Smart Contract Market Hits a Pivotal Point as the Scaling Wars Heat Up

A MESSARI REPORT
DeFi stole the show in Q3, further solidifying the notion that Ethereum is the epicenter of crypto finance. The largest smart contract platform continues to soak up the majority of users, liquidity, and developer mindshare within our modestly sized but growing industry.

And why wouldn’t it? Almost all of the relevant non-native tokens run on Ethereum, which satisfies crypto’s most sought after use case (speculation). It also has a multi-year head start on developer tooling and financial middleware that has spurred innovation and enabled Ethereum to outpace any “technologically superior” competitor to date.
Ethereum even houses almost $1.5 billion worth of Bitcoin-pegged tokens, a total that has gone parabolic (up 9x) over the last three months. Its potential to become the dominant settlement layer for the decentralized financial system is readily apparent, if not a forgone conclusion.

There is a monumental “but” that must follow because Ethereum’s Q3 rise in activity came at a cost. Namely gas costs. Exuberance for DeFi, and later NFTs, pushed network fees to record highs, which began to price out new retail users and wreaked havoc on non-financial applications. This “gas crisis” created the perfect storm for so-called ETH Killers to flex their low-fee environments and superior scaling technology to woo those potentially looking for an alternative.

Of course, no mass migration happened in Q3. These movements take time, if they happen at all. Ethereum developers have fast tracked efforts to solve its scaling woes, as evidenced by the recent testnet release of Optimism’s OVM and Vitalik’s proposed pivot to a rollup-centric network. But there’s no proven silver bullet scaling solution yet, and ETH 2.0 remains years away. Other networks still have a glimmer of hope to grab a piece of the smart contract market pie.

Q3 set the stage for what could be a pivotal moment in the race to scaling smart contracts. Nearly every high-profile Ethereum competitor has launched or will launch by the end of the year. In a crowded market, how these project’s position themselves within the community and whether fees are invariably destructive could determine if new talent and liquidity redirects away from Ethereum. No chain has proven remotely successful thus far, but even Ethereum isn’t impervious to competition.

**Total Market Capitalization of the Smart Contract Market Increased by 57% in Q3**

Despite DOT launching at multi-billion-dollar valuation, ETH’s sector dominance has barely budged quarter-over-quarter.
Public Sales at the Heart of an Equitable Ecosystem

Q3 turned back the clock and breathed new life into public token sales. New sales for Layer-1 platforms crawled to a near halt in the aftermath of 2017’s token exuberance. Between the start of 2019 and July 2020, only six projects held crowdsales that were open to non-accredited investors outside of the U.S.

This number nearly doubled over the last quarter, as five smart contract platforms (including Flow’s October public auction) looked to take advantage of the token Renaissance sparked by DeFi’s breakout year. These sales raised a combined total of approximately $138 million, headlined by two $40+ million rounds secured by Polkadot and Avalanche in late July.

The timing was perfect. Several once dormant smart contract platforms cashed in on the DeFi frenzy by raising and launching when market optimism was at its peak. These projects were able to maximize their fundraising goals while receiving favorable, if not excessive, valuations once their tokens started trading.
As of Oct 8, 2020 • Notes: Almost all ALGO sold were eventually redeemed, meaning Algorand only kept ~$7.5 million of its raise
Source: Messari, CoinList, Various blogs

<table>
<thead>
<tr>
<th>Asset</th>
<th>Ticker</th>
<th>Date</th>
<th>Sale Type</th>
<th>Amount Raised</th>
<th>Initial Supply Allocated</th>
<th>Pre-Launch Valuation</th>
<th>Change vs. USD from Sale Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algorand</td>
<td>ALGO</td>
<td>Jun-2019</td>
<td>Dutch Auction</td>
<td>$60.4</td>
<td>0.25%</td>
<td>$24,000</td>
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<tr>
<td>Blockstack</td>
<td>STX</td>
<td>Jul-2019</td>
<td>Reg A Sale</td>
<td>$23.1</td>
<td>9.1%</td>
<td>$369</td>
<td>-50.2%</td>
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<td>Nervos Network</td>
<td>CKB</td>
<td>Oct-2019</td>
<td>Token Sale</td>
<td>$72.0</td>
<td>28.7%</td>
<td>$252</td>
<td>-54.2%</td>
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<td>Kadena</td>
<td>KDA</td>
<td>Nov-2019</td>
<td>Tiered</td>
<td>$20.0</td>
<td>3.3%</td>
<td>$300</td>
<td>-69.2%</td>
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<td>Solana</td>
<td>SOL</td>
<td>Mar-2020</td>
<td>Dutch Auction</td>
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<td>1.6%</td>
<td>$110</td>
<td>941.0%</td>
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<tr>
<td>Calo</td>
<td>CELO</td>
<td>May-2020</td>
<td>Dutch Auction</td>
<td>$10.0</td>
<td>1.7%</td>
<td>$600</td>
<td>94.2%</td>
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<tr>
<td>Polkadot</td>
<td>DOT</td>
<td>Jul-2020</td>
<td>Token Sale</td>
<td>$42.8</td>
<td>3.4%</td>
<td>$1,250</td>
<td>353.3%</td>
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<tr>
<td>Avalanche</td>
<td>AVAX</td>
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<td>Tiered</td>
<td>$42.0</td>
<td>20.0%</td>
<td>$306</td>
<td>175.3%</td>
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<tr>
<td>Near</td>
<td>NEAR</td>
<td>Aug-2020</td>
<td>Tiered</td>
<td>&gt;$30.0</td>
<td>10.0%</td>
<td>$400</td>
<td>-</td>
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<tr>
<td>SKALE</td>
<td>SKL</td>
<td>Sep-2020</td>
<td>Proof-of-Use</td>
<td>$5.0</td>
<td>4.0%</td>
<td>$141</td>
<td>-</td>
</tr>
<tr>
<td>Flow</td>
<td>FLOW</td>
<td>Oct-2020</td>
<td>Dutch Auction</td>
<td>$18.0</td>
<td>12.0%</td>
<td>$475</td>
<td>-</td>
</tr>
</tbody>
</table>

Most of the prior token sales stand in stark contrast. The market punished Algorand and Blockstack for launching tokens before their chains were feature-complete and at a time when retail investor confidence in tokens was still low. Solana raised a meager $1.76 million because the team opted to hold a sale one week after Black Thursday. The message is clear; when it comes to raising funds, timing is everything.

Whether timed right or not, these crowdsales bring more to a project than funding. Public sales are essential for distributing network ownership beyond insiders and VC backers. They also require participants to make an upfront purchase decision, which often creates a stronger psychological bond between investors and their holdings compared to handouts. An equitable token distribution and a strong belief in the financial upside are the ideal recipe for optimizing long-term community engagement. Ethereum found success because it made early investors wealthy. But it thrived because the pool of early contributors was considerably large.

Projects that distribute tokens to insiders (team, founders, and VCs) at the expense of the community put themselves at a disadvantage. Rebalancing the ratio of insider to community network ownership post-launch is an uphill battle, one that can be more difficult for Proof-of-Stake (PoS) networks since early stakeholders have a perpetual claim on seigniorage. This final point is important because outside of Kadena and Nervos Network, every Ethereum competitor to launch within the last two years uses PoS and not every chain has taken this consequence into account.
Investors should note how projects divide token allocations between insiders and the public. For instance, Placeholder prefers protocols where only 20-30% of the token supply goes to founders, investors, and team members or advisors. According to Chris Burniske, any amount beyond 30% is “a lost opportunity since we are trying to distribute capital and power better than the current shareholder-driven system.”

**Pre-Launch Token Allocation Dedicated to Insiders vs. the Community**

Distributing network capital and power more equitably at launch should enhance long-term community engagement.

![Token Allocation Chart](chart)

As of Oct 8, 2020 • Notes: Approx. amounts for some • Source: Messari, CoinList, Various blogs

Placeholder’s target range might be too strict for new-age smart contract platforms. The average insider allocation for recently launched platforms is 43%, and only two networks (Kadena and Edgeware) fall below the 30% maximum threshold. In comparison, older and more prominent networks regularly started with an 80:20 ratio in favor of the public. Times have changed, and the ideal ratio is in flux. But projects on the higher end of this scale will need to direct more resources towards optimizing for transparency and community-centric incentives to offset any centralization concerns.
Not all VC exposure is inherently bad, however. Project backers often bring more than just money to the table. They can help design critical network components and fund complementary services that provide solutions to protocol-specific problems. For example, Paradigm has funded companies that are tangential to Ethereum (Optimism and Gauntlet) but offer potential mission-critical solutions to network-wide bottlenecks (scalability and network security). It’s crypto’s version of impact investing. While any project will benefit from an impactful backer like Paradigm, Layer-1s stand to benefit more from these types of VCs due to the high level of difficulty required to take a new network from zero to DeFi.

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**The Impactful Scale for Crypto Venture Firms**

Not all VCs have the same strategy, and that’s OK, but investors should know what to expect from these prominent backers.

- **Alameda Research** is a quant fund that primarily focuses on arbitrage and market making opportunities.
- **Polychain Capital** is one of the oldest crypto VCs. Polychain offers a variety of solutions to help early-stage projects, such as its professional validator service, Polychain Labs.
- **Paradigm** often invests in foundational projects that may have an elongated path to profitability but offer solutions to industry-wide bottlenecks (scalability, security).
- **Multicoin Capital** actively manages its fund and produces timely investment theses. It has also invested in developer tools and supported early infrastructure build-outs.
- **Delphi Ventures** routinely helps design the crypto-economic policies for portfolio companies and has started building necessary tooling as well.

As of Oct 9, 2020 • Source: Messari

The path to success in the smart contract market will be far more complex than raising and hoarding gobs of money. Projects might “succeed” in the short term as they ride the latest market craze. But they’ll never thrive like Ethereum without a large, devoted user base and, for some, impact investors to provide some extra firepower.

 Ironically, older projects like Polkadot, Cosmos, and Tezos have a leg up because of their massive ICO rounds. They started with a much larger investor base turned devout supporters. More recent smart contract platforms will have to earn that level of support by bootstrapping actual utility, such as Solana locking in the FTX-backed Serum exchange. Only an engaged community supported by a few early yet differentiated applications will prevent these immaculately built platforms from remaining ghost chains.
The Rise of Parallel DeFi Ecosystems

Ethereum is the primary home of DeFi, and that is unlikely to change anytime soon. But it was inevitable the enthusiasm for this year’s hottest sector would eventually spill over into other platforms. Several networks have capitalized on the DeFi exuberance over the last few quarters and now support a modest but growing number of financial applications that could form the cornerstone of the first DeFi ecosystems outside of Ethereum.

As we covered this past Summer, Cosmos appeared to be the first such network to gain significant traction. In short order, Cosmos quietly amassed the likes of Band Protocol, Kava, Terra, and THORChain, which represent the critical infrastructure pieces required to build a decentralized financial ecosystem.

Key Building Blocks for a Decentralized Financial Sector

While Ethereum has a robust DeFi ecosystem, Cosmos has quietly amassed the critical infrastructure necessary to build one.

<table>
<thead>
<tr>
<th>DeFi Building Blocks</th>
<th>Ethereum</th>
<th>Cosmos</th>
</tr>
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<tbody>
<tr>
<td>Stablecoins</td>
<td>Maker</td>
<td>Kava</td>
</tr>
<tr>
<td>Credit Markets</td>
<td>Maker</td>
<td>Kava</td>
</tr>
<tr>
<td>Decentralized Exchanges (AMMs)</td>
<td>Curve</td>
<td>Kava, Anchor (Terra)</td>
</tr>
<tr>
<td>Oracles</td>
<td>Chainlink</td>
<td>Band Protocol</td>
</tr>
<tr>
<td>Synthetic Assets</td>
<td>Synthetix</td>
<td>Kava</td>
</tr>
<tr>
<td>DAOs</td>
<td>Aragon</td>
<td>Kava</td>
</tr>
</tbody>
</table>

This list is far from an exhaustive one. There are over 50 other projects building on the Cosmos SDK, many of which revolve around financial use cases. A few Ethereum foundational applications have also found their way to the Cosmos ecosystem, such as Aragon planning to build on the Ethermint Cosmos zone and Chainlink providing data feeds to the Kava decentralized lending protocol.
The Cosmos DeFi initiative doesn’t stop there. The Cosmos community has taken the initial steps to add an **AMM module** to the Cosmos Hub, which would enable the Hub to act as a cross-chain DEX à la THORChain. This upgrade has a strong chance to improve the Cosmos ecosystem’s DeFi capabilities while also advancing the utility of the Cosmos Hub (and by default, ATOMs). The first iteration of this Cosmos Hub on steroids could be ready to launch as soon as Q1 2021, depending on a successful and timely **Stargate upgrade**.

While Cosmos has received some recent fanfare, the Polkadot DeFi sector has started to show some signs of life.

In the last two months, five different Polkadot DeFi projects have raised a total of over $18.5 million. It’s pennies compared to some of the funding rounds secured by Ethereum’s top DeFi protocols. But it’s also a sign that Polkadot has a burgeoning DeFi community, and one worth keeping an eye on.

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**Funds Raised from Polkadot DeFi Projects in Q3**

Substrate-based DeFi projects have raised a total of almost $18.7 million within the last two months. As of Oct 11, 2020. Source: Messari, Various blogs.

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Cosmos and Polkadot are not alone. Within the last quarter, the FTX-backed decentralized exchange Serum launched on Solana, and Uniswap clone Dexter finally came to life on Tezos. If a smart contract platform doesn’t have a DEX or stablecoin solution yet, they are 100% in the process of developing one.

DeFi will continue its expansion outside of Ethereum. However, projects and investors should note that copy and pasting Ethereum applications will not guarantee success. These networks can fork and borrow from existing code, but they can’t fork a user base or liquidity. Success will more likely come from building applications that are beyond the current capabilities of Ethereum.
For instance, a cross-chain exchange like THORChain required the flexibility of the Cosmos SDK to spin up a standalone, application-specific network. Once launched, it will unlock an otherwise untapped market by allowing holders of otherwise idle cryptocurrencies like Bitcoin to earn yield without having to tokenize it on Ethereum or turn to a centralized custodian.

The other example is Serum. CLOBs on Ethereum have been clunky so far and struggled to gain significant traction, eventually ceding control of the DEX market to AMMs. In contrast, Solana’s design, which prioritized scalability over low validator costs, allows Serum to have a UX that more closely resembles centralized exchanges.

If DeFi on Ethereum just learned how to run, then DeFi on other platforms hasn’t started crawling yet. With buzz surrounding DeFi, even after the late Q3 correction, expect Ethereum competitors to start emptying their token treasuries to build a parallel DeFi sector. These new networks are still miles behind Ethereum in terms of developer firepower. But they could find success in supporting radically different solutions that take full advantage of the underlying chain’s technical properties.

### Are High Fees Destructive?

The duality of transaction fees could not be more apparent in this Arjun Balaji gem of a tweet:

"On-chain fees too low: "There are serious questions about the long-term security model."

On-chain fees spike with demand: "Fees are too high, no one will want to use this anymore.""
It’s a classic damned if you have ‘em, damned if you don’t situation. Ethereum went head first into this catch-22 as the DeFi market and food coin farming extravaganza reached its peak. As users pushed Ethereum to its limits and record gas costs rolled in, it led some to question whether the network’s fee design was a strength or a fatal flaw.

From a security standpoint, Ethereum is thriving. On-chain activity and the demand for blockspace was so strong in Q3 that gas fees rose to over 50% of miner revenue, the highest that percentage has ever been in Ethereum’s five year history.

![Ethereum Block Reward Composition](image)

While miner revenue didn’t eclipse its 2018 all time high, the sudden spike in block rewards due to rising gas prices led hash power to once again flock to Ethereum. Network hash rate increased by 35% in Q3 and sits at its highest total in over two years.
With Ethereum’s ability to both facilitate and encourage on-chain activity, transaction fees may continue to be a significant source of revenue for miners. If this fee environment persists, one could argue that Ethereum has already achieved a more sustainable Proof-of-Work (PoW) system than Bitcoin.

Not all news is good news, however.

Rising transaction costs are not only a byproduct of network congestion, but are also a consequence of arbitrage bots bidding up transaction fees to increase the chance their trade gets included in the next block. The winning fee paid to miners is one potential source of miner-extractable value (MEV), which represents the profit miners can obtain from their god-like roles in the transaction ordering process. As demonstrated in the Flash Boys 2.0 paper, MEV can expose networks to consensus attacks and poses more of a threat as the percentage of the block reward attributed to MEV increases. While higher fees don’t guarantee an abundance of MEV, one can assume that growing DEX volumes (as seen in Q3) will lead to a similar rise in frontrunning activity.
The other obvious concern is that rising transaction costs can price out non-financial use cases and users with lighter pockets, as well as deter those sitting on the sidelines from entering the playing field. Profit-eating fees turn DeFi into a game for the wealthy, as illustrated in Nic Carter’s recent piece. “As fees rise, [users] become unwilling to make smaller transactions” - unless absolutely necessary - which adversely affects on-chain activity and DEX liquidity. A game of speculation only played by the fat-pocketed and well-informed reduces trading profits to the point of being uneconomical. In short, “no retail, no party.”

Many new Layer-1s and Layer-2s have built their platforms partially based on the premise that users and non-financial applications will grow tired of Ethereum’s fee market. They’re strategy is not wrong. Those impacted by unrelenting high costs will inevitably explore alternative platforms. Not doing so out of some irrational sense of loyalty would be foolish. But jumping to the conclusion that all on-chain activity will move to a low-fee network is misguided for two reasons.

• Fees are simply another variable users need to factor in when pursuing a trade or other on-chain actions like farming. As long as the trade is sized appropriately, a rational user shouldn’t back out based on a few, relatively insignificant percentage points lost to the transaction cost. The diversity Ethereum’s DeFi sector presents an ample environment for profitable opportunities to outweigh excessive fees.

• Ethereum appears to follow Nic Carter’s fee-blockspace oscillation. This model suggests that on-chain activity and transaction fees have a semi-predictable relationship. The key point is that high fees are typically temporary and tend to subside when the transaction count decreases. Ethereum users don’t necessarily have to jump ship when gas costs spike; they just need to be patient. Toss out your copy of The Bitcoin Standard and use Ethereum as your ever-present and less judgemental time preference tutor.

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High fees may not be as destructive as initially perceived based on these two perspectives, which further clouds the outlook for some Ethereum competitors. Undifferentiated Layer-1s that struggle to find an identity might end up serving as glorified sidechains for Ethereum, if used at all. Sidechain activity and liquidity will be subject to unpredictable conditions of the underlying blockchain and split across any other chains serving a similar purpose. This fragmentation of activity could lead to underwhelming valuations for networks that reward stakers with transaction fees.

The winners in this situation are users and developers who can temporarily shift to another network in times of gas crisis. Ethereum also stands to benefit from every chain bridging to it. While some liquidity will leave, more will enter, and Ethereum will end up looking like more of a cross-chain hub than the Cosmos Hub.

Layer-1s looking to scale Ethereum as a sidechain will be barrelling towards a head-to-head battle with Ethereum’s bevy Layer-2 scaling solutions. They’ll all be fighting to win the affection of the same pool of applications, developers, and users. The recent flood of partnerships between Layer-2 networks and prominent DeFi applications, such as Optimism and Synthetix or zkSync and Curve, suggests the market share that’s up for grabs could shrink quickly because once one domino falls, the rest should soon follow.
Of course, the ultimate goal is not to fawn over Ethereum’s current market share but to grow the market as a whole. While Ethereum is unlikely to lose much of its existing economy due to another “fee crisis,” it might not be able to support a mass influx of new users and volume in its current state. The real opportunity for new Layer-1s is to differentiate their approach and break into new markets. Trying to copy Ethereum and its apps is a great strategy to end up as a sidechain.

**Buckle Up**

The next twelve months could come to define the platform wars. Almost every high-profile Ethereum competitor will be live by year’s end, and Ethereum’s top brass have been strong advocates for pivoting the network towards a L2 Rollup-centric future. The timing is impeccable. Both solutions are now on a headfirst collision to determine what could be the future infrastructure for the crypto finance economy, at least until ETH 2.0 gains functionality (minimum 1-2 years away).

Most Layer-2s will benefit from their close ties to the Ethereum community, where members like to support their own. The big name DeFi apps won’t stray too far from Ethereum and will likely end up on some version of a Rollup, if they move from the base layer at all. Optimism’s existing and suspected partnerships suggest as much. Alternative Layer-1s may not receive the same treatment despite offering similar, if not more extensive, advantages. Once again, community sentiment and financial incentives will outweigh the conversation around technical proficiency.

With that said, there’s ample opportunity outside of Ethereum, and new Layer-1s can stand out by targeting niche sectors (think Flow and gaming) and bringing radically different designs to the table (the unparalleled flexibility afforded by modular frameworks like Polkadot and Cosmos, or private computation enabled by Secret Network).

As for which approach will prevail, only time will tell. But prioritizing community is essential, as is differentiation. The two combined are a potential recipe for success.
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