

PieDAO - Secondary Market application

Summary

PieDAO (<https://www.piedao.org/>), is a decentralized autonomous organization governing tokenized portfolio allocations.

The DAO is focused on bringing market accessibility and economic empowerment to anyone with an internet connection through tokenized asset allocations. These ETF products known as PIEs are collectively governed by DAO members, with community members coming to consensus on both make-up and allocation weight. Anybody in the public community can be involved in the DAO. DOUGH token holders are the DAO's decision-makers, governing which proposals are accepted. PieDAO was summoned as of early March 2020, and since then has been growing to the current 2,881 members, including many OG of the DeFi space.

Proposal

Adding support for the following assets as a PieDAO secondary market on Aave

#	Asset	TVL (\$)
1	DEFI+L - DeFi Large Cap Pie	~ 3.4m
2	DEFI+S - DeFi Small Cap Pie	~ 1.7m
3	DEFI++ - DeFi Pie	~ 1.35m (*)
4	BCP - Balanced Crypto Pie	~ 3.1m (**)
5	YPIE - Yearn Ecosystem Pie	~ 0.35m
6	DOUGH - PieDAO governance token	~ 6.9m
7	ETH	
8	WBTC	
9	USDC	
10	USDT	
11	DAI	
12	sUSD	

(*) already counted in DEFI+S & DEFI+L's TVL; (**) for 1/3 already counted in DEFI+S & DEFI+L's TVL

\$DeFi+L, \$DeFi+S, \$DeFi++, \$BCP and \$YPie are Pies (index funds) governed by PieDAO and represented by ERC20 tokens, providing exposure to the best projects of the DeFi ecosystem. Each underlying asset allocated in these Pies is fully collateralized, meaning that holding these Pie tokens provides complete ownership of the underlying assets represented, ensuring the risk mitigation of a diversified index fund through a convenient single ERC20 token.

Pies' supply is dependent on the actions of wrapping/redemption of their underlyings, with no max supply set, and NET circulating supply resulting as a function of the minting of underlyings into the specific index token, minus the redemption of their underlying assets (aka *unwrapping*) performed.

1. DeFi+L

The DeFi ecosystem is growing in maturity and awareness and the DeFi+L Pie allows people to get exposure to the ecosystem's Blue Chips as a whole through a single token. DeFi+L is also intended as one of the sub-indices constituting through a modular approach the DeFi++ Index Pie (currently as a 70/30 balanced allocation with DeFi+S - SmallCaps), providing broader exposure to the DeFi ecosystem. The underlying assets constantly rebalance as market prices change, locking in profits and growing the holdings.








Assets represented in DeFi+L were selected through multiple rounds of votes held within the PieDAO community with a focus on broad exposure to the various key ecosystem sectors (Lending protocols, AMMs, Derivatives, Yield aggregators, Oracles). The index is rolled out as a Balancer Smart Pool with enabled swap functionality..

The allocation methodology followed can be summarized in a tagline as **Correlated Risk-Adjusted Market-Cap**, extensively covered in this medium post <https://medium.com/piedao/inside-the-bakery-how-we-build-pies-e8932718beaf>

PieDAO also introduced a *Sentiment Score* computed as part of above allocation methodology, weighing in for all underlying assets the shared sentiment according to the 3 following pillars:

- A. **Innovation** (Solution & Roadmap/Timeline)
- B. **Functionality to the DeFi Ecosystem** (Uniqueness & Composability)
- C. **Growth Potential** (P/E Ratio, Volume & Outstanding Supply) - also deriving some gradings from the Aave Risk assessment methodology.

Allocation breakdown

Asset name	Allocation	Price	Balance
 LINK	18.82%	\$ 13.57	27,028.46
 YFI	18.35%	\$ 26,636.00	13.72
 Aave	16.19%	\$ 84.93	3,784.64
 UNI	13.19%	\$ 3.81	69,024.41
 SNX	12.65%	\$ 5.30	47,182.25
 COMP	10.74%	\$ 156.25	1,373.08
 MKR	10.06%	\$ 544.15	369.85

The most common use-case for DeFi+L is the passive holding of DeFi Blue Chips, given its convenience (i.e gas-wise, complexity-wise) and diversification offered with no central point of failure from a governance stand-point: a distinctive differentiation point of PieDAO vs the competition is the true decentralization of the DAO as sole governing entity.

Furthermore, with the recent release and successful audit of the PieVaults design, DeFi+L has been enabled for enriched functionalities, including Meta-governance, lending and advanced yield-generating strategies with the underlying assets.

The primary market for \$DeFi+L is currently a 70/30 Balancer pool counting approx \$2.5m liquidity, incentivized through staking of LP tokens (BPT): <https://etherscan.io/address/0xa795600590a7da0057469049ab8f1284baed977e>

An additional market for \$DeFi+L was recently established as a 50/50 DEFI+L/ETH Sushiswap pool counting approx \$0.3m liquidity, incentivized as part of the Sushi Onsen program: <https://sushiswap.fi/pair/0x83e5e791f4ab29d1b0941bc4d00f3d6027d1dae5>

DeFi+L can be minted or redeemed anytime from the smart contracts, in the PieDAO landing page

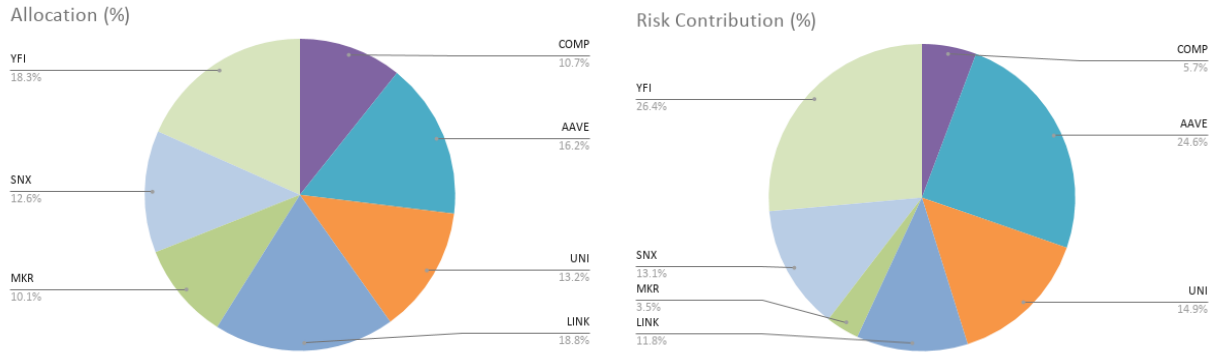
<https://pools.piedao.org/#/pie/0x78f225869c08d478c34e5f645d07a87d3fe8eb78>

or through third party UI such as Zapper. Given its permissionless nature, the DeFi+L ERC20 token can be exchanged on a number of DEXes, both on L1 & L2 (Loopring zkRollup).

\$DeFi+L keeps attracting a growing liquidity given its return above-average when compared to similar DeFi products tracking the ecosystem, with an overall acceptable risk profile.

Risk assessment

Below a risk analysis run on DeFi+L for the period October 7th - November 24th:



Note: DeFi+L's Equal Risk Taking for the period under analysis may point out a higher-than-optimal risk concentration around two assets (\$AAVE & \$YFI), which both experienced a higher-than-normal volatility on that specific period.

	var	stdev	weight	Risk Contribution		
				Marginal Contrib.	Total Contrib.	% CTR
COMP	0.1097956703	0.3313542973	10.736100%	0.2066647154	0.022187731	5.74%
AAVE	0.4422599583	0.6650262839	16.190800%	0.5857748678	0.094841637	24.55%
UNI	0.2906328681	0.5391037638	13.192400%	0.4356584399	0.057473804	14.88%
LINK	0.104288245	0.3229369056	18.821200%	0.241177131	0.045392430	11.75%
MKR	0.04661514274	0.2159054023	10.061600%	0.135333525	0.013616718	3.52%
SNX	0.248367557	0.4983648834	12.648100%	0.4007030404	0.050681321	13.12%
YFI	0.4597835692	0.6780734247	18.349800%	0.5564841192	0.102113723	26.43%
Total	0.1492333796	0.3863073641			0.386307364	100.00%

Correlation of underlying assets sits in the mid-to-high threshold as for most DeFi assets (only exception being \$YFI, which shows a mid-to-low correlation vs \$COMP & \$MKR).

	COMP	AAVE	UNI	LINK	MKR	SNX	YFI
COMP		0.39	0.60	0.63	0.56	0.56	0.28
AAVE	0.39		0.60	0.53	0.45	0.70	0.72
UNI	0.60	0.60		0.57	0.58	0.62	0.55
LINK	0.63	0.53	0.57		0.74	0.56	0.45
MKR	0.56	0.45	0.58	0.74		0.47	0.30
SNX	0.56	0.70	0.62	0.56	0.47		0.51
YFI	0.28	0.72	0.55	0.45	0.30	0.51	







DeFi+L links

- Contract address: 0x78f225869c08d478c34e5f645d07a87d3fe8eb78
- Pool page: <https://pools.piedao.org/#/pie/0x78f225869c08d478c34e5f645d07a87d3fe8eb78>
- Pie Smart Pools: <https://docs.piedao.org/papers/piedao-the-asset-allocation-dao>
- Launch announcement: <https://medium.com/piedao/announcing-DeFI-l-12b9a9df73ca>
- Forum <https://forum.piedao.org/t/pip-10-piedao-DeFI-index/148>
- Coingecko feed: <https://www.coingecko.com/en/coins/piedao-DeFI-large-cap>
- Coinmarketcap: <https://coinmarketcap.com/currencies/piedao-DeFI-large-cap/>

2. DeFi+S

DeFi+S is also intended as one of the sub-indices constituting through a modular approach the DeFi++ Index Pie, providing broader exposure to the DeFi ecosystem Smaller Cap projects. The index was rolled out as a Balancer Smart Pool, following the same **Correlated Risk-Adjusted Market-Cap** allocation methodology mentioned for DeFi+L.

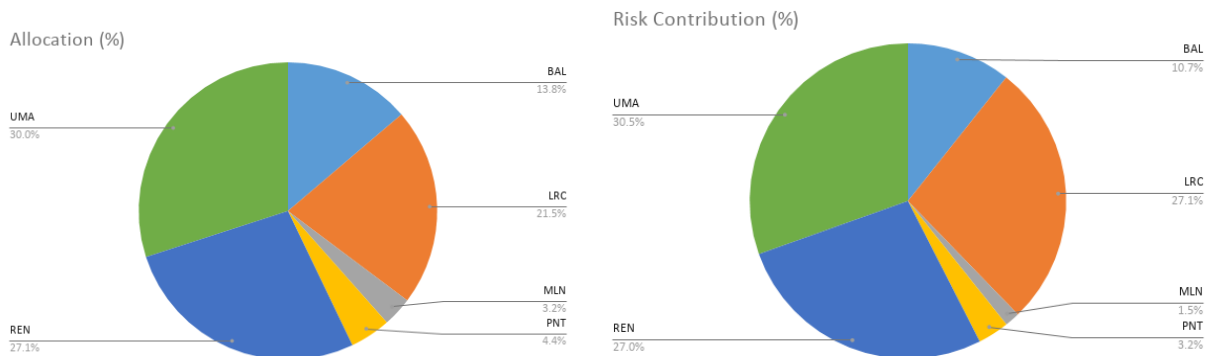
Allocation breakdown

Asset name	Allocation	Price	Balance
 UMA	30.00%	\$ 8.82	48,501.99
 REN	27.11%	\$ 0.32	1,143,201.69
 LRC	21.51%	\$ 0.29	1,363,548.37
 BAL	13.75%	\$ 15.36	9,689.70
 PNT	4.42%	\$ 0.35	84,433.85
 MLN	3.21%	\$ 28.39	1,002.78

The primary market for \$DeFi+S is currently a 70/30 Balancer pool counting approx \$1.65m liquidity, incentivized through staking of LP tokens (BPT). DeFi+S can be minted or redeemed anytime from the smart contracts, in the PieDAO landing page.

Risk assessment

Below a risk analysis run on DeFi+S for the period October 7th 2020 - January 4th 2021:



DeFi+S's Equal Risk Taking for the period under analysis doesn't seem to point out any particular concentration around specific assets, when compared to their allocation weight.

	var	stdev	weight	Risk Contribution		
				Marginal Contrib.	Total Contrib.	% MCTR
BAL	0.2942238374	0.5424240384	13.751652%	0.3918155827	0.053881114	10.66%
LRC	0.7357078679	0.8577341476	21.511429%	0.6373167675	0.137095941	27.12%
MLN	0.3881134954	0.6229875564	3.209239%	0.2413829595	0.007746556	1.53%
PNT	0.4049503482	0.6363570917	4.416613%	0.3653081828	0.016134249	3.19%
REN	0.5371355271	0.7328953043	27.111068%	0.5038969678	0.136611848	27.03%
UMA	0.5483287285	0.7404922204	30.000000%	0.5134108249	0.154023247	30.47%
Total	0.2555231286	0.5054929561		5.671227872	0.505492956	100.00%

Correlation of underlying assets sits in the low-to-mid threshold as for most DeFi assets (only exception being \$UMA, which shows a low correlation vs \$MLN & \$REN).

	BAL	LRC	MLN	PNT	REN	UMA
BAL		0.49	0.36	0.44	0.49	0.38
LRC	0.49		0.40	0.37	0.33	0.32
MLN	0.36	0.40		0.31	0.22	0.10
PNT	0.44	0.37	0.31		0.47	0.28
REN	0.49	0.33	0.22	0.47		0.16
UMA	0.38	0.32	0.10	0.28	0.16	

DeFi+S links

▪ Contract address:

<https://etherscan.io/token/0xad6a626ae2b43dcb1b39430ce496d2fa0365ba9c>

- Pool page:

<https://pools.piedao.org/#/pie/0xad6a626ae2b43dcb1b39430ce496d2fa0365ba9c>

- Pie Smart Pools: <https://docs.piedao.org/papers/piedao-the-asset-allocation-dao>

- Launch announcement: <https://medium.com/piedao/announcing-defi-s-67ed53367364>

- Forum <https://forum.piedao.org/t/pip-10-piedao-DeFi-index/148>














- Coingecko feed: <https://www.coingecko.com/en/coins/piedao-defi-small-cap>

- Coinmarketcap: <https://coinmarketcap.com/currencies/piedao-defi-small-cap/>

3. DeFi++

The DeFi++ Index Pie is constituted through a modular approach, as a combination of DEFI+L (70%) and DEFI+S (30%). The index was rolled out as well as a Balancer Smart Pool.

Allocation breakdown

Asset name	Allocation
 LINK	13.17%
 YFI	12.84%
 Aave	11.33%
 UNI	9.23%
 UMA	9.00%
 SNX	8.85%
 REN	8.13%
 COMP	7.51%
 MKR	7.04%
 LRC	6.45%
 BAL	4.12%
 PNT	1.32%
 MLN	0.96%

The primary market for \$DeFi++ is the \$BCP Pie (WBTC, WETH, DEFI++ in equal parts) a Balancer pool counting approx \$3.2m liquidity, incentivized through staking of \$BCP

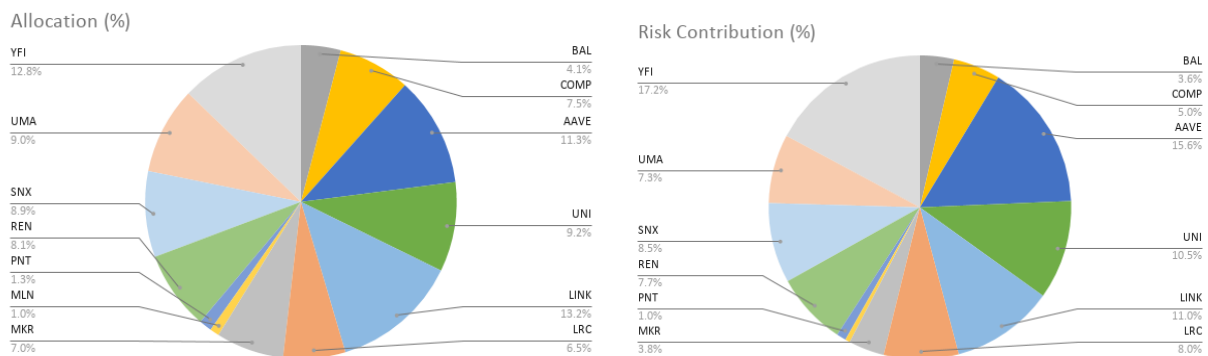
tokens.

<https://pools.balancer.exchange/#/pool/0x25af1f2c3772d6f19aa6615571203757365d29c6/>

DeFi++ can be minted or redeemed anytime from the smart contracts, in the PieDAO landing page, and conveniently acquired gas-free from ETH through the dedicated PieDAO oven (<https://pools.piedao.org/#/oven>, as explained at this medium <https://medium.com/piedao/how-to-mint-pies-gas-free-with-oven-1d11e902fab8>).

Risk assessment

Below a risk analysis run on DeFi++ for the period October 7th 2020 - January 4th 2021:



DeFi++'s Equal Risk Taking for the period under analysis may point out a slightly higher-than-optimal risk concentration around two assets (\$AAVE & \$YFI), which experienced a higher volatility on that specific period and account for a consistent allocation in DEFI++.

	var	stdev	weight	Risk Contribution		
				Marginal Contrib.	Total Contrib.	% MCTR
BAL	0.2968473301	0.5448369757	4.125500%	0.4274026679	0.017632497	3.64%
COMP	0.3006053127	0.5482748514	7.515270%	0.3250163781	0.024425858	5.04%
AAVE	0.6349941966	0.7968652311	11.333560%	0.6689108252	0.075811410	15.65%
UNI	0.5009508979	0.7077788481	9.234680%	0.5533662844	0.051101606	10.55%
LINK	0.2370366332	0.4868640808	13.174840%	0.4035946971	0.053172956	10.98%
LRC	0.732428307	0.8558202539	6.453430%	0.6011115369	0.038792312	8.01%
MKR	0.1224789918	0.3499699869	7.043120%	0.2631401791	0.018533279	3.83%
MLN	0.4232247837	0.650557287	0.962770%	0.2560868385	0.002465527	0.51%
PNT	0.4051384173	0.6365048447	1.324980%	0.3703609595	0.004907209	1.01%
REN	0.5389646017	0.7341420855	8.133320%	0.4594896343	0.037371762	7.71%
SNX	0.4395210255	0.6629638191	8.853670%	0.4664033019	0.041293809	8.52%
UMA	0.5493710554	0.741195693	9.000000%	0.3949319936	0.035543879	7.34%
YFI	0.6546620838	0.8091119105	12.844860%	0.649078396	0.083373211	17.21%
Total	0.2346678861	0.4844253153		6.274527528	0.484425315	100.00%

Correlation of underlying assets sits in the mid-to-high threshold as for most DeFi assets (only exceptions being \$UMA and \$MLN which both show low-to-mid correlation and, partially, \$COMP).

	BAL	COMP	AAVE	UNI	LINK	LRC	MKR	MLN	PNT	REN	SNX	UMA	YFI
BAL		0.46	0.60	0.65	0.67	0.52	0.68	0.38	0.44	0.49	0.54	0.38	0.58
COMP	0.46		0.41	0.51	0.53	0.40	0.47	0.19	0.49	0.35	0.35	0.30	0.31
AAVE	0.60	0.41		0.64	0.57	0.55	0.52	0.25	0.35	0.48	0.65	0.24	0.74
UNI	0.65	0.51	0.64		0.59	0.42	0.62	0.27	0.48	0.42	0.51	0.31	0.60
LINK	0.67	0.53	0.57	0.59		0.57	0.74	0.39	0.58	0.59	0.54	0.48	0.53
LRC	0.52	0.40	0.55	0.42	0.57		0.61	0.49	0.37	0.36	0.48	0.33	0.48
MKR	0.68	0.47	0.52	0.62	0.74	0.61		0.38	0.48	0.52	0.52	0.40	0.40
MLN	0.38	0.19	0.25	0.27	0.39	0.49	0.38		0.31	0.23	0.17	0.11	0.31
PNT	0.44	0.49	0.35	0.48	0.58	0.37	0.48	0.31		0.47	0.35	0.28	0.40
REN	0.49	0.35	0.48	0.42	0.59	0.36	0.52	0.23	0.47		0.32	0.16	0.41
SNX	0.54	0.35	0.65	0.51	0.54	0.48	0.52	0.17	0.35	0.32		0.28	0.47
UMA	0.38	0.30	0.24	0.31	0.48	0.33	0.40	0.11	0.28	0.16	0.28		0.39
YFI	0.58	0.31	0.74	0.60	0.53	0.48	0.40	0.31	0.40	0.41	0.47	0.39	

DeFi++ links

■ Contract address:

<https://etherscan.io/token/0x8d1ce361eb68e9e05573443c407d4a3bed23b033>

- Pool page:

<https://pools.piedao.org/#/pie/0x8d1ce361eb68e9e05573443c407d4a3bed23b033>

- Pie Smart Pools: <https://docs.piedao.org/papers/piedao-the-asset-allocation-dao>

- Launch announcement:

<https://medium.com/piedao/announcing-defi-and-a-comparative-index-performance-analysis-9f63e251120d>

- Forum <https://forum.piedao.org/t/pip-10-piedao-DeFi-index/148>
















- Coingecko feed: <https://www.coingecko.com/en/coins/piedao-defi>

- Coinmarketcap: <https://coinmarketcap.com/currencies/piedao-defi/>

4. BCP

The Balanced Crypto Pie (\$BCP) is constituted through a modular approach, as a combination of WBTC (33.33%), WETH (33.33%) & DEFI++ (33.34%), previously introduced. The index was rolled out as a Balancer Smart Pool.

Allocation breakdown

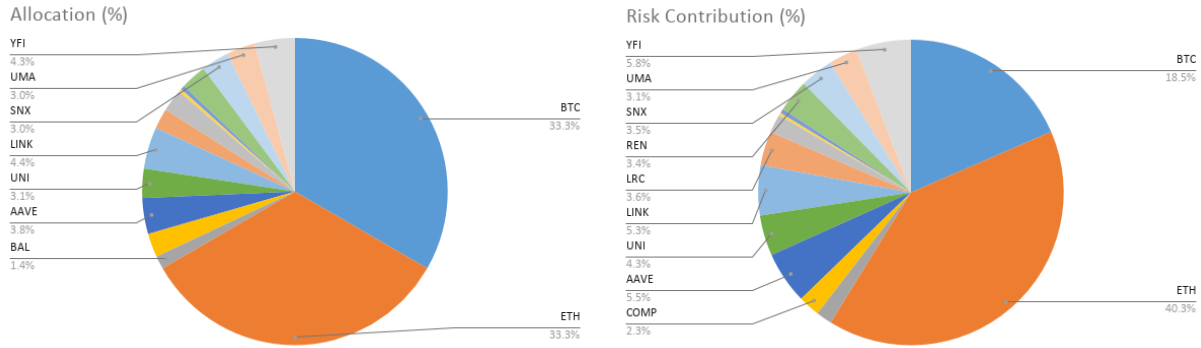
Asset name	Allocation
 WBTC	33.33%
 WETH	33.33%
 LINK	4.39%
 YFI	4.28%
 Aave	3.77%
 UNI	3.07%
 UMA	3.00%
 SNX	2.95%
 REN	2.71%
 COMP	2.50%
 MKR	2.34%
 LRC	2.15%
 BAL	1.37%
 PNT	0.44%
 MLN	0.32%

The primary market for \$BCP is currently a 50/50 SushiSwap BCP/ETH pool accounting approx for \$0.5m liquidity, incentivized as part of the Sushi Onsen program: <https://sushiswap.fi/pair/0xeb1b57d4f7d4557b032b66c422bc94a8e4af859e>

BCP can be minted or redeemed anytime from the smart contracts, in the PieDAO landing page, and conveniently swapped gas-free from ETH through the dedicated PieDAO oven (<https://pools.piedao.org/#/oven>).

Risk assessment

Below is a risk analysis performed on BCP for the period October 7th 2020 - January 4th 2021:



BCP's Equal Risk Taking for the period under analysis may point out a higher-than-optimal risk concentration around ETH, which accounts for 1/3 of the assets allocation and experienced a quite high volatility on that specific period.

	var	stdev	weight	Risk Contribution		
				Marginal Contrib.	Total Contrib.	% MCTR
BTC	0.08622758138	0.2936453326	33.330000%	0.1932555492	0.064412075	18.49%
ETH	0.2135859773	0.4621536295	33.330000%	0.4210827266	0.140346873	40.29%
BAL	0.2972644772	0.5452196596	1.375442%	0.4285989216	0.005895128	1.69%
COMP	0.3022086806	0.5497351004	2.505591%	0.3164520089	0.007928993	2.28%
AAVE	0.6398386995	0.7998991808	3.778609%	0.5093125764	0.019244930	5.53%
UNI	0.4984800755	0.7060312143	3.078842%	0.4861936679	0.014969136	4.30%
LINK	0.2367127264	0.4865313211	4.392492%	0.4191153027	0.018409605	5.29%
LRC	0.7185050027	0.847646744	2.151574%	0.5840214635	0.012565651	3.61%
MKR	0.121600102	0.3487120617	2.348176%	0.2905811224	0.006823357	1.96%
MLN	0.4211037711	0.648925089	0.320988%	0.306869909	0.000985014	0.28%
PNT	0.4062812081	0.6374019204	0.441748%	0.3652230906	0.001613367	0.46%
REN	0.5399334159	0.7348016167	2.711649%	0.4408949848	0.011955524	3.43%
SNX	0.4550494586	0.6745735383	2.951814%	0.4152769032	0.012258200	3.52%
UMA	0.5495527251	0.7413182347	3.000600%	0.3544573014	0.010635846	3.05%
YFI	0.6554255343	0.8095835561	4.282476%	0.4731568749	0.020262831	5.82%
Total	0.121317439	0.3483065303		6.004492403	0.348306530	100.00%

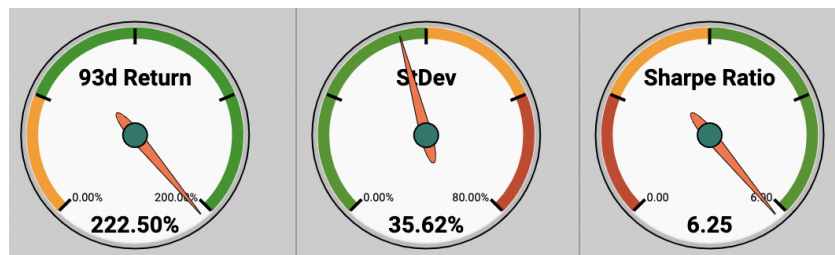
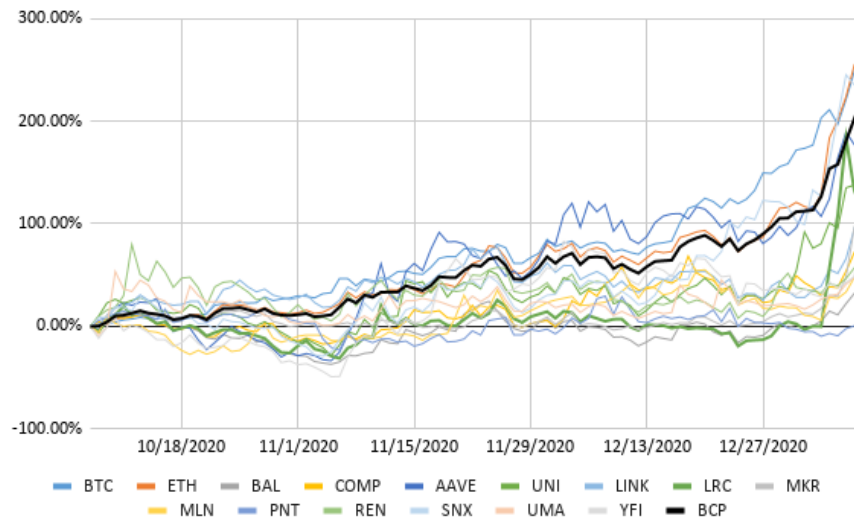
Correlation of underlying assets sits in the mid-to-high threshold for ETH and for most DeFi assets.

BTC shows a quite low correlation to other assets, and similarly do \$MLN & \$UMA, which both show low-to-mid correlation.

	BTC	ETH	BAL	COMP	AAVE	UNI	LINK	LRC	MKR	MLN	PNT	REN	SNX	UMA	YFI
BTC		0.47	0.46	0.30	0.15	0.37	0.49	0.13	0.47	0.28	0.30	0.34	0.22	0.20	0.14
ETH	0.47		0.66	0.48	0.46	0.50	0.77	0.73	0.79	0.48	0.49	0.48	0.50	0.39	0.39
BAL	0.46	0.66		0.47	0.60	0.65	0.67	0.53	0.69	0.38	0.45	0.49	0.54	0.38	0.59
COMP	0.30	0.48	0.47		0.41	0.51	0.53	0.41	0.47	0.20	0.49	0.35	0.35	0.30	0.31
AAVE	0.15	0.46	0.60	0.41		0.64	0.57	0.57	0.52	0.26	0.35	0.48	0.65	0.24	0.74
UNI	0.37	0.50	0.65	0.51	0.64		0.58	0.41	0.62	0.27	0.49	0.42	0.50	0.31	0.60
LINK	0.49	0.77	0.67	0.53	0.57	0.58		0.57	0.74	0.39	0.58	0.59	0.55	0.48	0.53
LRC	0.13	0.73	0.53	0.41	0.57	0.41	0.57		0.61	0.49	0.39	0.37	0.51	0.33	0.49
MKR	0.47	0.79	0.69	0.47	0.52	0.62	0.74	0.61		0.38	0.49	0.52	0.53	0.41	0.40
MLN	0.28	0.48	0.38	0.20	0.26	0.27	0.39	0.49	0.38		0.31	0.24	0.18	0.11	0.31
PNT	0.30	0.49	0.45	0.49	0.35	0.49	0.58	0.39	0.49	0.31		0.47	0.36	0.28	0.40
REN	0.34	0.48	0.49	0.35	0.48	0.42	0.59	0.37	0.52	0.24	0.47		0.32	0.16	0.41
SNX	0.22	0.50	0.54	0.35	0.65	0.50	0.55	0.51	0.53	0.18	0.36	0.32		0.28	0.47
UMA	0.20	0.39	0.38	0.30	0.24	0.31	0.48	0.33	0.41	0.11	0.28	0.16	0.28		0.39
YFI	0.14	0.39	0.59	0.31	0.74	0.60	0.53	0.49	0.40	0.31	0.40	0.41	0.47	0.39	

\$BCP keeps attracting a growing liquidity given its return above-average when compared to alternative DeFi products tracking the ecosystem, with a well acceptable risk profile.

\$BCP return (Oct 7th- live)



BCP links

- Contract address:

<https://etherscan.io/token/0xe4f726adc8e89c6a6017f01eada77865db22da14>

- Pool page:

<https://pools.piedao.org/#/pie/0xe4f726adc8e89c6a6017f01eada77865db22da14>

- Pie Smart Pools: <https://docs.piedao.org/papers/piedao-the-asset-allocation-dao>

- Launch announcement:

<https://medium.com/piedao/announcing-balanced-crypto-pie-bcp-btc-eth-and-defi-7a2423c5d94e>

- Forum <https://forum.piedao.org/t/pip-32-piedao-balanced-crypto-pie/270>

- Coingecko feed: tbd

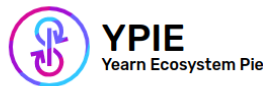
- Sushiswap feed:

<https://sushiswap.fi/pair/0xeb1b57d4f7d4557b032b66c422bc94a8e4af859e>

5. YPIE

YPIE is PieDAO's first PieVault and the industry's first index to support native staking, as well as lending and meta-governance.

Our first vault YPIE provides complete exposure to the growing Yearn Finance Ecosystem. The allocations were retrieved following the same **Correlated Risk-Adjusted Market-Cap** allocation methodology previously adopted for other DEFI indices..



Issue

Redeem

\$ 0.82 NAV 0.72% Tot APY Meta-Governance Enabled \$ 29,032.13 Market Cap

Allocation breakdown

Asset name	Allocation	Price	APY	Strategy
YFI	38.42%	\$ 21,876.00	0.87%	Lending
SUSHI	37.74%	\$ 2.41	0.73%	Lending
KP3R	9.02%	\$ 348.81	0.36%	Lending
COVER	4.46%	\$ 772.98	None	None
CREAM	4.22%	\$ 52.29	1.78%	Lending
AKRO	3.98%	\$ 0.01	None	None
PICKLE	2.12%	\$ 11.59	None	None

Get amazing rewards



Stake \$DOUGH

Check the contract on



Etherscan

Audit result

MixBytes ()

Add token to



METAMASK

PieVaults are a brand new product type that tap into the underlying assets, actively using them across DeFi to provide multiple new benefits for their holders. Core PieVault Features are:

- **Meta-governance** - YPIE ultimately enables meta-governance across each project, allowing DOUGH holders to vote gas-free in decisions. In this way DOUGH becomes a passport to governance across the entire Yearn Finance ecosystem

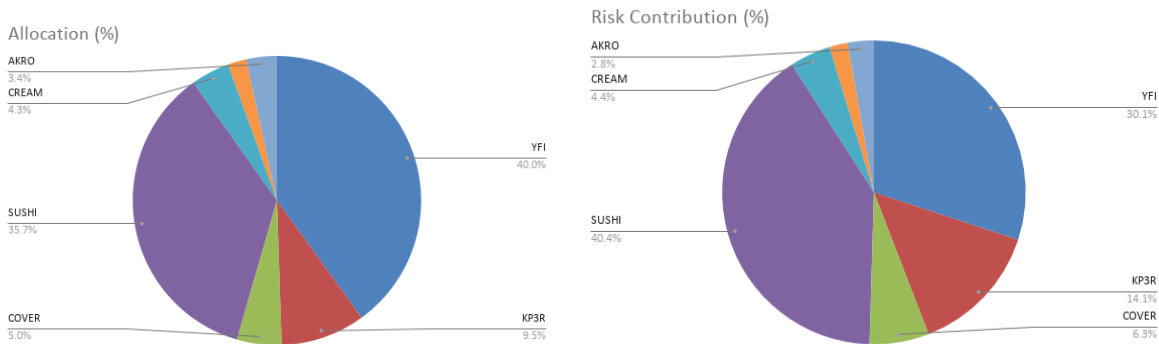
- **Lending-bouncing** - The PieVault also lends the underlying assets, bouncing between DeFi protocols such as Cream, Aave and Yearn in order to maintain the highest yield.
- **Native Staking** - PieVaults are the industry's first indices to enable native asset staking. PieVaults directly engage with a token's protocol to stake the asset.

The primary market for \$YPIE is currently a 50/50 SushiSwap YPIE/ETH pool accounting approx for \$0.25m liquidity, incentivized as part of the Sushi Onsen program: <https://sushiswap.fi/pair/0x5f30aac9a472f6c33d5284f9d340c0d57ef33697>

YPIE can be minted or redeemed anytime from the smart contracts, in the PieDAO landing page, or conveniently swapped gas-free from ETH through the dedicated PieDAO oven (<https://pools.piedao.org/#/oven>).

Risk assessment

Below a risk analysis performed on YPIE for the period December 1th - December 18th:



YPIE's Equal Risk Taking for the period under analysis points out an higher-than-optimal risk concentration around SUSHI, which accounts for approx 1/3 of the allocation and experienced severe volatility on that specific period.











	var	stdev	weight	Risk Contribution		
				Marginal Contrib.	Total Contrib.	% MCTR
YFI	0.09392948725	0.3064791792	40.000000%	0.255970026	0.102388010	30.05%
KP3R	0.4107364979	0.6408872739	9.492900%	0.5054368948	0.047980619	14.08%
COVER	0.6643290408	0.8150638262	4.985900%	0.4326135293	0.021569678	6.33%
SUSHI	0.1919771812	0.4381520069	35.677300%	0.3860597991	0.137735713	40.43%
CREAM	0.1831019345	0.4279041183	4.326400%	0.3427191794	0.014827403	4.35%
PICKLE	0.2602696115	0.5101662587	2.068700%	0.3216080753	0.006653106	1.95%
AKRO	0.2429025256	0.4928514234	3.448800%	0.2772714326	0.009562537	2.81%
Total	0.1214875713	0.3485506725		2.521678937	0.340717066	100.00%

Correlation of underlying assets sits in the mid-to-high threshold for most assets. Only assets showing a mid-to-low correlation are \$SUSHI vs \$COVER & \$AKRO, and \$YFI vs \$COVER.

	YFI	KP3R	COVER	SUSHI	CREAM	PICKLE	AKRO
YFI		0.50	0.32	0.66	0.54	0.52	0.44
KP3R	0.50		0.61	0.63	0.86	0.56	0.50
COVER	0.32	0.61		0.27	0.60	0.56	0.59
SUSHI	0.66	0.63	0.27		0.62	0.41	0.31
CREAM	0.54	0.86	0.60	0.62		0.65	0.77
PICKLE	0.52	0.56	0.56	0.41	0.65		0.74
AKRO	0.44	0.50	0.59	0.31	0.77	0.74	

Following the recent exploit, the \$COVER token was temporarily removed from the YPIE allocation, which now results in Value as below (the higher \$SUSHI allocation is a result of its growing valuation).

Allocation breakdown

Asset name	Allocation	Price	APY	Strategy
 SUSHI	49.40%	\$ 3.53	37.88%	 Staking
 YFI	35.14%	\$ 22,598.00	1.04%	 Lending
 KP3R	6.19%	\$ 274.18	0.50%	 Lending
 CREAM	4.60%	\$ 64.33	5.49%	 Lending
 AKRO	2.91%	\$ 0.01	None	None
 PICKLE	1.73%	\$ 10.80	None	None

YPIE links

▀ Contract address:

<https://etherscan.io/token/0x17525e4f4af59fbc29551bc4ece6ab60ed49ce31>

- Pool page:

<https://pools.piedao.org/#/pie/0x17525e4f4af59fbc29551bc4ece6ab60ed49ce31>

- Launch announcement:

<https://medium.com/piedao/announcing-ypie-pievault-and-sushiswap-collaboration-a89b102e81e7>

- Forum <https://forum.piedao.org/t/putting-together-an-andre-index-on-piedao/264>

- Coingecko feed: tbd

- Sushiswap feed:

<https://sushiswap.fi/pair/0x5f30aac9a472f6c33d5284f9d340c0d57ef33697>

6. DOUGH V2

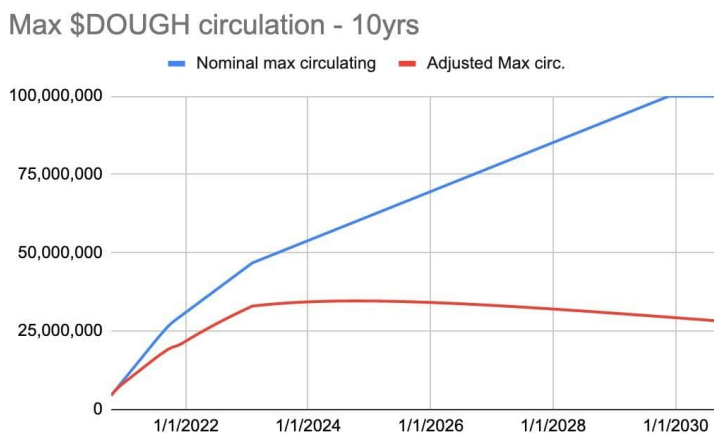
DOUGH is PieDAO's governance token. Anybody can be a member of PieDAO by holding it, and participate in DAO governance votes.

The primary market for \$DOUGH is currently a 80/20 DOUGH/ETH Balancer pool accounting for approx for \$7.4m liquidity, whose staking of BPT tokens is incentivized <https://etherscan.io/address/0xfae2809935233d4bfe8a56c2355c4a2e7d1fff1a> Furthermore, approx \$ 170k liquidity are provided in the 50/50 DOUGH/ETH Sushiswap pool <https://sushiswap.fi/pair/0x97f34c8e5992eb985c5f740e7ee8c7e48a1de76a> And some additional liquidity is available in the 50/50 DOUGH/ETH Uniswap pool <https://info.uniswap.org/token/0xad32a8e6220741182940c5abf610bde99e737b2d>, likely to be incentivized in the near future.

DOUGH has a max supply of 100 million. Current circulating supply is approx 6,8m DOUGH v2, resulting as a function of:

- the progressive linear vesting of DOUGH v1 to DOUGH v2 tokens (up to 3 years)
- the LP incentives paid (approx 150k/week, with 1% weekly deflation) out of the 65m DOUGH held by PieDAO's treasury
- DOUGH removed from circulation through buy-backs by the DAO

Below a forecast of DOUGH's adjusted circulating supply over 10y (worst case scenario)



DOUGH links

- Contract address: <https://etherscan.io/token/0xad32A8e6220741182940c5aBF610bDE99E737b2D>
- DOUGH v2 announcement: <https://medium.com/piedao/dough-tokens-d2479c7ea608>
- Coingecko feed: <https://www.coingecko.com/en/coins/piedao-dough-v2>
- Coinmarketcap feed: <https://coinmarketcap.com/currencies/piedao-dough-v2/>

Audits

Full audits were performed by Quantstamp & MixBytes, highlighting no medium or high risk issues. Full details here <https://github.com/pie-dao/audits>.

Community Links

The PieDAO community is mostly active on the following channels

Discord <https://discord.gg/Ze8SHjJ>

Forum <https://forum.piedao.org/>

Medium <https://medium.com/piedao>

Twitter https://twitter.com/piedao_DeFi

Telegram <https://t.me/piedao>

Webpage <https://www.piedao.org/>

PieDAO Docs <https://docs.piedao.org/>