



DeFi 101

- **Traditional finance (TradFi) runs on centralised systems controlled by authoritative entities**
- **By contrast, decentralised finance (DeFi) operates with no central authority in a trustless, transparent way**
- **With the stablecoin boom, DeFi has started to disrupt TradFi's dominance in payments and savings**
- **We expect much more disruption; we see tokenised real-world assets (RWAs) reaching USD 2tn by end-2028, matching stablecoin market cap**

The future is now

Throughout history, finance has mostly operated through centralised systems that are controlled by authoritative entities such as central banks; these systems are based on trust and authority. We refer to them as traditional finance, or TradFi. By contrast, decentralised finance (DeFi) uses blockchain technology to create a trustless system, based on transparency, efficiency and accessibility.

In its first several years in existence, DeFi mostly enabled crypto natives to trade, borrow and lend among themselves. However, the 2025 stablecoin boom has started to unleash the type of technology-driven disruption seen in other industries over the years. Wider usage of stablecoins is accelerating the trend of non-banks replacing traditional banks in providing core banking activities such as payments and savings.

We think stablecoins are creating a platform for DeFi to continue its expansion in the coming years. Their success in 2025 has raised awareness in developed markets and created the necessary liquidity on-chain to enable other DeFi solutions. In addition, stablecoin liquidity has started to drive an expansion of on-chain lending/borrowing activities – these have traditionally been dominated by Ethereum (ETH), but growth in stablecoin lending/borrowing is exploding.

Stablecoin liquidity and DeFi banking are important pre-requisites for a rapid expansion of tokenised real-world assets (RWAs), in our view. We expect exponential growth in RWAs in the coming years. By end-2028, we see non-stablecoin tokenised RWAs reaching a market cap of USD 2tn (up from USD 35bn today); this matches our stablecoin market cap projection in terms of both size and timeline. Of this USD 2tn, we see tokenised money-market funds (driven by corporate use of stablecoins) accounting for USD 750bn; tokenised listed equities (once US regulations become clear and DeFi solutions are unleashed) for USD 750bn, tokenised funds for USD 250bn, and the less liquid segments of private equity, commodities, corporate debt and real estate for the other USD 250bn.

In DeFi, liquidity begets new products, and new products beget new liquidity. We believe a self-sustaining cycle of DeFi growth has started. The main risk to this would be if regulatory clarity in the US does not materialise – a possibility if the US administration is unable to push through regulatory changes before the November 2026 midterm elections, but not our base case.

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DeFi: A need-to-know topic for TradFi

The stablecoin boom has enabled DeFi to start disrupting TradFi

Since we initiated coverage of digital assets research in 2021, we have implicitly assumed that DeFi would eventually become important enough to disrupt TradFi. We think the 2025 stablecoin boom – with stablecoins starting to disrupt TradFi payment networks – is the start of that disruption, and will be quickly followed by DeFi disruption of other financial markets.

In this report, we outline how we think these disruptions will evolve and on what timeline. We see the current surge in stablecoin adoption creating a platform for broader DeFi adoption via three pillars: (1) greater awareness in developed markets of practical blockchain solutions as stablecoin usage proliferates; (2) greater liquidity on-chain, including on weekends; and (3) the build-out of on-chain lending and borrowing markets in a fiat-pegged product.

What is DeFi?

DeFi moves away from TradFi's centralised systems controlled by authorities

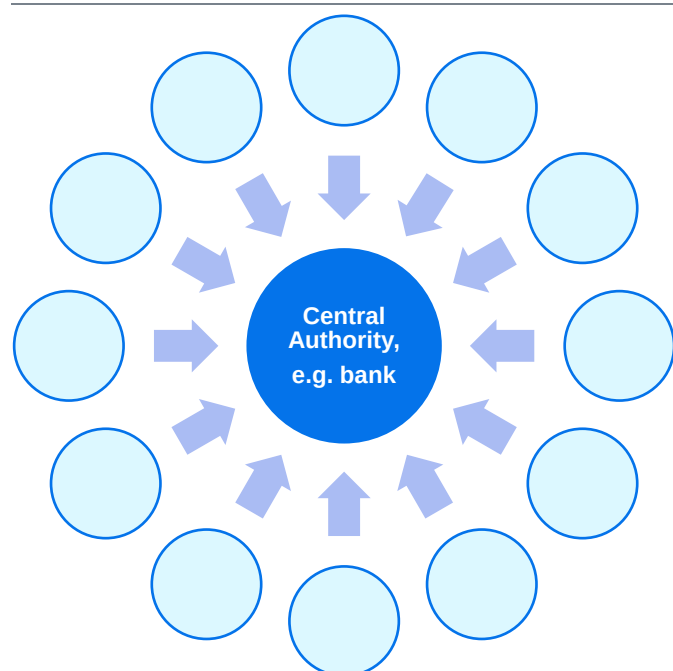
In TradFi systems, information flows from economic actors into a central authority (as depicted in Figure 1). By contrast, DeFi uses blockchain technology to create a trustless system based on transparency, efficiency and accessibility. Rather than flowing into a central authority, information flows throughout a network of economic actors (as depicted in Figure 2).

In TradFi, a bank confirms which transactions are valid; in DeFi, blockchain technology allows all actors in the system (represented by decentralised nodes, or computers) to agree on which transactions are valid. In TradFi, banks are incentivised by profits to perform this function; in blockchain systems, the nodes are incentivised by being rewarded with new native tokens.

DeFi addresses several shortcomings of TradFi, including:

Figure 1: TradFi transactions/ledgers

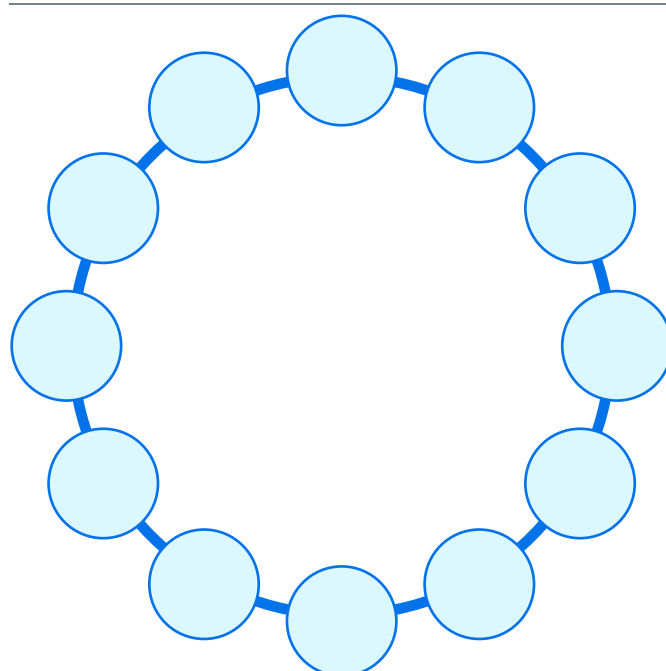
Information flows in, agreement is centralised



Source: Standard Chartered Research

Figure 2: DeFi transactions/ledgers

Information flows in a circle, agreement is decentralised



Source: Standard Chartered Research

1. **Lack of financial inclusion.** The World Bank estimates that 1.7bn adults globally remain unbanked today. DeFi offers access to financial services regardless of location or economic status.
2. **Poor interoperability and geographical fragmentation.** In TradFi, it is difficult to link bank accounts from different institutions in the same location, let alone across borders. DeFi addresses this with near-instant, near zero-cost solutions like stablecoins that are global and operate 24/7 (see [Stablecoins – Implications for EM](#)).

The largest crypto-native DeFi platforms, and what they do

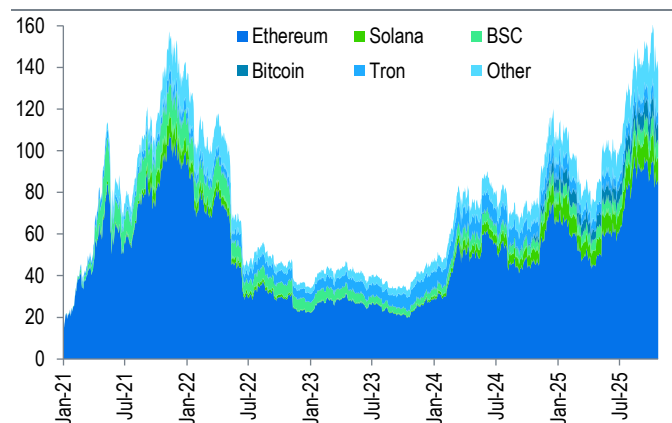
Now that DeFi technology has been built, it can disrupt TradFi

The introduction of the Ethereum network – the first smart contract-enabled blockchain – in July 2015 was a critical first step towards the creation of DeFi platforms. The majority of DeFi value locked remains on Ethereum today (Figure 3) given ETH's first-mover advantage (network effects are strong in blockchain solutions) and its reliability (the Ethereum network has never gone down).

DeFi can be broken down into the five main categories below (their relative shares of total value locked are shown in Figure 4; we first outlined them in [DeFi protocol investor guide](#)):

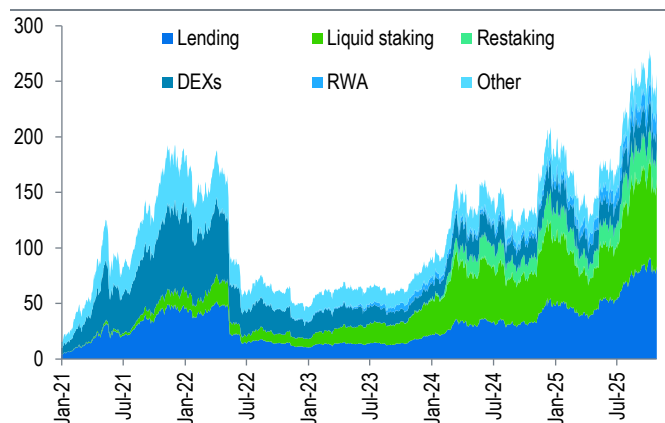
1. **Lending.** Protocols that allow users to borrow and lend crypto assets. The largest ones are AAVE (AAVE) and Compound (COMP).
2. **Liquid staking.** Protocols that provide rewards or liquidity for staked assets. This category is dominated by Lido (LDO), the primary liquid staking protocol for staked ETH.
3. **Restaking.** Protocols that provide rewards for re-staked assets. Re-staking is a second level of capital efficiency available to validator nodes, whereby the re-staked tokens are used to secure other networks. This category is dominated by EigenLayer (EIGEN).
4. **DEXs (decentralised exchanges).** Protocols that allow cryptocurrency to be swapped/traded. The largest is Uniswap (UNI).

Figure 3: Value locked in DeFi by chain
USD bn



Source: The Block, Standard Chartered Research

Figure 4: Value locked in DeFi by category*
USD bn



* Double-counting occurs when the categories are split this way, hence the total is higher than in Figure 3

Source: The Block, Standard Chartered Research

5. **RWA (real-world assets).** These are tokenised assets other than stablecoins, such as US Treasury debt or listed equities.

Lending and RWAs are the key areas where DeFi protocols can disrupt TradFi; if tokenised RWAs can be traded on DEXs, this may provide an opportunity for disruption to stock exchanges. (In contrast, staking is unique to digital assets.)

DeFi is finally starting to disrupt TradFi

For the first several years, DeFi mostly enabled crypto natives to trade, borrow and lend among themselves. For example, someone might buy ETH on Uniswap, then either lend that ETH to someone else using AAVE (earning DeFi yield for the loan) or stake the ETH on liquid-staking platform Lido (again earning yield, but staking yield). The point here is that while the technology was being developed and tested, most of the activity was contained within the crypto ecosystem.

However, stablecoin growth has ushered in the first application of digital ledger technology to replace 'real-world' solutions (similar to Uber's impact on taxis or Airbnb's impact on hotels). Stablecoins are starting to replace core banking services offered by TradFi institutions, accelerating the pre-existing trend of payment networks and other core banking activities gradually shifting to the non-bank sector. In EM, stablecoin usage gives consumers and corporates a new channel of access to what is effectively a USD-based bank account – paving the way for the diversification of savings away from banks (see [Stablecoins – Implications for EM](#)).

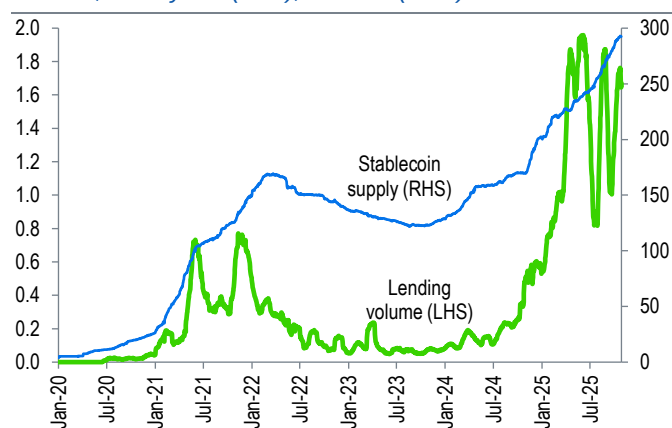
Beyond these initial steps, important milestones for stablecoins in 2025 – in particular, the passage of the US GENIUS Act and the Circle Internet Company IPO – have increased awareness and adoption of stablecoins in developed markets (it was arguably already high in emerging markets) and created the necessary liquidity on-chain to enable other DeFi solutions. The liquidity angle is particularly important given that tokenised RWAs trade 24/7. The first-order capital efficiency benefits of DeFi (24/7 availability, instantaneous settlement) require sufficient weekend liquidity to be practical. Now that this is achievable, DeFi solutions are in prime position to further disrupt TradFi.

Furthermore, greater stablecoin liquidity has also started to drive an increase in on-chain lending/borrowing, in terms of both the scale and breadth of activities. While ETH

Stablecoins have unlocked digital ledger technology's disruptive potential

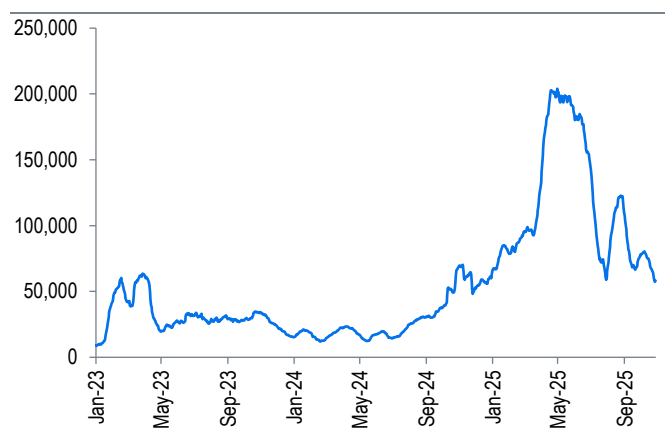
Figure 5: On-chain stablecoin lending volume vs stablecoin market cap

USD bn, 30-day MA (LHS), USD bn (RHS)



Source: Allium, The Block, Standard Chartered Research

Figure 6: Average stablecoin loan size USD



Source: Allium, Standard Chartered Research



Digital Assets

lending/borrowing has dominated activity on lending protocols to date, this is gradually changing with the increase in stablecoin lending/borrowing. Indeed, stablecoin lending has reached a new (albeit volatile) high of around USD 1.5-2.0bn a day (Figure 5).

The average stablecoin loan size has also increased in 2025 (although there has been a slight pullback recently), suggesting growing institutional participation (Figure 6). AAVE, the largest lending/borrowing protocol, would be the 38th-largest US bank today by assets if ranked against FDIC-insured banks (source: www.aaverank.com).

Stablecoins have created several necessary pre-conditions for a broader expansion of DeFi via the three pillars of increased public awareness, on-chain liquidity, and on-chain lending/borrowing activity in fiat-pegged product.

Implications for RWAs

We expect tokenised RWAs to grow from USD 35bn today to USD2tn by end-2028

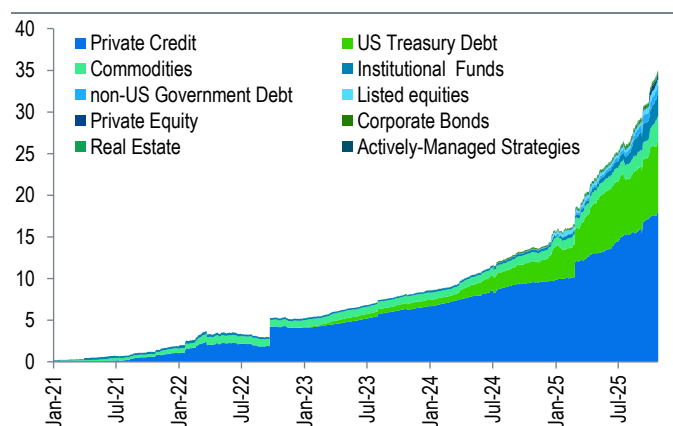
We project that non-stablecoin tokenised RWAs will reach a market cap of USD 2tn by end-2028 (up from USD 35bn today), broken down as follows: USD 750bn each for tokenised money-market funds (MMFs) and listed equities; USD 250bn for tokenised funds; and USD 250bn combined for the less liquid segments of private equity, commodities, corporate debt and real estate. This matches our USD 2tn stablecoin market cap forecast for end-2028 (see [Stablecoins, USD hegemony and UST bills](#)).

Non-stablecoin tokenised RWAs on-chain total USD 35bn today (Figure 7). There have been two successful versions of tokenised RWAs so far: private credit and US Treasury debt (see [RWA tokenisation – A growth opportunity](#)). We see room for significant growth in both.

US Treasury debt on-chain (essentially on-chain money-market-funds, or MMFs) has increased by around USD 5bn in 2025 so far. This relatively muted organic growth is likely to give way at some point to a more dramatic step-change higher. When corporate use of stablecoins for transactions in developed markets grows sharply (which we think could happen by late 2026 or early 2027), demand for on-chain MMFs to replace off-chain MMFs may also expand sharply (as these corporates start storing unused cash on hand on-chain rather than off-chain). The off-chain MMF market in the US is around USD 7.5tn today. We envisage 10% of off-chain payments (including in spot FX markets) moving on-chain over the next few years; that would require 10% of current off-chain MMF assets (or USD 750bn) to move on-chain as well.

Figure 7: Tokenised RWAs by category

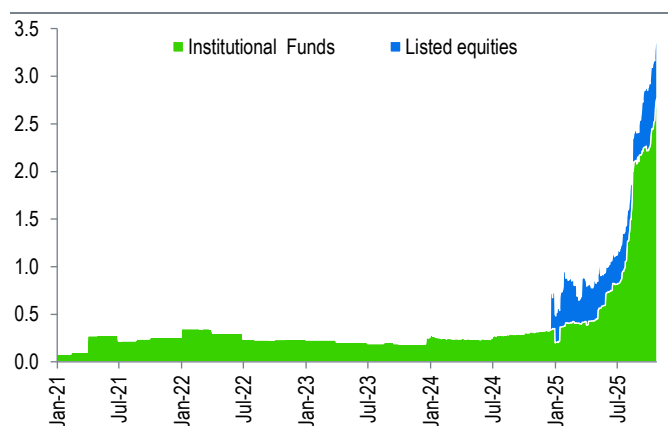
USD bn



Source: rwa.xyz, Standard Chartered Research

Figure 8: Tokenised listed equities and funds

USD bn



Source: rwa.xyz, Standard Chartered Research



Beyond MMFs, we think the next large increases on-chain will come from assets that are the most liquid off-chain: institutional funds and listed equities (Figure 8 shows this growth in 2025). In the off-chain world, institutional investors manage over USD 70tn of assets globally. Listed equities are around USD 127tn (of which the US makes up USD 62tn). Only a small percentage of these assets would need to move on-chain to be significant in size.

2025 has seen significant pushes for the expansion of tokenised US listed equities. For example, Robinhood began offering more than 200 tokenised US stocks to EU customers in June. Ondo followed suit in September, making more than 100 tokenised US stocks available to non-US investors; its offering reached USD 300mn in the first four weeks. The key to growth in this segment will be regulatory clarity and the opening of the market to US-based investors. When this happens, we see scope for tokenised listed equities to catch up to tokenised MMFs – accounting for another USD 750bn of our estimated USD 2tn end-2028 market cap.

Tokenised equities will unlock DeFi capabilities for all holdings of listed equities. For example, today the super-wealthy can borrow against their assets (such as stocks) because banks provide loans against those assets. DeFi should allow everyone to borrow against their assets in the same way, democratising access to core TradFi products.

Beyond equities, we see a reasonable chance that at least one large asset manager moves a broader off-chain offering on-chain in 2026. If one asset manager does this, we would expect others to follow. This momentum should help the institutional fund segment grow to around USD 250bn over the next few years.

In less liquid segments like corporate bonds, private equity, commodities and real estate, growth in on-chain offerings is likely to be more organic than transformational. We think a combined market cap in the low hundreds of billions of dollars is likely for these segments in the next three or so years.

Regulation?

Regulatory clarity will help

The US GENIUS Act, passed in July 2025, created a regulatory framework for stablecoins in the US. This has spurred awareness and adoption of stablecoins on a much larger scale, laying the groundwork for DeFi growth.

The Digital Asset Market Clarity Act (known as the CLARITY Act) is the next piece of US legislation likely to pass, possibly by end-2025 or early 2026. Its purpose is to establish a regulatory framework for digital assets and clarify the shared jurisdiction of the Securities and Exchange Commission (SEC) and the Commodity Futures Trading Commission (CFTC) over digital assets. The CFTC will have oversight of 'digital commodities' such as Bitcoin, Ethereum and the other layer 1 platforms, while the SEC will have oversight of 'investment contract assets'. Under the proposed CLARITY Act, initial coin offerings are viewed as investment contract assets when first sold, but they revert to being digital commodities once they are on the secondary market. The law also defines when a token is decentralised enough to be viewed as a commodity rather than a security. Notably, stablecoin issuers remain under the purview of banking regulators.

The SEC has also proposed a set of guidelines based on a joint statement of intent between the SEC and the CFTC, which aimed to foster innovation via greater



regulatory certainty. It specifically mentioned DeFi, saying that both agencies are “prepared to consider ‘innovation exemptions’ to create safe harbors or exemptions that allow market participants to engage in peer-to-peer trading of spot, leveraged, margined, or other transactions in spot crypto assets, including derivatives such as perpetual contracts, over DeFi protocols”.

These regulatory advances should help to further legitimise asset tokenisation, DeFi lending/borrowing of these tokens, and trading of the tokens on DEXs (like Uniswap) for US-based investors. This legitimisation may even happen without the passage of the CLARITY Act, as long as the SEC and the CFTC act in line with the intent of the law. The consultation period for the SEC guidelines is expected to end in mid-2026; by then, the unwinding of legal constraints imposed by the previous administration should bring regulatory clarity for the industry even if the CLARITY Act does not pass. A key risk is if this US regulatory clarity does not materialise. This is possible (although we think unlikely) if the US administration is unable to push through sufficient regulatory change before the November 2026 midterms.

Zero-knowledge identity proof

Zero knowledge ID proof will help too

So-called zero-knowledge proof (ZKP) of identity should also help DeFi solutions to proliferate. ZKP is an online security technology that allows the verification of information without revealing the information. In finance, it could be used to whitelist individuals or corporations as KYC- or AML-compliant, allowing them to invest and operate freely within the digital assets/DeFi ecosystem.

ZKP uses a decentralised system known as self-sovereign identity (SSI), which enables individuals to manage their own digital identities via a cryptographically secure personal wallet. It is ‘zero-proof’ because it allows one party to prove to another party that a statement is true without revealing any information beyond the validity of the statement itself. The aim is to replace multiple digital identities (such as usernames and passwords) and to bypass the centralisation of digital entities.

What does this all mean for capital and collateral efficiency?

DeFi unlocks capital and collateral efficiency for all

Stablecoins enable both corporates and individuals to improve their capital efficiency – transactions can take place almost instantaneously, 24/7, and anywhere globally. Tokenisation of other RWAs does the same for those asset classes – trades can settle at T+0 rather than T+1 or T+2, as well as on weekends. And tokenised MMFs pay intra-day yield.

The next expected regulatory step is collateral equivalency between fiat, stablecoins and tokenised MMFs. The CFTC announced in September that it was seeking public input on using stablecoins and tokenised MMFs as collateral in derivatives markets.

The role of AI agents

AI agents, available in 2026, will accelerate the move towards capital efficiency

There are several areas of convergence between AI and digital ledger technology. The most important one for DeFi is that once it has been widely adopted, it will be possible to use AI agents to further improve capital efficiency. For example, in the TradFi world, when employees receive their salary, they need to take active steps to move the money to various locations for different purposes – savings, investment, debt reduction, etc. TradFi provides some solutions to this requirement via direct debits or scheduled payments.



Once AI agents are widely available (likely in 2026), users will be able to further optimise their individual capital efficiency by training AI agents to move money instantaneously, 24/7. This should optimise investment returns (by accessing intra-day yield, for example) and minimise debt repayment costs (by moving money to repay debt immediately when it is received). In a more advanced scenario, the combination of AI agents and DeFi could lead to more frequent salary payments (for example, daily), enabling investment and debt reduction on a daily basis.

*DeFi is democratising finance, and
this process is happening on
Ethereum*

Defining the end game

DeFi aims to unlock lending and borrowing opportunities for all users that TradFi only offers to the very wealthy. It can also optimise capital efficiency through 24/7, near-instantaneous, and near zero-cost transactions in any asset class.

These capabilities are likely to continue the disruption of TradFi that stablecoins have started; payment networks and savings are already being disrupted, and spot FX markets are likely to follow. Stablecoins have laid the groundwork (via increased awareness, liquidity and lending/borrowing on-chain) for other asset classes, from tokenised MMFs to tokenised equities, to move on-chain at scale. As this process unfolds in the coming years, we see tokenised RWAs reaching a market cap of USD 2tn.

The vast majority of this is likely to happen on Ethereum because it is trusted in the TradFi world. The fact that other chains are faster or cheaper is irrelevant, in our view. Ethereum has been operating for over 10 years and its network has never gone down. For TradFi operators, reliability will always trump marginal speed and cost savings.



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Digital Assets

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