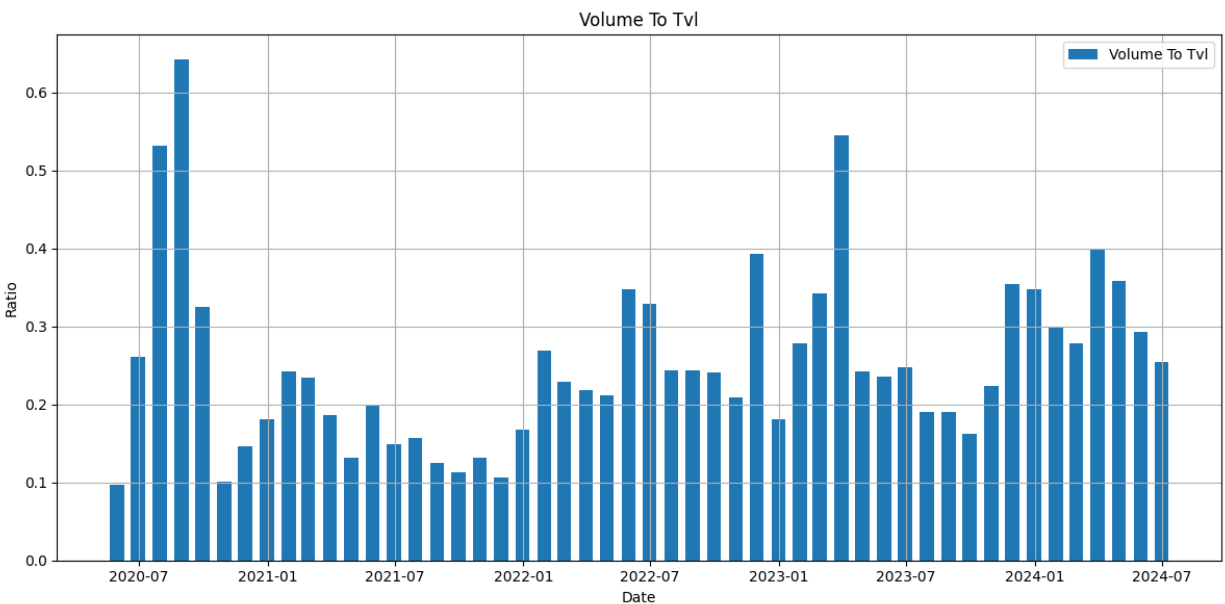
- Top 5: 1st Uniswap / 2nd Pancakeswap / 3rd Curve / 4th Balancer / 5th Aerodrome

Trading Volume, transaction count, active users & ratios:



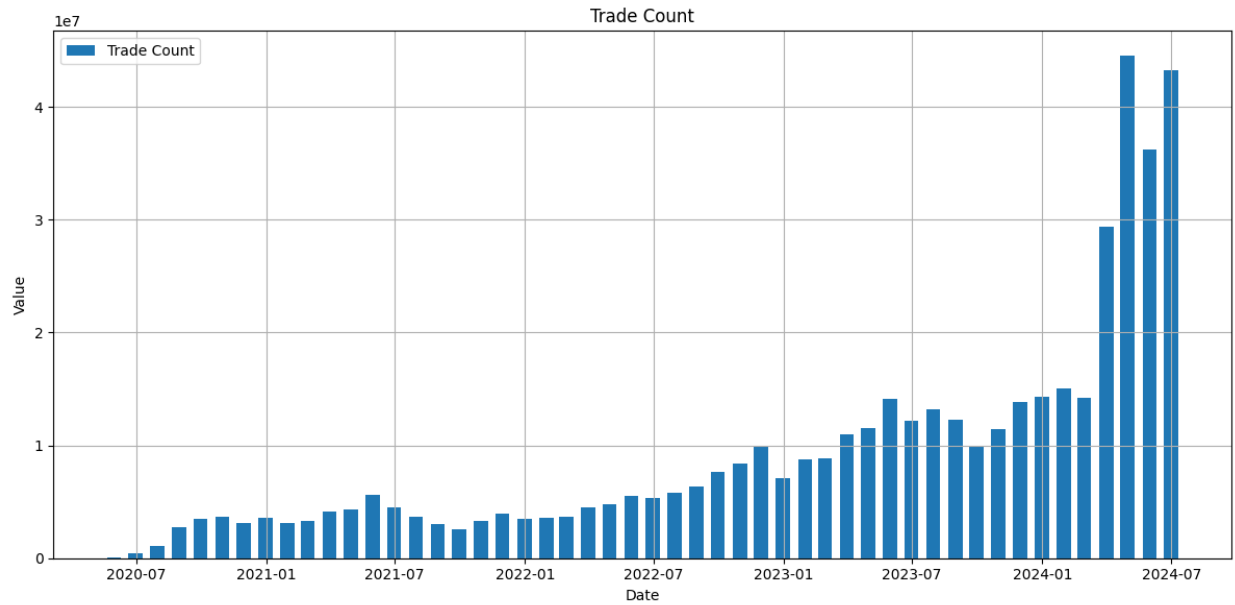
Analysis:

- **Overall Trend:** The plot shows a general steady evolution of the trading volumes (TVL) since mid-2020 with several spikes through the last four years.
- **Several spikes:** The most important point of the plot is the presence of several spikes in the trading volume activity. These spikes are linked with more fundamental news. For example, the huge spike in the first half of 2023 represent the FUD regarding USDC and Circle's backing reserves.



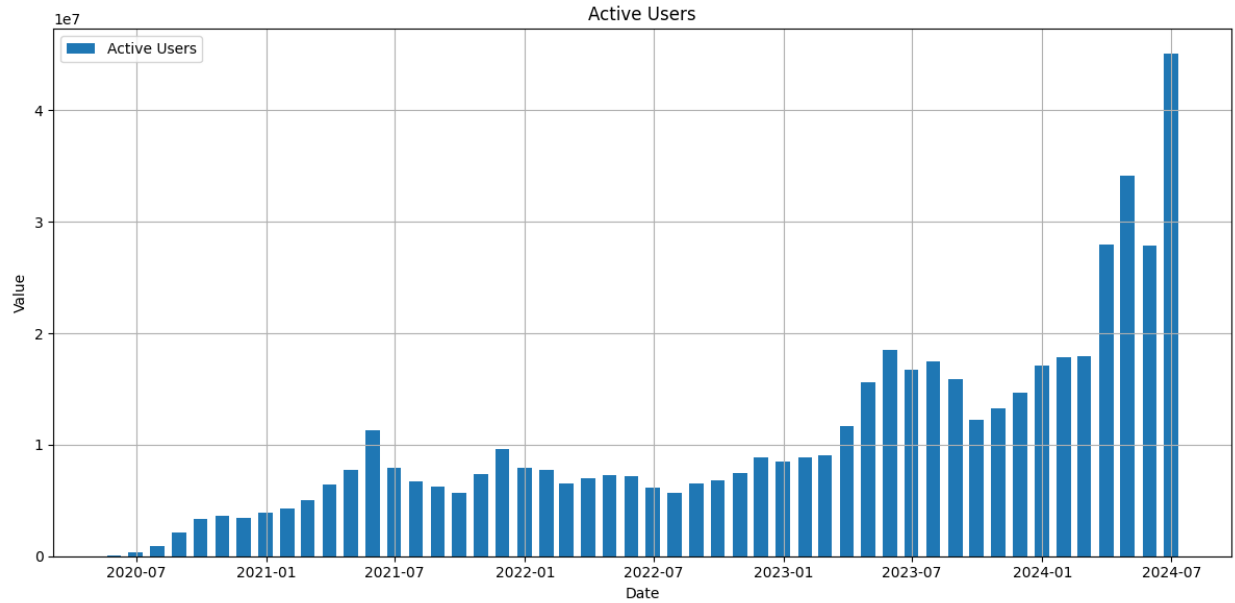
Analysis:

- **Overall Trend:** The plot shows a general steady evolution of the ratio between the daily volumes and TVL.
- **Several spikes:** The most prominent feature of the plot is the presence of several spikes in the trading volume activity. These spikes are linked with the trading volumes's plots since the TVL is less volatile. However, an important value to note is the median value of these ratio which is 0.23 which means that for 1\$ provided in liquidity, 0.23\$ is traded on the platform.
- A first interpretation here would be to realize that Uniswap, as a DEX, is not improving its capital efficiency since the ratio is not increasing over time. Even though there are some spikes, the overall trend is fluctuating around the value of 0.25.



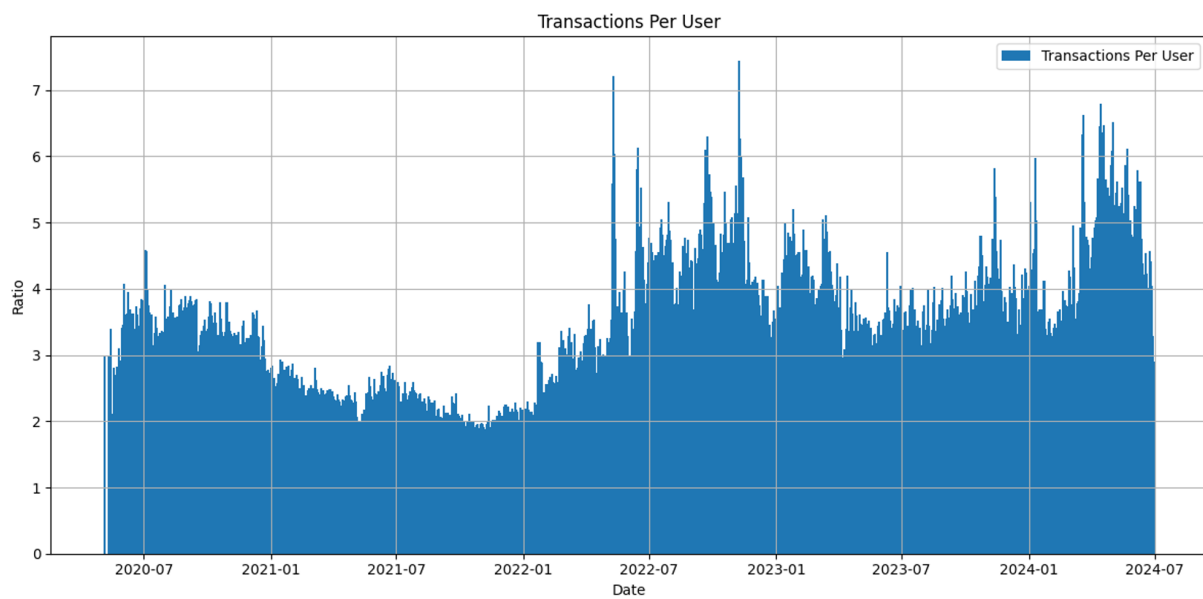
Analysis:

- **Overall Trend:** The plot shows a general steady evolution with a sharp increase since 2024 of the number of transactions.
- **Recent Surge:**
 - The most prominent feature of the plot is the recent sharp increase of the number of transaction on Uniswap since the beginning of 2024 to reach a maximum of 1.8 million transaction in a day.



Analysis:

- **Overall Trend:** The plot shows a general steady upward trend in active users from mid-2020 to mid-2024, indicating growing engagement and adoption of Uniswap over this period.
- **Recent Surge:** The most prominent feature of the plot is the sharp surge in active users in the first half of 2024, peaking at over 2 million users. This surge suggests a rapid increase in user activity.

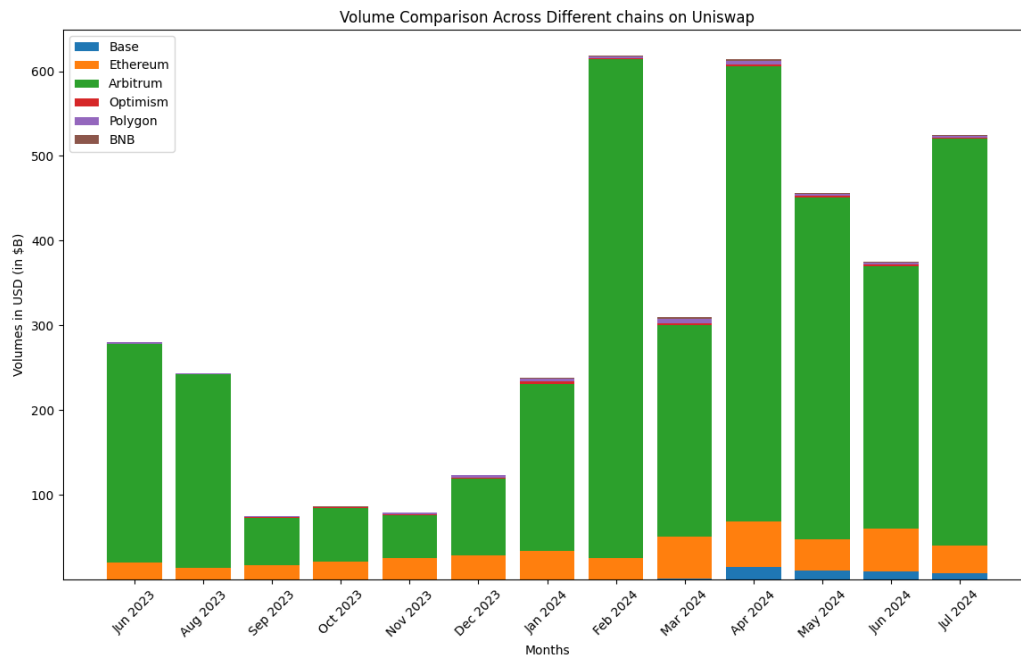


Analysis:

- **Overall Trend:** The plot shows a general steady upward trend in active users from mid-2022 to mid-2024, indicating growing utilization of Uniswap over this period.
- **Growing trend:**
 - The most prominent point of the plot is the uptrend of transaction per user ratio since mid 2022. This means that people are using more and more uniswap over time, meaning realizing more transactions. Indeed, in average, a user was executing 3 transaction a day. In 2024, the same user is executing 4.5 transactions which represent an improvement of 50%.
 - However, even though this number has been increasing, the increasing in usage (trading) hasn't outperformed completely the growth of new users on Uniswap, which mean that basically new users on Uniswap have the same usage than older users ie they have the same amount of transactions.
 - So Uniswap managed to bring new users on the protocol but still struggling to make them using more the platform than the core base. This would mean that new users are coming on Uniswap just to do few trades which can be related to hype behind some narratives like memecoins trading.

Relation between the plots: Trade count, trading volumes, active users

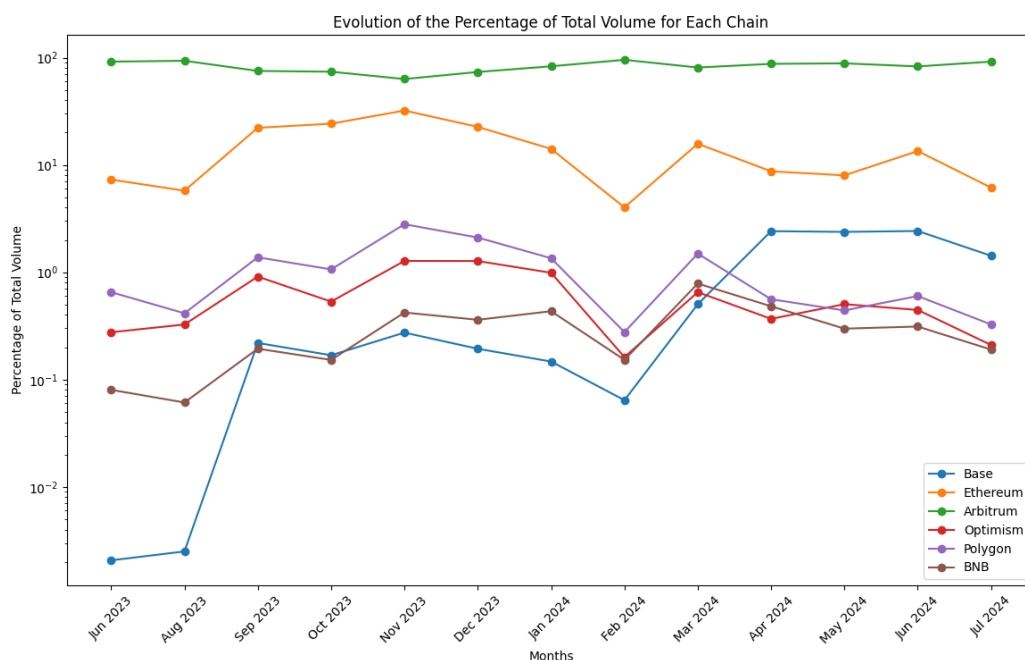
- Although the number of transactions has skyrocketed in recent months, trading volumes have remained relatively constant according to Uniswap's historical data. As Anton mentioned, this supports the idea that large transactions are primarily conducted on the main chain (Ethereum), while smaller transactions, such as in our case, occur on Layer 2 solutions (Arbitrum, Optimism, Base, etc.).
- Let's have a look on Trading volumes by chain on Uniswap:



Indeed, Arbitrum has been leading significantly in trading volumes, followed by the main chain Ethereum. BNB, Polygon, and Optimism account for relatively insignificant volumes in comparison to these two.

However, a new chain has recently emerged and appears to be gaining traction within the Uniswap ecosystem.

- **The surge of the base chain:**



Indeed, when examining the chain with the most significant growth within the Uniswap ecosystem, Base chain clearly leads with an impressive growth rate of 6400% since June 2023. In August 2023, Base experienced an initial surge, transforming from an unused chain to nearly matching its direct L2s competitors. This momentum is largely attributed to the launch of Uniswap on Base. Historically, Uniswap launches on new chains have shown positive performance in the initial months.

Moreover, Base surged again in this recent months, outperforming nearly all other L2s on Uniswap and becoming the third most used chain.

This surge in Base looks closely correlated with an increase in transactions and active users that have been described earlier.

But Why users will use base on Uniswap ?

- Cheap chain to use: Average fee per transaction

Ethereum	Arbitrum	Optimism	BNB	Polygon	Base
\$1.96	\$0.0077	\$0.103	\$0.085	\$0.005	\$0.02

Despite the recent surge in activity on the Base chain, it remains very affordable to make transactions, costing less than 5 cents. Arbitrum, currently the cheapest chain, might also be a reason for its dominance in trading volumes.

- **Top 10 pairs with highest liquidity on Base on Uniswap: Memecoins**

Protocol Version	Total Liquidity (in \$)	Token 0 Name	Token 1 Name
V3	70697775,8759551	WETH	TRUMP
V3	43038857,8453445	WETH	EURO24
V3	31619336,5233592	WETH	H.J.Res.109
V3	29599473,0476228	WETH	FLOKI
V3	26226398,5664145	WETH	TRUMP
V3	22259464,9762896	WETH	PARAM
V3	14720628,2604882	EURO24	WETH
V3	13340834,827353	WETH	USDC
V3	12773854,0353236	WETH	BRETT
V3	11454493,3787284	SHIB	WETH

As the table is showing, the top 10 regarding the most liquids pairs on Base on Uniswap are all composed by memecoins (take apart WETH/USDC).

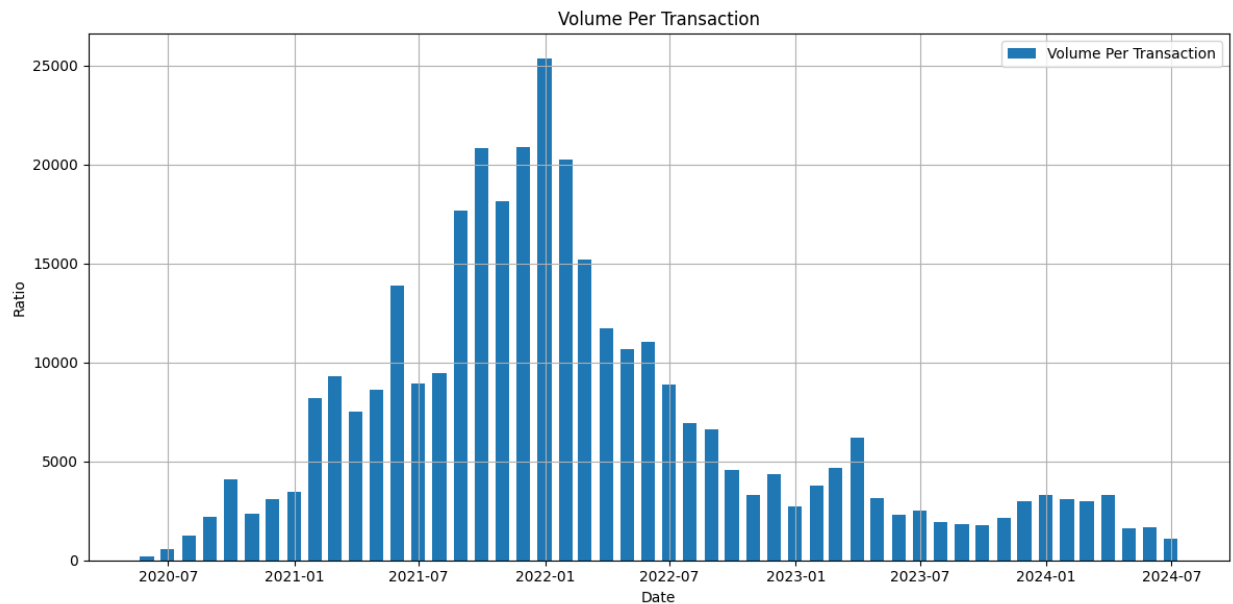
Protocol Version	Token 0 Name	Token 1 Name	Weekly Volume
V3	WETH	USDC	480333447,426911
V3	WETH	BRETT	66163370,5313328
V3	WETH	USDbC	41283870,918275
V3	USDC	USDT	23489470,3013288
V3	WETH	USDT	22374323,2803519
V3	PEPE	WETH	17582199,4673044
V3	WETH	wstETH	16586778,5110632
V3	WETH	AERO	14542487,2685062
V3	WETH	BRETT	13710939,5119482
V3	WETH	DEGEN	10003048,8319807

Also, regarding the most traded paris, half of the pairs are memecoins related. So both table regarding TVL and trading volumes have shown that the base chain has been used to trade memecoins on Uniswap.

Conclusion:

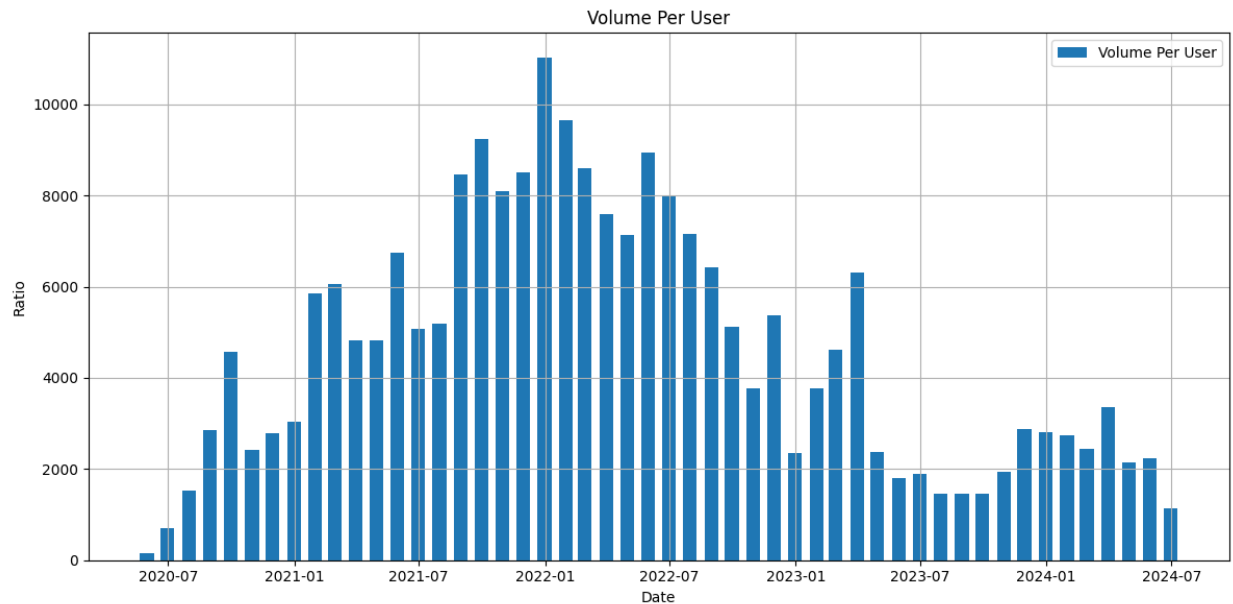
This is the primary reason I believe Uniswap has experienced a surge in active addresses in recent months. The project benefits from the rise of both the Base chain and memecoins narratives from the recent months.

Indeed, all the charts and tables indicate a strong correlation between the recent sharp increase in trading transactions and active users, and the surge of the Base chain and the memecoin narrative. This also aligns with Base's current reputation as the "memecoin EVM chain", with most traded memecoins pairs currently on Base.



Analysis:

- **Overall Trend:** The plot shows a general steady downward trend in volume per transaction from start-2022 to mid-2024, indicating users are using Uniswap for smaller trades.
- **Downward trend:** The most prominent point of the plot is the decrease of the ratio between the trading volume and the number of transaction. Indeed, since the number of transactions has been constantly increasing until 2022. However, level of trading volumes has been staying more or less constant, consequently of a huge drop after the peak in January 2022.
- **LP revenue:** An interpretation would mean that if the fees were distributed to LPs, Uniswap would be more profitable in the past since it needed less transactions to generate the same amount of revenue.



Analysis:

- **Overall Trend:** The plot shows a general steady upward trend since mid-2020 until start-2022, starting a downward trend in volume per user.
- **Two major trends:**
 - The most prominent point of the plot is the steady increase and decrease of this ratio. Indeed, between mid 2020 and start of 2022, the protocol manage to generate more volumes for, in average, for one user.

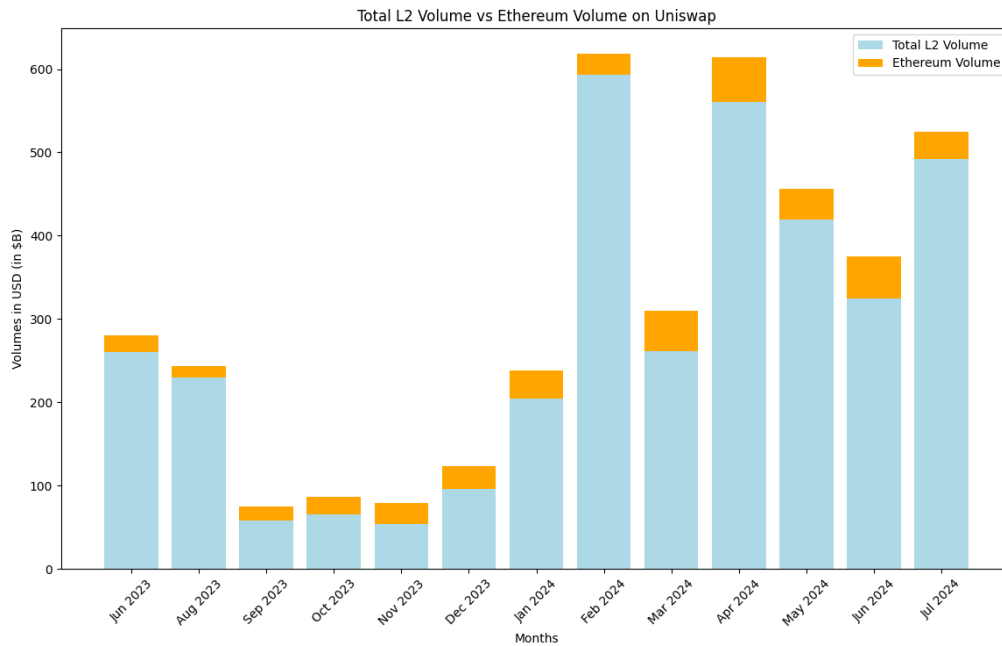
As a LPs, and if the fees were redistributed, these period would have been the best time since the same users was providing more volumes.

Then, the ratio started to decreased to very low values around the bear market in 2023, meaning that users are smaller amount on the platform.

Why there is this decrease in Volume per user and per transactions ?

- Use of L2s:

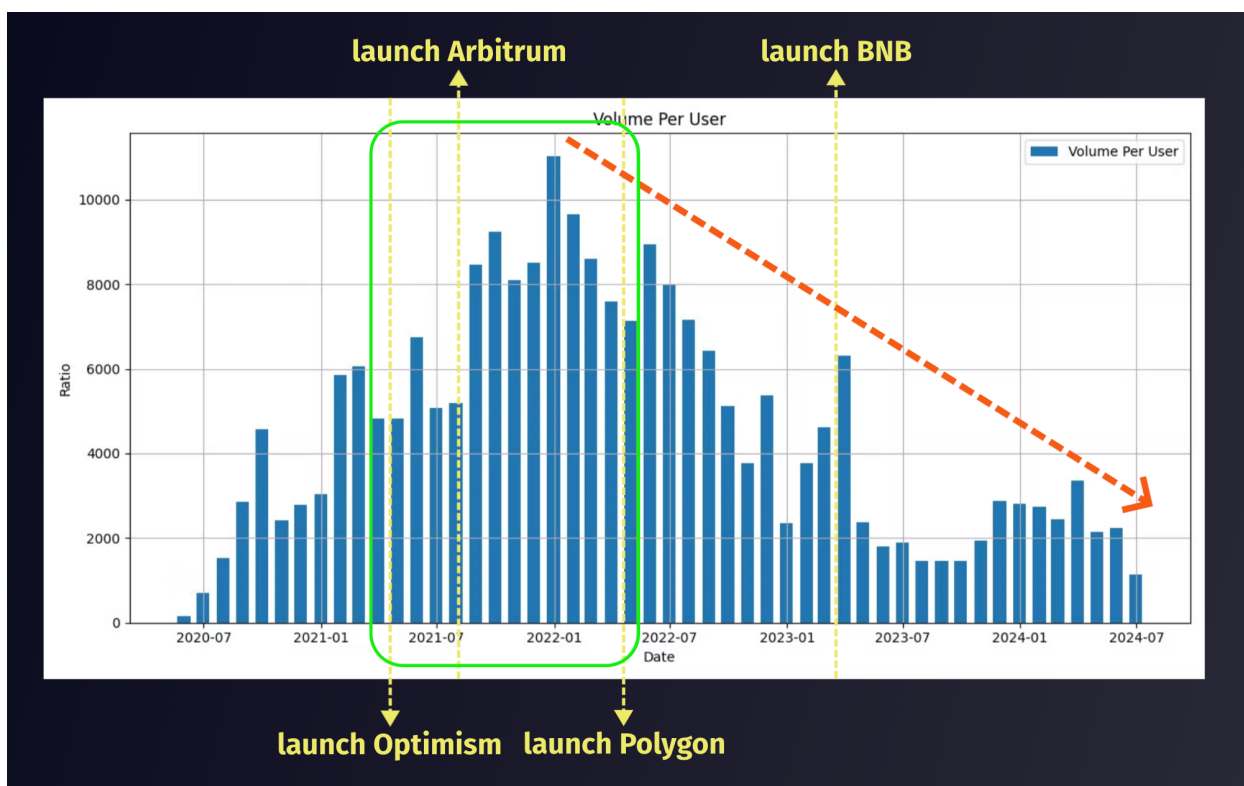
As it had been shown in the previous part and can be seen on the plot below, L2s and especially Arbitrum are responsible for the majority of the trading volume on Uniswap.



If we take a look to when the launch of the main L2s on Uniswap has been done, all of them happend between mid/end of 2021 and beginning of 2022:

- Arbitrum: <https://blog.uniswap.org/uniswap-arbitrum-alpha> (01/01/2021)
- Optimism: <https://blog.uniswap.org/uniswap-optimism-alpha> (03/07/2021)
- Polygon: <https://dappgrid.com/how-to-use-uniswap-on-polygon/> (02/03/2022)
- BNB: <https://www.bnbchain.org/en/blog/uniswap-is-officially-live-on-bnb-chain> (15/02/2023)

After these launches, it can clearly be seen that the volumes per user and per transaction has drastically decreased. It's only confirming the purpose of L2s on Ethereum, which are allowing higher scalability but also smaller transactions since the fees for one transactions is close to \$0.



As the graph shows, the launch of L2s on Uniswap always give traction to the protocol where a lot of transactions with high amounts are processed. Then, the hype (in green) led the stage to the real usage and this is where the downtrend (in red) where L2s allow transactions of smaller amounts for each user of Uniswap's pools.

Overall conclusion:

- **Impact of Layer 2 Solutions**

Layer 2 solutions like Arbitrum have played a crucial role in maintaining high trading volumes on Uniswap by offering lower transaction fees and higher scalability. This shift to L2s has led to smaller transaction sizes, as evidenced by the decreasing volume per transaction and volume per user since the launch of these solutions.

- **The Surge of the Base Chain**

The Base chain has emerged as a significant player within the Uniswap ecosystem, with a remarkable growth rate since mid-2023. The affordability of transactions on the Base chain and its reputation as the "memecoin EVM chain" have attracted a large number of users and transactions, primarily centered around memecoins narrative which explain the currently frenziness around the number of active users and transactions on Uniswap.

- **Sustainability of Current Trends**

The recent drivers of Uniswap's activity—the Base chain and memecoins narrative—have created a surge in user engagement and transaction volumes.

Here is quite complicated to value how the memecoins volumes will evolve in the coming months and years since it's a narrative directly impacted by events in the "real" world. It looks like it has an indefinite potential of renewable since there will be always new events where creators will be able to make memes that then will finish on memecoins on chains. However, memecoins are still a narrative that can disappear as a lot of them have done in the past.

In conclusion, while Uniswap has experienced a significant boost in activity due to the Base chain and memecoins, its long-term sustainability doesn't look like to be in danger since Uniswap has been regaining market shares on several key metrics. By keeping these high level ratios factors, Uniswap can maintain its leading position in the ever-evolving DeFi landscape.

Uniswap: The Future

Introduction of Uniswap V4

In June 2023, Uniswap introduced Uniswap V4, featuring significant updates like hooks and a singleton architecture. Since here the goal is not to go deep in the architecture in this version, here is a brief summary of what it is about:

- **Hooks:** Uniswap V4 allows for greater flexibility in the lifecycle of liquidity pools by incorporating hooks. These hooks enable pool deployers to add custom code at specific points, such as before or after swaps or liquidity position changes. This customization facilitates the creation of tailored AMM pools while retaining the core features of V3. It avoids creating new AMMs just for a feature not available on V3.
- **Singleton and Gas Efficiency:** The new singleton architecture consolidates all pools into a single contract, reducing gas costs and eliminating the need for token transfers between contracts during swaps. The "flash accounting" system optimizes asset transfers by adjusting net balances, further saving gas. Additionally, V4 reintroduces support for native ETH, enhancing overall gas efficiency.

Implications Uniswap Hooks & Singleton for the UNI token

Based on the previous description, Uniswap V4 could impact the future of DEX market in the following ways:

- Strengthening Uniswap's presence in the EVM ecosystem.
- Facilitating Uniswap's expansion into new markets.

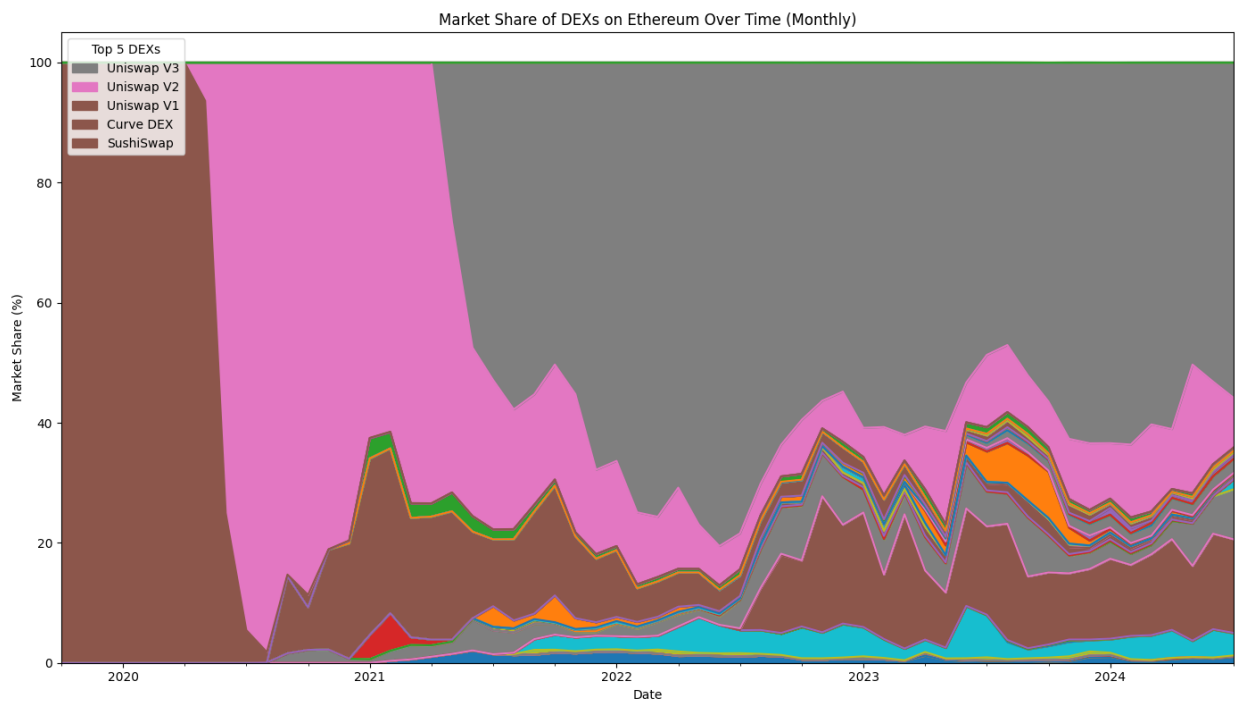
- Creating alternative monetization opportunities for the UNI token.

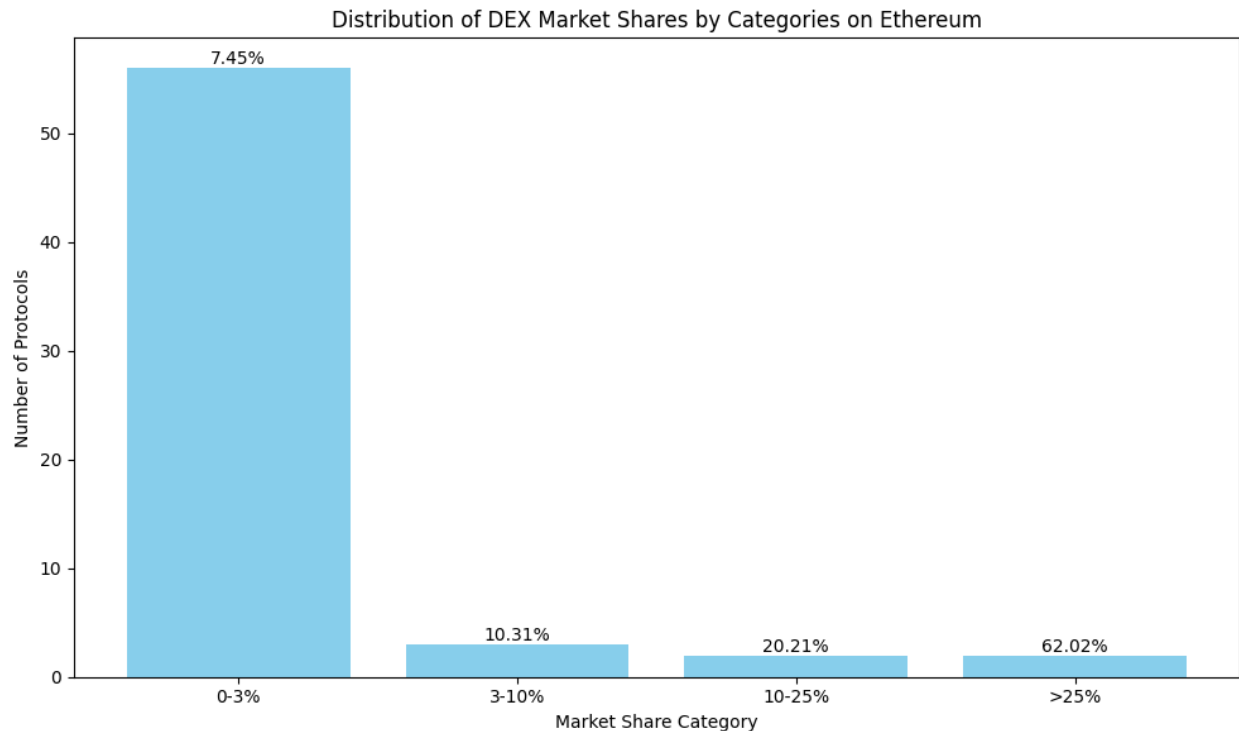
I. Strengthening of Uniswaps hold over EVM DEX share

- **Greater flexibility for devs to create AMMs pools on Uniswap:** This was the first motivation of developing a V4 on Uniswap. Before, developers couldn't implement some feature that are important to get more and more capital efficient pools. Indeed, with the introduction of hooks and the tool kit associated, developers can now integrate new features like dynamic fee or onchain order types
- **Gas fee reduction:** Singleton and flash accounting facilitates the internalization of multi-pool swaps within a single contract, reducing gas costs for users routing transactions through multiple pools.

Now that the benefits of the launch of UNI V4 have been explained, Uniswap might expand its DEX share on EVM chains as V4 introduces several disincentives for creating a competing DEX outside the Uniswap ecosystem.

Here is the study of the DEX ecosystem only on Ethereum:





The numbers on top of each bar represent the total market share percentage for that category.

As it can be seen on the 1st plot, Uniswap is clearly leading the market regarding trading volumes, representing 62% of total trading volume in the DEX's space on Ethereum. Also, the 2nd graph shows that there are a lot of DEXs that are between 0 and 3% of market share (56 protocols). I'm considering that these projects are considered as "weak" since they have been in the market for more than 6 months and didn't manage to take more than 3% of the market share.

Thus, I consider that when Uniswap V4 will be live, it will take over part of the market share which represents here 7.45% of the total market share of trading volumes.

I have realized the same work also with the other main chains used on Uniswap and here are the results:

Chains	Current market share (in %)	"Available" Market share (in %)	Reachable Market share (in %)	Potential increase volume (in \$)
Ethereum	62.02	7.45	69.47	7,854,094,240
Arbitrum	43.41	22.5	65.91	5,648,400,000
Optimism	47.76	8.12	55.88	217,385,390
Base	37.43	9.2	46.63	172,132,000
Polygon	48.95	8.69	57.64	144,740,640

Chains	Current market share (in %)	"Available" Market share (in %)	Reachable Market share (in %)	Potential increase volume (in \$)
Total	52.38%	12.04%	64.42%	14,036,752,270

based on monthly volumes

Conclusion:

A first observation regarding is to say that getting 22% of market share on arbitrum seems to be a bit optimistic. However, based on this study, Uniswap could generate over \$14B (can be reduce to \$12B regarding Arbitrum optimistic number) in monthly trading volume if it captures market share from weaker projects (between 0 and 3% of total market share). Currently, Uniswap V4 could boost its trading volume market share by about 12%, bringing its total market share to a dominant 65%. This situation would confort Uniswap as the unique leader of this market. Currently, this is mainly due to the fact that Uniswap is representing already more than the half of market share for Ethereum and Arbitrum which are the two most used chains (trading volumes wise).

II. Facilitating Uniswap's expansion into new markets.

Since Uniswap V4 will transform the platform from a Dapp to a liquidity Dapp (liquidity layer) where developers will create more sophisticated (through hooks) pools to attract more users and liquidity. The hooks open possibilities to new market that were not possible before:

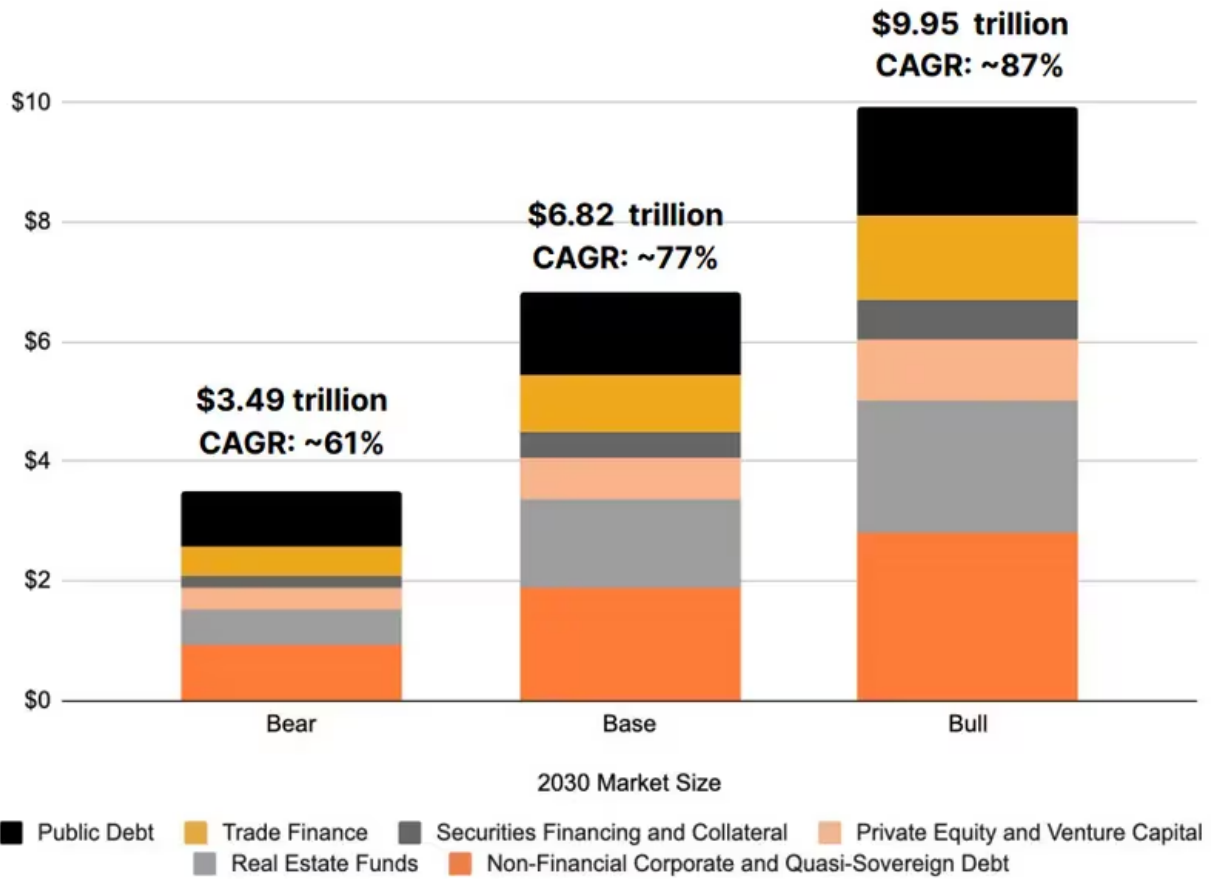
- Real World Asset Tokenization
- Specific mini-app (Hook app)
- Derivatives (specifically long tail assets)

A. Real World Asset

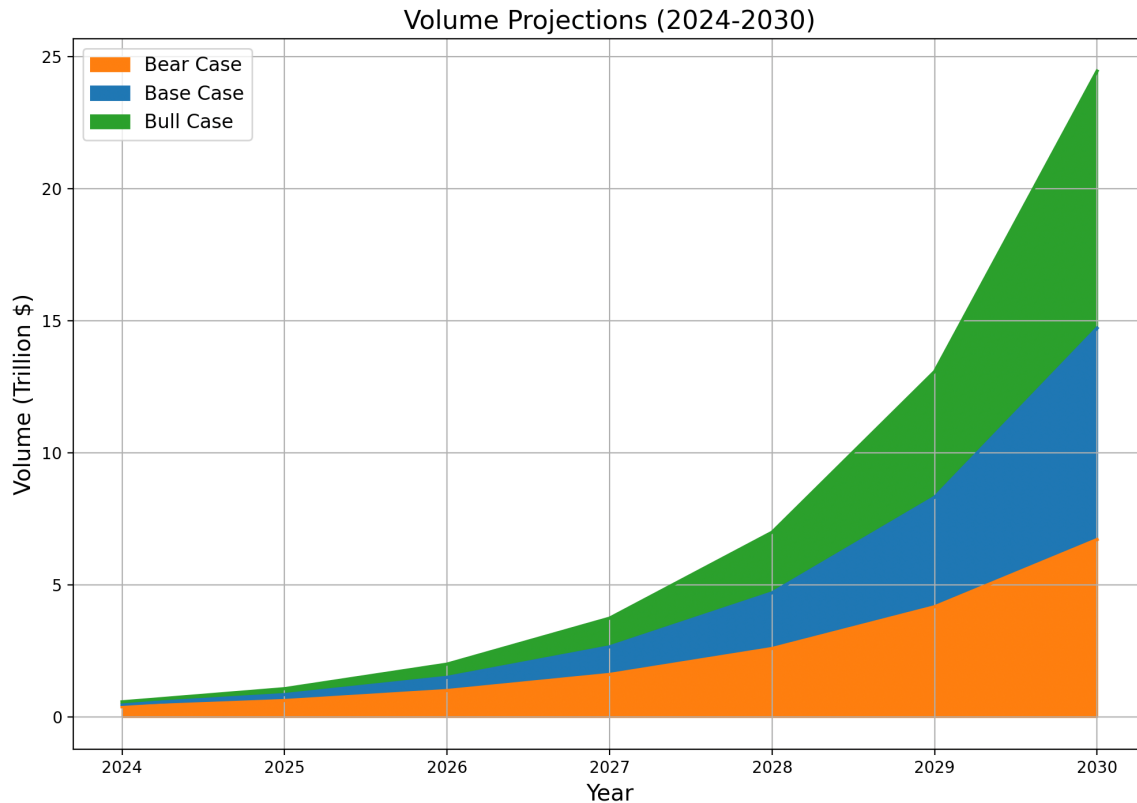
Initially, the CEO of Onyx by JP Morgan's statement targets the transfer of \$5 billion to \$10 billion USD over the market within two years, annualizing to \$1.25 trillion to \$2.5 trillion in tokenized volume. Using this as a foundation for estimating the TAM of tokenized asset trading, the 2026 base case is set at \$1.5 trillion in tokenization volume.

According to 21.co, the base case assumes tokenization will capture approximately 10% of the net assets of regulated open-end funds worldwide, which totaled around \$70 trillion at the end of Q2 2023. In the bull case, the CAGR is projected to be comparable to the historical growth rate of crypto owners, while the bear case is estimated to be around 0.5 times the base case.

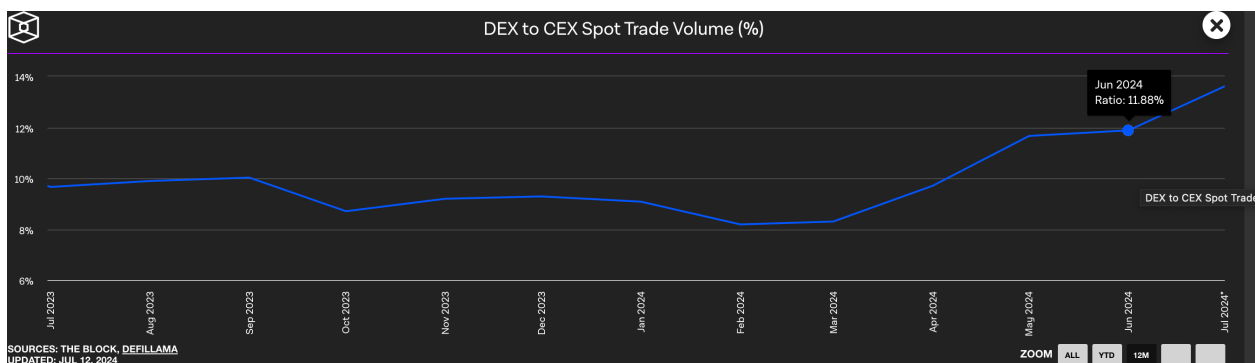
Figure 15: Tokenization Market Sizing



Now, we can combine the prediction market of [21.co](#) with a several CAGRs with the prediction of Onyx by JP.Morgan that predict a market trading volume between \$1T and \$2T:

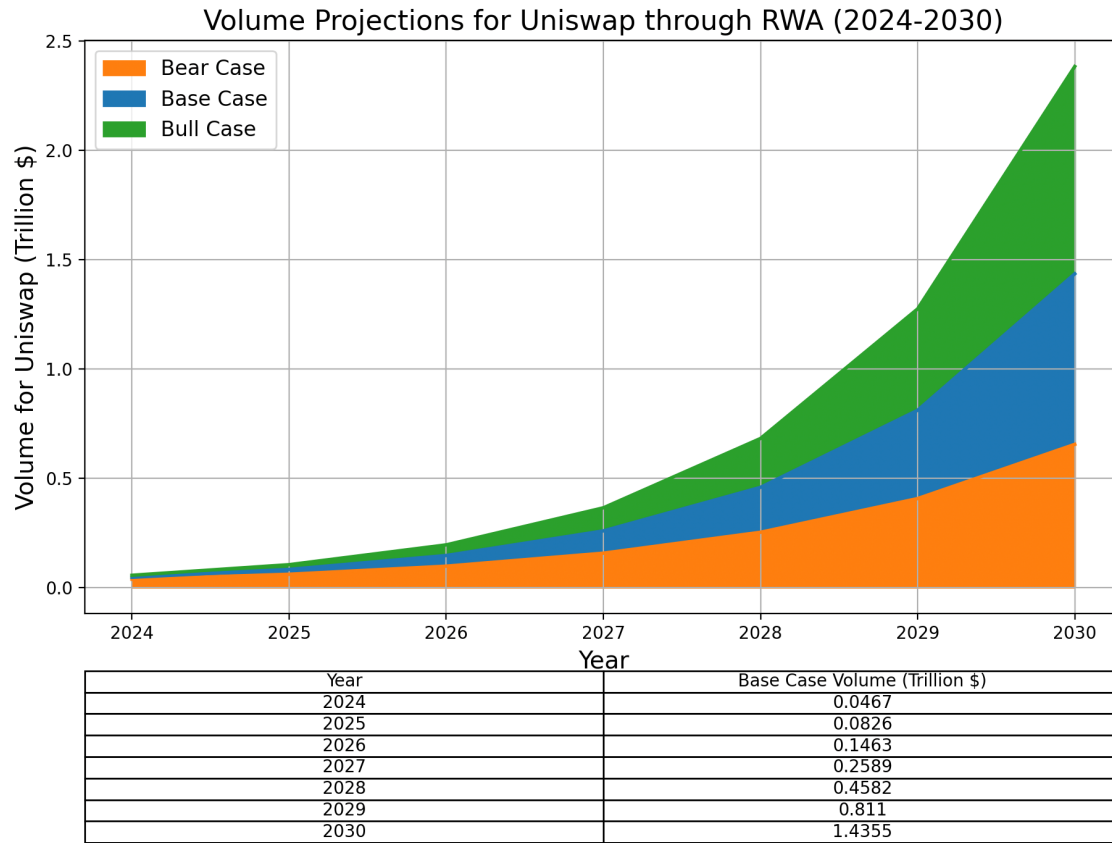


Now the final assumption is trying to find how much of this trading volume project Uniswap can take. Since not every transaction will be on-chain regarding RWA, I took the assumption of using the DEX-to-CEX ratio to get an estimation of on-chain transactions.

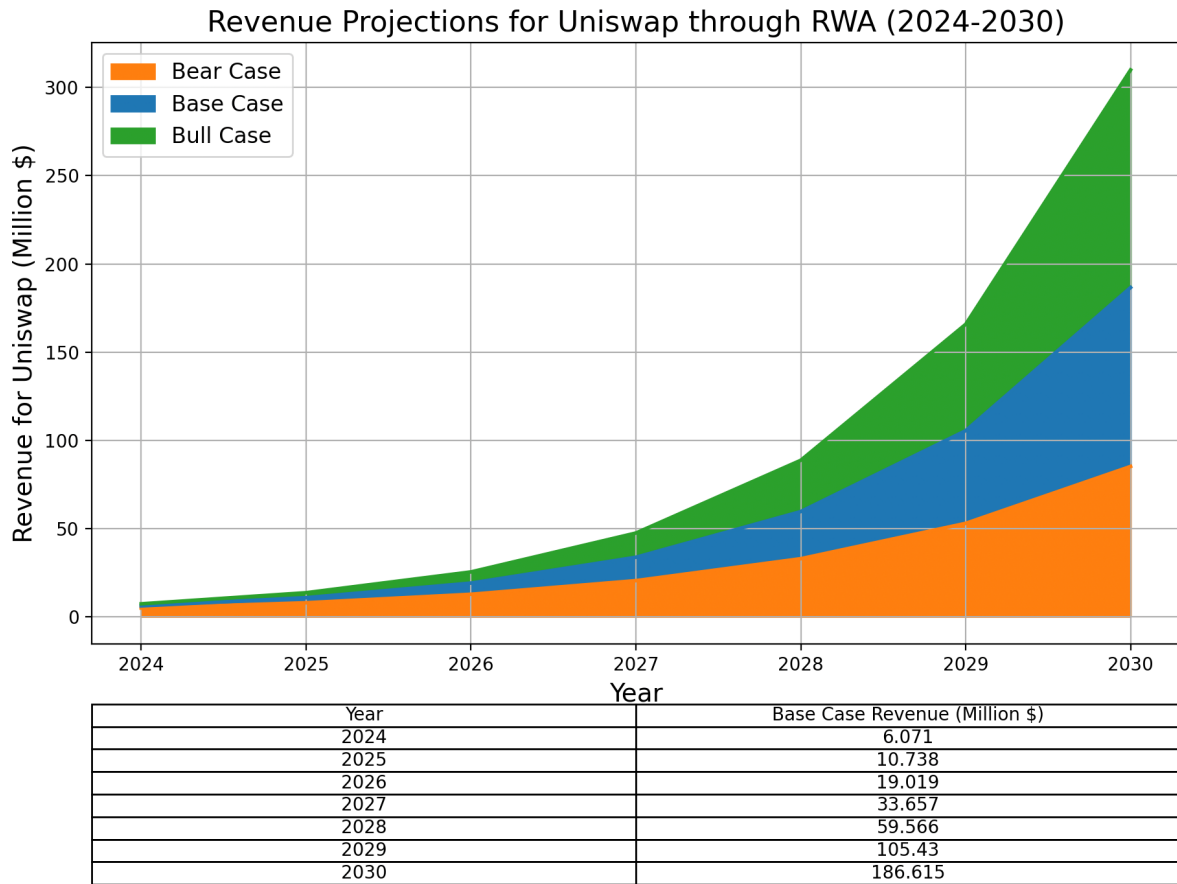


The ratio has been fluctuating around 10% with a peak at 12.5% in May 2023. So I choose to take a ratio of 15% since I believe that on-chain will take more part in the ecosystem in the future.

From the previous study, Uniswap could have until 65% of total trading volumes and taking the assumption of 15% of the market share, this would result as follow:



Now, we can decline what can earn Uniswap since we know that the common fee is around 0.13% is used for Liquidity providers for each transaction. Moreover, if we consider that Uniswap will take 10% of the this revenue (common revenue around several dexes) it means that the yearly revenue will be calculated by $10\% \times 0.13\% \times \text{Uniswap_trading_volume}$. This is how would look the Revenue for the base case scenario:



B. Specific mini-app (Hook app)

Currently, Uniswap only supports market orders through its liquidity pools, incentivize the creation of external applications like DEX aggregators and Telegram Bots to handle more advanced order types (e.g., limit orders and automated take-profit or stop-loss orders). However, with the introduction of hooks, developers can now integrate these advanced order functionalities directly into the pools, reducing the need for external applications.

Then it could be expected that a portion of the volume migrating from standard market orders to more expressive orders facilitated by Hooks, termed Hook apps. For the base case, the share of limit orders on 1inch, approximately 25%, was used as an indicator for the demand for expressive orders, forming the assumption that 25% of Uniswap orders will be routed through various Hook-apps.

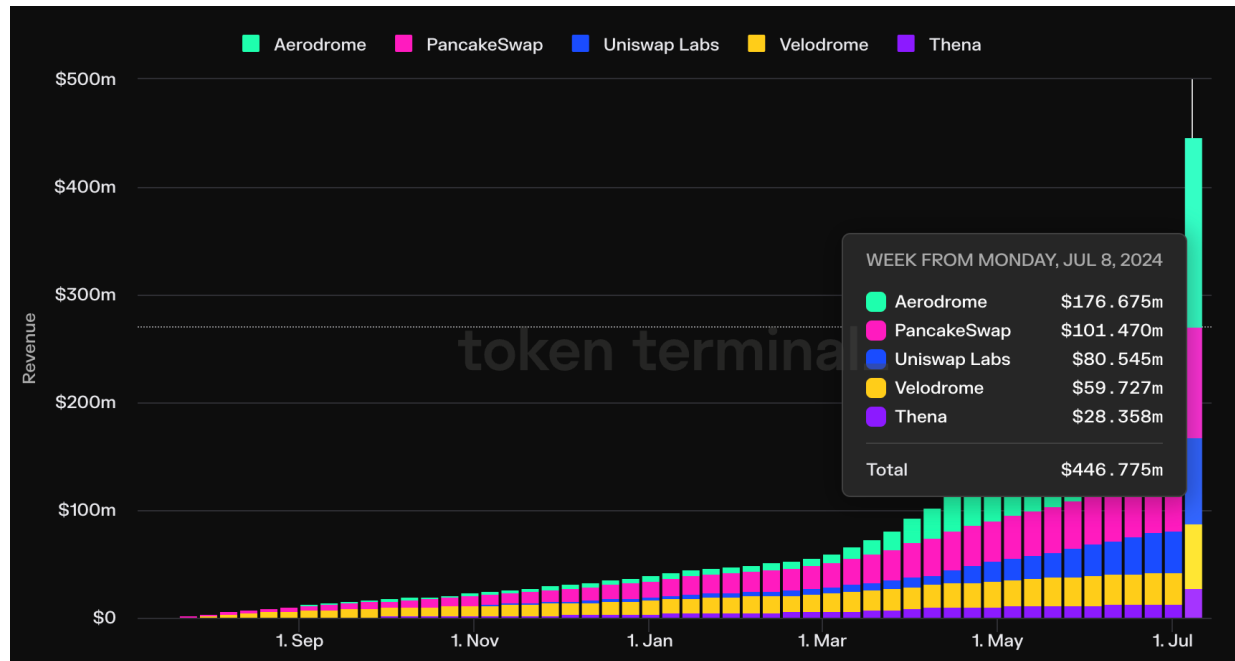
When it comes to making money, the same rates assumptions have been taken as the ones with tokenization. This gives a potential revenue estimate of \$49 million for our 2028 base case. Here is the table of revenue from hook apps corresponding to the evolution of the market trading volume has described before:

Year	2025	2026	2027	2028
Revenue (in \$)	8,819,869	15,621,632	27,643,776	49,055,000

Conclusion:

Uniswap with the introduction of V4 can definitely take more market share in the DEXs space even though the protocol is already leading this market. As it has been shown, Uniswap will unlock new ways of earning money by transforming its business a model of a DEX to a liquidity layer. Users will pay to get access to more sophisticated AMM pools that were not available on previous of the protocol. As part of the first conclusion, Uniswap could gain barely \$14B regarding the actual trading volume market on a monthly basis. With the ratios used in the development, this situation would mean a monthly revenue of barely \$2M monthly and \$24M yearly.

Moreover, Uniswap could tap into new markets that will be now reachable in the short-mid term. Indeed, Real World Asset or the direct implementation of Hooks could be new sources of revenue for the protocol. As a first calculation, this could represent more than \$120M in 2028 just for this two sectors. Currently, Uniswap Labs has earned \$80.545M on yearly basis so it would represent an other important source of income for the company. At this stage, and only fro these two sectors, it would place Uniswap at the 2nd place regarding the revenue behind Velodrome.



III. Creating alternative monetization opportunities for the UNI token.

The introduction of hooks transforms Uniswap from an application to a liquidity platform, as hooks act like mini-apps built on Uniswap's liquidity layer. This shift changes its revenue model from selling liquidity to selling access to it. Previously, Uniswap relied on swap fees from Liquidity Providers (LPs). Now, with Hooks, Uniswap can charge for additional features integrated with its pools, avoiding taxing liquidity providers and recognizing liquidity as the core competitive factor for DEXs.

Uniswap can be considering imposing fees on swaps or withdrawals via hooks before implementing fees on traditional pools. This strategy aims to capture the added value from hook deployments, requiring swappers or LPs to pay for these additional functionalities, thereby introducing a new way to monetize the protocol.

Overall conclusion:

The launch of Uniswap V4 has the potential to boost protocol volume by increasing market share on EVM chains and expanding into new markets through the development of hooks. This upgrade also offers Uniswap opportunities to generate revenue by imposing fees on the new functionalities enabled by hooks.

Recap call 16/07/2024:

- Important discussion about how to define revenues and fees and to compare them with real world companies. We should maybe go a bit deeper in the KPIs framework on these two notions. This would need to be added in the update documentation to get a better evaluation of the project.
- Anton raised the idea that the main driver for Uniswap would be the increase of the use of DEXs regarding CEXs. This would naturally bring more trading volumes within DEX market and Uniswap could benefit from it. This assumption can be criticized since further data analysis need to be done to confirm the potential switch.
- For TVL, would be more relevant to plot more the chart in respective token (ETH, SOL) to see the stickiness of this metric, instead of using USD as unit.