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CRYPTO INSIGHTS

The Implications of Permissioned DeFi

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THE IMPLICATIONS OF PERMISSIONED DEFI

Executive Summary

Although many institutions are beginning to look more seriously at use cases for decentralized finance ('DeFi'), especially given attractive risk/returns, Total Value Locked (TVL) remains at ~0.3% of global fixed income market cap.

A major hurdle for broader institutional adoption of DeFi is KYC/AML (Know Your Client/ Anti- Money Laundering). The creation of 'permissioned pools' attempts to address this requirement, largely through whitelisting counterparties.

We look at the two main approaches to date, both of which are in the lending/borrowing area.

- The Aave Arc 'permissioned pool' approach is arguably more rigorous from a KYC/AML perspective, as all liquidity in the Aave Arc pool will be from identified participants onboarded by a US MSB (Money Services Business). Aave's approach enables direct participation in DeFi for regulated institutions by enabling them to interact with the functionality of and participate in the governance of the protocol. This approach appeals to a more crypto-savvy institutional audience.
- The Compound Treasury 'TradFi front end/ Permissionless DeFi back end' approach is generally more suited to users looking for an outsourced 'one-stop shop' offering.

Outside the lending/borrowing space, permissioned DeFi also is well-suited for decentralized exchanges, interbank

stablecoin FX trading and on-chain insurance. Assuming KYC/AML requirements have been addressed, we believe existing TradFi players could also potentially partner with DeFi protocols, combining their expertise and capital with DeFi protocols' platforms and tech expertise.

DeFi could lead to an inflow of institutional capital, which would likely drive returns to normalize over time closer to those in the TradFi space.

It is also possible that a two-tiered system emerges, with 'credit spreads' and terms such as collateral requirements being more lenient in the permissioned DeFi ecosystem. In the 'non-permissioned' space, we could see higher returns and earlier-stage, riskier investment opportunities.

Overall, we see an increasingly permissioned ecosystem as a positive catalyst for capital inflows and valuations and we believe such a system would be viewed positively by regulatory authorities.

Attractive Risk/Returns in DeFi Drawing Investors Into the Space

With interest rates at multi-generational lows and risk assets looking fully valued from a historical perspective, it is no surprise that institutions are beginning to look more seriously at 'DeFi', or decentralized finance.

Fully collateralized and uncollateralized yields are currently in the 2-4% and high-single digit % range, respectively. Further along the risk curve, returns for staking in protocols or liquidity pools are generally much more attractive and often can be in the triple digits. Overall, risk/return options in DeFi compare favorably to projected long-only and traditional hedge fund strategies (average hedge fund returns of ~12% in 2020), or US high-yield credit at ~4% (iBoxx USD Liquid High Yield Index).

Where do these DeFi returns come from?

1. Demand for leverage, which is highly impacted by market sentiment
2. Underlying fee generation
3. Token inflation

In many cases, returns can be an amalgamation of the above - for example, the 4% return from Compound Treasury (which we discuss below) is a combination of the underlying return passed through from borrowers, subsidized by the sale of COMP tokens or existing cash reserves.

DeFi TVL Is Still Only a Small Fraction of the TradFi Market

Total Value Locked (TVL) in DeFi has grown in the last year and a half from less than \$1bn to ~\$80bn today, a huge achievement for such a new market. But with a global fixed income market cap of ~\$250tn and returns in many cases significantly ahead of TradFi, the question is not 'how big can DeFi get?' but 'what's holding it back?'

To start with, the DeFi space is still very young; some of the earliest DeFi platforms were founded less than 5 years ago and yield farming has only been utilized for less than a year. Additionally, risks currently are deemed to be materially higher than in TradFi, driven by smart contract and oracle (ie price feed) risk, counterparty risk in the case of uncollateralized lending, exposure to underlying token returns and the associated volatility in 24/7 crypto markets.

Nonetheless, institutions have demonstrated comfort assessing risk/reward and can invest accordingly.


What remains as a barrier to entry for most is KYC/AML compliance. In traditional, permissionless DeFi, a participant anonymously interacts with a smart contract, therefore giving rise to the possibility of interactions with bad actors. This is a red line for major institutions looking to enter the DeFi space, particularly against a backdrop of increasing regulatory oversight.

Permissioned Lending

To date, there have been two major permissioned approaches taken, both of which are in the lending space and are at a fairly early stage.

- *Permissioned pools* - Aave Arc is taking this approach, using permissioned pools with KYC'd users whitelisted at the protocol level. All institutions interacting with the protocol must be vetted and approved by a regulated third-party, which in the Aave case initially will be Fireblocks. While this likely will limit the number of potential counterparties institutions can lend to or borrow from, this appears to be a fairly robust solution that provides strong KYC/AML protocols.
- *Permissioned front end/ permissionless DeFi back end* – This is the approach taken by Compound Treasury. In this case, the protocol provides a more familiar 'fintech-esque' permissioned front-end onboarding experience and in turn routes liquidity to the permissionless Compound protocol. This process will have a Compound entity and/or a third-party providing custody, key management, compliance, cybersecurity and fiat conversion. But, unlike the permissioned pool approach, only the lender has been KYC'd and vetted by a Compound entity or another fintech, which generally relies on AML analytics tools to spot bad actors among the borrowers, who would be anonymous protocol users. This appeals to users looking for DeFi like returns along with being able to outsource the associated compliance and operational setup.

The Aave Arc 'peer-to-protocol' approach is designed for institutions looking for a DeFi experience with a greater degree of customizability across distinct, segregated pools, yet with a high degree of KYC/AML adherence. While the number of available counterparties initially will be more limited, in time we anticipate Aave will expand its whitelisting to a wider range of DeFi users and fintech platforms. This should expand the opportunity set of higher-yield lending opportunities for institutional capital.



“The idea behind Aave Arc is to create on-chain protocol infrastructure for institutions to deploy liquidity into a permissioned pool governed by AAVE governance tokenholders in a decentralized environment, and backed by the protocol’s track record of secure operation.”

– Stani Kulechov, Aave Founder and CEO

As the whitelisting is provided by a third party, we would expect KYC-vetted customers of the major exchanges to be potential participants, with third-parties ensuring adherence to a common KYC/AML standard. Similarly, pre-screened customers from other DeFi protocols could interact with Aave Arc pools. For example, one could imagine arrangements where Uniswap users could borrow on Aave and trade on Uniswap, all as one transaction, most likely at a lower rate given their whitelisted status. Further, in the future, Aave also may enable fintechs to offer an interface similar to Compound Treasury on its permissioned or permissionless pool.

This pooled solution is somewhat similar to a TradFi “clearing” approach, where rather than hedge fund A trading with KYC/AML approved hedge fund B, A and B trade with an investment bank C through shared market infrastructure, in the knowledge that the bank’s counterparties have been through KYC/AML verification.

Aave’s longer-term vision is akin to a ‘B2B2C’ approach, where permissioned players inside the pool would interact (like wholesale lending markets in traditional finance) and then lend to or borrow from their own underlying non-permissioned DeFi or more traditional fintech users. There is clearly a considerable ‘moat’ within this business model, given the associated network effects (and liquidity) leading to ever-increasing user retention, and the onboarding process adding to user stickiness.

On the other hand, we see the Compound approach as a kind of ‘DeFi on-ramp’ solution - more suited to the fintechs and even retail users looking for easy access to DeFi-like returns without the setup costs and the

associated crypto or investment knowledge required. There is likely to be significant demand for solutions like this from small depositors, and we should not discount this as an important gateway for retail and institutional capital coming into the DeFi space for the first time. Furthermore, players like Compound don’t necessarily need to charge a fee to be incentivized to develop user-friendly front ends. For Compound Treasury, for example, their approach gives them the autonomy to allocate funds into underlying protocols.

A hybrid approach might be that of Coinbase, where KYC’d users can receive a variable return in USDC (currently ~4%), which is then lent out to verified counterparties, with funds guaranteed by Coinbase. This approach combines the user-friendly DeFi onramp with the lending to whitelisted counterparties provided by the Aave Arc model.

Nevertheless, assuming a relatively ‘low-touch’ onboarding process for the ‘DeFi on-ramp’ solution, which could be provided by a third-party or acquired from the customer list of a KYC compliant exchange partner, the barriers to entry here are lower than for a permissioned pool. We believe customers may view these front ends offering fixed savings rates as commodity-like savings products and will move capital across platforms looking for higher returns. As such, we would expect a limited degree of customer stickiness and these user-friendly front-end solutions may become fairly standard across the DeFi space, though it may be that some leading players try to encourage retention, for example by offering ‘one stop shop’ solutions across a suite of financial products.

Permissioned Borrowing

While permissioned lending solutions continue to evolve, we also are seeing new protocols emerge in the permissioned borrowing space. In many ways, this ideal of crypto-enabled peer-to-peer lending is as 'DeFi' as it gets, with lenders able to undercut TradFi lending rates by a significant margin, as is the case for existing fintech peer-to-peer-lending protocols. Borrowing rates on a typical US credit card are near all-time highs of ~15%, while the Fed Funds rate is at 0.25%. This highlights the opportunity for a DeFi-native solution.

While the highest margins and therefore the biggest opportunity and social benefit can be found in lending to those in genuine need of unsecured funds for real world use cases, current DeFi lending solutions are natively trustless and therefore must be overcollateralized given the difficulty of utilizing traditional recourse and credit scoring methods, given the lack of identity and communication with borrowers.

New approaches from platforms such as Goldfinch and Maple rely on a combination of borrower whitelisting, higher rates for first loss tranches (essentially acting as default insurance for senior lenders) and decentralized borrower audits. However, these insurance mechanisms come at a high cost, especially when first loss lenders are deploying capital into early stage, largely unproven protocols.

As on-chain identity becomes more relevant (and with it some form of DeFi credit scoring will likely be developed), we believe unsecured DeFi borrowing is increasingly viable, but we have not yet seen a 'silver bullet' to tackle the major problem of anonymous borrower default. We see unsecured borrowing as still something of a work in progress for now, but expect this area to evolve and mature over time, hopefully helping to fulfill the potential of DeFi to democratize lending and expand access to lower-cost credit.

Beyond Lending/Borrowing Markets

At present, permissioned DeFi is largely limited to lending/borrowing markets as discussed, but where else would this approach have merit?

Decentralized exchanges seem like a natural fit, particularly for a permissioned pool approach. As existing DeFi exchanges are generally structured around LP pools, having pools restricted to KYC/AML-approved participants could be an easy transition. This approach also would allow institutions to earn a yield as LP's within these pools. The downside of keeping out non-

approved participants is the potential for lower liquidity, but the greater bias towards institutions would offset this to a degree. As part of its recent v2 announcement, Sushiswap recently announced plans for franchised pools, which will allow institutions to whitelist liquidity providers and traders.

As stablecoins expand into non-USD currencies, a permissioned pool approach could work for FX trading, potentially incorporating the FX desks of major global banks, interacting on a B2B basis with other large banks or institutions while still 'owning the end client' on a B2C basis.

The other major area for a permissioned approach might be insurance, either for DeFi or more traditional 'real world' insurance. DeFi insurance covers less than 5% of DeFi TVL, much of this relating to smart contract risk. Clearly any project or institution taking out insurance has to deal with the KYC/AML problem around the anonymity of counterparties providing risk capital. Having permissioned entities interacting as first-loss stakers or owners of the underlying capital pool (as is the case with Nexus Mutual, where NXM investors require a KYC check) is compatible with a permissioned approach.

This also would extend to traditional insurers entering the space, providing capital in return for higher yields, but potentially utilizing more sophisticated risk pricing tools, especially as DeFi insurance moves beyond smart contracts and into more traditional end markets. In this partnership approach, DeFi insurance protocols could provide low-cost, automated infrastructure while traditional listed insurers could provide capital and risk management to whitelisted end users.

Assuming significant adoption of permissioned DeFi across the various subcategories, and with it, institutional capital inflow, the implication would be a material increase in DeFi TVL (Total Value Locked). This likely will result in borrow rates, staking, and LP returns and insurance pricing normalizing toward that of TradFi.

The Emergence of a Two-Tiered System?

It is easy to see a two-tier permissioned/ non-permissioned system evolving across the DeFi space, where permissioned participants have access to large pools of institutional capital willing to interact on more favorable terms (essentially a KYC-driven reduction in credit spreads), potentially with less collateral required given lower counterparty risk. On that basis, a permissioned pool could be ideal for borrowers that have been whitelisted.

This permissioned future is possibly not very 'crypto native' but on the plus side, regulators could see this as an important step forward in establishing a more robust and transparent crypto ecosystem.

Conversely in the non-permissioned space, it might be that higher yield, non-permissioned, earlier-stage opportunities are more prevalent, and with less capital supply, returns (and risks) could be higher for investors willing and able to participate.

Permissioned DeFi - A Positive Catalyst for Crypto

In conclusion, it remains to be seen whether the pooled or TradFi on-ramp approach will win out, and which subcategory of DeFi will see greatest adoption of permissioned capital and users. As the leading protocols continue to tackle KYC/AML issues with procedures like Aave's permissioned pools or Compound Treasury's TradFi-esque front end, we expect to see permissioned DeFi leading to greater capital inflows, a more professional, longer-term crypto investor base and an ecosystem that addresses regulatory requirements as a first principle, all positive tailwinds for DeFi TVL and valuations across the crypto space.

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