

# Tokenization: Overview and Case-Studies of financial regulated Institutions bringing assets On-chain

## Abstract

In this research, we explore tokenization, a new and fast-growing trend in the world of crypto asset markets, and discuss its potential benefits. We also look at a few case-studies on how regulated financial institutions are bringing assets on-chain.

Tokenization is about creating digital versions, or crypto tokens, for real-world assets. This process builds connections between the digital asset world and the traditional financial system. When enough assets are tokenized, it could cause changes in value in the crypto markets to affect the value of the real-world assets the crypto tokens represent.

## Tokenization Design features

Tokenization is a way of turning real things into digital tokens. It has many different styles and features. Generally, when something is tokenized, it goes through five main steps:

1. Using a blockchain: This is like a digital ledger where all the details of the token are kept.
2. Choosing a reference asset: This is the real thing that's being turned into a digital token.
3. Valuing the reference asset: Figuring out how much the real thing is worth.
4. Storing or looking after the reference asset: Making sure the real thing is kept safe.
5. Making a way for people to swap the token or the real thing: This helps people exchange the digital token or the real thing whenever they want.

All these steps help connect the digital token market with the real world market. The way these steps are done can make different types of tokens and can affect the regular financial markets.

The first step, using a blockchain, can be done in two ways:

- Private blockchain: Controlled by one group, and only certain people can use it.
- Public blockchain: Open for anyone to use without needing permission.

Tokens on a public blockchain are easy for anyone to use and can be part of other online financial activities. On the other hand, tokens on a private blockchain are more controlled by the group that created them.

In simple terms, tokenization is about turning real things into digital tokens in a way that lets them be part of the digital financial world, and there are many ways to do it depending on what's being tokenized and how it's being managed.

## Benefits of Tokenization

Tokenizations can offer a range of benefits by giving investors access to markets that might be hard or expensive to enter otherwise. For instance, through real estate tokenizations, investors can buy a fraction of a property instead of going through **real estate investment trusts (REITs)** which involve portfolios of properties. The programmability of crypto tokens, enhanced by smart contracts, allows for added features in the tokenized asset which could also benefit the markets of the underlying reference assets.

For example, liquidity saving mechanisms could be integrated in the settlement of the tokenized asset, a feature not always possible with its real-world counterpart. This could lower barriers to entry for a broader set of investors, leading to more competitive and liquid markets, and better price discovery. Additionally, tokenizations can ease lending with tokens used as collateral, like in the case of tokenized grain, making transactions in the tokenized asset settle more quickly compared to their real-world reference

assets. This faster settlement can make lending less costly or more feasible, compared to when secured by the reference asset.

Token Issuer	Token Name	Token Blockchain	Blockchain Type	First Issued
European Investment Bank	Bond-specific tokens	GS DAP	Permissioned	Nov-22
European Investment Bank	Bond-specific tokens	HSBC Orion	Permissioned	Jan-23
Onyx by J.P. Morgan	Repo security-specific tokens	Onyx Digital Assets	Permissioned	Nov-20
Obligate	Bond-specific tokens	Polygon	Permissionless	Mar-23
Franklin Templeton	BENJI	Stellar & Polygon	Permissionless	Apr-23
Ondo Finance	OUSG	Ethereum	Permissionless	Jan-23
RealT Tokens	Multiple, property specific tokens	Ethereum	Permissionless	Nov-21
MatrixDock	STBT	Ethereum	Permissionless	Feb-23
Lofty	Multiple, property specific tokens	Algorand	Permissionless	Aug-22
Tangible	USDR	Polygon	Permissionless	Oct-22
Aktionariat	DAKS	Ethereum	Permissionless	Jan-21
Agrotoken	SOYA	Ethereum	Permissionless	Mar-21
Agrotoken	CORA	Ethereum	Permissionless	Sep-21
Agrotoken	WHEA	Ethereum	Permissionless	Dec-21
Paxos Trust Company	PAXG	Ethereum	Permissionless	Sep-19
TG Commodities Limited	TXAUT	Ethereum	Permissionless	Jan-20
Vave	Property-specific token, bundled token	Ethereum	Permissionless	Aug-23
Toucan Protocol	TCO2	Polygon& Celo	Permissionless	Oct-21
Centrifuge	DROP/TIN	Ethereum	Permissionless	Jun-21
Goldfinch	Pool-specific tokens	Ethereum	Permissionless	Nov-21

### Tokenization examples with Blockchain characteristics

# **Blockchain Adoption in Asset Management: A Case Study of Franklin Templeton**



## **FRANKLIN TEMPLETON INVESTMENTS**

### **Background**

#### **Organisation**

Franklin Templeton, a global asset manager with American roots and over \$1.3 trillion in assets under management (AUM), has been a pioneer in digital asset adoption. The firm believes blockchain technology has the potential to revolutionise the financial services industry, underscored by several product launches in recent years.

These include a Separately Managed Account (SMA) through Eaglebrook Advisors' platform, a blockchain-focused venture capital fund, and a blockchain-focused private equity fund.

## Latest Venture

### Franklin OnChain US Government Money Fund (FOBXX):



Making headlines, Franklin Templeton launched FOBXX on the Stellar and Polygon blockchain networks. This fund is a Government Money Market Fund registered under the Investment Company Act of 1940, with a mandate to invest at least 99.5% of its total assets in government securities, cash, and repurchase agreements fully collateralized by government securities or cash. The aim is to maintain a stable \$1 share price akin to many other money market funds.

## Blockchain Utilization

The firm maintains an internal ledger as a regulated Transfer Agent while employing Stellar and Polygon blockchains to process transactions and record share ownership as a secondary ledger.

Shares in FOBXX are represented as 'BENJI' tokens, allowing investors to purchase these tokens via a mobile application called 'Benji Investments', developed by Franklin Templeton and available on both Apple Store and Google Play.

Franklin Templeton continues to see operational efficiencies through use of a blockchain-integrated system, including increased security, faster transaction processing and reduced costs, benefiting Fund shareholders. The Fund's

transfer agent maintains the official record of share ownership via a proprietary blockchain-integrated system that utilises blockchain technology for transaction activity.

## **Market Focus**

Target Audience: Initially, BENJI is tailored for US investors, ranging from retail to institutions. The product stands out for being highly regulated, which is comforting for investors. However, it's noted that BENJI tokens cannot be purchased with stablecoins, and once purchased, they sit idle with limited utility or leverage.

Access: Corporate and institutional users can access the products via Benji.institutional's platform by transferring USD fiat via ACH or wire transfer. Other platforms like Fidelity, Charles Schwab, or Robinhood also offer access to this asset class.

## **Traction**

Asset Growth: As of April, FOBXX has amassed over \$270 million in AUM. Notably, the Stellar Foundation invested about \$20 million of its own capital. This data can be verified through semiannual Regulatory Documents.

Regulatory Adherence: Franklin Templeton, being a heavily regulated entity, has publicly disclosed its service providers from auditors, custodians to payment agents, and complies with a plethora of regulatory obligations such as mandatory reporting, annual audited financials, semi-annual reports, and more, emphasizing transparency and investor protection.

## Future Prospects

Peer-to-Peer (P2P) Functionality: There's anticipation for enabling P2P transfer functionality of BENJI tokens. Whitelisted parties might create pools or use BENJI tokens as trading collateral.

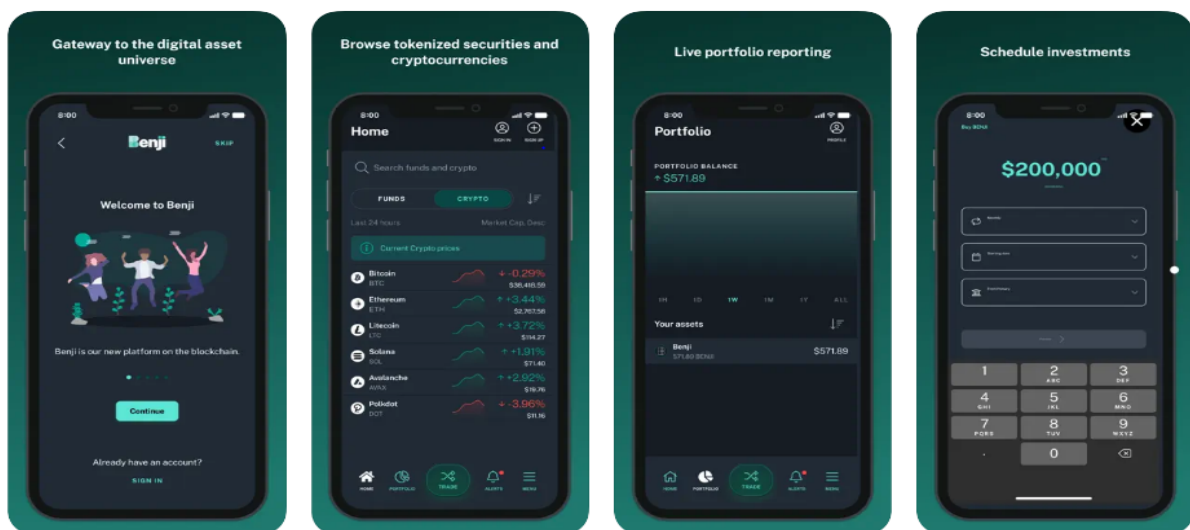
## Consumer Fintech Application

The vision for the Benji Investments mobile application to morph into a fully-fledged consumer fintech application is captivating, and its traction is to be closely monitored.



**Benji Investments** 4+  
Franklin Advisers, Inc.  
★★★★★ 4.6 • 9 Ratings  
Free

### iPhone Screenshots



## Regulations

BENJI stands unrivalled in terms of investor protection and transparency among other tokenized treasury products. The case of Franklin Templeton highlights an exemplary blend of traditional asset management with blockchain innovation, setting a substantial precedent in the financial industry.

Being a regulated entity, Franklin Templeton is mandated to comply with numerous obligations including:

- **Mandatory Reporting:** Periodic disclosure of essential information.
- **Annual Audited Financials:** Yearly financial examinations by an external auditor.
- **Semi-Annual Reports:** Bi-annual financial reporting.
- **Trade Confirmations:** Verification of trading activities.
- **Monthly Statements of Account:** Monthly dissemination of account statuses.
- **Daily NAV:** Daily disclosure of the Net Asset Value.
- **SEC Filings on Material Events:** Reporting significant events to the Securities and Exchange Commission.
- **Investment Company Act of 1940 Requirements:** Compliance with regulatory standards set forth in the Act.
- **Assets Held in Trust:** Ensuring assets are securely held in trust.
- **Independent Auditor:** Engaging an external auditor for unbiased financial assessment.
- **Independent Administrator:** Appointing an external administrator for impartial oversight.
- **Independent Board of Trustees:** Establishing an external board for unbiased governance.
- **Periodic Financial Reporting:** Regular disclosure of financial data.

These obligations showcase Franklin Templeton's commitment to maintaining transparency, trust, and compliance in its operations.



# Blockchain Adoption in Asset Management: A Case Study on WisdomTreePrime



## Background

## Organisation

WisdomTree Investments, Inc., a prominent player in the ETF and ETP arena, is publicly listed on NASDAQ with a global AUM of around \$80 billion. In January 2022, WisdomTree unveiled its direct-to-consumer fintech offering named 'WisdomTree Prime', aiming to provide US investors with a diverse range of investment opportunities spanning government debt to commodities, all blockchain-native.

## Implementation

WisdomTree received SEC approval in December for its suite of 10 digital funds, akin to offerings by Franklin Templeton and Arca. These funds are aligned with the '40 Act, with a transfer agent maintaining the primary record of share ownership traditionally, and a secondary record on either Stellar or Ethereum blockchains.

list of products mentioned in their digital product

- WisdomTree Short-Term Treasury Digital Fund (WTSYX)\*
- WisdomTree 3-7 Year Treasury Digital Fund\*
- WisdomTree 7-10 Year Treasury Digital Fund\*
- WisdomTree Long Term Treasury Digital Fund\*
- WisdomTree Floating Rate Treasury Digital Fund\*
- WisdomTree TIPS Digital Fund\*
- WisdomTree 500 Digital Fund\*
- WisdomTree Technology and Innovation 100 Digital Fund
- WisdomTree Short-Duration Income Digital Fund
- WisdomTree S&P 500 Twitter Sentiment Digital Fund

The relevant US-treasuries products are the followings:

### Short Term Government

- Short-Term Treasury Digital Fund (WTSYX)
- Floating Rate Treasury Digital Fund (FLTXX)

### Government

- 3-7 Year Treasury Digital Fund (WTTSX)
- 7-10 Year Treasury Digital Fund (WTSTX)
- Long-Term Treasury Digital Fund (WTLGX)

### Interest Rate Strategies

- TIPS Digital Fund (TIPXX)

## **Target Market**

### **Focus on Retail**

Contrary to targeting institutional crypto investors, WisdomTree Prime is designed for US self-directed retail investors. Partnering with Stride and Galileo for payments, users can pre-fund their accounts via ACH transfers, with funds custodied at State Street. An initial virtual Visa debit card offering, compatible with major mobile payment platforms, is set to be followed by a physical card release.

### **Traction**

Early Stage Performance: As per the official website, the Short-Term Treasury Digital Fund (WTSYX) has garnered around \$1M AUM, although it's still in beta and not widely accessible.

### **Commentary**

WisdomTree's venture signifies a notable stride towards intertwining traditional finance (TradFi) with crypto, showcasing a commitment to evolve ETFs with blockchain technology

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Investor Protection and Transparency: Aligning with industry giants like Franklin Templeton on regulatory compliance and investor protection, WisdomTree collaborates with institutional entities like Securrency Transfers, Inc., and State Street Bank and Trust Company for product implementation. The absence of management fees initially for most tokenized fund products is a favorable aspect.

Mobile Application Accessibility: Similar to Franklin Templeton, a dedicated mobile app is required for investors to access these products, offering a streamlined user interface.

The forthcoming card functionalities of WisdomTree Prime present an intriguing aspect, providing a seamless spending solution for investors.

Future Insights

Observing the card capabilities and the wider launch of beta products like WTSYX will provide further insights into the potential impact and acceptance of blockchain-based offerings in mainstream asset management.



# **Blockchain Adoption in Asset Management: A Case Study on Arca Labs(40 Act Fund)**



## **Background**

### **Organization**

Arca, a U.S. financial institution venturing in the digital assets domain, spearheads its innovative division, Arca Labs, which launched the pioneering public '40 Act Fund with digital asset securities in 2020. This initiative is housed under the 'Blockchain Transferred Fund' (BTF) umbrella where shares morph into blockchain tokens and find a home in digital wallets, ensuring self-custody.

### **Product Unveiled**

ArCoin, representing shares of the Arca US Treasury Fund, is minted upon successful subscription, with each share priced at the Fund's Net Asset Value (NAV). Structured as ERC-20 digital asset securities on the Ethereum Blockchain, ArCoins are akin to uncertificated securities with a digital shareholder register visible on the blockchain, though the ultimate record ownership resides with the Transfer Agent, regulated by the SEC and managed by Securitize.

## Implementation

### Protocol Utilized

ArCoins operate on the ERC20 smart contract standard with a 'DS Protocol' layer, enabling the issuer to manage lost or compromised tokens effectively. This protocol, an invention of Securitize, fosters enhanced security in token management.



## Welcome to the Arca Labs Investor Dashboard

Create a Securitize iD account in order to continue. Securitize iD is a single sign-in account that provides access to the Arca Labs investment opportunity, as well as other alternative investment opportunities.



1. Create Securitize iD



2. Verify profile



3. Ready to invest



**Create a Securitize ID**

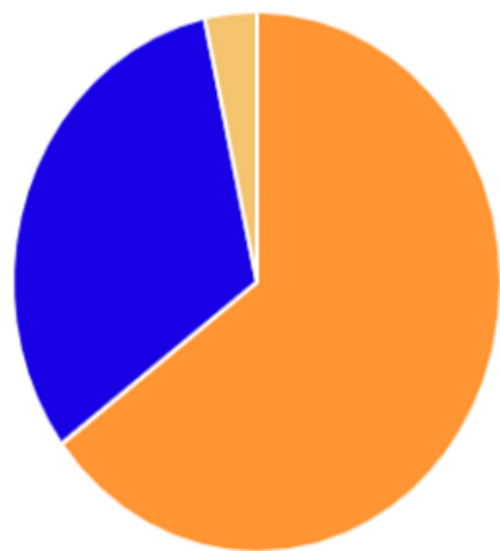
Already have a Securitize iD account? [Log in](#)

# Underlying Fund Composition

The Fund is mandated to allocate a minimum of 80% to US Treasury Securities, aiming for a zero to eight-year average portfolio duration and a zero to five-year dollar-weighted average portfolio maturity, while reserving a maximum of 20% for cash or investment-grade fixed income securities.

## ARCA U.S. TREASURY FUND

### Portfolio Holdings



CUSIP	Security Description	Term	% Portfolio
912796CS6	United States Treasury Bill	6 Month	64.79%
912796ZR3	United States Treasury Bill	6 Month	31.77%
316175504	Money Market	0 Month	3.44%

Portfolio Holdings as of 6/1/2023 4pm ET

## **Flow of Funds**

### **Subscription and Redemption**

Investors can subscribe daily at NAV, with redemptions available monthly at NAV. The total expense ratio stands at 0.75%, sans any redemption or issuance fees. Redemption operates within the first 15 business days of each month, adhering to the SEC's 5% limit on monthly outstanding shares' redemption.

### **Target Market**

Both US and non-US investors, post onboarding via Securitize's KYC/AML process or those possessing a Securitize ID, have the gateway to ArCoin. This inclusive approach caters to retail and accredited/qualified investors, albeit the USD fiat funding requirement might pose a hurdle for international investors.

### **Traction**

As of May 31, 2023, the Fund's net asset value was reported at \$378,826.09.

### **Commentary**

Like Franklin Templeton, ArCoin adheres strictly to regulatory and transparency guidelines. Arca showcases transparency by publicly listing custodians and service providers on their website. Arca's Blockchain Transferred Funds (BTFs) are positioned to shake up the fund management sector, much like ETFs did. Future launches will further reveal Arca's innovative stride.



## Partners

### ARCOIN CUSTODY

**Partnering with leading custodians to lay the groundwork for the digital securities industry.**



**Supported by leading institutions to offer this innovative digital product.**



**Administrator**  
Ultimus Fund Solutions



**Advisor**  
Arca Capital Management, LLC



**Auditor**  
RSM US LLP



**Fund Custodian**  
UMB Bank



**Distributor**  
UMB Distribution Services



**Legal Counsel**  
Morrison Foerster, LLP



**Technology Partner**  
Securitize Inc.



**Transfer Agent**  
Securitize, LLC

# Conclusion

The exploration of Franklin Templeton, Arca Labs, and Wisdom Tree Prime delineates a promising trajectory for financial institutions aiming to transplant their money market funds (MMFs) onto a public blockchain while maintaining a tight grip on regulatory compliances. Here's a synthesised roadmap derived from these case studies:

- **Regulatory Adherence and Partnership**

Align with the regulatory frameworks such as the '40 Act in the US, ensuring robust adherence to KYC/AML protocols.

Engage with regulatory bodies like the SEC and CFTC or their global counterparts to ensure a transparent and compliant operation.

Partner with established legal and audit firms to ensure ongoing compliance and transparent financial reporting.

- **Blockchain Selection and Tokenization**

Choose a reliable and widely-recognized blockchain platform like Ethereum or Stellar for deploying MMFs.

Tokenize the fund shares enabling digital representation and easy transferability while maintaining a precise record of ownership.

Implement smart contracts to automate processes like subscription, redemption, and dividend distribution, enhancing efficiency and transparency.

- **Infrastructure and Security**

Establish a solid infrastructure for fund management on-chain with secure wallets, custody solutions, and a transparent protocol for transactions.

Engage with reputable custodians and prime brokers to ensure the safety and accurate management of assets.

Implement multi-signature wallets or other security protocols to safeguard assets and data on the blockchain.

- **Professional Service Providers**

Collaborate with professional service providers for fund administration, banking, prime brokerage, custody, and audit to ensure a seamless operation. Ensure that these service providers have blockchain proficiency to navigate the on-chain ecosystem efficiently.

- **Investor Onboarding and Education:**

Develop an intuitive platform for investor onboarding, ensuring a smooth KYC/AML process and a clear pathway for fund subscription and redemption. Educate investors on the nuances of blockchain-based MMFs, the associated risks, and the mechanisms for tracking their investments on-chain.

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