Real World Asset / Ondo Finance – Thesis

Definition

Executive Summary

Introduction

- I. Real World Asset Creation: Three Pillars of Activity
- II. Tokenization Methods: Non-Native and Native Tokens
- **III. Benefits of Tokenization: Transformative Advantages**
- **IV. Tokenization: A Historical Parallel**

Type of Real World Asset

- I. Tokenization of Debt: Unlocking the Treasury Bill Market
- II. Tokenization of Equity: The Hype passed
- III. RWA Lending: A Paradigm Shift in Enterprise Funding
- IV. Property Tokenization: Redefining Real Estate Investment
- V. Digital Commodities: The Rise of Digital Gold
- VI. Carbon Tokenization and ESG: Meeting Environmental Imperatives

Market Overview

- I. Different Services Offered
- II. Why would businesses bring their assets on-chain?
- III. Total Addressed Market (TAM): RWA Expansion
- IV. Future Predictions: 2030 Tokenized Market
- V. Tokenized Asset Valuation
- VI. USD Stablecoins: Pioneers in Tokenization
- VII. RWA protocols landscape
- VIII. TradFi Institutions Embrace Tokenization
- IX. Tokenized Government Securities: A high Surge

Overview of Forces Propelling the RWA's Growth

- I. Composition of RWA's Total Value Locked (TVL)
- II. Borrower/Lender Dynamics: Flexibility and Rate Protection
- III. DeFi Yield Evolution: Attracting Traditional Yield for On-Chain Users
- IV. Yield Comparison: RWA vs. DeFi Protocols
- V. Collateralization Contrasts: Centrifuge/Clearpool vs. Aave/Compound
- VI. On-chain users's lifetime vs RWA

Ondo Finance

I. Tokenization of Esteemed US Asset Classes

II. Ondo Finance's products

III. USDY Stablecoin: Integrating SEC Reg S and DeFi

IV. DeFi Protocol Integration: Flux Finance and OUSG Collateral

V. Effective On-Chain Yield Management with Pendle

VI. Challenges in the Convergence

VII. Ondo Finance token: ONDO

Challenges

- I. Legal and regulatory compliance
- II. Valuation and audits implication
- III. Standardized laws and regulations
- IV. Security and scalability
- V. Collaboration between the multiple key stakeholders

Conclusion

Sources

Definition

<u>Security token</u>: It's a representation of a slice of ownership of or a right to an asset or a company. More specifically, it's the combination of an alphanumeric sequences generated by hash function and transfert of ownership of an asset into blockchain (tokenization).

Executive Summary

- Real World Assets (RWA) protocols bridge traditional financial markets with DeFi, creating new use cases and opportunities. Asset tokenization enhances efficiency, transparency, and accessibility in the financial sector.
- There are two main ways of tokenising RWAs:
 - <u>Native tokens</u>: An on-chain token is issued and acts as the RWA itself. In other words, the token does not represent any other off-chain asset, such as a bond issued on a blockchain
 - Non-native tokens: On-chain tokens are issued to represent RWAs that are managed off-chain by a custodian. This is currently the more common form of RWAs.

- Institutions such as JP Morgan, Goldman Sachs, and Hamilton Lane are exploring real world asset tokenization.
- Tokenization technology has the capability to transfer tangible and intangible assets on-chain.
- Oracles are important cogs in the RWA tokenization mechanism. They provide data feeds, which are utilized to price RWA backed tokens on various platforms and dApps.
- RWA's ecosystem needs to solve important issues:
 - Legal & regulatory compliance
 - Valuation and Audits implication
 - Standardized laws and regulations
 - Security & Scalability
 - Collaboration between several key stakeholders

Introduction

I. Real World Asset Creation: Three Pillars of Activity

Real World Assets are created through three primordial activities:

- Acquisition of Real-World Assets: The initial step involves procuring tangible assets from the real world.
- **On-Chain Tokenization:** Realizing tokenization through on-chain process, converting real-world assets into digital counterparts.
- **Distribution to On-Chain Users:** Finally, these tokenized Real World Asset are distributed to on-chain users, developing decentralized participation.

II. Tokenization Methods: Non-Native and Native Tokens

To characterize the diverse activities within Real World Assets (RWAs), tokenization can be made in two primary ways: Non-Native Tokens and Native Tokens.

Non Native tokens: On-chain tokens are issued to represent RWAs that are managed

off-chain by a custodian. Currently, this is the most common way due to the early stage of

RWAs, as well as the advantage of leveraging existing financial infrastructure around asset custody.

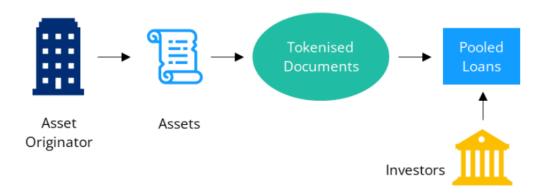
• For example, all existing USD-collateralised stablecoins are currently in the form of a non-native token.

<u>Native tokens</u>: An on-chain token is issued and acts as the RWA itself. In other words, the token does not represent any other off-chain asset.

• For instance, the European Investment Bank issued EUR 100 million two-year digital bonds on the Ethereum public blockchain in 2021.

Real-World Asset Tokenisation General Workflow

Almost any real-world asset can be tokenised on a blockchain



III. Benefits of Tokenization: Transformative Advantages

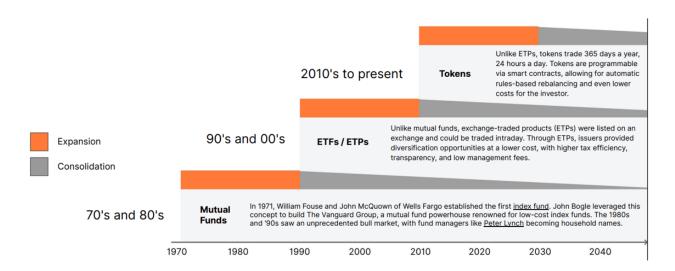
Tokenization leverages a spectrum of benefits:

- **Transparency:** On-chain representation ensures the true value of an asset is transparently reflected.
- **Efficiency:** Distributions to asset owners seamlessly occur through their crypto wallets.
- **Liquidity:** Previously illiquid assets attain newfound liquidity through on-chain transactions.

- **Self-Custody:** Individuals gain control, retaining autonomy over their assets.
- Collateralization: Assets become potential collateral on decentralized finance (DeFi) platforms.

IV. Tokenization: A Historical Parallel

The advent of tokenization parallels transformative financial innovations like mutual funds in the 1970s and ETFs in the 1990s, marking a paradigm shift in asset representation and accessibility.



Type of Real World Asset

I. Tokenization of Debt: Unlocking the Treasury Bill Market

Ondo Finance and MatrixDock spearhead institutional-grade solutions in the tokenization of debt, offering unprecedented access to the most liquid government bond, US Treasury Bills market. This marks a significant leap in bridging traditional financial instruments with the decentralized ethos of DeFi.

II. Tokenization of Equity: The Hype passed

As a natural sequence, securities like stocks are next to bonds on the radar. To date, multiple attempts were made to bring equities on-chain. However, the results have not been as successful as debt tokenization.

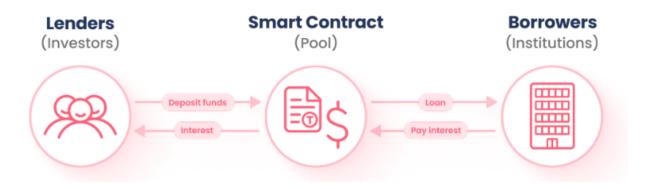
While Synthetix and Binance have tried to catch the last wave on tokenization equity, especially Binance with the listing of Tesla's stocks, the success of equity

tokenization remains a realm of speculation. The hype surrounding these endeavors is palpable, but the necessity of KYC processes adds a layer of regulatory compliance, making it imperative for users to undergo identity verification to access such services.

III. RWA Lending: A Paradigm Shift in Enterprise Funding

RWA lending introduces a sophisticated mechanism involving lenders (investors), borrowers (institutions), and smart contract-driven lending pools, all managed by professional funds. This model holds promises for enterprises seeking unlimited funding capacity, leveraging NFTs for ownership within the tokenization framework. Here, the transparency is key, with every detail, from terms to borrower information, made visible.

Simplified RWA Lending and Borrowing Flow



IV. Property Tokenization: Redefining Real Estate Investment

Emerging as the second-highest Total Value Locked (TVL) category, property tokenization introduces novel yield strategies. Platforms like Fraction and RealT leverage tokenization to offer innovative approaches to private equity, reshaping the landscape of real estate investment within the DeFi ecosystem.

V. Digital Commodities: The Rise of Digital Gold

The digital commodities sector, leads by digital gold, has reached a staggering \$1 billion. Paxos and Tether stand out as best-in-class corporations, providing advantages such as feeless storage, near-instantaneous transaction settlements,

and fractional ownership, revolutionizing traditional concepts of commodity ownership and transaction process.

VI. Carbon Tokenization and ESG: Meeting Environmental Imperatives

In response to CO2 emissions restrictions, companies turn to carbon tokenization as a means of offsetting environmental impact. With the surge in demand driven by regulatory compliance, especially in adherence to EU laws, this category underscores the growing intersection of DeFi with environmental, social, and governance (ESG) considerations.

Market Overview

I. Different Services Offered

Traditional businesses are drawn to tokenization for various services, including Non-Financial Corporate Debt, Real Estate Funds, Private Equity, Venture Capital, Securities, and Public Debt.

II. Why would businesses bring their assets on-chain?

Below are the following benefits of the Tokenization:

<u>Liquidity</u>: Simplified architecture for liquidity provision.

Accessibility: Global reach for tokenized assets.

<u>Settlement Efficiency</u>: Faster settlement via automated execution, reducing operational and intermediary costs.

<u>Transparency</u>: Tamper-proof public record of ownership.

<u>Composability</u>: Tokenized assets usable across the same blockchain ecosystem.

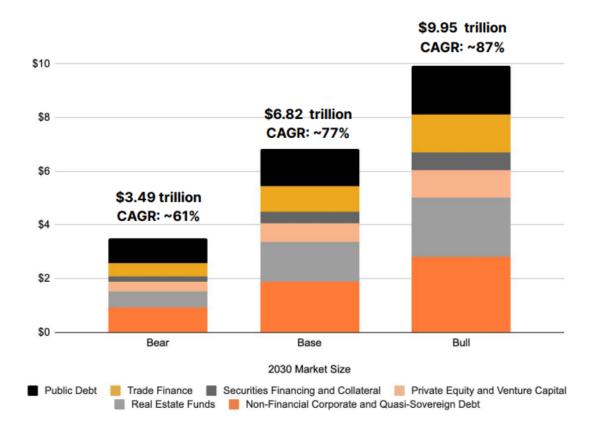
<u>Interoperability</u>: Seamless transfer of assets and data across blockchains

III. Total Addressed Market (TAM): RWA Expansion

The Total Addressed Market (TAM) of Real World Assets encompasses private capital markets, asset-backed securities, money market funds, ETFs, intellectual property, and fixed income. The TAM is evolving, with new markets emerging.

IV. Future Predictions: 2030 Tokenized Market

Predictions for the tokenized market anticipate a broad range, spanning from \$3.5 trillion to an ambitious \$10 trillion by the year 2030.



In all cases, Private Equity and Venture Capital remains the strongest sector followed by Trade Finance and Real Estate Funds.

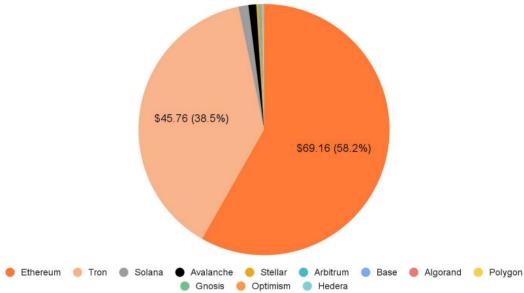
V. Tokenized Asset Valuation

The cumulative value of tokenized assets across various chains currently stands at \$118.57 billions.

Ethereum remains the digital asset industry's financial hub, with over 50% of all tokenized fiat currencies, including U.S. dollars, also called stablecoins (~\$65 billion), deployed on the network.

Due to its credible neutrality, Ethereum is poised to be the network of choice for tokenization.





VI. USD Stablecoins: Pioneers in Tokenization

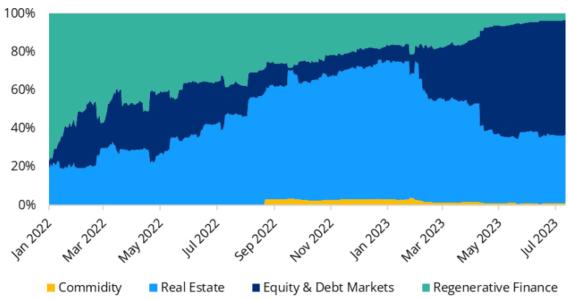
Stablecoins are the original tokenized asset and have reached product-market fit, with almost 97% (\$69.13 billion) of the tokenization market share across Ethereum-compatible networks, followed by commodities like tokenized gold and government securities, such as tokenized U.S. Treasuries.

It is important to note that fiat-collateralized stablecoins are a digital representation of fiat currency, like the U.S. dollar. The issuers of these products (e.g., Circle and Tether) maintain an off-chain reserve of the target asset, primarily in the form of short-term U.S. T-Bills and cash, with ratios dependent on the issuer's asset-liability management

Summary Table of Tokenization: By Type of Asset Fiat-Collateralized Stablecoins Include Tokenization of Cash and Treasury Bills													
Ranking	Туре	Market Cap	Market Share	1D Change	1W Change	1M Change	1Q Change	1H Change	1Y Change				
1	Fiat-Collateralized Stablecoins	\$76.14b	96.90%	0.0%	0.9%	5.0%	9.2%	5.7%	-18.5%				
2	Commodities	\$925.01m	1.18%	0.2%	0.4%	-2.1%	-5.0%	-3.9%	-6.3%				
3	Government Securities	\$852.11m	1.08%	0	-0.7%	-0.7%	14.9%	34.6%	691.9%				
4	Asset-Based Finance	\$358.46m	0.46%	0	-0.5%	1.8%	-0.9%	5.5%	37.6%				
5	Real-Estate	\$203.75m	0.26%	Θ	-1.3%	0.8%	75.6%	71.1%	167.7%				
6	Corporate Bonds	\$63.71m	0.08%	0	0	0	0	0					
7	Private Equities	\$19.81m	0.03%	0	-4.3%	-6.4%	-8.2%	-7.2%	9.2%				
8	Equities	\$6.34m	0.01%	0	18.4%	18.4%	18.5%	26.2%					
9	Private Funds	\$4.13m	0.01%	0	Θ	1.9%	16.8%	82.5%	1169.7%				

Currently, the Equity & Debt Markets category has been dominating the RWA market share since Q2 2023, as seen in the graph shown below. Additionally, RWA lending and real estate are other popular asset categories. Meanwhile, it is also notable that regenerative finance like the carbon market has significantly plummeted.





VII. RWA protocols landscape

Summing up, the below table gives a simplified categorisation of RWA protocols:

Lending	Commodities	ESG	RWA-backed stablecoins	Debt Securities & Equity	Other
Centrifuge (CFG) Maple Finance (MPL) Goldfinch (GFI) Credix TProtocol TrueFi (TRU)	PAX Gold (PAXG) Tether Gold (XAUT) CACHE Gold (CGT)	Toucan Protocol (TCO2) KlimaDAO (KLIMA) Senken	MakerDAO (DAI) Frax Finance (FRAX) Angle Protocol (agEUR) Flux Finance (fUSD) Tangible (USDR)	Ondo Finance (ONDO) Matrixdock (STBT) Backed Finance (bTokens) Aktionariat (DAKS) Hashnote (SDYC) OpenEden (TBILL)	RealT RWA.xyz SteakFi Avalanche Spruce (AVAX) Canto (CANTO) Kinto Pendle (PENDLE) FortunaFi

VIII. TradFi Institutions Embrace Tokenization

Traditional Finance (TradFi) institutions are increasingly venturing into RWA assets:

<u>UBS</u>: In November 2022, UBS issued a digital-only bond worth 375 million CHF on a blockchain-based platform.

Also, UBS AG introduces the world's first publicly traded digital bond that can be settled on

both blockchain-based and conventional exchanges.

<u>Goldman Sachs</u>: GS DAP, their tokenization platform, goes live, facilitating the issuance of the first fully digital bond on a private blockchain by the European Investment Bank.

Also, Hong Kong issues HK\$800 million in tokenised green bonds using GS DAP.

<u>Siemens</u>: Ventures into blockchain-based bonds, issuing a US\$64 million euro-denominated bond on the Polygon blockchain.

<u>JP Morgan</u>: Implements JPM Coin, its blockchain-based payment system, to introduce euro-denominated payments for corporate clients.

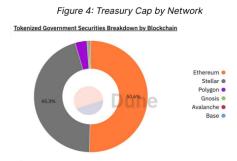
<u>Centralization concerns</u>: Despite institutional involvement, products like JPM Coin and bond tokenization employ private blockchains and centralized entitie

IX. Tokenized Government Securities: A high Surge

Tokenized government securities witnessed a remarkable 450% surge in 2023, reaching a valuation of \$630 million. Key issuers include Ondo Finance, Backed Finance, and traditional finance players like Franklin Templeton.

The rise of on-chain U.S. treasuries can be attributed to the prevailing highinterest-rate environment.





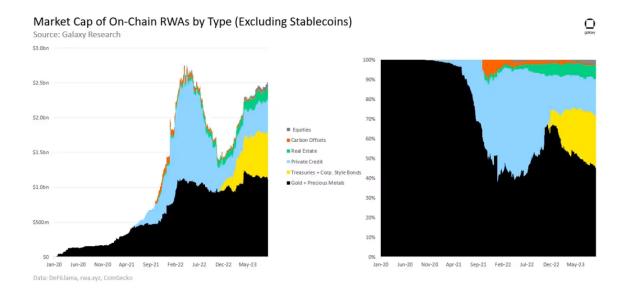
Overview of Forces Propelling the RWA's Growth

Note: In this part, USD stablecoins will not be considered.

I. Composition of RWA's Total Value Locked (TVL)

82% of Total Value Locked (TVL) consists of US Treasury Bills, real estate, and credit, all of which are *yield-bearing assets*.

The market cap of RWAs stood at \$2.49b as of October 2023, which is 9.6% off the \$2.75b all-time high reached on April 19, 2022.



II. Borrower/Lender Dynamics: Flexibility and Rate Protection

Non-stablecoin Real World Assets (RWA) have grown through instruments like Treasuries and other bonds, often provided by non-bank institutions capitalizing on regulatory advantages over banks.

RWA presents a favorable solution for borrowers seeking flexibility that traditional bank loans lack, while lenders benefit from rate protection in the face of fluctuating rates.

III. DeFi Yield Evolution: Attracting Traditional Yield for On-Chain Users

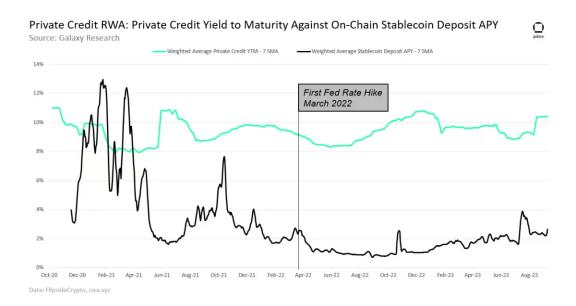
New Product Creation for Off-Chain Yield: A novel product channels off-chain yield, particularly from US Treasury Bills, to on-chain users, providing an alternative to the perceived low returns on lending stablecoins in DeFi platforms.

• **User Incentivization:** In response to the dissatisfaction with low Annual Percentage Yields (APY) in the existing DeFi lending landscape, the new product aims to incentivize on-chain users with a real yield yield, not coming from inflation of DeFi platforms' token.

IV. Yield Comparison: RWA vs. DeFi Protocols

Higher Yield in Private Credit: Depositing stablecoins on private credit yields significantly higher returns compared to DeFi protocols like Compound or Aave.

Calculations involved stablecoins such as DAI, USDT, USDC, FRAX, sUSD, TUSD, and GUSD.



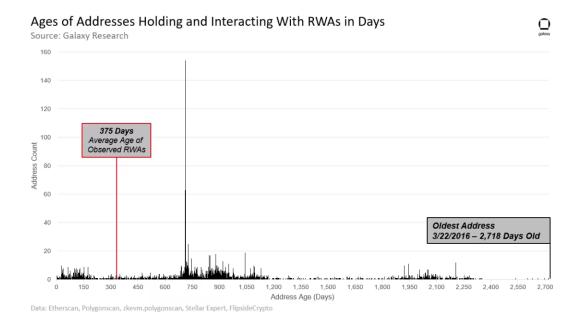
APY Discrepancy: The average Annual Percentage Yield (APY) on Treasury and Bond services has consistently been 3% higher than DeFi stablecoin pools.

V. Collateralization Contrasts: Centrifuge/Clearpool vs. Aave/Compound

However, loans on platforms like Aave or Compound operate on an overcollateralization model, unlike loans contracted by corporations on platforms like Centrifuge or Clearpool where companies could default on their debts.

VI. On-chain users's lifetime vs RWA

Crypto Native User Base: The average user engaging with RWA is already a crypto native user, evident from the average age of user addresses predating the creation of RWA tokens on-chain. This indicates that this sector doesn't bring new fresh on-chain users, but ones accustomed to realizing on-chain transactions.



As of August 31, there were 3,232 unique addresses that held RWA assets issued by the aforementioned companies and protocols. The average age of addresses holding and interacting with RWAs is 882 days, or 2.42 years. This means the average address has been on-chain since April 2021.

This means that 20% of addresses interacting with or holding the aforenoted RWAs started transacting on-chain more than three years prior to 2023 and the rise of RWA assets on-chain.

Ondo Finance

I. Tokenization of Esteemed US Asset Classes

Ondo Finance takes the spotlight by offering institutional-grade financial products, including funds on T-Bill, US Market Maker, and cash management advisory services.

In the ever-evolving landscape of finance, tokenization has emerged as a powerful force, unlocking access to esteemed US asset classes such as US Money Maker (OMMF), US Treasury (OUSG), Short Term Bonds (OSTB), and High Yield Corporate Bond (OMYG). Beyond diversification, these tokenized assets enhance liquidity and provide investors with streamlined access to investment vehicles. Leveraging the infrastructure of traditional funds, investors can now experience

the same management, fees, and track record, bridging the gap between traditional and decentralized finance.



Ondo Finance uses qualified custodians to custody the assets in the fund. A qualified custodian refers to an institution authorised by regulators to hold assets on behalf of clients. These qualified custodians are required to keep client funds in distinct accounts for each client, ensuring that each account is under the client's name.

The primary aim of Ondo Finance is to facilitate and establish connections amongst different participants within the rapidly growing DeFi ecosystem by providing on-chain services. These participants range from DAOs to institutional and mainstream retail investors.

II. Ondo Finance's products

The main products Ondo Finance provides are listed below:

OMMF (US Money Markets):

- Provides liquid exposure to US Money Markets via US government money market funds (MMFs) that offer low-risk investment with stable and predictable returns, in addition to deep liquidity.
- The majority of the portfolio consists of an MMF, with a small portion allocated to US dollars and USDC for liquidity purposes.
- Daily distributions in the form of new tokens are airdropped to token holders. Tokens can be purchased and redeemed for a fixed value of US\$1.

OUSG (Ondo Short-Term US Government Bond Fund)

 Provides liquid exposure to an ETF of short-term US Treasurie (T-bills) that are widely recognized as the lowest-risk and most liquid investment options. The majority of the portfolio consists of the iShares Short Treasury Bond ETF (NASDAQ: SHV) issued by BlackRock. A small portion of USDC and US dollars is allocated for liquidity purposes.

OHYG (Ondo High Yield Corporate Bond Fund)

- Designed to track the investment performance of an index consisting of US dollar-denominated, high-yield corporate bonds.
- The majority of the portfolio is allocated to the iShares iBoxx \$ High Yield Corporate Bond ETF (NYSE: HYG) issued by BlackRock. A small portion of USDC and US dollars is held for liquidity requirements.
- Distributions are automatically reinvested in the underlying fund assets, allowing for investment compounding

Each of these three products is exclusively accessible to qualified investors and institutions, meaning that not every DeFi user has the privilege to utilize these services. However, Ondo recently introduced a new product that extends access to nearly every DeFi user...

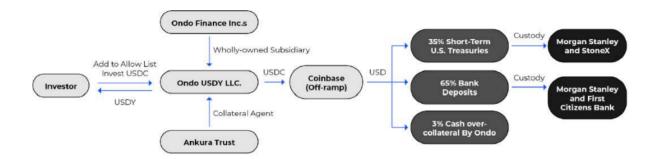
III. USDY Stablecoin: Integrating SEC Reg S and DeFi

Ondo Finance introduces its innovative stablecoin, USDY, on the layer 2 scaling solution, Mantle. This groundbreaking stablecoin is issued by Ondo USDY LLC, a bankruptcy-remote corporation affiliated with the Delaware group, ensuring financial security and resilience.

USDY, serving as a tokenized note of short-term US Treasury Bills, operates under SEC Reg S guidelines, restricting access to non-US citizens. To enhance security and create an exclusive user experience, USDY implements a lock-up period of 40-50 days, delaying the first rewards to end-users within this timeframe, despite reward generation upon deposit.

Notably, the service employs a unique whitelist and blacklist mechanism, allowing users to add their addresses without the need for KYC. The whitelist requires an address to undergo an IP check through a transaction, ensuring a seamless and secure onboarding process. Additionally, the utilization of the InterPlanetary File System (IPFS) for storing USDY implies that users implicitly accept the contract terms from this decentralized storage network, adding an extra layer of transparency and reliability to the stablecoin service.

The following scheme explain the USDY's structure:



Currently, USDY is an interest-bearing token that accumulates yield over time. In November 2023, Ondo Finance also released a rebasing version of USDY, mUSD, on Mantle blockchain. mUSD does not have a whitelist restriction, and it's a rebasing token pegged 1:1 to the value of US dollar, and rebase to update token balance to represent the yield automatically.

IV. DeFi Protocol Integration: Flux Finance and OUSG Collateral

A notable player in this paradigm shift is Flux Finance, a DeFi lending platform leveraging OUSG as loan collateral. Users participate in lending and borrowing activities through the issuance of derivative stable fTokens, representing loan positions. The synergy of Ondo and Flux Finance marks a significant milestone — the inception of the first step toward merging RWA-backed stablecoin security from traditional finance with the efficiency and transparency of blockchain.

V. Effective On-Chain Yield Management with Pendle

Responding to the escalating demand for on-chain yield management, Pendle emerges as a key solution. By introducing fUSDC as the first RWA pool, Pendle facilitates liquidity provision, fixed yield sourcing, and the ability to trade yield fluctuations in fUSDC's APY. This move is particularly crucial given the centrality of the interest rate market in traditional finance, providing institutions with a means to manage on-chain exposure effectively.

VI. Challenges in the Convergence

As this convergence of tokenized assets and DeFi unfolds, challenges surface:

AML restrictions mandate compliance in DeFi assets, emphasizing the need for non-compliant asset restrictions.

Timing mismatches between the 24/7 DeFi and the traditional 5-days-a-week model pose liquidity management challenges.

Sales restrictions based on country-specific regulations and navigating asset ownership complexities underscore the need for thoughtful consideration in this transformative journey.

VII. Ondo Finance token: ONDO

Token utility

ONDO token only has a DAO governance power by stacking the token. There is no value accrual mechanism which could encourage DeFi users

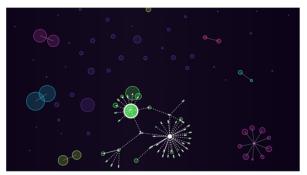
Token Allocation — Lockup Schedule



The initial token launch date for ONDO was the January 17th, 2024. Most Ondo Finance tokens have long-term lockups. Community Access Sale unlocks linearly per month for 1 year starting January 2024 with around 0.02% of the total supply each month. The core team members have 48 month lock-ups when they join, with a 12-month cliff. Rewards that have been distributed have no lock-ups. Ondo tokenomics are working by big release every year from 2025 to 2029 (19.4% of the total supply).

However, around 50% has been distributed via Private Sale (12.5%), Protocol Development (33%) and Community Access sale (2%). It means that we should see a huge concentration of ONDO holders in top 10 or Top 20.





Indeed, we can see from the graph on the left that only one account holds 79.55% of the supply. However, it's corresponding to the distribution contract that will release tokens throughout the years. Moreover, the image on the right shows that there are several clusters in ONDO's supply. But, there are small ones since the biggest shown represents only 2.9% of the supply.

Governance

Initially, the DAO and its members will be the main providers of products and services on the platform but over time we see these roles as likely diverging. Among other responsibilities, the DAO can choose who is able to create products on the platform, as well as manage the incentives such as revenue sharing to reward those creators.

Formally, the Ondo DAO will control the parameters behind the smart contracts of the Ondo Protocol. ONDO token holders will govern the DAO and have the ability to change a wide range of its parameters by vote by acting as the administrator for the functions defined under "Roles".

The Ondo Protocol uses OpenZeppelin's AccessControl library to implement role-based access control (RBAC). RBAC is a popular security methodology for breaking down a system's functionality into coherent groups. Each role has an admin responsible for adding and removing others from the role, whether an externally-owned account (EOA), a smart contract, or a multi-signature account controlled by a group of EOAs.

Challenges

I. Legal and regulatory compliance

Description:

Tokenization needs a legal framework for the transfer of ownership. In other words,

how do we ensure that a token transfer means transferring the ownership of the underlying asset? Market participants holding or trading tokens (e.g., VASP) are subject to AML/KYC regulations and must ensure the identity of their clients.

<u>Possible solution</u>: Decentralized Digital Identity, utilizing Zero Knowledge technology, automates the secure sharing of personal and financial information while preserving privacy and linking ownership to a real identity. Not only does it streamline and simplify KYC/AML procedures, but it also offers a comprehensive solution to identity management.

II. Valuation and audits implication

Description:

How do we enforce a proper price discovery mechanism that allows the token to trade close to the "intrinsic" or nominal value of different tokenized assets? And how do we ensure stringent collateralization standards when institutions hold crypto?

Possible solution:

- Acknowledging a set of token standards, then using oracle data-feed solutions run by oversight bodies (personal nodes) to query the value of assets in question from the real world.
 - Example: ERC 2258 splitting custodial and beneficial ownership, ERC 3643 bringing more control for post-issuance operations, like guaranteeing ownership as tokens are linked with on-chain identity.
- Leveraging Chainlink's Proof-of-Reserves, combined with traditional audits, to ensure real-time compliance and satisfy high-collateralization requirements

III. Standardized laws and regulations

Description:

How can tokenized securities spanning across multiple jurisdictions operate in a globally compliant manner?

Possible solution:

- A common taxonomy for digital assets, like 21Shares' Global Crypto
 Classification Standard (GCCS), used in conjunction with existing riskmanagement frameworks that can then be tailored for blockchain-based
 securities.
- Moreover, collaboration between token issuers, regulators, serviceproviders, and investors is necessary for effective regulation.

IV. Security and scalability

Description:

Public blockchains must demonstrate resilience against cyber-security attacks and scale to the demands of the global financial system.

Possible solution:

Use the regulated sandbox environments that allow for experimentation with novel securitized implementations such as the *European Blockchain Regulatory*Sandbox.

V. Collaboration between the multiple key stakeholders

Description:

There is a need for a standard for bringing assets on-chain to minimize human intervention and make things as scalable as possible.

Possible solution:

Interoperability solutions connecting traditional and blockchain native platforms like Chainlink CCIP connecting banks and public blockchains, demonstrated by Chainlink and ANZ pilot trial.

Conclusion

Real World Asset is currently a bear-market driven sector because the most popular service is yield bearing stalecoins. Also, the sector took advantage of the aggressive FED policy between 2021 and 2023, where interest rates were very high, and subsequently, very interesting for any investors.

The growth of RWAs, and the introduction of new types of RWAs onchain, is primarily driven by demand from native crypto users as opposed to new crypto

adopters. However, there are early signs of adoption for RWAs by major traditional financial companies like Goldman&Sachs and JP Morgan that illustrate the potential for this budding sector of DeFi to attract new users in the future.

However, there are still several regulation and compliance hurdles to overcome in the coming years.

On the other side, Ondo Finance is the best-in-class protocol at the moment to serve off-chain yield to on-chain users (qualified investors and DeFi users). However, ONDO's very poor tokenomics (Uniswap like) without any value accrual mechanism doesn't push DeFi users to put a buying pressure on token's price.

Sources

https://medium.com/centrifuge/blocktower-credit-and-makerdao-to-fund-220-million-of-real-world-assets-through-centrifuge-b52d0fab0fee

https://assets-global.website-

files.com/64c178af8c7b9aa0bb415c9f/652d2dc5ea81432d2a35f1d2_The State of Tokenization by 21.co.pdf

https://centrifuge.mirror.xyz/GvbcoLjL0Off3YO4YNsIQ5nDJ6SZO7CXaN5r46Fxk9Ihttps://centrifuge.mirror.xyz/4YyKUbQ1wm0rBtVW-M_RD4bn9rE1Q9edY-MJNxsKymY

https://www.rwa.xyz/blog

https://drive.google.com/file/d/17_HCDYbBhuYYjRhUa-F4C07lGhiHvbDf/view

https://www.galaxy.com/insights/research/overview-of-on-chain-rwas/ https://thetokenizer.io/2023/12/06/digift-and-hashkey-capital-jointly-release-an-rwa-report/

https://contenthub-static.crypto.com/wp_media/2023/08/Crypto.com-Real-World-Assets-Bringing-Real-World-Value-to-DeFi-2.pdf

https://research.nansen.ai/articles/exploring-the-landscape-of-real-world-asset-protocols#keytakeaways

https://thetokenizer.io/2023/10/31/tokenization-of-real-world-assets-unlocking-a-new-era-of-ownership-trading-and-investment/

https://www.binance.com/en/research/analysis/real-world-assets

https://research.binance.com/static/pdf/real-world-asset-report.pdf

https://www.gate.io/learn/articles/rwa-research-report/860

https://twitter.com/ChainLinkGod/status/1617413274718588928

https://dune.com/21co/tokenization-overview