CRYPTONATIVE ECONOMY 2022 REPORT

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Abstract

This report looks into the structure of user paid on-chain fees including L1 protocols such as Ethereum, BNB-Chain, Bitcoin and dapp services & on-chain protocol fees in smart contract applications such as AAVE, OpenSea, etc.

The motivation for this report is to get a clear view of the economic demand for services of the so-called Cryptonative economy. Especially in the perceived down-turn of interest in crypto (bear market), the report aims to uncover the realities of on-chain services usage and actual revenue generation in crypto.

Limitations:
The report is limited purely to the perspective of users paying either transaction fees to miners/validators or to smart contract protocols, thus the report excludes revenues from other potentially (crypto) associated services such as trading fees from centralized exchanges, off-chain services including infrastructure (RPC) providers, development or legal services, etc. The report in its current form also doesn’t tackle the workforce side enabled by DAO contributions/compensations, nor existing on-chain treasuries.

Content

1. Introduction

The Cryptonative economy report intends to uncover the actual economic demand for using various blockchains and various dapps as services, so essentially it’s supposed to provide a comprehensive data overview about the on-chain generated revenue in 2022.

1.1. Goals

The goal of the report is to prove or disprove the existence of a self sufficient crypto economy or ecosystem, which provides enough value to its users so they are willing to accept the payment of a fee for both the blockchain transaction itself and the potential use of an on-chain (smart contract) based protocol or a service. Such fees have to be paid entirely on-chain, yet are not limited to a particular cryptocurrency or token.

1.2. Limitations

The report in its current form does not include any of the following revenue sources which could be considered part of the Cryptonative economy based purely on relation to the industry:

- Trading fees from centralized exchanges (Such as Coinbase, Kraken, Binance, etc.)
- Crypto related SaaS (such as Alchemy, Moralis, KYC services)
- Mining rewards (as such not considered to be “paid by a user” revenue)
- Token farming (as such not considered to be “paid by a user” revenue)
- Developer or Consulting services
- Bounties or Grants
- On-chain asset purchases (physical or digital goods sales)

The report also doesn’t tackle the earning/spent side of DAO granted compensations which surely could be considered a crucial pillar of the Cryptonative economy. Such information is intended to be included in the future.

The report also only includes limited information about the annual price movement of the particular currency or token throughout the year - given the revenue is stated in USD and is based on the in-time exchange rate, looking purely at the USD based revenue might be slightly misleading as it doesn’t indicate lack of demand. Average daily users data is included alongside with a macro cryptocurrency Jan-Dec change comparison, so the protocols/dapps should

be viewed from the perspective of relation to the macro change rather than their USD denominated performance.

1.3. Motivations

At PWN DAO, cryptonatives are our primary target users and thus it's critical for us to understand their on-chain economic behavior in order to be able to distinguish real traction in terms of protocol generated revenue versus user growth from over-hyped token pumps and misaligned non-real-user captures through short-term incentives.
We are cryptonatives ourselves, so we see it as our duty to further contribute to the ecosystem by sharing data and lessons learned with the wider community.

1.4. Intended audience

The report is targeting intermediate crypto enthusiasts and professionals working in the cryptocurrency space. A base-level familiarity with the various protocols and dapps is assumed (thus not further explained in the report). Beginners in the cryptocurrency industry are advised to look up the industry specific terms and further research the functionality of the various protocols and dapps mentioned throughout the report.

1.5. Process

The initial dataset was obtained from TokenTerminal.com - the full data sheet ("Dashboard") (1) is provided as a public annex to this report.

The annualized data was validated with an alternative source - DeFiLlama.com (2) and Cryptofees.info (3).

Since the full data-sheet is provided to the reader, the report selected only a filter based on the vast majority of revenue generated by the top 5 protocols and the top 20 dapps.

All monetary values are denominated in USD. The values are captured in USD value when the events took place - thus revenue decreases are likely caused by both the decrease of demand, but also decrease of the nominal value of the currency/token the fees were paid in.

2. Blockchain fees

This section compares the top 5 Layer 1 blockchains and the transaction fees paid by the users. For the purpose of this report, mining and validator rewards aren’t considered since those are not considered a “demand based payment”.

The Top 5 blockchains generated over $5 billion of fees in 2022, representing 97 % of the total fees generated by all blockchains.

The considered protocols are:

- Ethereum
- BNB Chain
- Bitcoin
- Avalanche
- Filecoin

2.1. Ethereum compared to the top 19 blockchains

Figure 1 shows the distribution of fees paid between Ethereum and other blockchains. About 80% of the fees were paid on Ethereum ($4,325,714,582 in blue) and 20% were paid on all the other blockchains combined ($869,080,948 in yellow).

The yellow section of the graph is the sum of the other 19 blockchains: Bitcoin, BNB Chain, Avalanche, Helium, Solana, Filecoin, Polygon, Fantom, Arbitrum, Optimism, Cardano, Elrond, NEAR Protocol, Zcash, Dogecoin, Cosmos, Terra, Polkadot and Arweave.

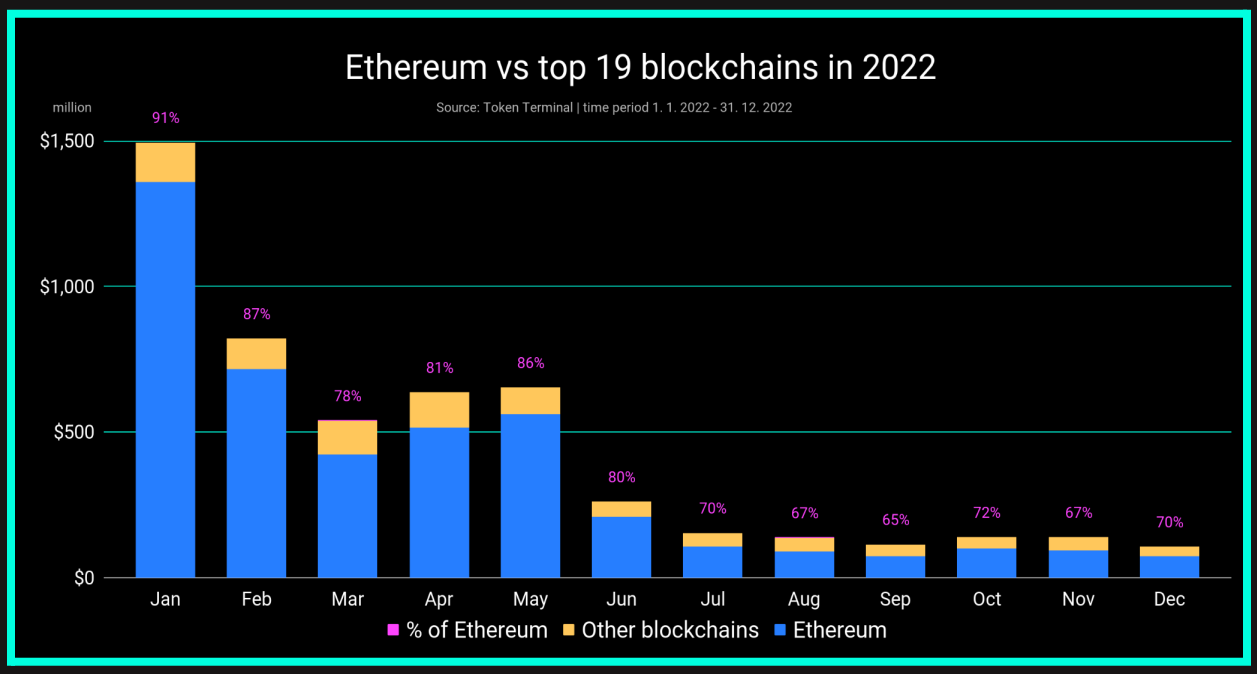

Figure 1 : Ethereum compared to the top 19 blockchains

In the table below you can compare the fee revenues for each of the 5 protocols for each calendar month.

Month	Ethereum	BNB	Bitcoin	Avalanche	Filecoin
Jan	1,358.1	72.3	13.9	11.9	2.1
Feb	715.7	53.4	12.9	16.4	0.4
Mar	421.9	51.3	15.3	24.0	6.9
Apr	515.2	51.7	13.0	27.5	9.9
May	563.0	38.3	16.2	10.7	7.2
Jun	210.4	23.6	11.5	1.1	2.6
Jul	107.4	22.3	12.1	0.8	3.7
Aug	92.0	24.1	9.2	0.9	4.3
Sep	74.7	20.3	8.7	0.6	3.1
Oct	99.2	21.4	7.5	0.6	3.2
Nov	93.4	22.8	12.3	0.5	1.6
Dec	74.7	15.9	9.3	0.3	1.4
SUM	4,325.7	417.4	141.9	95.3	46.4

Figure 2: Monthly fee revenue [in $ M] of top 5 protocols

2.2. Ethereum

Looking into the data in more depth, Ethereum ranked first in terms of transaction fees paid in 2022. In 2022, Ethereum generated a total of $4,325,714,582 in fees. For comparison, this was a 40% year-to-year decline since 2021 (“Dashboard”).

The decreasing fee revenue corresponds to the entire market downturn in 2022. January - December fee revenue decrease was: 94%. However the amount of daily users wasn’t largely impacted - as the Jan-Dec comparison shows about 2% increase of users.

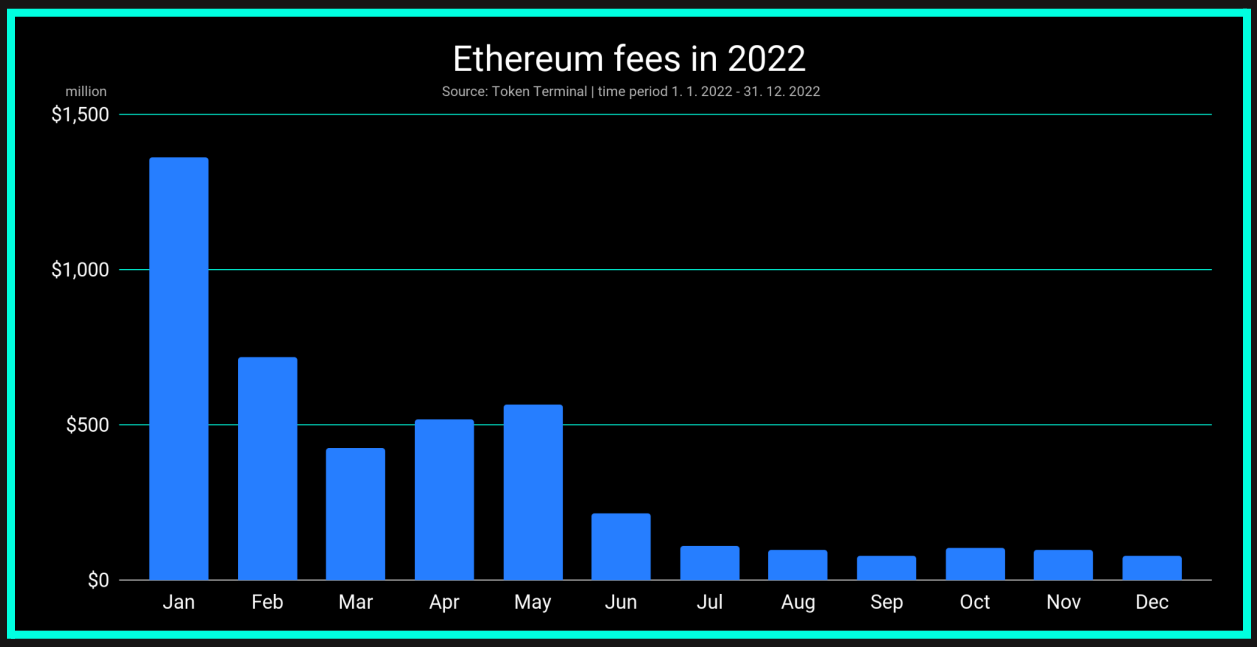

Figure 3: Ethereum transaction fees paid in 2022

Month	Jan	Feb	Mar	Apr	May	Jun
Avg. daily users	372,555	385,415	419,905	367,865	367,559	314,502
Month	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Avg. daily users	410,804	394,183	391,583	391,583	342,821	382,925

Figure 4: Ethereum monthly users in 2022

2.3. BNB Chain

BNB Chain (formerly known as Binance Smart Chain or BSC) ranks as the second blockchain in terms of fees generated in 2022. The BNB Chain total fees generated in 2022 were $417,326,235.

January - December fee revenue decrease was: 78% & users dropped about 5.5%

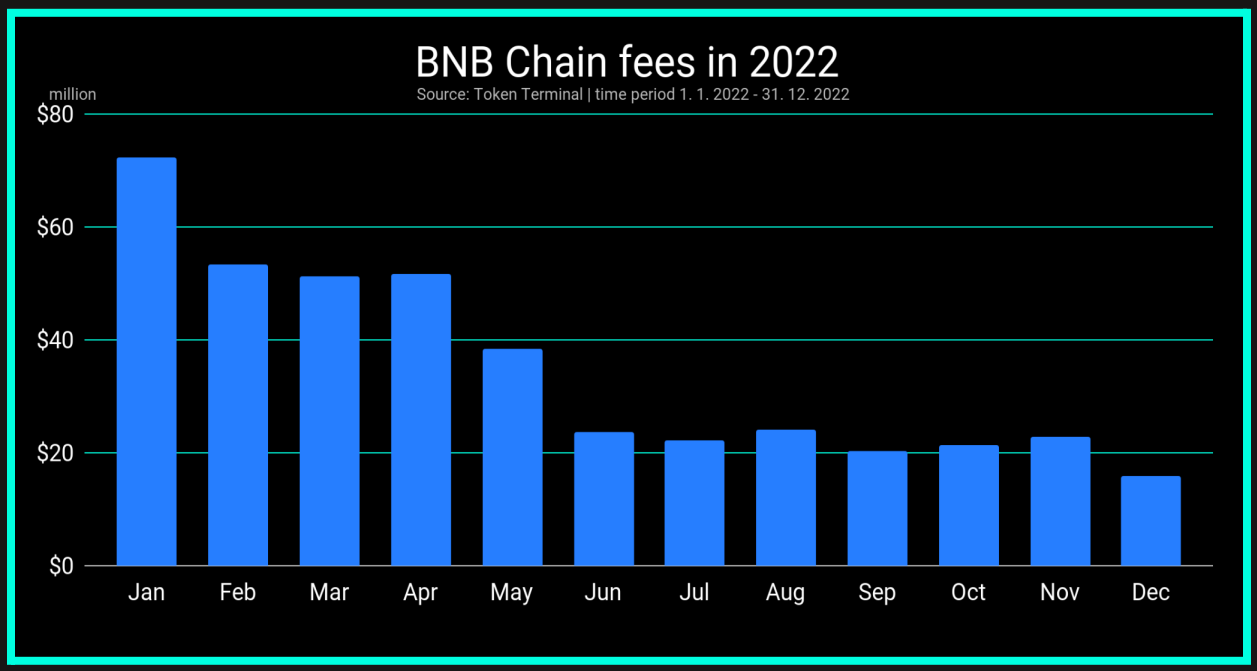

Figure 5: BNB Chain transaction fees in 2022

Month	Jan	Feb	Mar	Apr	May	Jun
Avg. daily users	1,173,671	1,011,474	1,018,167	1,057,103	931,308	843,885
Month	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Avg. daily users	824,123	764,914	840,308	840,308	1,120,442	1,019,933

Figure 6: BNB Chain monthly users in 2022

2.4. Bitcoin

Bitcoin ranks as the third blockchain in terms of transaction fees paid in 2022. Bitcoin total fees revenue this year was $141,780,296. Compared to other chains - there wasn't a significant decline in fees paid.

January - December fee revenue decrease was: 33%

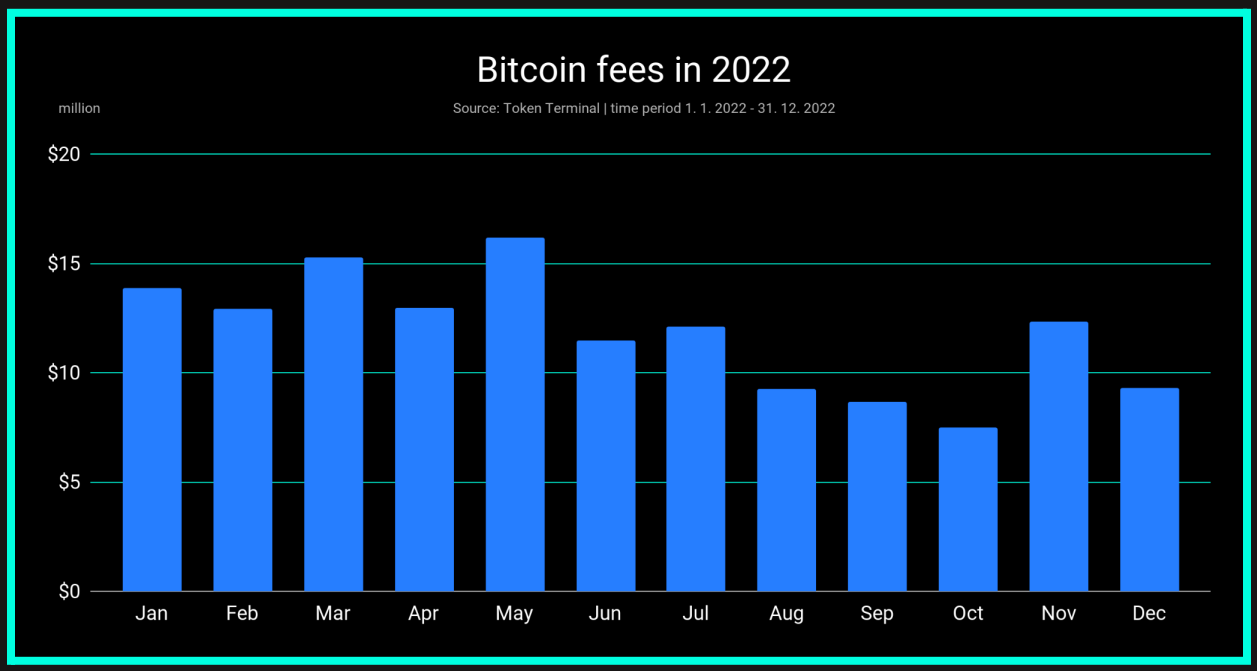

Figure 7: Bitcoin transaction fees in 2022

Month	Jan	Feb	Mar	Apr	May	Jun
Avg. daily users	567,358	585,049	582,166	577,689	594,465	573,836
Month	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Avg. daily users	562,306	600,142	607,162	607,162	620,449	602,414

Figure 8: Bitcoin monthly users in 2022

2.5. Avalanche

Avalanche ranks as the fourth blockchain in terms of fees generated in 2022. Avalanche total fees generated in 2022 were $95,281,719. As we can see below, there is a sharp decrease in generated fees in May. The decreased performance correlates to the timing of the Terra/Luna collapse (Sandor and Genç) and the fact that AVAX, Avalanche's native token, was being accumulated by the Luna Foundation (up to $200m during May 2022, Wang). A majority of the fee revenue was generated prior to the drop and the rest of 2022 the fees are insignificant.

January - December revenue decrease was: 97%

Figure 9: Avalanche transaction fees in 2022

Month	Jan	Feb	Mar	Apr	May	Jun
Avg. daily users	87,352	86,361	82,694	73,788	57,942	37,397
Month	**Jul**	**Aug**	**Sep**	**Oct**	**Nov**	**Dec**
Avg. daily users	36,773	34,995	28,289	28,289	33,858	26,050

Figure 10: Avalanche monthly users in 2022

2.6. Filecoin

Filecoin ranks as the fifth blockchain for fees paid in 2022. Filecoin total fees generated this year are $46,340,851. It didn't follow the same trajectory as other protocols and showed uncorrelated performance spikes in Spring and Summer 2022.

January - December revenue decrease was: 34%

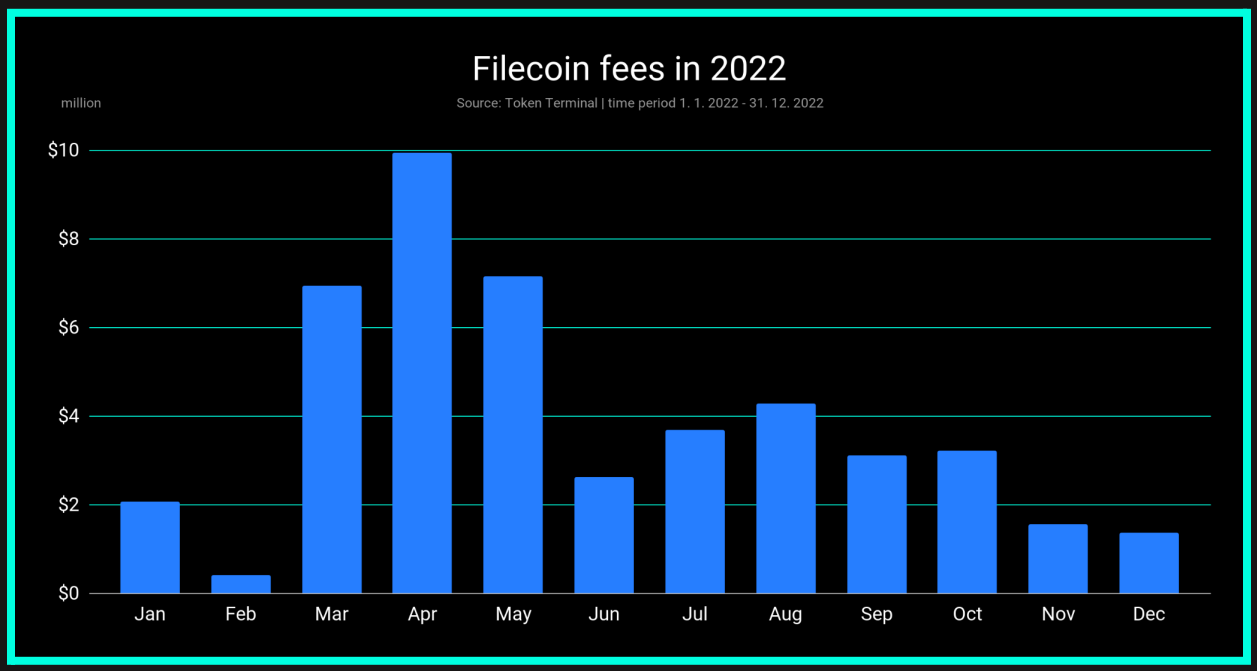

Figure 11: Filecoin transaction fees 2022

DISCLAIMER: Filecoin's daily active users couldn't be obtained and verified from the data source.

2.7. Blockchain fees - interpretation

Throughout 2022, the overall cryptocurrency market capitalization fell from ~$2,310 B to $827 B (CoinGecko) - representing a 65% decline. Although market capitalizations are outside of the current scope of the report, it's worth noting that the value drop has influenced the nominal USD valuation of the revenue. Comparatively, the top 5 protocols had the following performances in terms of paid fees drop compared to the price difference of their native currency/token:

Protocol	01/01/2022	12/31/2022	Price difference	Fee revenue difference
Ethereum	$3,686	$1,202	-67%	-94%
BNB	$512	$246	-52%	-78%
Bitcoin	$46,320	$16,644	-64%	-33%
Avalanche	$110	$11	-90%	-97%
Filecoin	$34	$3	-91%	-34%

Figure 12: Comparison of 5 native token price change & fee rev change in 2022

One could conclude that the top 5 chains behaved quite differently during the year. On Ethereum, the decreased fee revenue is a combination of both significant ETH price drop and decreased user demand.

BNB Chain has copied the trajectory of the Ethereum mainnet with lower price drop and lower average transaction fees but a significantly larger user base.

Bitcoin has shown that it has a stable user base and growing demand since it wasn't all that affected by the general market/price decline of Bitcoin as an asset - on the contrary, the stable transaction demand sets Bitcoin into a category of projects with increased user demand in the 2022 bear market.

The fact that Filecoin wasn't following the trajectory of the other protocols suggests a distinct user base. Its increasing revenue (despite the large price drop) sets it as a leading project.

The lack of interest or economic demand in other chains with the highest market capitalization shows a disproportion between the perceived speculative value and actual user traction of those blockchains - the review of such a list is left as an exercise to the reader.

3. Smart contract fees

The projects listed in figure 13 generated $5 billion in fees in 2022. We analyze the dapp fees through different perspectives. We selected the 20 best performing dapps based on the data provided by Token Terminal (out of 137 dapps listed). These 20 dapps generated 87% of the total fee volume during 2022.

Project	% of dapp fees	Project	% of dapp fees
OpenSea	31.2	GMX	2
Uniswap	15.5	SpookySwap	1.6
LooksRare	11.6	Compound	1.5
Convex Finance	6.7	Axie Infinity	1.3
PancakeSwap	6.2	yearn.finance	1
Lido Finance	6.2	QuickSwap	1
Aave	3.6	MakerDAO	0.9
dYdX	2.7	Ethereum Name Service	0.9
SushiSwap	2.6	BENQI	0.7
Trader Joe	2.1	Axie Infinity	0.7

Figure 13: List of the 20 selected dapps & the % of fee generated in 2022

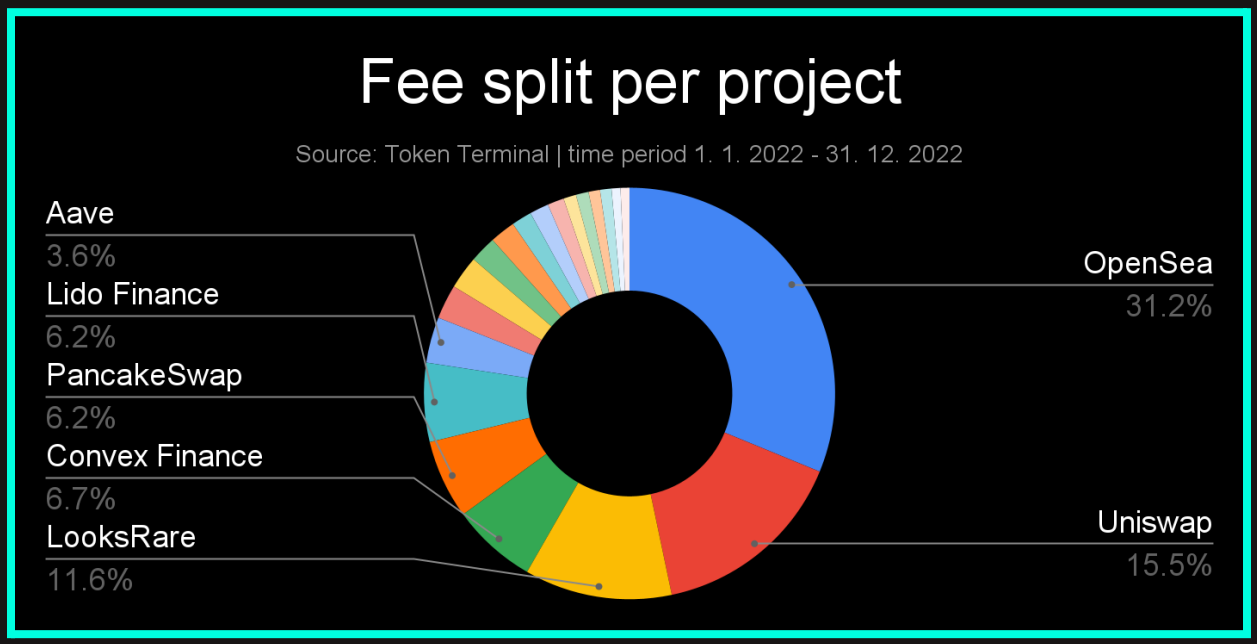

Figure 14: Visualization of a fee split between the selected dapps in 2022

The projects listed above are categorized in 9 market segments in Figure 15, and visualized in Figure 16.

Category	Count	% of total fees
NFT Marketplace	2	42.8
Dex	7	31.7
Yield Aggregator	1	7.7
Liquid Staking	1	6.2
Lending	3	5.8
Derivatives	1	2.0
NFT Gaming	1	2.0
Stable coin	1	0.9
NFT Infrastructure	1	0.9

Figure 15: Market segment of the selected dapps

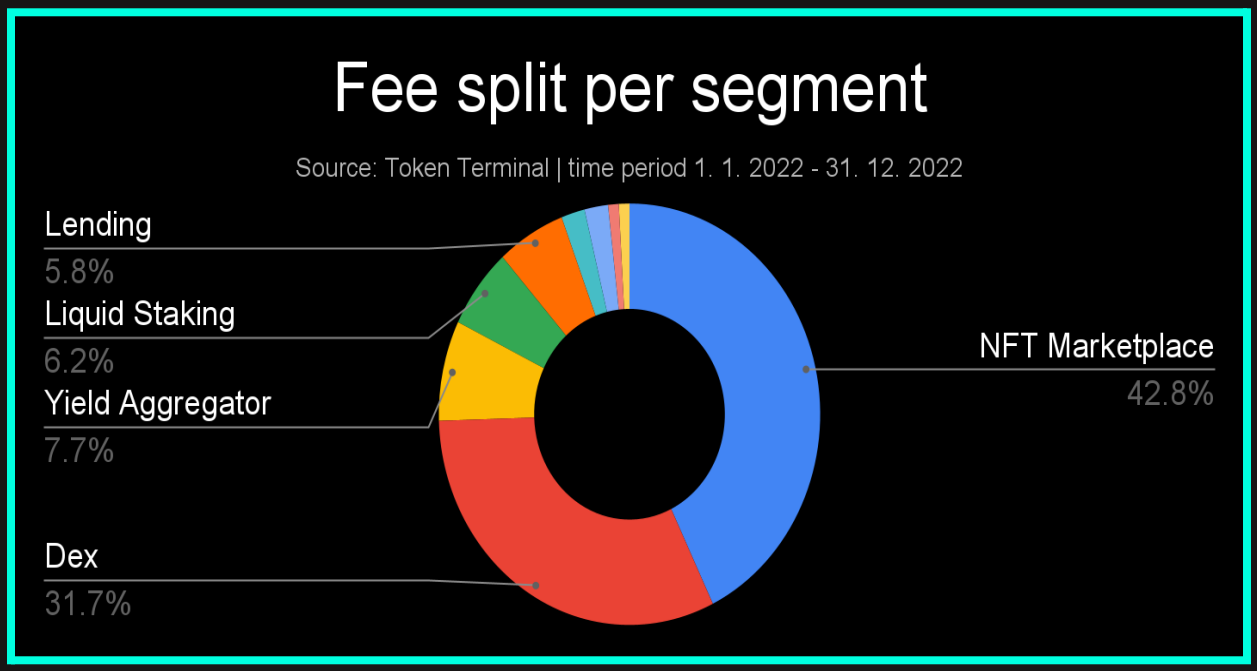

Figure 16: Visualization of markets segments & the generated fees

3.1. Dapp fees - cumulative & all chains

Figure 17 shows fees for dapps across all blockchains where those dapps were deployed. NFT trading clearly was the leading vector for dapp revenue generation during 2022.

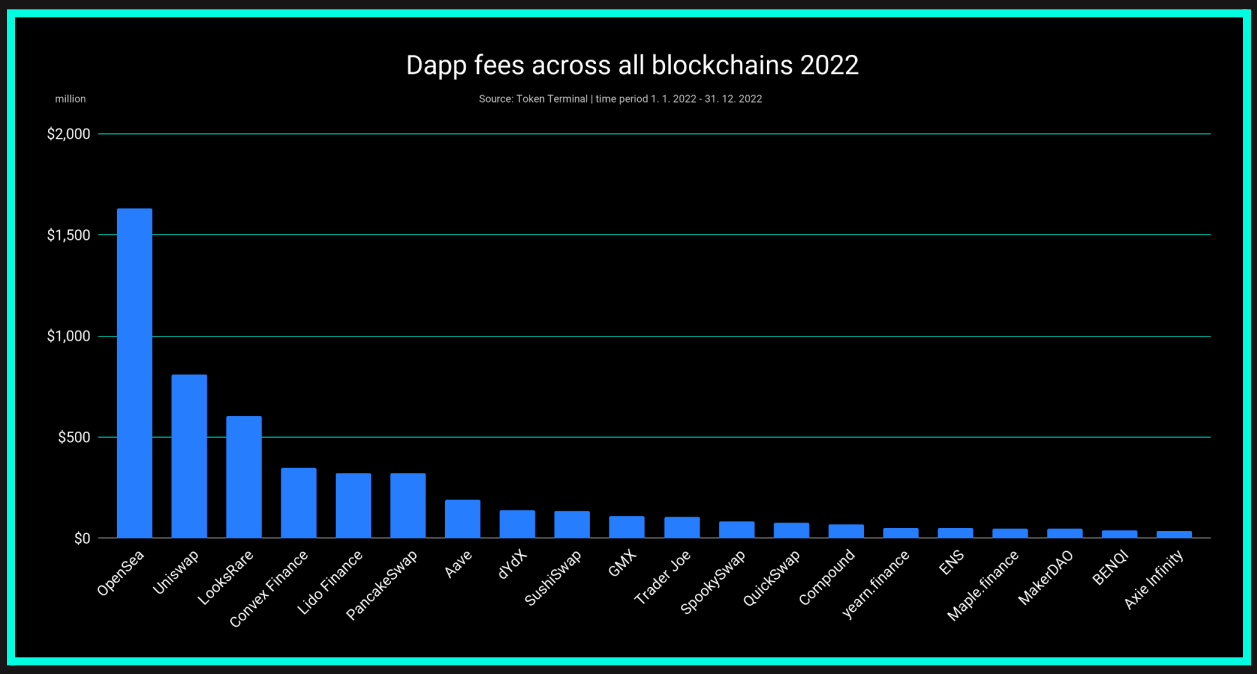

Figure 17: Dapp fees across all blockchains in 2022

The following chart compares the fees paid across multiple L1 and L2 chains should the dapp be deployed to those. The percentages in white are the fees originating from the Ethereum mainnet. The first point to be made here is the consistency of Ethereum's dominance, January was 78%, December was 78%.
The table with the respective monthly numbers follows.

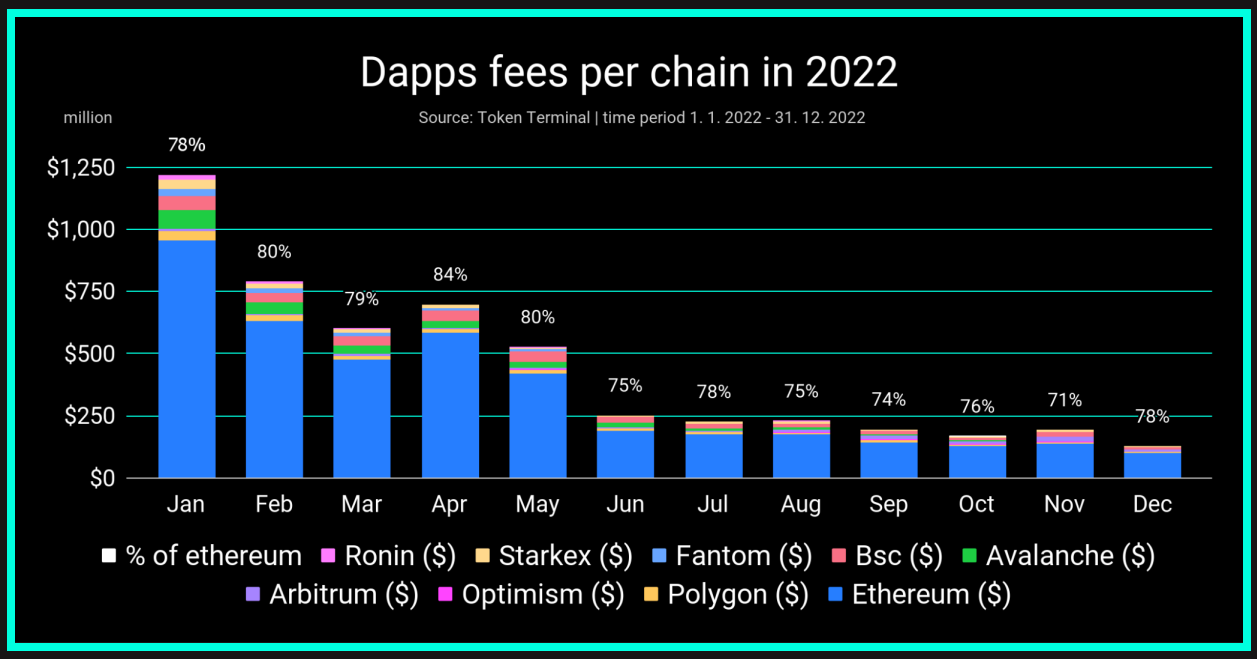

Figure 18: Dapp fees across chain comparison in 2022

Chain	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM	%
Ethereum	956	633	476	584	421	189	176	173	144	128	137	99	4,116	79%
BNB Chain	55	39	37	42	44	22	16	17	13	13	17	7.2	322	6%
Avalanche	75	43	33	26	21	16	10	7.9	5.9	3.5	3.7	2.0	247	5%
Polygon	37	21	13	12	15	10	7.9	6.4	5.8	5.4	7.2	3.7	145	3%
Starkex	39	18	16	14	8.9	6.1	7.9	8.5	6.3	4.2	6.9	4.3	140	3%
Arbitrum	10	6.1	8.2	7.6	7.5	4.4	6.1	9.4	14	10	18	10	110	2%
Fantom	27	21	14	10	7.5	2.0	1.0	0.9	0.5	0.3	0.7	0.3	84	2%
Ronin	20	9.0	2.9	1.4	0.8	0.3	0.7	0.9	0.7	0.8	0.3	0.1	38	1%
Optimism	1	0.4	0.4	0.5	1.0	2.3	1.2	5.2	4.4	2.8	1.6	0.8	21	0%
SUM	1,219	791	601	697	526	252	226	229	195	168	193	127	5,223	

Figure 19: Dapp fees per chain in 2022 [shown numbers are rounded]

3.2. Dapp fees per chain

In the section below we look at the fees generated by the top 20 dapps on the following networks:

- Ethereum
- BNB Chain
- Avalanche
- Polygon
- StarkEx
- Arbitrum
- Optimism

88% of the deployments made within the 20 selected dapps were made within the 7 selected chains listed above. The chains were ordered from the chain with the most deployments to the least deployments.

3.2.1. Ethereum

Here we look at the performance of a subset of 12/20 dapps deployed on Ethereum. OpenSea clearly has the largest share of ~39,5% of dapp fees paid in 2022.

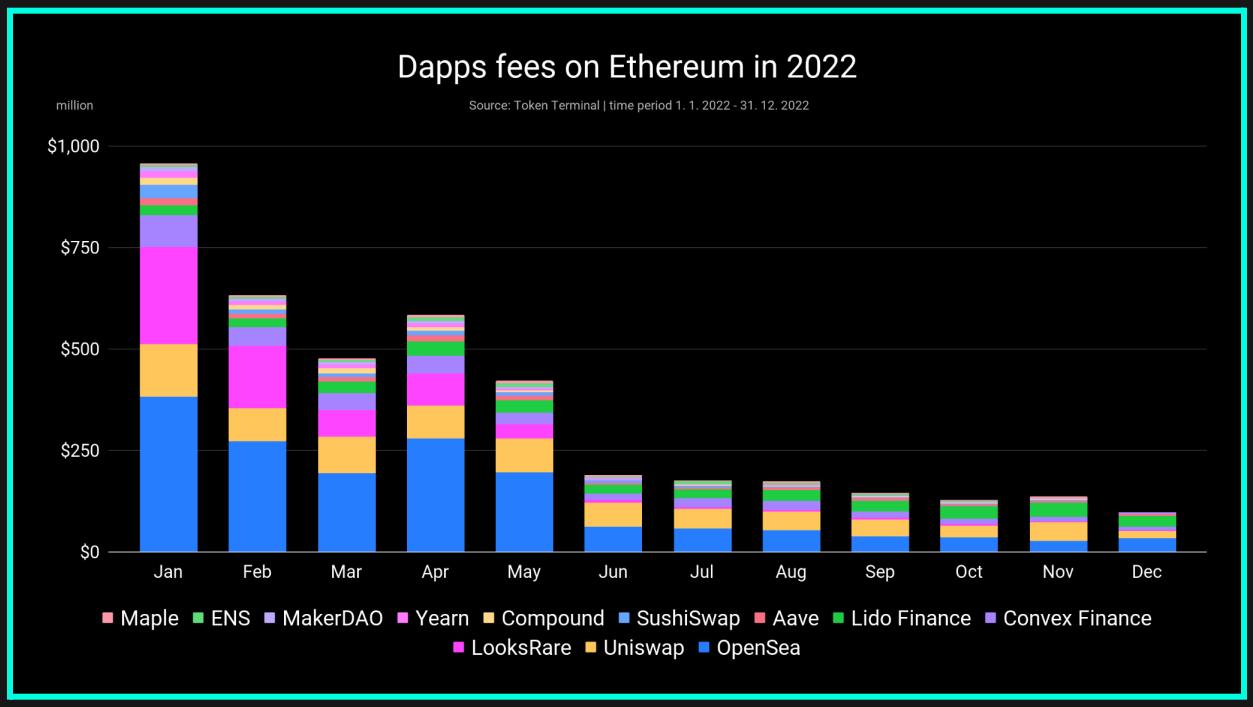

Figure 20: Breakdown of individual Dapp fees on Ethereum mainnet in 2022

Dapp	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
OpenSea	382	272	193	278	196	62	58	53	37	36	27	33	1,627
Uniswap	129	81	91	83	83	59	47	46	42	29	46	17	753
LooksRare	240	154	66	79	35	7	6	5	4	3	3	3	605
Convex	79	47	41	42	28	16	22	22	16	14	11	10	348
Lido	23	21	28	36	32	20	21	26	26	31	34	26	324
Aave	18	11	11	16	10	6	4	6	8	4	5	4	103
SushiSwap	33	11	10	10	10	5	4	3	2	2	2	1	93
Compound	18	11	12	10	4	2	2	2	2	2	2	1	68
Yearn	15	9	9	8	3	2	1	1	1	1	1	1	52
ENS	4	4	3	8	9	3	6	4	4	2	1	1	49
Maple	4	4	6	7	7	5	4	4	2	3	3	0	49
MakerDAO	11	7	7	7	5	3	2	2	1	1	1	1	48
SUM	956	633	476	584	421	189	176	173	144	128	137	99	4,116

Figure 21: Table of monthly dapp revenue on Ethereum in 2022 [in $ M]

3.2.2. BNB Chain

PancakeSwap is the only dapp out of the 20 selected dapps that deployed to the BNB Chain.

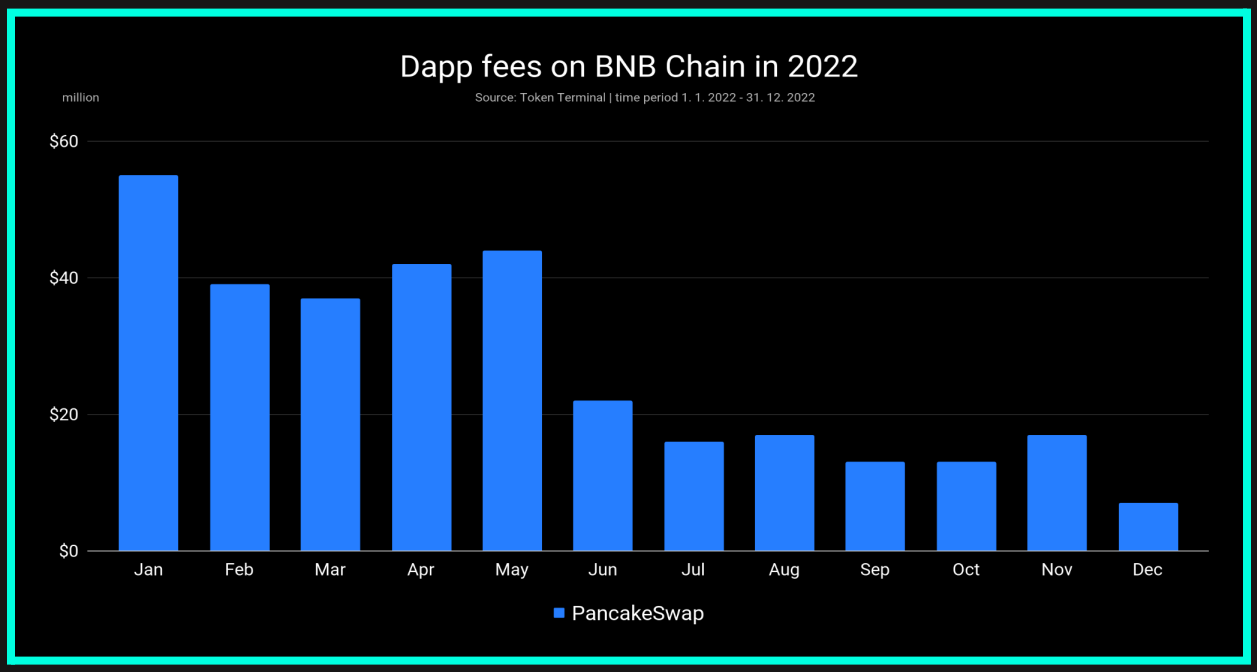

Figure 22: PancakeSwap on BNB Chain in 2022

Dapp	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
PancakeSwap	55	39	37	42	44	22	16	17	13	13	17	7	322

Figure 23: Table of monthly dapp revenue on BNB Chain in 2022 [in $M]

3.2.3. Avalanche

Out of the 20 dapps selected, 6 are deployed on Avalanche. Trader Joe leads the way with revenues representing ~42,9% of fees followed by Aave with 23% of total revenue of the $247 M total on Avalanche.

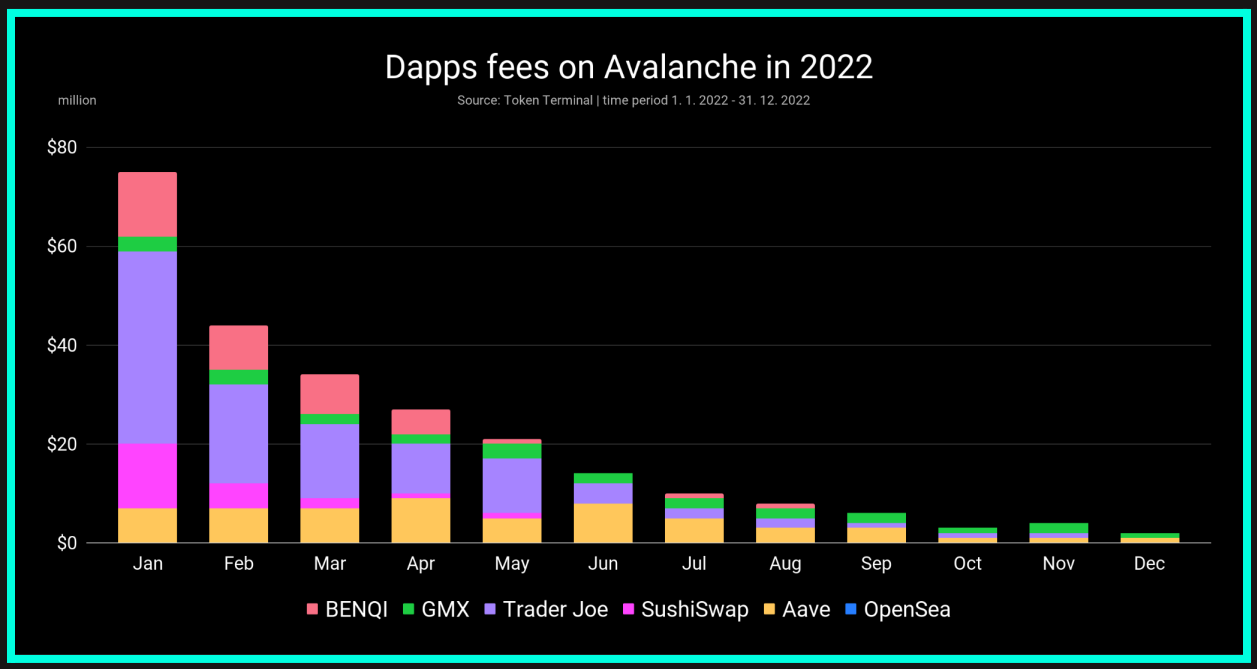

Figure 24: Breakdown of individual dapp fees on Avalanche in 2022

Dapp	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
Trader Joe	39	20	15	10	11	4	2	2	1	1	1	0	106
Aave	7	7	7	9	5	8	5	3	3	1	1	1	57
BENQI	13	9	8	5	1	0	1	1	0	0	0	0	38
GMX	3	3	2	2	3	2	2	2	2	1	2	1	25
SushiSwap	13	5	2	1	1	0	0	0	0	0	0	0	22
OpenSea	0	0	0	0	0	0	0	0	0	0.01	0	0	0.01
SUM	75	44	34	27	21	14	10	8	6	3.01	4	2	248

Figure 25: Table of monthly dapp revenue on Avalanche in 2022 [in M USD]

3.2.4. Polygon

5 out of the 20 dapps have considerable traction on Polygon. With the majority of fees accrued on QuickSwap, with 52.4% of the total ~145M USD dapp revenue.

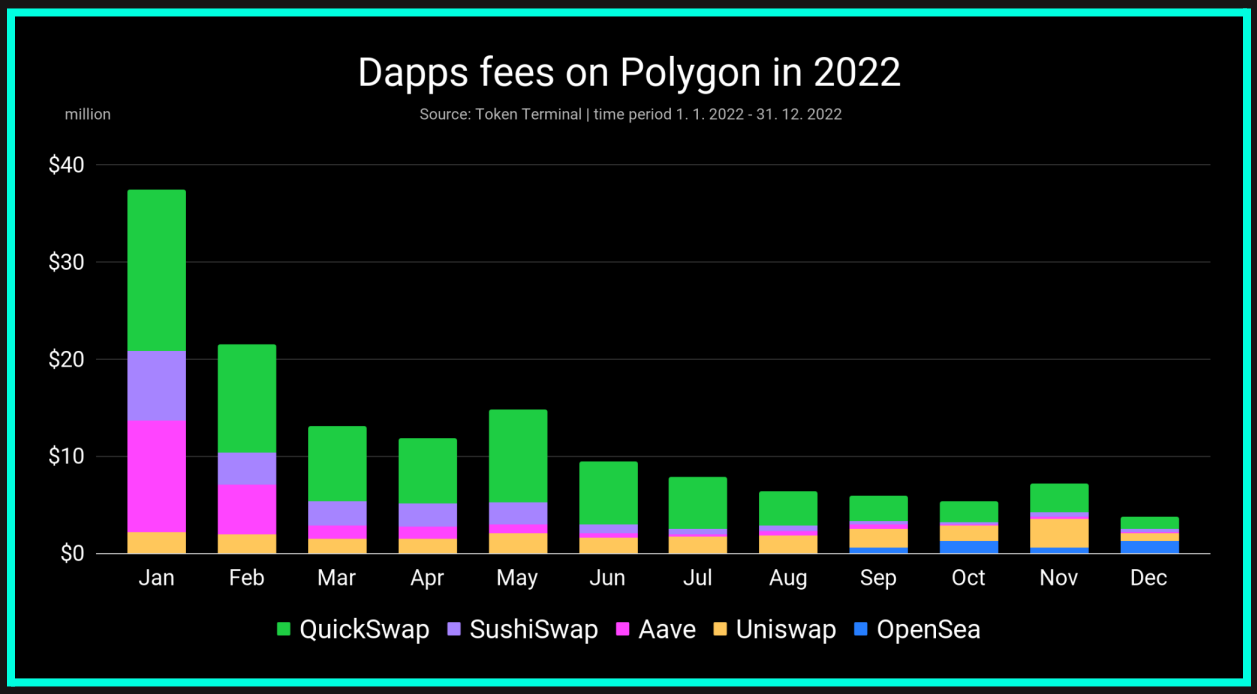

Figure 26: Breakdown of individual dapp fees on Polygon in 2022

Dapp	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
QuickSwap	16.6	11.2	7.8	6.7	9.6	6.5	5.3	3.6	2.6	2.1	3	1.2	76
Aave	11.4	5.1	1.4	1.2	0.9	0.4	0.2	0.5	0.5	0.2	0.3	0.2	22
Uniswap	2.2	1.9	1.5	1.5	2.1	1.6	1.7	1.8	1.9	1.6	2.9	0.8	22
SushiSwap	7.2	3.3	2.4	2.4	2.2	1	0.6	0.5	0.3	0.2	0.4	0.3	21
OpenSea	0	0	0	0	0	0	0	0	0.6	1.2	0.6	1.2	4
SUM	37.4	21.5	13.1	11.8	14.8	9.5	7.8	6.4	5.9	5.3	7.2	3.7	144

Figure 27: Table of monthly dapp revenue on Polygon in 2022 [in M USD]

3.2.5. StarkEx

DYDX is the only dapp out of the 20 selected dapps that deployed to StarkEx. The total dapp considered revenue is $140 M.

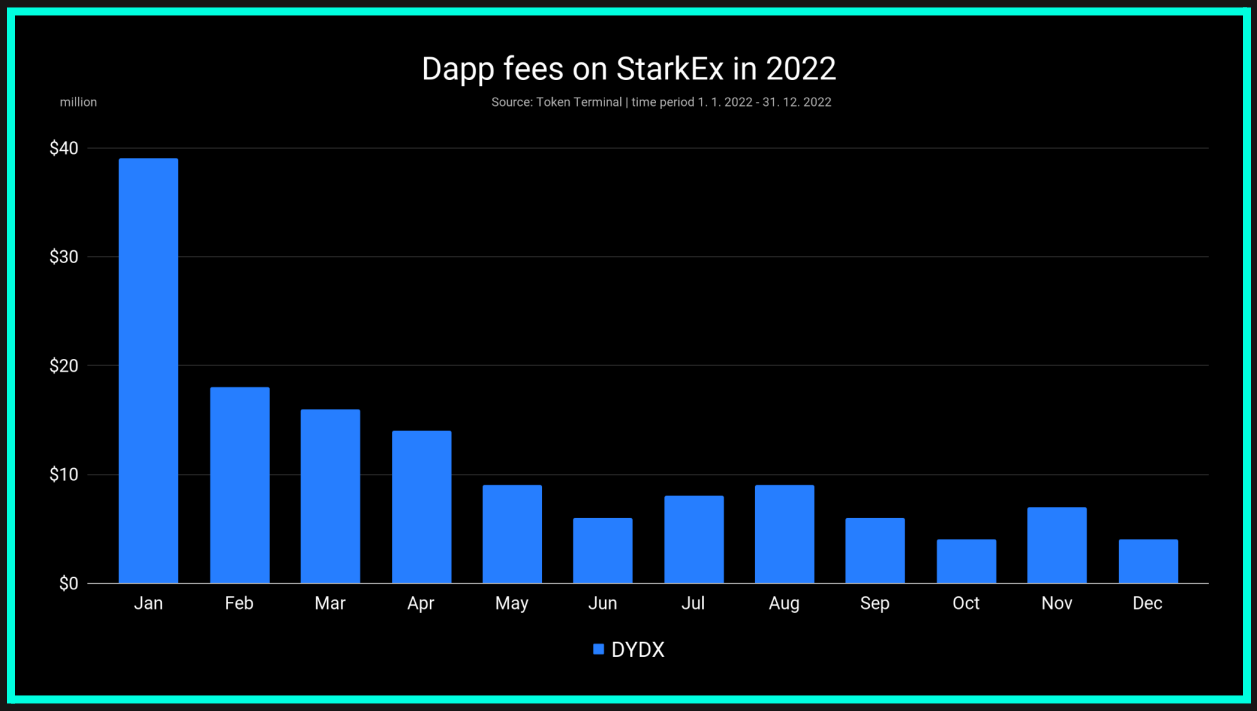

Figure 28: DYDX on StarkEx in 2022

Dapp	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
dYdX	39	18	16	14	9	6	8	9	6	4	7	4	140

Figure 29: DYDX on StarkEx in 2022

3.2.6. Arbitrum

Out of the 20 selected dapps, Figure 30 shows the decentralized application fees on Arbitrum per month in 2022.

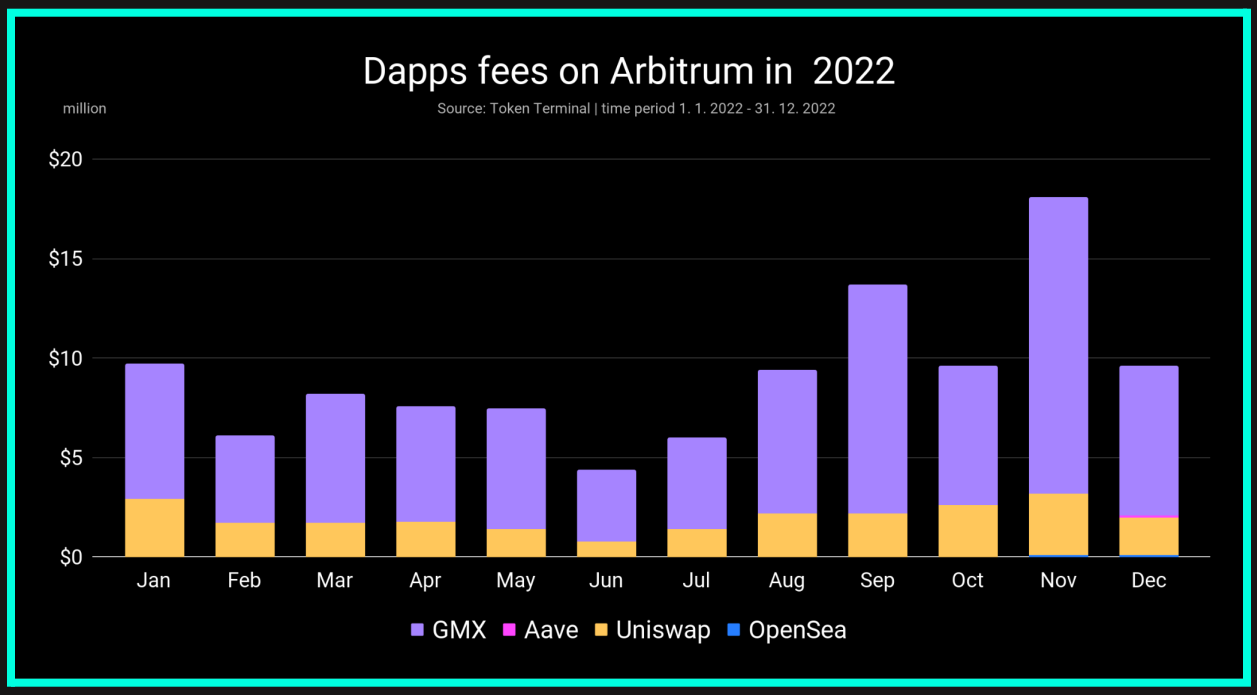

Figure 30: Breakdown of individual dApp fees on Arbitrum in 2022

Dapp	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
GMX	6.8	4.4	6.5	5.8	6.1	3.6	4.6	7.2	11.5	7	14.9	7.5	85.9
Uniswap	2.9	1.7	1.7	1.8	1.4	0.8	1.4	2.2	2.2	2.6	3.1	1.9	23.7
OpenSea	0	0	0	0	0	0	0	0	0	0	0.1	0.1	0.2
Aave	0	0	0	0	0	0	0	0	0	0	0	0.1	0.1
SUM	9.7	6.1	8.2	7.6	7.5	4.4	6	9.4	13.7	9.6	18.1	9.6	110

Figure 31: Table of monthly dApp revenue on Arbitrum in 2022 [in M USD]

3.2.7. Optimism

3 out of the 20 dapps have traction on Optimism - with Uniswap achieving ~57% of total revenues of $21 M.

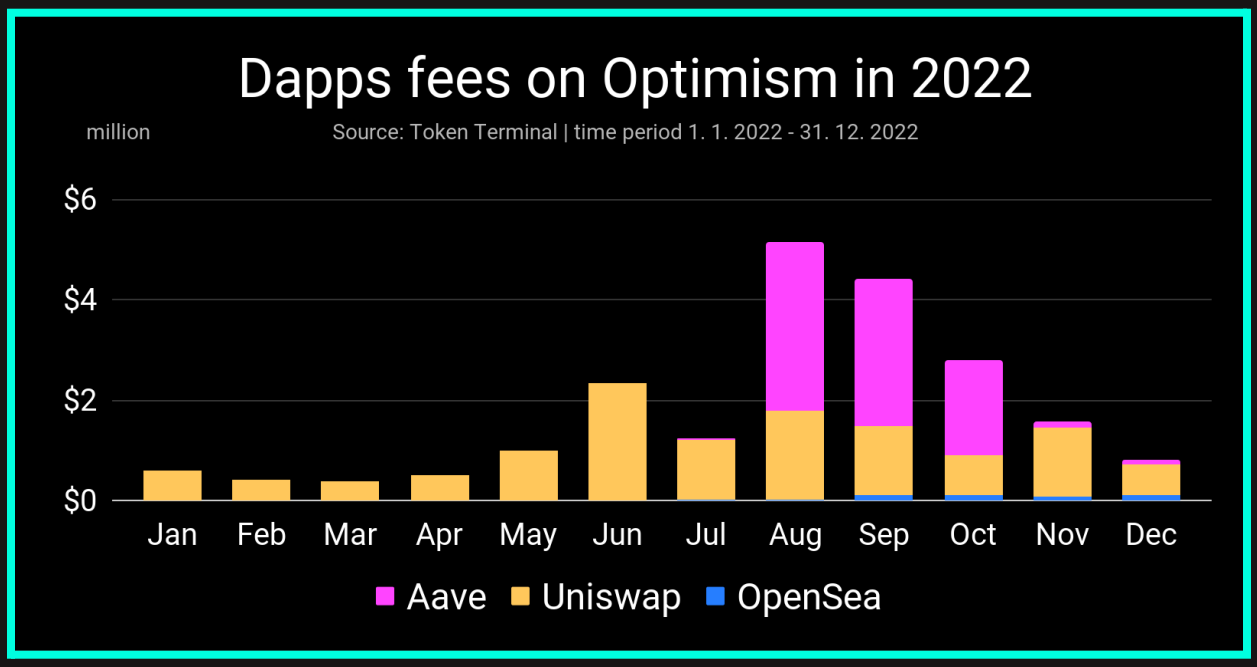

Figure 32: Breakdown of individual dapp fees on Optimism in 2022

Dapp	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	SUM
Uniswap	1.0	0.4	0.0	0.0	1.0	2.0	1.0	2.0	1.0	1.0	1.0	1.0	11.4
Aave	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	3.0	2.0	0.0	0.0	8.0
OpenSea	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.4
SUM	1.0	0.4	0.0	0.0	1.0	2.0	1.0	5.0	4.1	3.1	1.1	1.1	20

Figure 33: Table of monthly dapp revenue on Optimism in 2022 [in $ M]

4. Individual dApp fees in 2022

In this section of the report 6 dapps with the highest revenue were picked for a more detailed analysis not only were revenues analyzed, but also the purpose and strategy of the fees collected – whether fees went into the protocol treasury or to the protocol participants (liquidity partners).
Additionally, average daily active users were compared from the protocols to be able to identify if the user activity was affected by the macro market behavior.

The following dapps were researched:

- OpeaSea
- UniSwap
- LooksRare
- Convex Finance
- Lido
- Aave

4.1. OpenSea

OpenSea receives the fees and pays out the royalties to the creators. In 2022, OpenSea generated $1.631bn in fee revenue, and another $1.103bn in royalties to NFT creators. Despite the falling revenues, the user numbers kept steady.

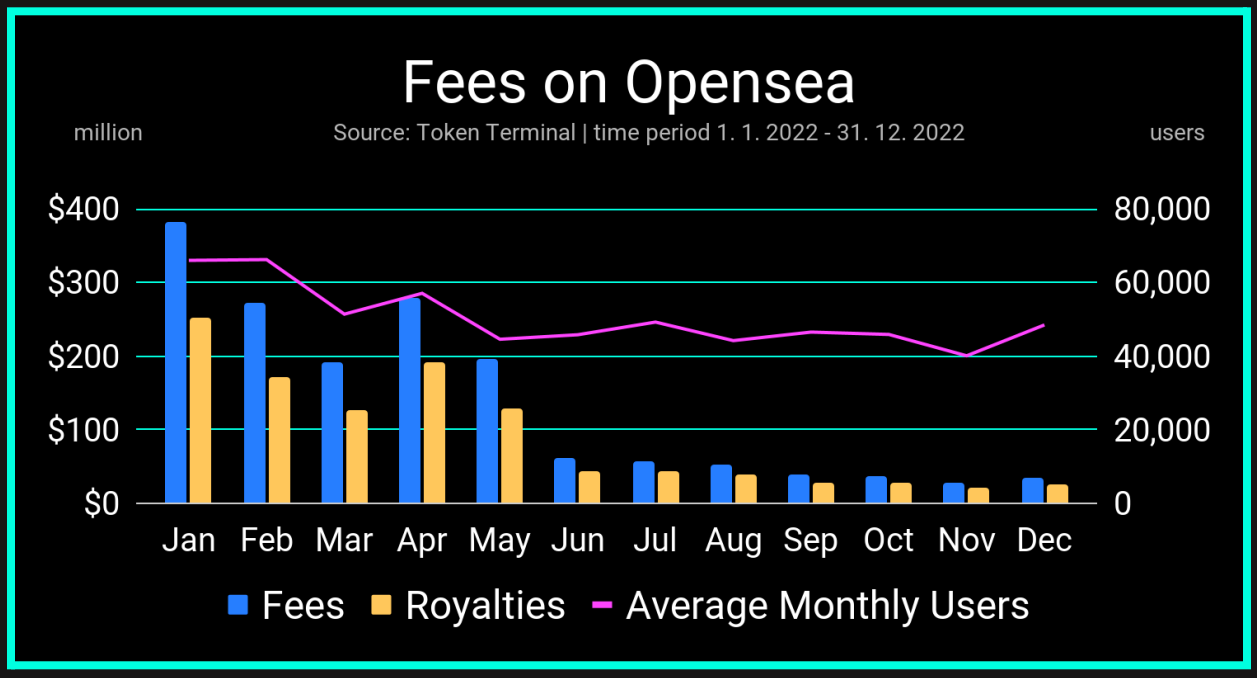

Figure 34: OpenSea monthly fees, royalties & avg. daily users in 2022

Opensea	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fees	382	272	193	278	196	62	58	53	38	37	28	34
Royalties	252	171	127	192	129	44	44	40	29	28	21	25
Users	66,038	66,245	51,403	57,073	44,573	45,801	49,242	44,202	46,524	45,880	40,079	48,473

Figure 35: Table of OpenSea's fees [in $ M] & user count in 2022

4.2. UniSwap

Uniswap receives the total fees and pays out the liquidity providers. In 2022, Uniswap generated $794m in fee revenue. User count increased by 59% in between January and December 2022.

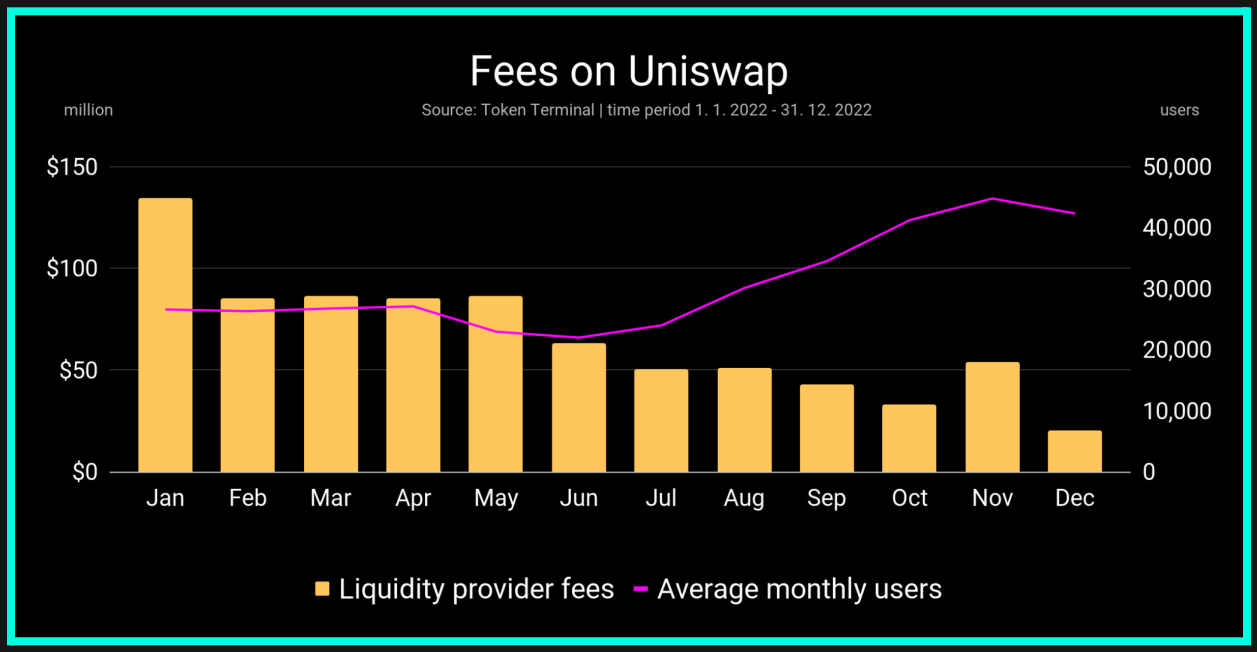

Figure 36: Uniswap's fees [in $ M] & user count in 2022

Uniswap	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Liquidity providers	134	85	87	85	87	63	50	51	43	33	54	20
Users	26,606	26,323	26,766	27,105	22,957	21,983	23,992	30,108	34,535	41,240	44,795	42,344

Figure 37: Table of OpenSea's fees [in $ M] & user count in 2022

4.3. LookRare

In 2022, LooksRare generated $604m in fee revenue, and another $52m in royalties for creators. The fees however fell 99% throughout 2022.

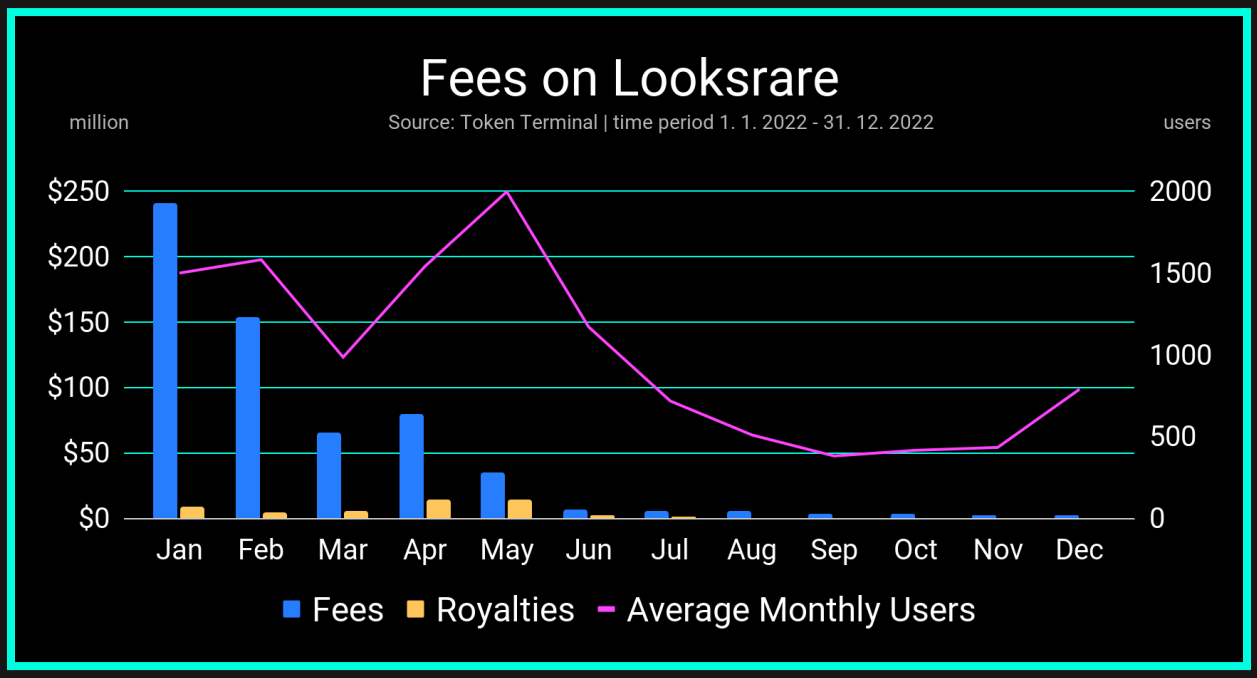

Figure 38: LooksRare monthly fees, royalties & avg. daily users in 2022

Uniswap	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Liquidity providers	134	85	87	85	87	63	50	51	43	33	54	20
Users	26,606	26,323	26,766	27,105	22,957	21,983	23,992	30,108	34,535	41,240	44,795	42,344

Figure 39: Table of LooksRare's fees [in $ M] & user count in 2022

4.4. Convex Finance

Convex Finance is a yield aggregator. In 2022, Convex Finance captured $287m in fees for their liquidity providers and $62m for the protocol. Despite its relatively small user base the protocol ranks among the top dapps in terms of revenue.

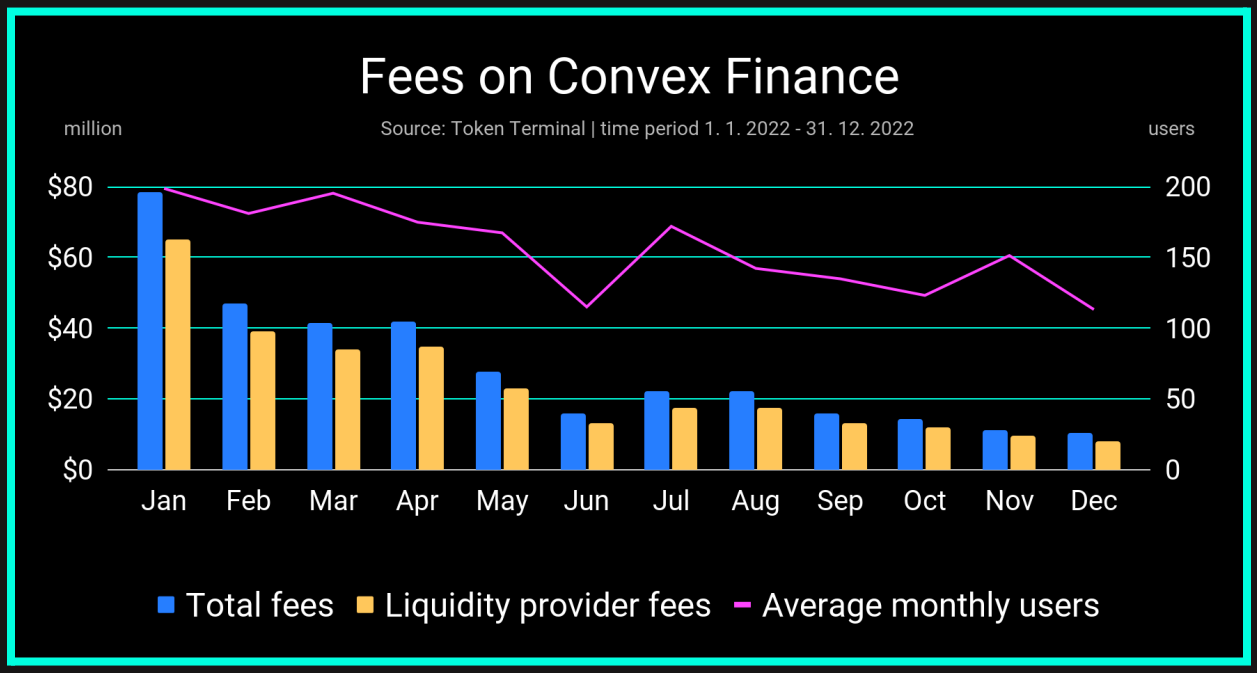

Figure 40: Convex monthly fees, LP rewards & avg. daily users in 2022

Convex Finance	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fees	79	47	41	42	28	16	22	22	16	14	11	10
Liquidity providers	65	39	34	35	23	13	18	18	13	12	9	8
Users	199	181	195	175	167	115	172	142	135	123	151	113

Figure 41: Table of Convex's fees [in $ M] & user count in 2022

4.5. Lido

Lido provides liquid staking services. In 2022, Lido generated $291m for liquid stakers and $32m for the Lido protocol. Provided the interest in staking on Ethereum, the protocol has grown 13% in 2022.

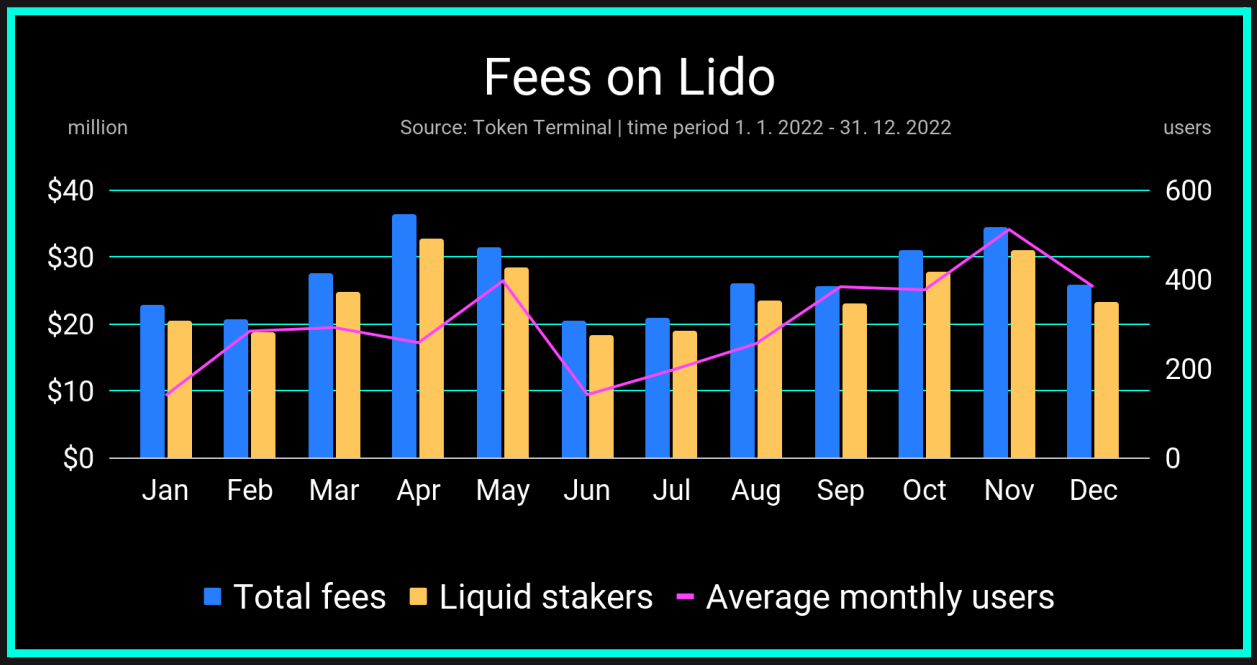

Figure 42: Lido monthly fees, royalties & avg. daily users in 2022

Lido	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fee	23	21	28	36	32	20	21	26	26	31	34	26
Staker rewards	20	19	25	33	28	18	19	24	23	28	31	23
Users	140	284	292	258	396	142	196	256	383	376	512	383

Figure 43: Table of Lido's fees [in $ M] & user count in 2022

4.6. AAVE

Aave is an open source liquidity protocol. In 2022, Aave generated $169m for the liquidity providers and $21m for the Aave protocol. Despite the decreasing revenue, AAVE has achieved ~40% increase in its user base.

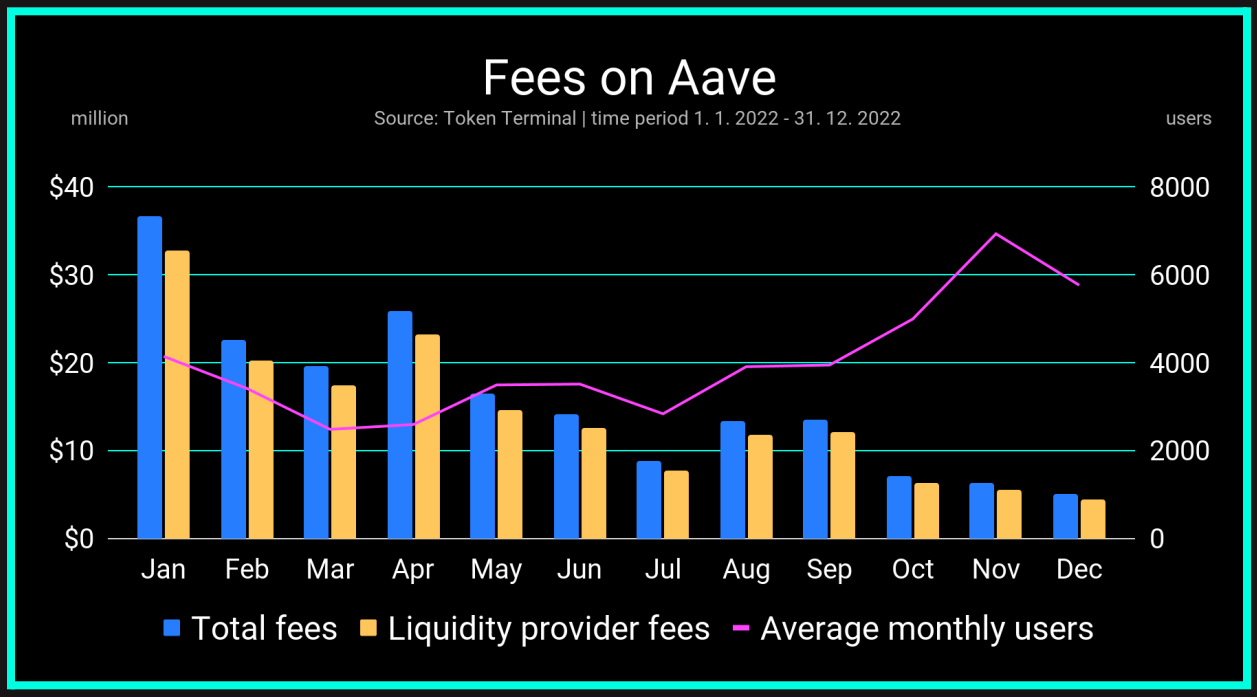

Figure 44: Aave monthly fees, royalties & avg. daily users in 2022

Aave	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Fees	37	23	20	26	17	14	9	13	14	7	6	5
Liquidity providers	33	20	18	23	15	13	8	12	12	6	6	5
Users	4,150	3,420	2,490	2,600	3,500	3,520	2,843	3,916	3,953	5,000	6,939	5,770

Figure 45: Table of Aave's fees [in $ M] & user count in 2022

4.7. Layer 2 contract fees

In this last section we look into the new emerging trend of Ethereum mainnet gas spent dedicated to L2. Below you will find the daily percentages of gas fees spent on L2 proof contracts compared to the total maximum daily available Ethereum gas. We take into account the 37 contracts using the most gas. During 2022, the amount of gas spent on L2s went from about 1% to 3%.

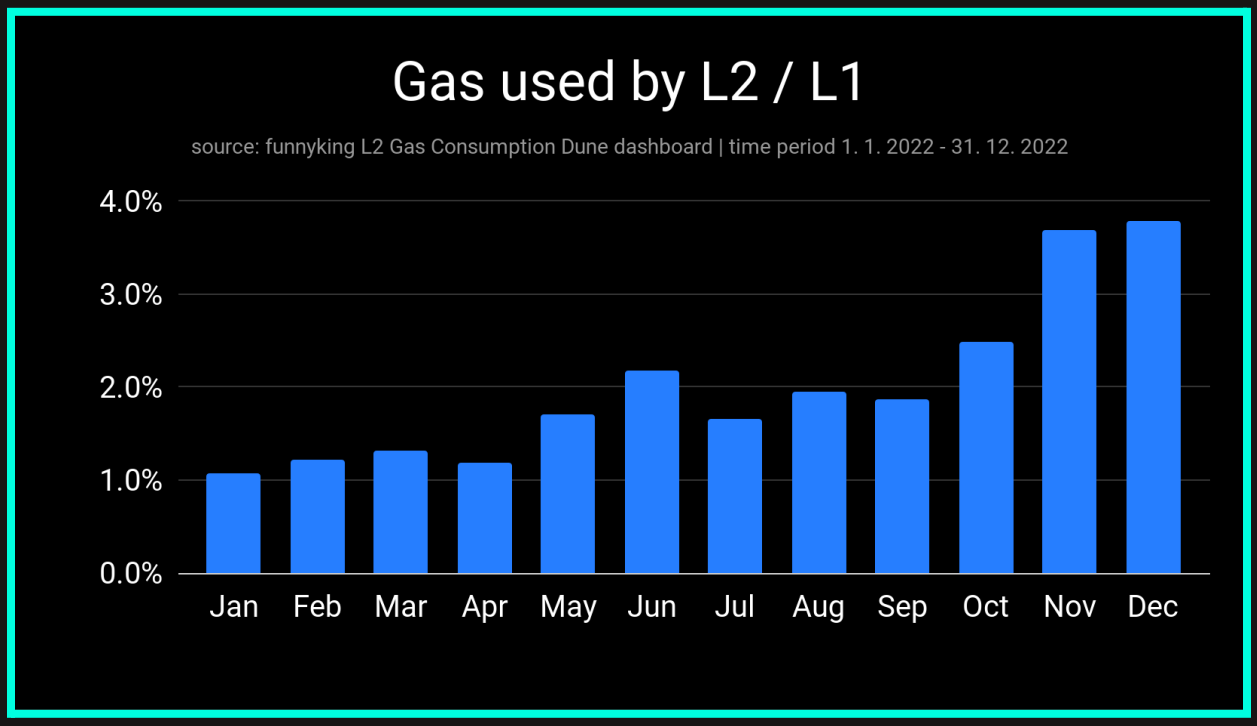

Figure 46: Chart of L2 related* smart contract gas used on Ethereum in 2022

*The proveer contracts included: Arbitrum, Optimism, dydx, ZkSync Lite, StarkNet, Arbitrum Nova, Apex, ZkSpace, Boba Network, Metis Andromeda, Rhino.fi, Aztec, PolygonHermez, ImmutableX, Sorare, Loopring, ZkSpace, Aztec connect.

month	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
gas used L2 / L1	1.1%	1.2%	1.3%	1.2%	1.7%	2.2%	1.7%	2.0%	1.9%	2.5%	3.7%	3.8%

Figure 47: Table of percentages of gas used by L2's on Ethereum in 2022

4.8. Dapp fees - interpretation

It is clear from the numbers that the NFT associated hype has still largely impacted the overall revenue generated in 2022 - as shown in section 3. The first 40 days of 2022 take up almost a quarter of the entire 2022 dapp based revenue.

The NFT linked revenues were continuously dropping alongside their user base (although the user drop wasn’t as significant) while dapps such as Lido (with utility directly linked to the protocol) were steadily growing.

User bases of some DeFi projects like AAVE were even growing as shown in Section 4.6. - ~40% throughout the year 2022.

Unlike in the case of protocol fees, dapp fees can’t be easily compared to the performance of their native token since not all of the dapps accumulate or distribute the fee in their native token - the comparison or discounting the price movement from the revenue would be misleading.

5. Conclusions

As the purpose of this report was to get clarity about the 2022 performance of projects driving the cryptonative space, we'll refrain from making any future predictions from the numbers collected.

Some things are clear though:

1) The cryptonative economy is not completely uniform. There are a variety of protocols and dapps serving distinct user groups, following slightly different trajectories in terms of market demand or price activity.

2) There remains a huge gap between the speculative or perceived value of some protocols, dapps/tokens and their actual market traction or even user demand. Most of the top 20 blockchain protocols based on their market cap in 2022 (the ordering is largely irrelevant) didn't make a significant mark in the numbers.

3) On a high level what's also clear is that the decreased demand in cryptocurrencies as a speculative asset isn't really reflected in the user demand for these protocols and dapps - despite the falling prices the user bases and thus demand for using them remained steady or even increased in some cases (except of NFT projects).

6. Sources

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5 -*Wang, Tracy. "Terra Backers Buy $200M in AVAX Tokens, Bolstering Crypto Reserves Beyond BTC." CoinDesk, 7 April 2022*, https://www.coindesk.com/markets/2022/04/07/terra-backers-buy-200m-in-avax-tokens-bolstering-crypto-reserves-beyond-btc/. Accessed 1 January 2023.

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7 -funnyking. " gas spent by l2 proof contracts of the total max daily available ethereum gas." *Dune*, 10 August 2022, https://dune.com/embeds/148627/293101/c4501e34-22eb-4b21-b1b5-aac1c5190fa6. Accessed 1 January 2023.