RWAFi Report

GAIB
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Plume

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Chapter 1: Introduction to RWAFi (Real-World Asset Finance)

1.1 Understanding RWA

RWA refers to tangible and intangible assets that exist outside the digital world. These include physical assets such as real estate, commodities, and infrastructure, as well as financial instruments like bonds and equities. Historically, these assets have been confined to traditional financial markets, where access is often limited by geographic, regulatory, and institutional barriers.

With the advent of blockchain technology, there has been a push to **tokenize RWA**—the process of converting ownership or rights of real-world assets into digital tokens recorded on a blockchain. Tokenization enhances transparency, accessibility, and efficiency by enabling fractional ownership, reducing settlement times, and creating new liquidity pathways.

The basic process to tokenize RWA

- **Asset Evaluation and Certification**: Assess the present value of RWA (e.g., government bonds, real estate) and ensure their legality and authenticity.
- **Asset Digitalization**: Utilize blockchain technology to represent asset ownership or income rights in the form of tokens. These tokens can represent equity assets (e.g., shares) or fixed-income assets (e.g., bonds).
- **Smart Contract Design**: Encode the asset's usage rules, revenue distribution, and transfer mechanisms into smart contracts, enabling automated management and transparent transactions.
- **On-Chain Trading and Transfer**: Tokenized assets are traded on the blockchain, allowing buyers and sellers to transfer and settle assets without relying on intermediaries.
- **Yield Realization**: Investors holding tokens receive income distributions through smart contracts, such as government bond interest or rental income shares.

1.2 The Evolution from RWA to RWAFi

However, merely bringing RWA on-chain is only the **first step** in unlocking their full potential, true financial empowerment of these assets requires more than digitization. The key lies in leveraging blockchain technology to construct transparent, efficient, and liquid on-chain financial markets, and integrate to a broader **DeFi** ecosystem.

RWAFi is the next evolution of RWA, going beyond tokenization to integrate deeply with DeFi protocols. By embedding financial utilities within tokenized RWA, RWAFi enhances liquidity, optimizes yield generation, improves risk management, and enables asset composability.

Feature	RWA Tokenization	RWAFi
Purpose	Basic digitization of assets	Full financial integration into DeFi
Liquidity	Limited to specific platforms	Enhanced via DeFi market participation
Utility	Static representation of ownership	Dynamic use cases (collateral, yield, composability)
Yield Generation	Passive (e.g., rent, interest)	Active via DeFi mechanisms (staking, lending, pools)
Risk Management	Off-chain evaluations	On-chain, programmable safeguards

Chapter 2: The Market of RWAFi

2.1 The Global RWA Market

RWA represents one of the largest and most valuable asset classes in the global economy. These assets include physical properties (e.g., real estate), commodities (e.g., gold), financial instruments (e.g., bonds, equities), AI infrastructure (e.g., GPUs) and even intangible assets like intellectual property and carbon credits. According to rwa.xyz, the total value of on-chain RWA as of March 3, 2025, stands at **$17.9 billion**, with **87,357 total asset holders** participating in this growing market.

2.2 Market Share of Tokenized Assets

- **U.S. Treasuries (50.98%) : Dominance**

  U.S. Treasuries have emerged as one of the most favorable for tokenization, with a total on-chain value of $4.05 billion and an average yield-to-maturity (YTM) of 4.13%. This dominance is driven by their status as a risk-free investment option, given the low likelihood of U.S. government default. Additionally, the Federal Reserve's restrictive monetary policy in recent years has further bolstered their appeal. Leading issuers in this space include financial giants like Franklin Templeton and BlackRock.

- **Private Credits (27.44%) and Commodities (14.80%): Key Players**

  Following U.S. Treasuries, private credits and commodities (primarily gold) rank as the second and third most tokenized asset classes, respectively. Private credits, which include loans and debt instruments, are particularly attractive due to their higher yields compared to traditional fixed-income assets. Meanwhile, gold remains a popular choice for tokenization, offering a stable store of value and a hedge against inflation.

- **Real Estate, AI Infrastructure, and Carbon Credits: Emerging Sectors**

  While traditional assets like Treasuries and private credits dominate the current market, emerging sectors such as real estate, AI infrastructure, and carbon credits are gaining traction. These asset classes reflect the growing diversity of tokenized RWA and highlight the potential for blockchain technology to unlock value in previously illiquid or inaccessible markets.

Example: Tokenize & Financialize GPUs and their yields

GAIB, is the first economic layer for AI Compute, creating a new type of yield bearing assets backed by real AI demands. It tokenizes enterprise-grade GPUs and their yields, creating a decentralized liquid market for compute assets, addressing the growing demand for high-performance computing while giving investors direct exposure to GPU assets. The platform supports a range of DeFi applications, including GPU-backed synthetic dollars, lending and borrowing, options and futures, and other derivatives.

RWAFi are poised to unlock a significant portion of the financial utilities by bringing these assets on-chain and integrating them into border DeFi ecosystems. This innovation has the potential to unlock trillions of dollars in value by addressing key inefficiencies in traditional markets, such as:

- **Illiquidity**: Tokenization enables fractional ownership, allowing smaller investors to participate in high-value assets like real estate or fine art.
- **High Barriers to Entry**: Geographic, regulatory, and institutional barriers are reduced, democratizing access to global markets.
- **Inefficient Settlement**: Blockchain-based settlement reduces transaction times from days or weeks to minutes or seconds.
- **Reduced Transaction Costs**: Traditional financial systems often involve high fees for intermediaries (e.g., banks, brokers) and complex cross-border processes. RWAFi leverages blockchain’s decentralized nature and smart contracts to connect buyers and sellers directly, significantly lowering transaction costs.

2.3 The Market Potential for RWA

According to Security Token Market, the market cap for tokenized securities is more than 45 billion U.S. Dollar (Jan, 2025).

- **Real Estate Tokenization**: Real estate is expected to become the largest type of tokenized asset classes, making it a prime candidate for tokenization. The tokenized real estate market alone could account for 3 trillion U.S. dollars by 2030
- **Commodities and Infrastructure**: Tokenizing commodities (e.g., gold, oil) and AI infrastructure assets (e.g., GPUs) could unlock significant value, particularly in emerging markets.
- **Financial Instruments**: Tokenized bonds, equities, are gaining traction as institutions seek to streamline processes and reduce costs. The tokenized securities market is expected to grow to 22.5 billion by 2032 .
- **Carbon Credits and ESG Assets**: The growing focus on environmental, social, and governance (ESG) initiatives is driving demand for tokenized carbon credits and other ESG-related assets.

Chapter3. Macro Environment Analysis

3.1 Macroeconomic Impact on RWA

The macroeconomic environment for RWA is experiencing profound changes, shaped by a combination of factors including inflationary pressures, interest rate policies, and ongoing global supply chain disruptions. As of 2025, the global economic landscape is navigating a delicate balance between curbing inflation and sustaining economic growth, with implications for RWA markets across various asset classes.

- **Global GDP Growth and Inflation**

  Global GDP growth projections for 2025 have been revised downwards by the World Bank. The global economy is now expected to grow by just 2.7%, a decline from 3.2% in 2024. This deceleration is primarily attributed to the persistent inflationary pressures, geopolitical tensions, and the ripple effects of supply chain disruptions that continue to hinder global trade and production. In particular, the slowdown in China's economic recovery, alongside reduced consumer spending in the U.S. and Europe, is dampening global demand.

  Inflation remains a critical concern, with the global inflation rate hovering around 4.3% This is above the target inflation rate set by most central banks, prompting monetary tightening measures across developed economies. For example, the U.S. Federal Reserve's key interest rate has remained steady in the range of 4.25% to 4.50% as of March 2025, signaling that inflation control remains a top priority. Similarly, while the

Bank of England stands at 4.5% in an attempt to stabilize inflation. These high rates are a response to persistent cost pressures, particularly in energy, food, and labor markets.

For RWAs, higher interest rates increase the cost of capital, making some investments less attractive, particularly those requiring long-term debt financing. The real estate sector, for example, which has traditionally been a strong source of RWA, is already showing signs of slowdown, with U.S. commercial real estate transaction volumes dropping by 15% year-on-year due to rising borrowing costs.

3.2 Political Climate for RWA

The political climate surrounding the tokenization of RWAs has become increasingly favorable as governments and regulatory bodies around the world recognize the potential of blockchain technology to transform traditional asset markets. By embracing digitalization and offering clear regulations, various jurisdictions are laying the foundation for the tokenization of a wide range of RWAs, from real estate and commodities to intellectual property and beyond. These regulatory efforts are essential for the growth of asset tokenization, ensuring investor protection, market efficiency, and broader acceptance of blockchain-based financial products.

- Singapore has taken a leading role in establishing regulations for tokenized assets. In November 2024, the Monetary Authority of Singapore (MAS) outlined its strategic initiatives to foster the growth of asset tokenization. This regulatory effort is focused on improving the liquidity of tokenized assets, thereby creating more efficient and accessible markets for digital representations of RWAs. By offering regulatory clarity, Singapore has solidified its position as a global hub for digital asset innovation, including AI-powered financial products.
- The European Union has also been advancing its regulatory framework to facilitate the tokenization of RWAs. The European Commission introduced the "Digital Finance Package," a comprehensive set of guidelines aimed at governing market operators involved with tokenized securities and DeFi. The package establishes a supportive regulatory environment to ensure that tokenized RWAs—such as real estate and bonds—can be smoothly integrated into the EU's broader financial ecosystem. Moreover, the ECB has been investigating the potential of tokenizing traditional assets, with pilot projects initiated in 2024 to assess the feasibility of tokenized government bonds in cross-border transactions.
- In the United States, the Securities and Exchange Commission (SEC) has shown increasing engagement with tokenized assets. In 2024, the SEC issued updated guidance on the classification of tokenized real estate and commodities under existing securities laws. This new clarity provides a defined regulatory framework for financial institutions and asset managers to tokenize RWAs. Additionally, states like Wyoming have enacted legislation to support the use of blockchain for asset tokenization, creating a favorable environment for startups and investors in the digital asset space.

Chapter 4. Segmentation of RWAFi

4.1 Public Blockchain

Plume

Overview: Plume is a public blockchain focused on the tokenization and integration of RWAs into the digital economy. By utilizing DeFi infrastructure and vertically integrated technology, Plume makes RWAs such as real estate, commodities, and revenue streams more accessible, liquid, and efficient. The platform aims to bring tangible, yield-bearing assets into the blockchain space, meeting the growing demand for stability, transparency, and income-generating opportunities.

Mission: Plume's mission is to bridge the gap between traditional finance and the cryptocurrency ecosystem by aligning with real market demand. It provides a robust framework for compliance, transparency, and interoperability, ensuring that tokenized RWAs are compatible with regulatory requirements. Plume seeks to create a more inclusive, efficient, and demand-driven financial system, unlocking new opportunities for global participation in asset ownership and investment.

Features

- Comprehensive Ecosystem: Plume supports a vibrant ecosystem with over 180 applications and protocols, driving innovation and collaboration across the platform.
- User Engagement & Partnerships: Plume has attracted significant user interest, with 3.75 million unique users and 265 million transactions during its testnet campaign. It also has strategic partnerships with industry players to enhance market reach and amplify demand.
- Full-Stack Technology: The platform's vertically integrated, full-stack technology enables seamless interaction between assets, applications, and users, ensuring scalability and efficiency across multiple chains.
- RWAFi Composability: Plume focuses on the composability of RWAs, allowing them to integrate with various DeFi applications, enabling the creation of complex, yield-bearing financial products.

4.2 Compute Asset

GAIB

Overview: GAIB is the first AI Economic Layer for AI & Compute, a pioneering platform that creates yield-bearing assets backed by real AI demands. By tokenizing enterprise-grade GPUs and their yields, GAIB facilitates a decentralized, liquid market for compute assets, addressing the rising demand for high-performance computing. This provides investors direct exposure to GPU assets and supports a variety of DeFi applications, such as lending and borrowing, options, futures, and other derivatives.

Mission: GAIB's mission is to create a seamless economic layer for AI and compute by enabling access to high-demand AI assets, democratizing participation in the AI economy, and unlocking new investment opportunities. Through tokenizing GPUs and integrating decentralized finance, GAIB fosters scalable, secure, and transparent solutions that support the next generation of AI-driven growth.

Features

- Tokenization of GPUs: Transforming enterprise-grade GPUs into tradable, yield-bearing ERC-20 tokens that allow for liquidity and investment in AI infrastructure.
- AI Compute Financing: Structuring innovative financing deals with cloud providers and data centers to accelerate infrastructure expansion, offering flexible, transparent capital solutions.
- DeFi Integration: Leveraging DeFi protocols to create a robust ecosystem around tokenized AI assets, enabling yield generation, staking, and personalized strategies for investors.
- Innovative Financial Products:Developing new financial primitives that enable exposure to AI growth, including AI Synthetic Dollars and other derivatives for users with diverse risk-reward profiles.

4.3 Real Estate

Propy

Overview: Propy is a blockchain-based real estate platform that simplifies the process of buying, selling, and managing properties globally by leveraging the power of tokenization and decentralized technologies. It enables users to execute real estate transactions through smart contracts and provides a seamless, secure platform for international property deals. Propy tokenizes real estate assets, making them easily transferable and tradable while ensuring transparency and legal compliance across borders.

Mission: Propy's mission is to automate the real estate transaction process. Propy-developed infrastructure allows for three types of transactions that are demanded today. In order to achieve settlement for a property transfer, the system of smart contracts needs to receive data about the entire transaction, such as the title history, the payment and e-signed paperwork. It also needs to communicate to the current infrastructure - recording offices and banks for fiat payments. This is why Propy has been working on the critical integrations to make this data flow in and out and power the settlement.

Features

- Tokenization of Real Estate: Propy allows real estate properties to be tokenized, enabling fractional ownership and making high-value properties accessible to a wider range of investors.
- Smart Contracts for Transactions: Utilizing blockchain and smart contracts, Propy ensures fast, secure, and transparent property transfers without the need for intermediaries such as lawyers or notaries.

- Global Reach: Propy facilitates cross-border transactions, enabling property sales and purchases from anywhere in the world with ease and efficiency.
- Regulatory Compliance: The platform adheres to local and international real estate and securities regulations, ensuring legal clarity and protecting the interests of investors.
- Real Estate Marketplaces: Propy provides a marketplace for buyers and sellers, allowing users to view listings, negotiate, and finalize transactions directly on the platform.

4.4 Financial Instruments

Ondo Finance
Overview: Ondo Finance is a DeFi platform that bridges traditional finance and blockchain technology by enabling the tokenization of RWAs, such as U.S. Treasuries and money market funds.

Mission: Ondo Finance's mission is to enhance market efficiency, transparency, and accessibility by integrating traditional financial instruments with DeFi solutions. The platform strives to provide investors with innovative, yield-generating products while maintaining regulatory compliance and security. citeturn0search1

Features

- Tokenized Securities: Ondo offers tokenized versions of funds, such as ETFs and money market funds, allowing users to trade these assets without traditional intermediaries.
- USDY Stablecoin: USDY is a yield-bearing stablecoin backed by short-term U.S. Treasuries and bank deposits, offering an annual percentage yield (APY) around 5%.
- OUSG Investment: OUSG provides qualified institutional investors exposure to U.S. government treasuries through tokenized funds managed by BlackRock, facilitating 24/7 trading and flexible investment options.

Chapter 5. Conclusion

The rise of RWAFi represents a transformative shift in the global financial ecosystem. By integrating tokenized RWA with various DeFi protocols, RWAFi is unlocking the full value/ financial utilities of RWAs, creating a more inclusive, efficient, and transparent financial system.

5.1 Unlocking the Full Financial Utilities of RWA

RWAFi goes beyond tokenization by embedding financial utilities into RWAs, enabling them to interact seamlessly with the DeFi ecosystem. This integration unlocks the full potential of RWA through:

- **Enhanced Liquidity**: Tokenization enables fractional ownership, allowing smaller investors to participate in high-value assets like real estate, commodities, and AI infrastructure.
- **Programmable Utilities**: Smart contracts automate processes like yield distribution, risk management, and compliance, reducing costs and increasing transparency.
- **Global Accessibility**: RWAFi eliminates geographic and institutional barriers, enabling seamless cross-border transactions and democratizing access to wealth.

Tokenized RWA can be used as collateral for loans, enabling users to access liquidity without selling their assets.

- **Yield Generation**: RWAFi enables RWA to generate yields through staking, liquidity provision, and other DeFi mechanisms.
- **Derivatives and Synthetics**: Tokenized RWA can be used to create derivatives and synthetic assets, expanding their utility and market reach.
- **Composability**: RWAFi allows tokenized RWA to interact with multiple DeFi protocols, creating new financial products and services.

5.2 The Road Ahead

- **Emergence of New Asset Classes:** RWAFi is creating entirely new asset classes, such as tokenized AI compute (e.g., GAIB's GPU-backed loans) and carbon credits, which align with the growing demand for sustainable and tech-driven investments.
- **Regulatory Evolution**: Governments and regulators are beginning to recognize the potential of RWAFi, with frameworks like the EU's MiCA Regulation and Singapore's Project Guardian paving the way for broader adoption. Clear and consistent regulations will be critical to scaling RWAFi globally.
- **Technological Advancements**: Improvements in blockchain scalability, interoperability, and security will drive the next wave of RWAFi innovation.

In this future, RWAFi will not only reshape global capital markets but also empower individuals and institutions to participate in a more equitable and sustainable financial system.