

Discussion of “The Crypto/DeFi World” by Stephen Cecchetti

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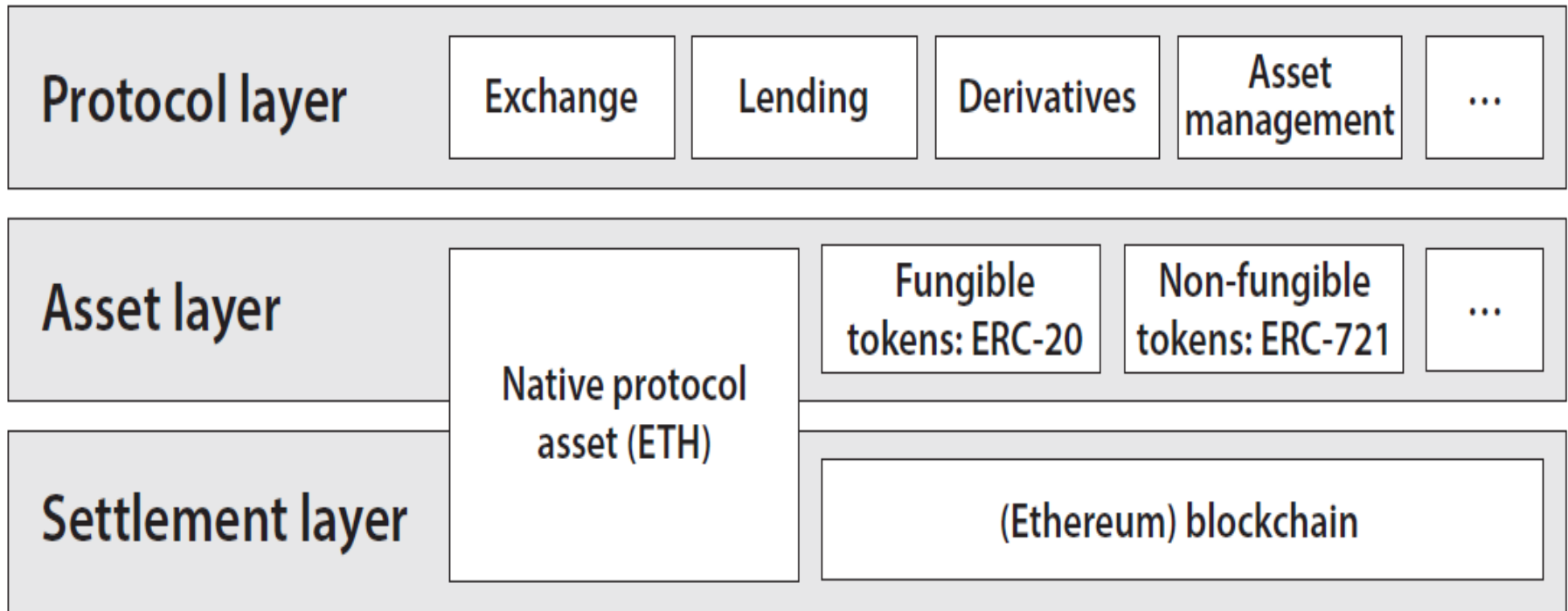
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Outline

1. DeFi growth: how much and why?
2. Case study: DeFi lending and margin calls
3. Conclusions

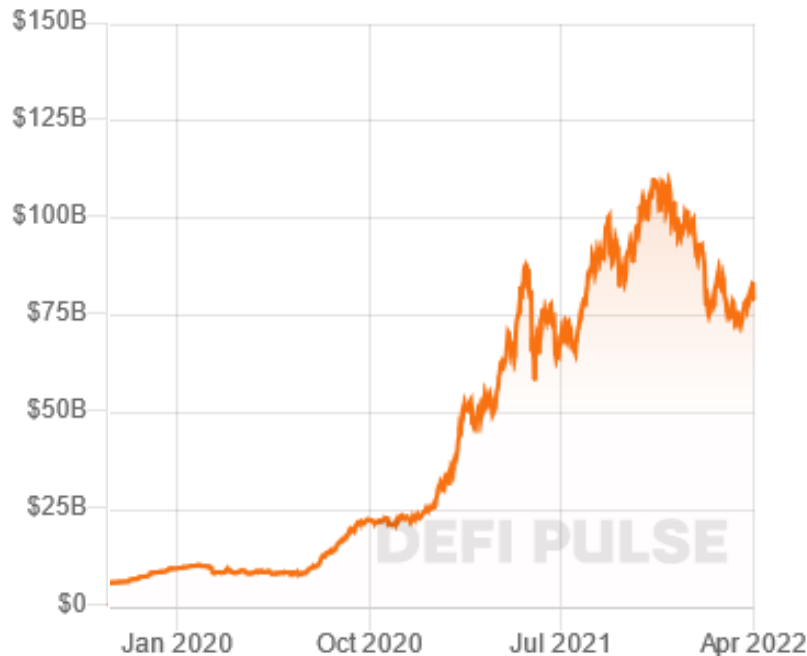
A common framework for DeFi

To think about DeFi, Schär (2021), OECD(2022), IOSCO (2022) among others use the so-called “stack”:



Source: Schär (2021)

DeFi growth: how much?



Source: DeFi Pulse (left) and DeFiLlama (right)

- The size of DeFi is generally measured using the **Total Value “Locked”** in smart contracts (TVL), e.g. the value of cryptoassets used as collateral in Defi lending;
- TVL data and other DeFi measures are unverified, leading to significant confusion about the relevance of the phenomenon;
- As of today, for example, TVL is \$80b according to DeFi pulse and \$168b according to DeFiLlama.

DeFi growth: why?

Multiple factors may underline the growth in DeFi, including:

1. **Venture capital-entrepreneur ecosystem:**
 - a) **early investors** (VC and business angels) are allocating capital to nascent technologies with “start-up-type” risk and return profile;
 - b) **blockchain entrepreneurs** encourage the proliferation of DeFi projects on their platforms, as their network can scale with adoption;
2. **Crypto-asset ecosystem:** **early adopters and proponents of crypto-assets** seek returns performing various activities (e.g. market-making) and see DeFi as an initiative that aligns with their general outlook for this industry;
3. **Traditional financial system:** **traditional market participants seek yield or fee income** in DeFi. **Direct exposures:** mainly risk-lover investors e.g. hedge funds. **Indirect-service exposures:** mainly intermediaries in the payment market and a handful of banks.

Case study: DeFi lending and margin calls

Lending is one of the most important DeFi applications: as of yesterday, TVL in DeFi lending protocols represents about 50 per cent of total TVL.

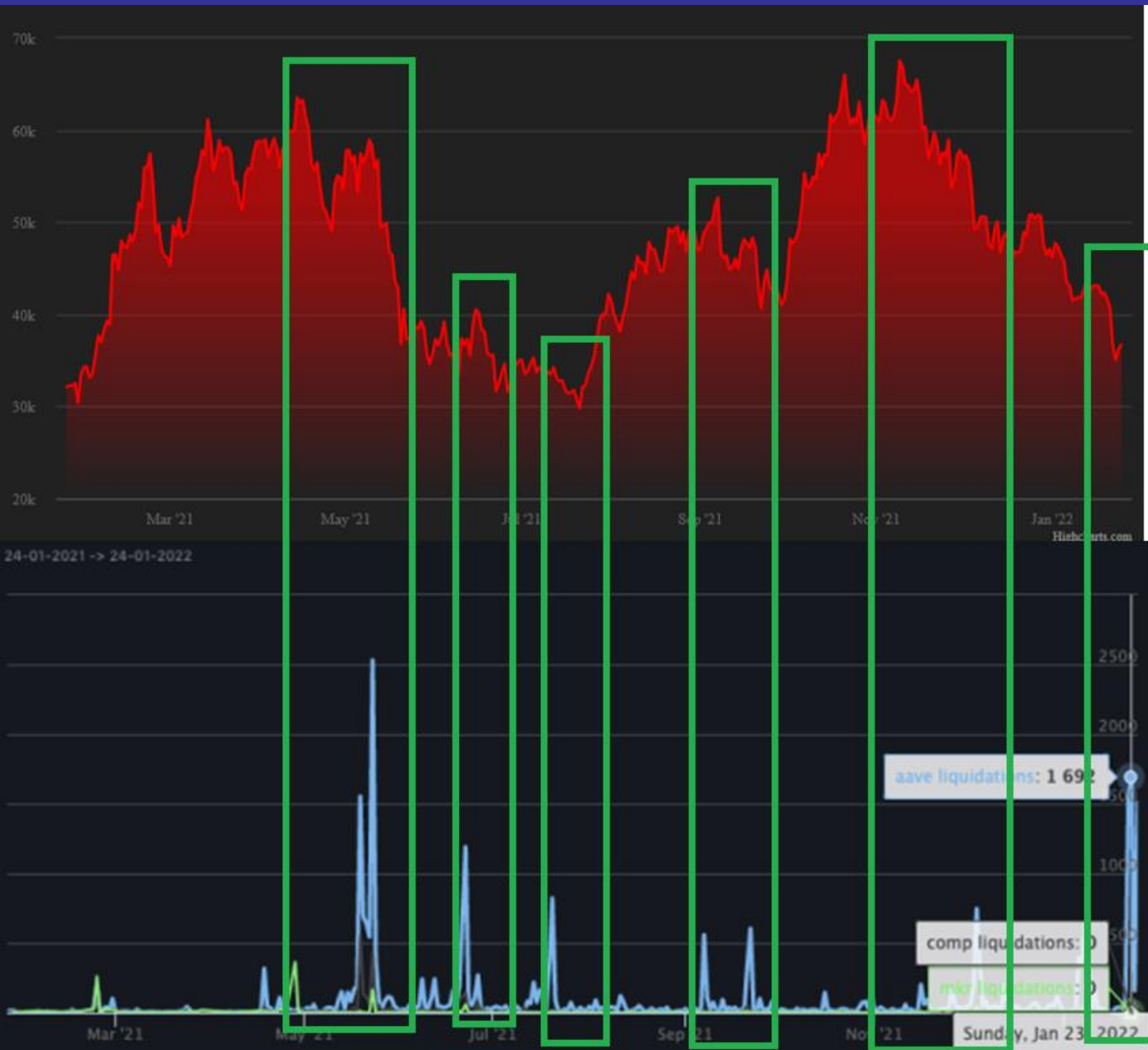
90 per cent of borrowing is in stablecoins, 75 per cent of the collateral is unbacked cryptoassets.

An example of how DeFi lending protocols work in practice is the following:

- Lenders «lock» stablecoin USDC in a smart contract, called «lending pool»;
- Borrowers «lock» in a smart contract a different crypto-asset as collateral (e.g. bitcoin) and borrow USDC;
- Loans are over-collateralized using a discount factor, say, of 0.8, i.e. borrowers get up to €0.8 of USDC for €1 of BTC posted. Loans have no maturity and can be repaid at any time;
- If, at any time, the collateral requirement of a borrower falls below the required threshold, the loan is liquidated. A liquidator repays the debt and acquires the collateral at a discounted price (liquidation bonus);
- There are several other important characteristics and other protocols...

This protocol leads to margin calls due to the volatility of unbacked cryptoassets, akin what happens in periods of market stress (e.g. in March 2020). In DeFi, market stress is much more frequent.

Case study: DeFi lending and margin calls



Top graph: bitcoin price

Bottom graph: total liquidation across DeFi platforms.

For example, in the January 2022 sell-off, liquidation across platforms surged to \$50 billion.

Concluding thoughts (for discussion)

1. One key question is whether **factors leading to the growth of DeFi are here to stay**;
2. Authorities need to **identify reliable measures to monitor DeFi**;
3. We need to **limit the spillover of risks from DeFi to the financial system and the economy**, with interventions like:
 - regulating on&off-ramps (e.g. KYC on ramps for AML/CFT regulation, taxation etc.)
 - Direct and indirect exposures to DeFi of financial intermediaries (e.g. prudential treatment of banks' exposure to crypto, risk-management framework for crypto-service provision, consumer protection regulation etc.)
4. **Managing risks within DeFi** (if deemed useful) might require **the definition of rules for protocols, akin existing rules for similar functions/activities** (e.g. margin requirements) following the “same risk-same rule” principle (among other interventions).