

# Decentralised finance

The impact and opportunity  
for traditional financial institutions



Capita



**The alternative to centralised finance that decentralised models offer is both a threat and an opportunity for traditional financial service (FS) providers.**



**In this piece we demystify DeFi's FS applications and explore ways that established providers might take advantage of this new ecosystem. Namely, by combining the best of both worlds within a model that maintains long-established customer needs while offering a means to tap into the emergent technology.**

## **What are cryptocurrency and DeFi?**

A **cryptocurrency** is a type of digital currency that is secured by cryptography, making it virtually impossible to counterfeit. Cryptocurrencies work on decentralised networks like blockchains where large numbers of independent users host the network, so there is no centralised authority or single point of failure. Popular examples of blockchain-using cryptocurrencies are Bitcoin and Ethereum.

**Decentralised finance**, or DeFi, is the financial ecosystem which revolves around that digital currency and has all the equivalents we see in the traditional centralised financial system, CeFi.

Being decentralised, there is no central authority or middleman in DeFi – all transactions are peer-to-peer. This introduces the issue of trust: in CeFi, we trust the bank or the financial institution to hold our money and to manage loans, earning interest, providing insurance, and so on.

But in DeFi, users are the custodians of their own money. They must trust open and public code in the form of protocols and smart contracts to facilitate peer-to-peer loans, earn interest, trade assets, or even buy insurance.

# What are the attractions and drawbacks of DeFi?

The main **attraction** of DeFi is that it removes many restrictions found in traditional financial systems by being:



**Permissionless** – No need to apply for a bank account or provide detailed ID to have a digital wallet



**Fully transparent** – All transactions are viewable by everyone involved and verifiable on the blockchain.



**Lower transaction costs** – It is possible to avoid paying fees to intermediaries such as banks, for instance for onboarding or multiparty processing.



**Flexible** – Assets can be transferred to and from anywhere and at any time, with no wait for the transfer to be approved, for the transaction to go through third party systems or to be within predefined market windows. No need for inter-operability between financial institutions, just an internet connection.



**Efficient** – No paperwork or third parties means worldwide transactions are fast – minutes right now, but in the future, it will be near instant (comparably SWIFT currently takes 1-4 days).



**Quasi-anonymous** – No personal details are required. However, being able to hide identities can also cause distrust.

The **drawbacks** are not insignificant and largely stem from the emerging nature of the technology and its underpinning ‘trustless’ principles:



**Access** – Despite being permissionless and open, the world of DeFi sits firmly with cryptocurrency/blockchain enthusiasts and those with digital wallets. DeFi lacks empathy for the wider public and accessible information on what it is, how it works and why someone would use it is hard to find.



**Perceived risk** – DeFi removes the central accountability and therefore customers are forced to trust many unknown entities rather than one established brand. This is a difficult dynamic to shift after centuries of built-up trust in the existing system.



**Scope** – DeFi projects and tooling are largely focused on the movement and management of cryptocurrencies and have not yet extended into the more traditional currency arena, limiting its wider appeal as an alternative to traditional finance.



# Why are financial institutions taking note of DeFi?

Since the inception of cryptocurrencies, there have been dramatic ups and downs. However, despite ongoing turbulence and intense scepticism, the movement has only pushed further into the mainstream. DeFi applications are consequently surging and are creating a digital alternative to traditional financial services, offering flexibility, open access and no intermediary fees.

These decentralised alternatives, although not currently accessible to most, are exposing potential vulnerabilities within traditional systems.

**Here are some pain points within financial services that DeFi seeks to address.**

## Banking – deposits and loans

- When moving from one traditional bank to another, there are numerous steps, forms, and approvals, not to mention anxiety about whether the move will be worthwhile. Modern customers want choice, speed, and flexibility.
- Within most transacting accounts your bank will charge a fixed transaction fee, despite paying a lower interest rate to the depositing customer than what they receive when they loan those funds to others. Customers are increasingly seeking to understand the rationale behind these fees.
- Customers of traditional banks receive better interest rates for longer fixed terms and worse rates for liquid accounts. Some DeFi projects are now exploring 'yield farming': automatically shifting deposits into the best deal at that point in time and avoiding lock-in accounts altogether.
- Clearing and settlement on large values, particularly globally, is high-risk to a centralised institution, requiring advanced technology and back-office services. This is often measured in days, whereas DeFi's 'smart contracts' reduce this to minutes.
- Banks are competing with FinTech and Neobanks by introducing digital business models, reducing the branch footprint, and automating processes. However, costs can only go so low within a legacy system and price competitiveness remains a key challenge.







## Insurance

- Similar to transaction fees, the actuarial calculations and logic are largely opaque.
- Traditional insurance firms employ large departments to manually support risk calculations, contract management and pay-out assessments, which DeFi smart contracts could theoretically capture in code.
- Contracts are often locked in for a year or more, within which time customers either aren't allowed to change suppliers or must pay a significant fee to do so.

## Trading

- Private exchanges managed by the financial institution incur a fee on top of standard trading fees.
- Public exchanges also take a middleman fee, whereas decentralised exchanges (DEX) allow buyers and sellers to trade directly.

**Gartner claims 80% of heritage financial firms will cease to exist, become commoditised or achieve zombie status by 2030 if they do not move faster on digital business.**

Source: <https://www.gartner.com/en/doc/338356-digitalization-will-make-most-heritage-financial-firms-irrelevant>

**Centralised financial institutions will continue to own the market for some time yet and will likely defend their existing business models** by highlighting the risks associated with DeFi, as well as strongly lobbying for restrictive regulation. But likewise, many DeFi start-ups and projects will fail and regulation will adapt, which will bring about a new generation of strengthened DeFi propositions.

Traditional providers must investigate how the two models, which on the surface appear incompatible, can be brought together in a new hybrid offering.



# The CeDeFi hybrid opportunity

**Like most disruptive technologies, implementation does not need to be all or nothing. Instead, there is the option of a hybrid ‘CeDeFi’ model - or ‘centralised decentralised finance’.**

CeDeFi is a way traditional providers can explore decentralised methods and technologies, offering their customers the associated benefits whilst retaining their standard operational functions and meeting regulatory requirements. Regulation will continue to govern financial services regardless of technology, so traditional players with decades of CeFi experience and processes still have a place in the world of DeFi.

## Regulatory frameworks affects financial services irrespective of technology

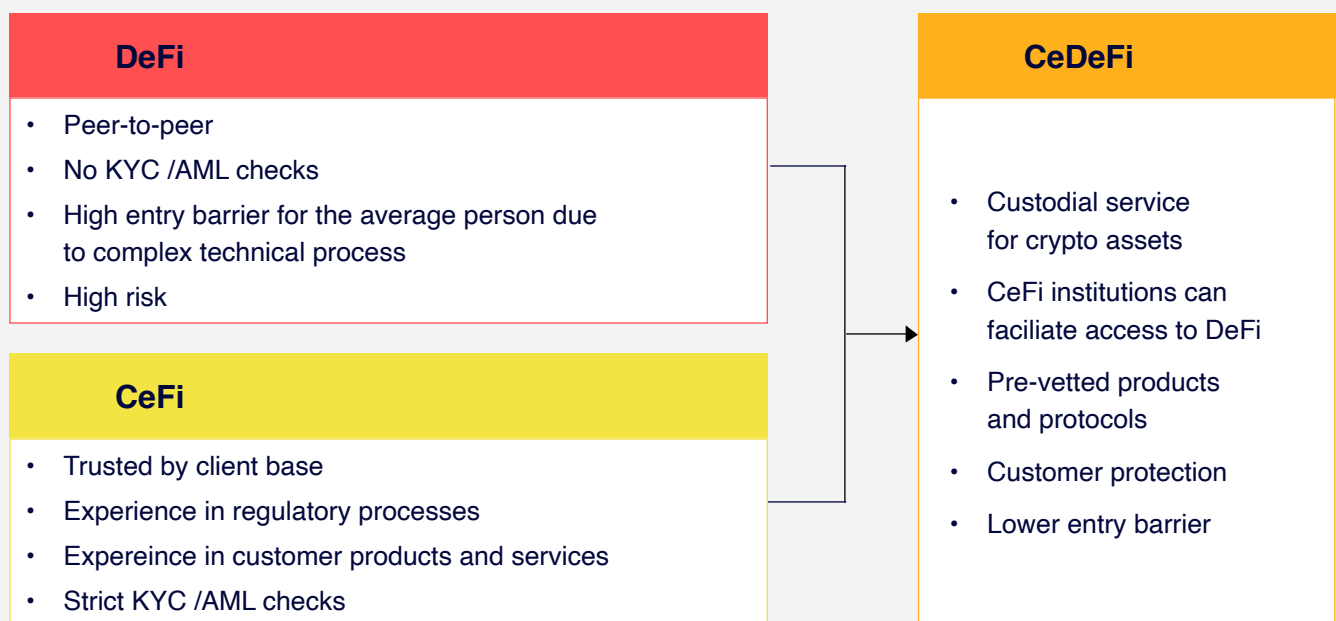


Figure 1. Opportunities for FS in the emerging landscape – Capita 2022

**A CeDeFi model involves introducing elements of decentralisation while offering institutional custodianship of DeFi protocols.** Although DeFi purists would suggest this goes against the ethos of non-custodianship, it offers traditional financial institutions a way to take advantage of the technology and gives customers a more palatable means of accessing the DeFi benefits under the protection of a known and understood entity.

# The CeDeFi hybrid opportunity



A CeDeFi system can be implemented to facilitate DeFi transactions whilst injecting the centralised AML or KYC process.



A CeDeFi system can manage a custodial service, where digital assets such as cryptocurrency and NFTs can be used and interacted alongside customers' traditional assets, such as current accounts

- PayPal and Revolut are already introducing such services.



CeFi institutions could look to white-label yield-farming technologies like Yearn or Curve to deliver higher-performing yields to customers.



Exchanges could start offering DEX services, potentially in partnership with an existing Swaps.



As a custodian for crypto assets, CeFi institutions can facilitate access to DeFi protocols and products that they have vetted (such as from companies like Aave, Kava or Compound), helping to protect their customers as they venture into the often volatile and unknown world of DeFi.

- This can make DeFi accessible to a wider customer base, since for the average citizen it currently seems too complicated. Although transparent, concepts like mining incentives, liquidity pools, yield farming, and governance tokens are alien to many.
- It can also provide higher security and manage risk – e.g. security for private keys.

## The world is already seeing centralised services wrapped around decentralised applications –

for example, real world assets met DeFi when Tesla received £7.8 million in real estate financing using MakerDao. Experts predict we will see more of this, as conventional organisations begin to engage with Web3 and metaverse business opportunities. In fact, Gartner predicts that by 2024 25% of enterprises will integrate their legacy apps and centralised services with decentralised Web3 applications.



<https://blogs.gartner.com/avivah-litan/2022/04/13/tesla-gets-7-8m-in-real-estate-financing-using-makerdao-real-world-assets-meet-defi/>  
<https://blogs.gartner.com/avivah-litan/2020/09/21/will-blockchain-defi-go-mainstream/>



# CeDeFi opportunities don't come without risks

**Traditional financial institutions looking to enter the DeFi space should clearly tread carefully.**

The market is unregulated and immature. There are real security risks right across the financial and product spectrum and smart contract hacks have led to permanent losses in the past.

**Key risks to factor into decision-making include:**

## Systemic risks



The crypto tokens that service the DeFi ecosystem are highly volatile and are vulnerable to sentiment changes. Given the interconnectedness of many DeFi projects, a rapid movement in price can trigger sudden liquidation and a chain reaction of unintended consequences.

## Regulatory risk



Central bank and government regulators are witnessing trillions of dollars leaving the traditional finance world and moving into the seemingly 'black box' of DeFi. Subsequently, we are seeing injunctions, bans, retractions, guidance, laws and repeals – with different reactions and rules depending on which country (and sometime which region) you are within.

## Smart contract fault risk



Like any type of programming, bugs in smart contracts can occur. Once the contract is in place, it is locked and can't easily be edited. External auditing can help reduce this risk, but this comes at great expense and isn't an infallible option.

## Modular risk



DeFi-enabled products are often made up of multiple smart contracts all working together. These can become so complex that the health of the connections between the contracts is just as important as the individual contract – accentuating the risk of the individual smart contract bug (see above). As the eventual size of the whole product can be unknown at the time of the first 'module', it can be hard to ensure the individual smart contracts are fit for a larger purpose.

## Technology risks



These include network overload risks, private key protection (your access to the digital wallet) and design problems around ease-of-use.

## Abandonment risk



As the developers of these protocols are often anonymous, there is the chance they can simply abandon the project, leaving capital providers high and dry.

## Financial risks



Collateralisation levels for crypto loans remain a risk, since third-part custody of private keys is not yet standardised or tamper proof. There is also the possibility of housing money launderers (although it is important to note that this is not restricted to DeFi, and that the transparent nature of the DeFi ecosystem means there is increasingly advanced monitoring by federal and national authorities).

**Given the potentially transformational nature of DeFi and the pace of improvements, risk mitigations and solutions are likely to emerge and continue to address many of the above concerns.** Until then, it is up to each interested party to ensure they have completed the appropriate due diligence and weighed up the risk versus the reward of investigating this emerging area.



## How we can help

To find out more about digital design, digital transformation, and how CeDeFi may work for your organisation, **get in touch today**.

**DeFi is at the very start of its timeline and not yet a household term for individuals or businesses, but like cryptocurrency it has the potential to disrupt the financial servicing world as we know it.**

A CeDeFi venture would reach far beyond Product and Compliance functions and have end-to-end implications across a new digital business model. This would include customer experience and education, data management and analytics, digital solution architecture, cybersecurity and not least of all, the impact for your people and processes.

Traditional institutions, by their ingrained nature, can often adapt only gradually to change. This is exactly why we believe that now is the time to consider how you will respond when regulatory frameworks and technology like blockchain and Web3 mature. How will you take advantage of DeFi if (or rather when) it does break into the mainstream to offer customers a competing service – one that is accessible, fast and that is becoming increasingly attractive?

### This article has been written by...



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Holly leads the Financial Services market vertical within the Consulting arm of Capita Experience, that focuses on driving better client outcomes across Data & AI, Digitalisation & Cloud, CX Design and People & Process. She leads the industry strategy and Consulting services mix for clients in Pensions, Mortgages, the UK Regulatory family, Retail Banking, and Fintech and also provides senior advisory to ensure CX and EX is embedded within our clients' digital transformation programmes. Holly has a Master of Innovation & Technology Management and prior to Capita, headed up an Australian, digital-first strategy and research firm.

The perfect moment **doesn't just happen.**





# Glossary

## Blockchain

A blockchain is a distributed database or ledger that is shared among the nodes of a computer network. It offers a way to record information and transactions that is impossible or very difficult to edit or hack.

## Centralised finance

In centralized finance, your money is held and managed by a central party (e.g., bank, central exchanges, pensions providers, insurance companies), whose underlying goal is to make money from that central service. The financial system is full of third parties who facilitate money movement between parties, with each one charging fees for using their services.

## Decentralised finance

Decentralized finance (DeFi) is a collective term for financial services, tools and products built on blockchain technology based on secure distributed ledgers like those used by cryptocurrencies. The system removes the centralised control banks and institutions have on access to money, financial products, and financial services.

## DeFi protocols

DeFi protocols are autonomous programs that have been tailor-made to address issues stemming from the traditional finance industry. They are the communication standards used between services, generally DeFi platforms or applications, operating in a distributed network.

## Smart contracts

Smart contracts refer to computer protocols that digitally facilitate the execution of an agreement, which are kept in public databases.

## Digital wallet

Digital wallets are financial applications that allow you to store funds, make transactions, and track payment histories on devices like phones and tablets. DeFi digital wallets are currently used to store cryptocurrency assets and are non-custodial, meaning access to the funds is restricted to only those with the private key (the password equivalent).

## Decentralised exchanges / DEX

A decentralized exchange (or DEX) is a peer-to-peer marketplace where transactions occur directly between cryptocurrency traders. DEXs fulfil one of crypto's core possibilities: fostering financial transactions that aren't officiated by banks, brokers, or any other intermediary

## AML / KYC

Anti money laundering (AML) refers to laws, regulations, and procedures aimed at uncovering efforts to disguise illicit funds as legitimate income.

Know Your Customer (KYC) are a set of standards used within the investment and financial services industry to verify customers, their risk profiles, and financial profile.

## NFT

NFTs (non-fungible tokens) are unique cryptographic tokens that exist on a blockchain and cannot be replicated.

## Yield farming

Yield farming refers to allocating crypto to decentralized finance (DeFi) protocols in a way that maximizes rewards. This often involves depositing cryptocurrencies into several interoperable protocols to enhance yield. Automated yield farming moves assets automatically to the highest yield available from DeFi protocols to maximise returns.

## Web3 and metaverse

Web3 describes a version of the internet where data will be interconnected in a decentralized way. Web3 is an umbrella that comprises various fields like semantic web, AR/VR, AI at scale, blockchain technologies, decentralization and token-based economics. The core idea of Web3 moves along the lines of enabling decentralized ownership on the web.

The metaverse is a digital reality that combines aspects of social media, online gaming, augmented reality (AR), virtual reality (VR), and cryptocurrencies to allow users to interact virtually. Augmented reality overlays visual elements, sound, and other sensory input onto real-world settings to enhance the user experience.