Maple Finance & Orthogonal Trading

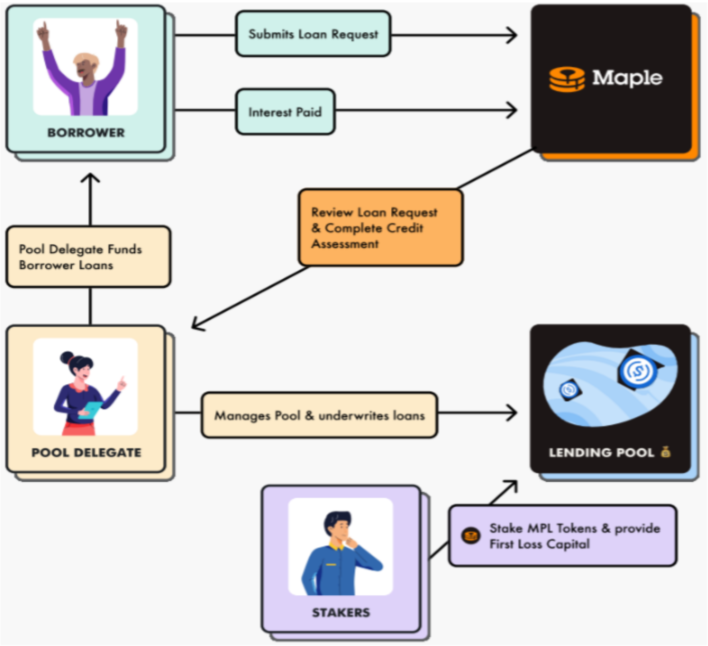
12/13/2022

This week, DeFi lending platform Maple Finance announced it was cutting ties with crypto firm Orthogonal Trading after the firm allegedly misrepresented its financial position in the wake of the FTX/Alameda Research collapse. M11 Credit, a Maple Finance pool delegate, issued a default notice to Orthogonal Trading last Sunday, claiming the company had over $30 million in outstanding liabilities, mostly concentrated in USDC loans (with wETH representing the remaining outstanding debt).

We will dive into Maple Finance's business model, how the default has affected all parties involved, and what the future looks like for Maple Finance and under-collateralized lending as a whole:

Who is Maple Finance?

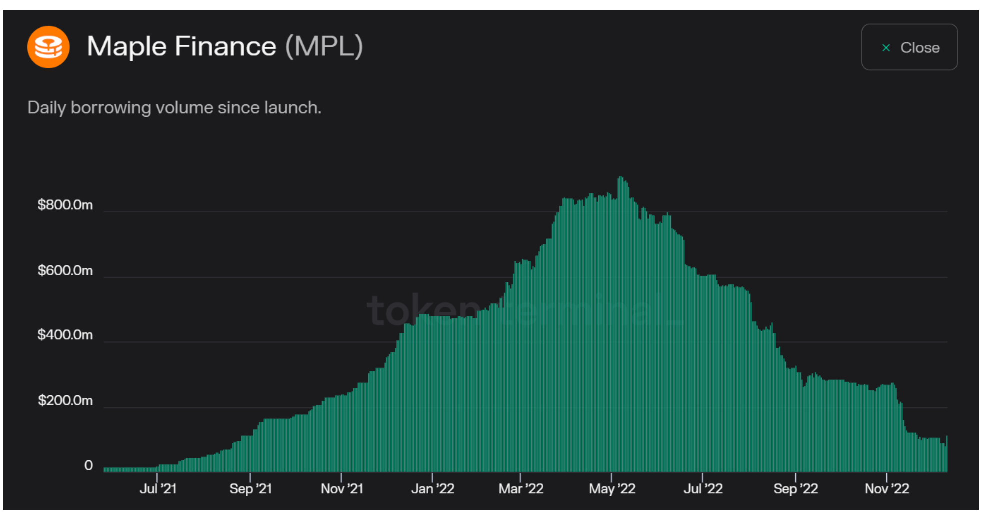
Founded in May 2021, Maple Finance brands itself as blockchain-based, decentralized credit marketplace for cryptocurrencies, providing the framework for lenders and borrowers to come together. Interested lenders can create **lending pools**, where interested borrowers can negotiate with the lending pool's **delegate** on terms of the loan, including interest paid and collateral required. While Maple Finance claims to be a decentralized infrastructure powered by smart contracts, pool delegates are centralized entities who are chiefly responsible for performing diligence on interested borrowers and ultimately deciding what credit is serviced. Pool delegates in the past have included Celsius Network and Alameda Research.



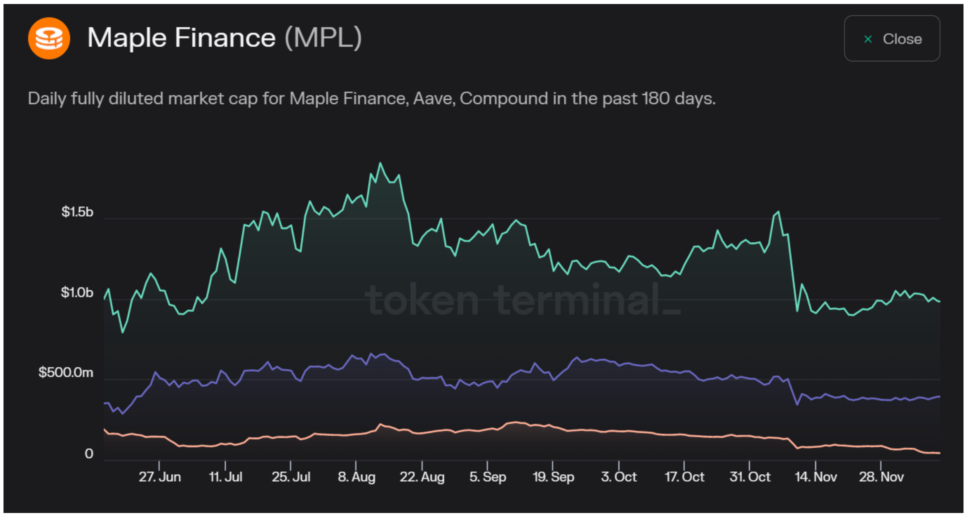
As you see in the model provided by Maple above, Maple Finance provides the infrastructure for borrowers and lenders to interact without assuming any of the risk; Pool Delegates underwrite each loan that is serviced in their lending pool. In the event of a default within the lending pool, the pool delegate, along with any other lenders who lock capital up in the pool (with the goal of gaining yield through the management of their capital by the Pool Delegate), solely assume the losses.

Loans generated using Maple Finance's infrastructure are **under-collateralized, and oftentimes not collateralized at all.** This means that borrowers are not required to post any capital to cover losses, or the collateral they post is not equal to the amount loaned. Undercollateralized lending has been an area of interest for DeFi protocols since 2017. While the most popular DeFi lenders like Maker, Compound, and Aave service credit in an over-collateralized form, many projects claim undercollateralized lending could make decentralized credit markets accessible for a wider set of use cases, and help make DeFi mainstream. Maple claims that undercollateralized lending increases **"capital efficiency",** allowing more capital to be loaned out for every dollar deposited. If that sounds a little short sighted, it's because it is. While Maple, in contrast to a platform like Aave, allows for retail investors to be liquidity providers (and thus lenders), undercollateralized lending hangs those retail investors out to dry if a borrower defaults on a loan. Without any collateral, unpaid lenders are left with no avenue to reclaim lost funds. In traditional finance, credit is backed by either collateral or recourse (that is, lenders can seize a borrower's other assets if the collateral posted is not enough to cover the outstanding loan balance); within Maple's infrastructure, neither of these exist. This makes for great terms for borrowers, and horrible terms for lenders.

During the bull market, many crypto start-ups and retail investors looking for yield utilized both sides of Maple's lending pools. As economic conditions have worsened, and pool delegates such as Celsius and Alameda became insolvent, interest in the platform has waned:



Maple Finance has an underlying token, MPL, that mainly serves as a governance token and as the staked asset, retail investors can lock into liquidity pools to earn yield. Below is MPL's fully diluted market cap compared to two of its largest competitors, Aave (AAVE) and Compound (COMP):

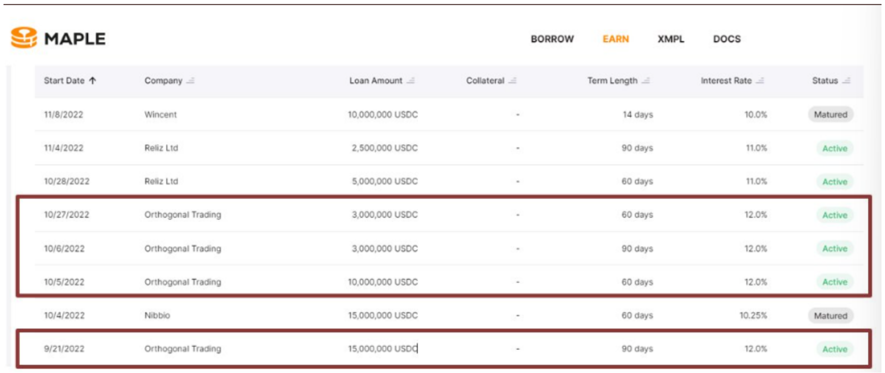


What happened to M11 Credit and Orthogonal Trading?

Orthogonal Trading had heavy exposure to FTX, with a sizable percentage of their assets tied up in the now-defunct exchange. In the wake of the collapse, M11 (the Pool Delegate who serviced Orthogonal with USDC and wETH credit) reached out to the trading firm to assess their losses, and ultimately ascertain whether they would be able to repay their loan. Orthogonal had assured M11 that they would be able to pay the loan, but after missing a payment on December 4th, it became clear that their losses as a result of FTX's collapse were much larger than they had portrayed.

In the aftermath of the FTX collapse, M11 reached out to borrowers in each pool and urged (or begged, however you would like to read it) them to repay their loans ahead of schedule so that the pool could remain liquid; M11 correctly predicted that depositors, unnerved by the FTX saga, would move to withdraw their funds.

Before the collapse, Orthogonal Trading's concentration was 14% of the USDC lending pool and 18% of wETH pool which Maple claimed was well within their established risk framework. When M11 issued a Notice of Default for all active loans relating to Orthogonal Trading on December 4th, Orthogonal represented 80.5% of liabilities that remained in the $38.5m M11 USDC pool:



Start Date	Company	Loan Amount	Collateral	Term Length	Interest Rate	Status
11/8/2022	Wincent	10,000,000 USDC	-	14 days	10.0%	Matured
11/4/2022	Reliz Ltd	2,500,000 USDC	-	90 days	11.0%	Active
10/28/2022	Reliz Ltd	5,000,000 USDC	-	60 days	11.0%	Active
10/27/2022	Orthogonal Trading	3,000,000 USDC	-	60 days	12.0%	Active
10/6/2022	Orthogonal Trading	3,000,000 USDC	-	90 days	12.0%	Active
10/5/2022	Orthogonal Trading	10,000,000 USDC	-	60 days	12.0%	Active
10/4/2022	Nibbio	15,000,000 USDC	-	60 days	10.25%	Matured
9/21/2022	Orthogonal Trading	15,000,000 USDC	-	90 days	12.0%	Active

What remained was highly concentrated pools with bad debt to distressed borrowers; instead of spreading the losses among many creditors, only the lenders who did not move fast enough to withdraw funds from the pool before the default will bear the weight of the loss.

Every credit pool on Maple Finance has a **pool cover** that is posted by the pool delegate and locked within the pool to ensure delegates act responsibly and do their best to prevent defaults. In the case of a default, the pool cover is distributed amongst liquidity providers to make up for a part of the losses incurred. While M11 credit managed over $74 million dollars in loans in three separate pools, their pool covers only totalled less than $1.2 million. By the time of writing, all $1.2 million had been liquidated to provide *some* relief to lenders. Do pool delegates have enough skin in the game if they are only required to underwrite roughly 1% of the credit they service? Many, including the largest holders of MPL, have answered that question in the negative. This week, Spartan Group decided to sell 27K $MPL ($162K), another wallet removed 91K $MPL / $510K of liquidity on Uniswap, and a third entity unstaked 49K $MPL but is yet to sell. At time of writing, $MPL is trading at $4.07, down from its monthly high of $9.56 and yearly high of $64.17:

What's next for M11, Orthogonal Trading, and Maple Finance?

With Orthogonal Trading unable to repay any of their debt, it can be speculated that the trading firm will be forced to file for bankruptcy or seek outside financing to continue operations. For M11 Credit, Orthogonal's defaults only represent part of their problem. In a similar scenario to Orthogonal, another borrower in M11's wETH pool, Auros Global, missed a payment on a $3 million loan, but M11 chose not to declare default and pursue restructuring. Even before that, M11 Credit had let the troubled borrower extend the maturity for a total of $10 million loans on Nov. 13 by two weeks instead of repaying. Then, on Nov. 27, the debt was extended again. While M11 has tried to assure liquidity providers that Auros will be able to repay its debt, another default is a non-zero probability that would dig an even larger hole into the credit firm's balance sheet. While it is yet to be seen the relative weight of Orthogonal and Auros' loans in relation to M11's business as a whole, the credit firm may have to itself seek outside financing if their losses within Maple's lending pools do indeed represent a large enough size.

For Maple Finance, no material loss is incurred here, other than a blow to its reputation and a loss of trust from investors, particularly retail. Maple announced December 8th that it will release an overhauled version of the protocol called Maple v2 this week. The upgrade will include updates in the withdrawal process, an overhaul of the pool cover mechanism and more data on the public pool dashboards.

Undercollateralized lending has important utility in the space, but requires calculated due diligence and risk management, two aspects Maple Finance is severely lacking in. Instead of a general level of trust given by creditors, Maple v2 will hopefully vet potential borrowers by assessing open cash flows and assets, leading to a safer credit marketplace for both borrowers and lenders.