



DECENTRALISED FINANCE: The DeFi – CeFi – TradFi nexus

Iota Nassr
Capital Markets and Financial Institutions
OECD Directorate for Financial and Enterprise Affairs

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A decorative graphic consisting of two overlapping chevron shapes pointing to the right. The top chevron is light green and the bottom one is dark grey.

Main themes covered

- CeFi, DeFi, TradFi and why do we care?
- International efforts for crypto regulation
- DLT-based finance: Tokenisation of assets
- The CBDC angle



OECD Committee on Financial Markets Reports

- [Why Decentralised Finance \(DeFi\) Matters and the Policy Implications \(Jan 2022\)](#)
[OECD Report](#)
- [Institutionalisation of crypto and DeFi/TradFi interconnectedness \(May 2022\)](#)
[OECD Report](#)
- [Lessons from the crypto winter: DeFi versus CeFi](#)
[OECD Report](#)
- [Environmental impact of digital assets](#)
[OECD Report](#)

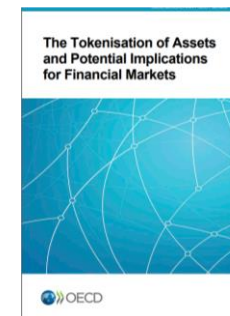


Past OECD work on Tokenisation of Assets

- [The Tokenisation of Assets and Potential Implications for Financial markets \(2019 report\)](#)
- [Regulatory approaches to the tokenisation of assets \(2020 report\)](#)

Forthcoming work on CBDCs

- [CBDCs and Democratic Values \(forthcoming\)](#)





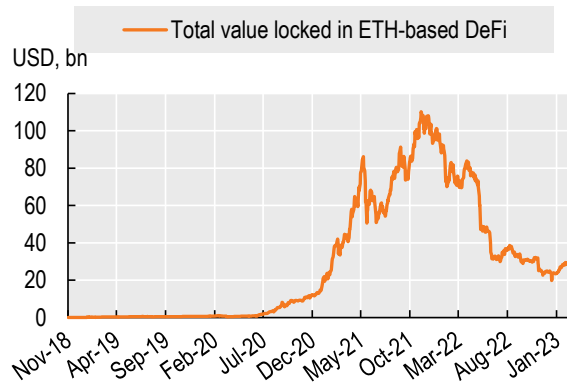
CRYPTO, STABLECOINS, DEFI – WHY DO WE CARE



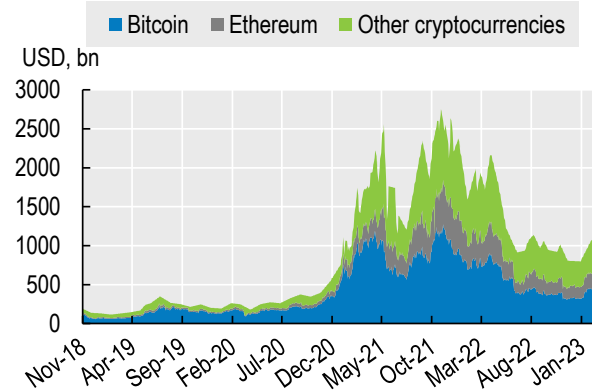
Why do we care?

- **Speed of growth** of these markets (before the crypto-winter)
 - Highly-**volatile** markets with feedback loops between them
- Activity operating in *non-compliant manner or outside the regulatory perimeter*
- Disproportionately affected **retail investors**
- Increased professional and institutional investor interest
 - Driven by speculation, FOMO and opportunities for unrestricted **leverage**
 - Risks of **growing interconnectedness** DeFi – TradFi -> future **financial stability** implications

Total Value Locked (TVL) in ETH-based DeFi



Market capitalisation of major crypto-assets





A long list of emerging risks

Anonymity and lack of AML/KYC

- Pseudonymity and onboarding

Regulatory and Compliance

- Non-compliant or outside the remit
- Difficult to identify regulatory access points
- Global reach with no defined jurisdiction

Operational

- DLT-related operational risks
- Cyber, hacks
- Exploits

Investor and consumer protection

- Lack of investor protection safeguards (e.g., no recourse/recovery/resolution)
- Difficult to grasp for average user (e.g., automated liquidation)

Governance

- Accountability
- Market manipulation

Systemic

- Pro-cyclicality, leverage
- Liquidity and maturity mismatches
- Risks related to major stablecoins
- Concentration risks (tech, protocols)





Lessons from the crypto-winter

5. Never in my career have I seen such a complete failure of corporate

controls and such a complete absence of trustworthy financial information as occurred here.

From compromised systems integrity and faulty regulatory oversight abroad, to the concentration of control in the hands of a very small group of inexperienced, unsophisticated and potentially compromised individuals, this situation is unprecedented.

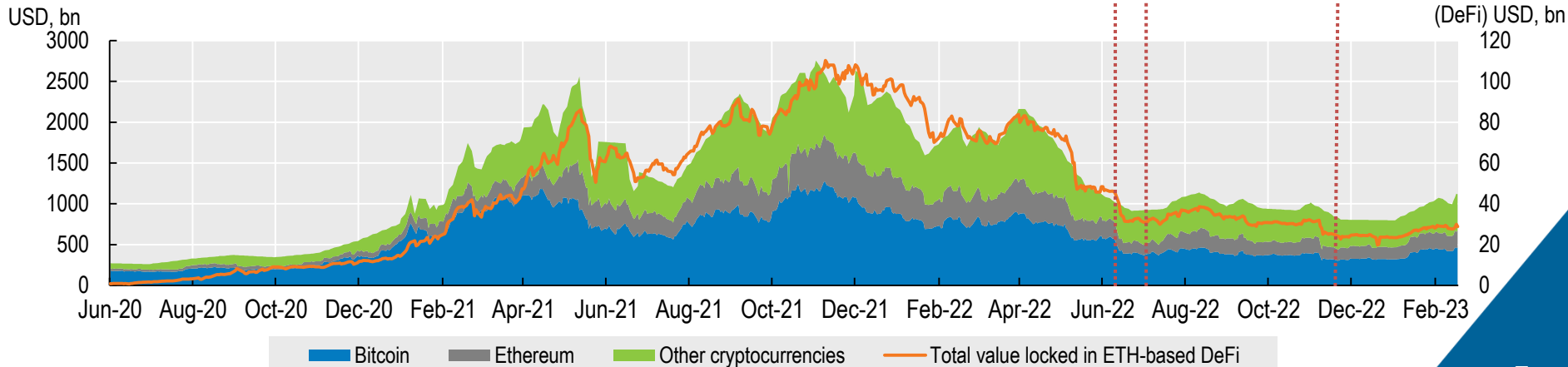
John J. Ray, FTX liquidator

Also oversaw the unwinding and liquidation of Enron

TerraUSD implosion
circularities and reflexive nature of crypto-assets

FTX collapse
poor governance

Celsius collapse
Crypto-asset service providers performing multiple conflicting roles





The important role of stablecoins as the key bridge DeFi-TradFi

- Important linkage point to TradFi at > USD 140bn
 - Reserve assets = traditional financial assets (for non algo)

Uses in decentralised finance markets:

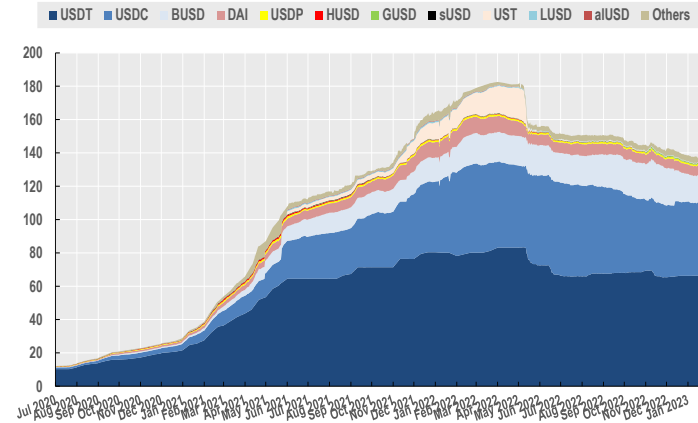
- To move between crypto-assets or crypto-exchanges
- As collateral pledged on DeFi lending/ liquidity mining
- To hedge crypto-asset volatility without having to convert to fiat and/or exit DeFi

Risks related to:

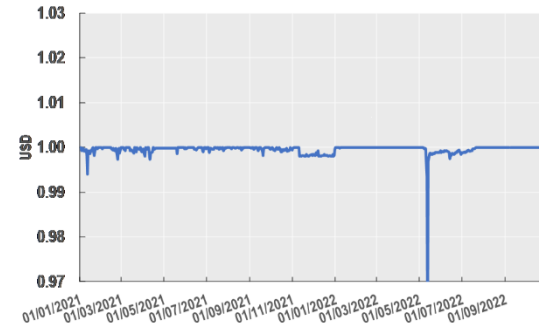
- Concentration
- Transparency around reserves / credibility of reporting
- Lack of clarity regarding redemption rights of holders
- Operational risks and disruption related to cyber
- Run risk ('breaking the buck', insufficient liquidity of reserve assets)

⇒ Potential spillovers to traditional markets (e.g. short-term credit)

Stablecoin issuance (USD bn)



Tether USDT price





But also as a double-edged sword for DeFi

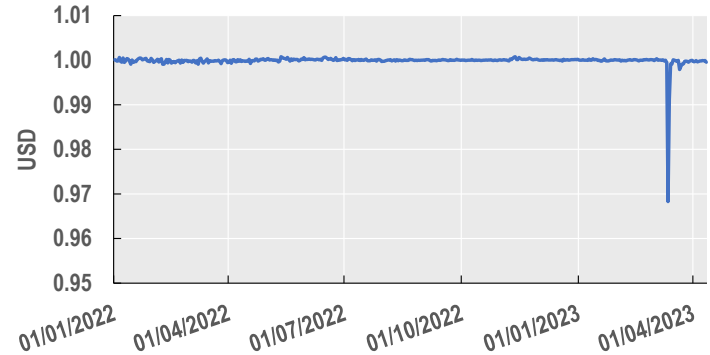
- Stablecoins are one of the foundational basis of DeFi
- **but also** one of the greatest points of vulnerability of the DeFi market

USDC case study (April 23):

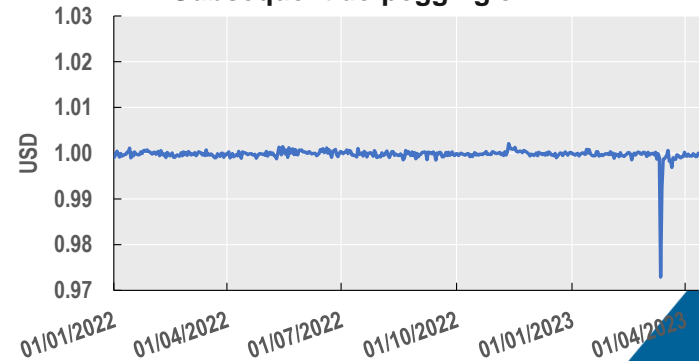
- Circle held 8% of its USD40 bn in reserves at the failing lender Silicon Valley Bank (SVB) (c. USD 3.3bn)
 - USDC broke its peg
- Subsequently, **DAI also lost its peg**
 - DAI collateralised by USDC as reserves

=> Risk of disruption in DeFi markets

Circle's USDC de-pegging at SVB's implosion

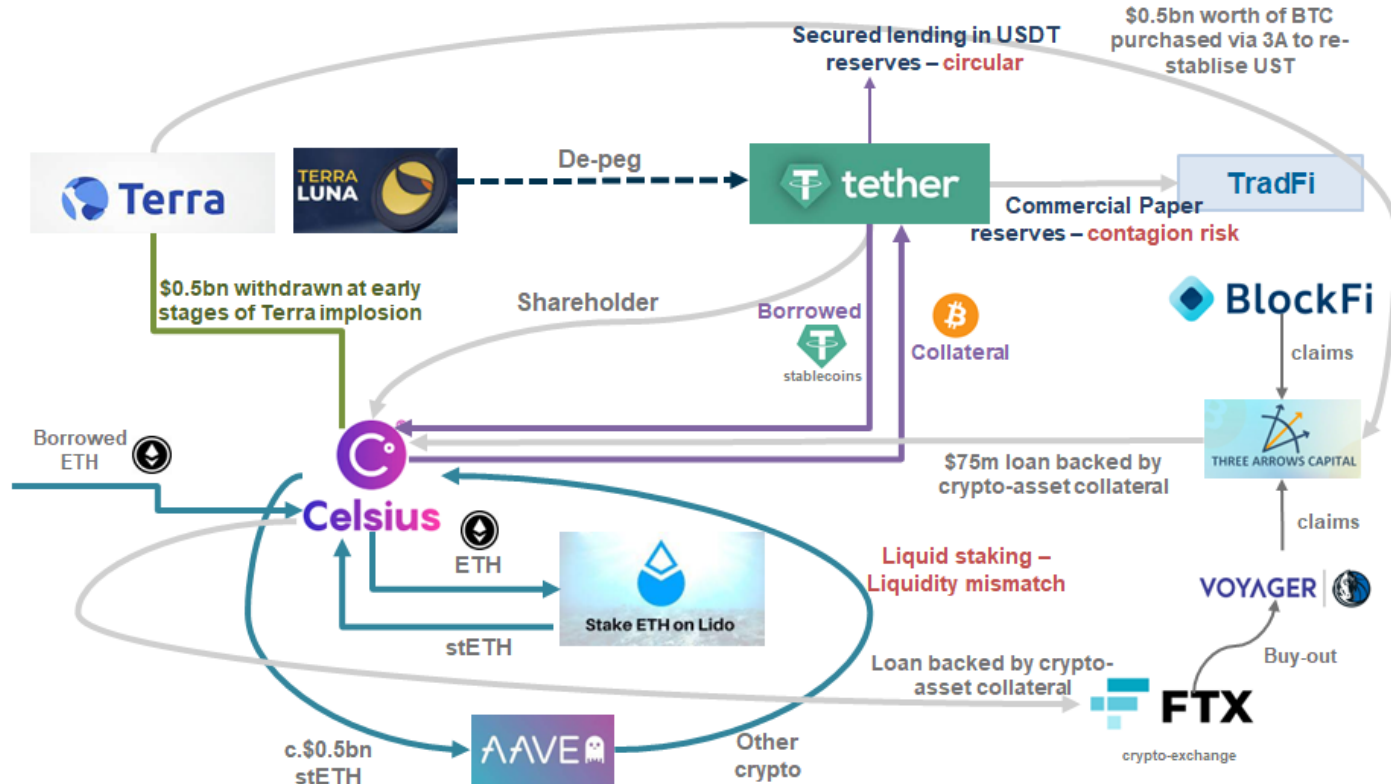


Subsequent de-pegging of DAI





An opaque, heavily intertwined market





EFFORTS FOR CRYPTO REGULATION (BEYOND MICA)



Japan's Regulatory Framework for Crypto-assets and Stablecoins

	Issuers	Intermediaries
"Digital-money type stablecoins"	<ul style="list-style-type: none">• Banks• Fund transfer service provider• Trust companies	<ul style="list-style-type: none">• Electronic payment exchange service provider
"Crypto-assets"	<ul style="list-style-type: none">• Issuers could be regulated as "Crypto Asset Exchange Service Providers" when they distribute crypto assets by themselves.	<ul style="list-style-type: none">• Crypto Asset Exchange Service Providers
"Electronically recorded transferrable rights"	<ul style="list-style-type: none">• Issuers are subject to disclosure requirements and are regulated as "Type 2 Financial Instruments Business Operators" if they solicit the acquisition of tokens on their own.	<ul style="list-style-type: none">• Type 1 Financial Instruments Business Operators



Korean framework for crypto-assets and stablecoins (in progress)

Current Stage

Policy	Status	Authority	Main contents
Measure to Overhaul Regulations of Security Tokens	February 6, 2023	FSC	<ul style="list-style-type: none">Overhaul regulatory system on the issuance and circulation of security tokens in order to allow STOs within the regulatory scope of the FSCMA
Virtual Asset Investor Protection Act*	The National Policy Committee voted to pass on May 11, 2023	FSC (KoFIU), FSS, BOK	<ul style="list-style-type: none">Explicitly separates CBDCs from the definition of virtual assetsProtects customer assets and prohibiting unfair tradeRequests data from VASPsComplies with obligations of virtual asset operators

* For the 1st phase, and the 2nd phase complemented market order regulations such as the issuance and disclosure of virtual assets

Next Stage

Regulations on:

- Virtual asset issuance/distribution systems
- Stablecoins (including security tokens and utility tokens)
- Business behaviors of virtual asset operators
- Improvement measures for the FIU to AML

According to BOK, South Korea would follow the MiCA as their reference



THE MISSING LINK: DEFI



DeFi: theoretical premise and current market

BLOCKCHAIN-BASED

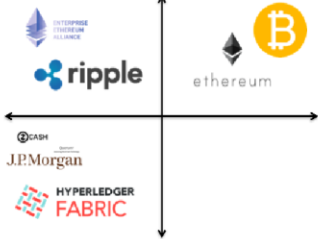


Public, permissionless chains

Public: In "public" Blockchains anyone can send a transaction

DeFi

Permissioned: In "Permissioned" Blockchains, the people transacting are known



Private: In "private" Blockchains, only people who are approved to participate can

Permissionless
"Permissionless" Blockchains allow people to act anonymously (you do not know their identity)

PROTOCOLS RELYING ON SMART CONTRACTS



ETHEREUM (ERC-20)

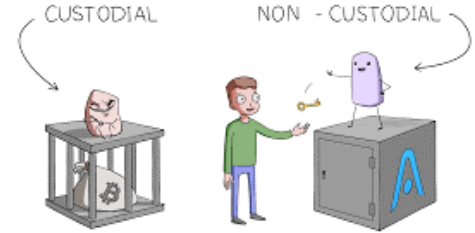


Programmable contracts written as code on the ledger committed to the blockchain
Self-executing based on triggers

Open source and Community-driven



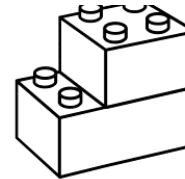
Non-Custodial



CUSTODIAL:
Third parties (exchanges, brokers) hold and have control over users' crypto

NON - CUSTODIAL:
Users have 100% control over their crypto, owners hold their private keys & data

Composable



In reality, DeFi today is "Decentralised in Name Only" (DINO)



DeFi: The missing link ?

In reality, DeFi today is “Decentralised in Name Only” (DINO)

- Ability to change the protocol
- Identifiable controlling entities
 - Governance and tokenholdings
 - Developers with admin keys
 - Any affiliated entities with controlling influence
- Entities receiving rents
 - “Follow the money”

AND, some additional considerations

- How do we treat smart contracts? (liability)
- Liability for operational resilience and risk mitigation
- Reporting obligations



DLT-BASED FINANCE: TOKENISATION OF ASSETS



The case for asset tokenisation and some risks

Potential benefits

- ✓ Potential benefits of speed and costs (disintermediation)
- ✓ Fractional ownership
- ✓ Transparency (e.g. record of beneficial ownership)
- ✓ Faster and cheaper repo and securities lending

Potential downside

- Shift away from market-making means no shock absorber
- Bifurcation of liquidity for assets traded both on- and off-chain
- DLT-related operational risks

Clearing and atomic settlement → *killer app*, insofar as there is a tokenised version of fiat for payment leg

- ✓ Streamlined, cheaper and faster data reconciliation, shortened settlement cycle (programmable – no need for instantaneity)
- ✓ No netting need
- ✓ Lower counterparty risks
- ✓ Reduced asset encumbrance for assets pledged as collateral for margin



If it's so good, why has it not taken off yet?

LIMITATIONS

❖ Tokenisation **meaningful** only in markets where:

- Measurable efficiency gains to be reaped (high complexity of process, multiple levels of intermediation, low speed and high costs); or
- Deficiency of trust

As such, wider adoption more likely for illiquid assets in niche small markets → **Private securities/ SME financing**

- e.g. private placements of non-listed securities/ other SME securities, and PE/VC funds; real estate

❖ Lack of **incentives** in highly efficient markets

- e.g. incremental benefit in US equities is small to justify overall investment

❖ Need for a whole ecosystem change

❖ Important legal limitations

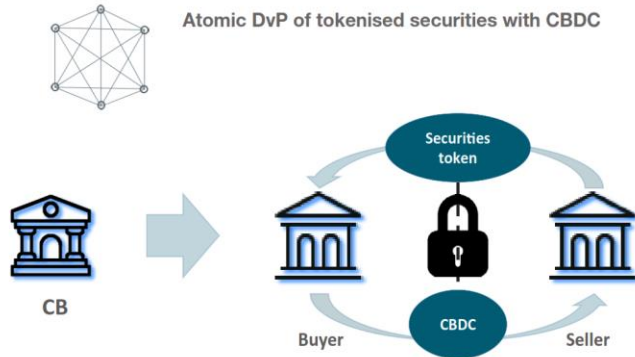
- Ownership of token does not always accord ownership of underlying asset
- Legal enforceability of smart contracts
- Settlement finality probabilistic
- Possible need for trusted verifying authority (enhanced custody) (e.g. Lichtenstein)
- Interoperability, registries, property rights and custodians

+ Safe Tokenised form of money was until recently absent



Atomic settlement: CBDCs vs. Stablecoins

Payment leg in atomic DvP (delivery versus payment)



Atomic DvP ensures the securities are delivered if and only if payment is performed

- ✓ Near real-time settlement and certain delivery in securities transactions
- ✓ The securities transacted and corresponding payments switch ownership simultaneously
- ❖ For the payment to be exchanged without the lengthy processing times or costly fees involving intermediaries off-the-chain, a tokenised version of currency is required for the payment leg of the transaction
 - Stablecoins
 - CBDCs
 - Tokenised deposits
 - Linkages to existing payment infrastructure (e.g., through APIs)

Advantages of CBDCs vs. stablecoins

- ✓ Limit the risks associated with the use of stablecoins, such as run risk
 - ✓ Avoid systemic stress from potential failure of entities issuing dominant stablecoins, and spill-over
- ✓ Safer settlement of transactions
 - ✓ Limited, if not absent, counterparty risk
- ✓ Promotes safety, trust and certainty of execution



CONCLUSION



To conclude..

- **Great progress is being made**

- Regionally (MiCA) or at national level (e.g. Japan, Korea)
- At global level (FSB framework of high-level recommendations that promote coordinated and effective regulation, supervision and oversight and address financial stability risks)

- Digital assets and decentralised finance are **inherently global** by nature

→ **Need for international cooperation**

→ **Consistency between regulatory action will be critical**

- No one jurisdiction can address these risks without global coordination (e.g., crypto-asset mining)

- Still, we should not overlook potential **benefits**:

- What can we learn from decentralised finance to **capture potential efficiencies** and allow for **productivity gains in financial market infrastructure**?

- Atomic settlement and/or post-trade
- Smart contracts and automation, programmability, encryption
- Tokenisation

- New frontiers: emergence of CBDCs and other tokenised forms of money (regulated stablecoins, tokenised deposits)



Thank you!

iota.nassr@oecd.org

www.oecd.org/finance