BNY INSTITUTE

A New Architecture: Accelerating Private Market Growth

Foreword

Private markets are entering a pivotal inflection point that will define their next phase of growth, one characterized by increasing convergence. As public market constraints have increased, capital requirements have grown, and bank balance sheets have come under pressure, private capital has become an important engine of financing across the global economy.

Private equity, private credit, and other private market strategies continue to expand, becoming more central to capital formation and portfolio construction. Investors are also beginning to view private and public assets as part of a single portfolio, challenging the conventional divide between them. **This convergence is reshaping how capital is raised, deployed, and managed, while increasing the need for infrastructure that can support greater scale, interoperability, and standardization across a more connected ecosystem.**

Yet, while private markets have evolved dramatically, the infrastructure supporting them has not. Much of today's private market lifecycle remains manual, fragmented, and paper-intensive, creating operational friction that limits scale, speed, transparency, and broader participation. As private markets become more integrated into mainstream portfolios, the underlying market architecture must evolve.

This paper outlines a practical framework for modernizing private market infrastructure across four pillars, persistent digital identifiers, structured terms and programmable cash flow logic, certainty of asset servicing and settlement, and collateral utility and financing, to drive more connectivity, transparency, and scale across the private asset lifecycle. In this next phase, the source of alpha will increasingly come from origination, underwriting, and investment insight, not operational complexity. The sections that follow define and explore the core building blocks required to support the continued evolution of private markets.

Gurjit Jagpal, *Global Head of Private Markets Digital Innovation and Executive Platform Owner for Loans*

Brian Ruane, *Global Head of Clearance and Collateral Management, Credit Services and Corporate Trust*

Carolyn Weinberg, *Chief Product and Innovation Officer*

Re-architecting private market infrastructure will catalyze growth and mainstream the alternative investment category by providing access, efficiency, and transparency.

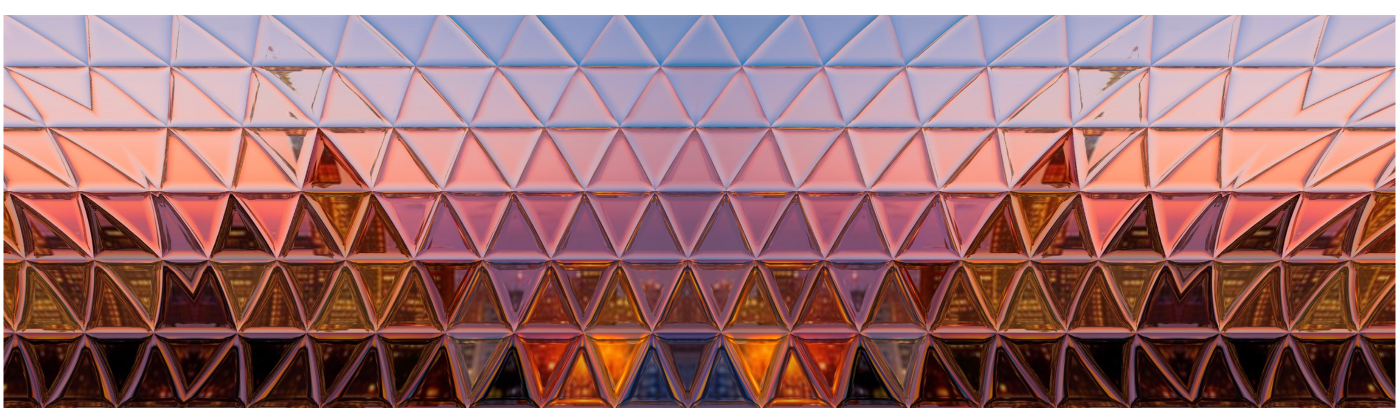
– Brian Ruane

Global Head of Clearance and Collateral Management, Credit Services and Corporate Trust

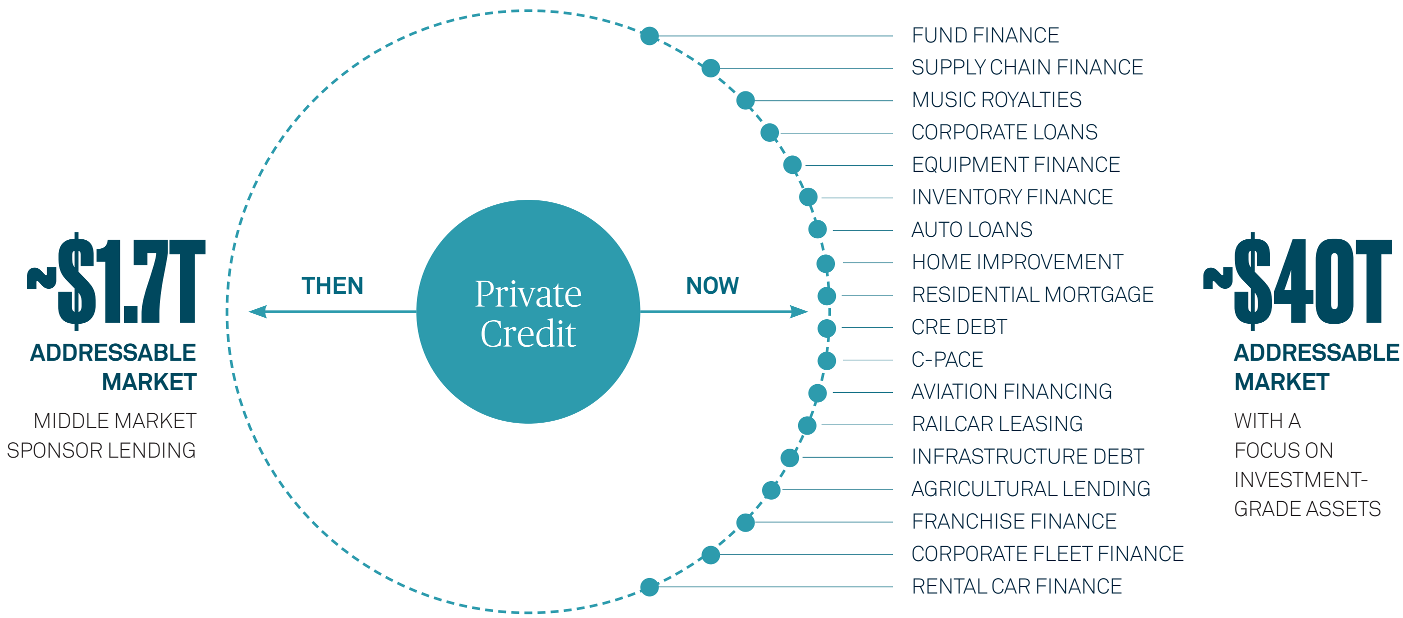
Private Markets and the Inflection Point

Once defined by a concentrated base of institutional investors and closed-end fund structures, private markets are expanding into wealth and advisor channels, driving a new wave of product innovation. Assets under management (AUM) in semi-liquid and evergreen structures have more than doubled since 2022, exceeding $500 billion as of September 2025.[1] More broadly, private markets are becoming increasingly central to how capital is formed, deployed, and scaled across the economy, as private capital is increasingly used to finance a wider range of economic activity.

While AUM continues to expand, the operating models and systems supporting private markets have not kept pace. Asset servicing, cash movements, collateral pledging, and ownership records remain fragmented across intermediaries and disconnected platforms, introducing operational friction as volumes grow and participant ecosystems become more complex. Across the lifecycle, from onboarding and subscription through servicing, capital calls, liquidity events, and secondary activity, legacy infrastructure is straining to support the scale, speed, and flexibility that this next phase of growth demands. This evolution reflects more than a temporary expansion cycle. It represents a structural shift in how capital markets operate. As private assets become more accessible and increasingly coexist alongside public market exposures, the distinction between private and public markets is beginning to blur.



THE PRIVATE CREDIT CATEGORY IS EVOLVING AND GROWING



Source: APOLLO GLOBAL MANAGEMENT

Once viewed as a narrower alternative allocation, private credit is evolving into a much wider financing category, spanning corporate loans, asset-backed lending, real estate debt, infrastructure debt, and other forms of income-oriented exposure. Its growth reflects durable shifts in how capital is intermediated and how investors seek income, diversification, and access to non-public opportunities. As the category broadens in scope and becomes more relevant to portfolio construction, so too does the need for infrastructure that can support better data, transferability, settlement, and liquidity management.

The opportunity goes beyond digitizing processes. Modern market infrastructure enables a more dynamic, liquid, and interconnected ecosystem. Rather than layering technology onto legacy processes, the question becomes what infrastructure is needed for the next stage of private markets growth?

A Four-Pillar Framework for Re-Architecting Private Markets

Private markets' expansion will require a more deliberate redesign of core capabilities, plugging private markets into an interoperable architecture where valuation, custody, servicing, financing, and secondary trading can function as a more integrated system. In private credit especially, where instruments are often bespoke, documentation-heavy, and operationally fragmented, this evolution begins with a small number of foundational building blocks: the ability to identify assets consistently, understand the terms and conditions that govern their behavior and cash flows, transfer them with certainty of settlement, and use them as collateral within broader funding and liquidity frameworks. These aspects form a practical, four-pronged framework for re-architecting private markets infrastructure for a more digital, connected, and scalable future.

> Identifiers, reliable settlement, and evaluated pricing for private market instruments will provide clients with insights that bring to life their whole portfolio across private and public markets with greater precision.
>
> – Hani Kablawi
>
> Executive Vice Chair, Head of Middle East, Africa and Asia Pacific

FOUR PILLARS OF A TRANSFORMED MARKET

A digitally-enabled framework for modernized private markets infrastructure

TRANFORMED PRIVATE MARKETS INFRASTRUCTURE

PILLAR 1

Persistent Identifiers

Consistent asset identification for cleaner data, real-time ownership records, and stronger auditability.

PILLAR 2

Structured Terms and Cash Flow Logic

Structured terms and programmable cash flow logic enable automation, servicing, and reduced reconciliation.

PILLAR 3

Certainty of Asset Servicing and Settlement

Synchronized asset and cash movement reduces transfer times, improves settlement certainty, and reduces operational friction.

PILLAR 4

Collateral Utility and Financing

Greater collateral utility makes private assets more financeable, transferable, and usable in liquidity frameworks.

Pillar One: Persistent Identifiers

Modern private markets require a clearer and more persistent way to identify assets across the lifecycle. Today, ownership records, servicing data, and transaction histories often remain fragmented across counterparties, administrators, and internal systems, creating operational friction and making it harder to establish a consistent view of the asset. Core components of this foundation include:

Cleaner position data: Digitizing the asset at the ownership level creates cleaner position data across participants and systems.

Real-time ownership records: A more persistent identifier framework supports real-time ownership records and a more current view of the asset and its state.

Consistent transaction histories: Assets can be tracked through more consistent transaction histories, improving continuity across servicing, transfer, and valuation workflows.

Stronger auditability: A more structured identifier framework provides stronger auditability and helps improve reporting accuracy and timeliness.

Data as infrastructure: In this model, data is no longer a byproduct of reporting and instead becomes shared infrastructure.

BNY is developing solutions to better allow data to be cross-referenced across systems and datasets. This helps establish the cleaner, more interoperable data foundation needed to support scale in private markets and is an underlying facet to broader data innovation underway at BNY.

Pillar Two: Structured Terms and Cash Flow Logic

A private credit asset is ultimately defined by the terms and conditions that govern it and the cash flows that result from it. However, these features are often embedded within highly customized legal documents, side letters, amendments, and servicing records. For example, commercial loans often involve structural features, liens, payment statuses, and corporate events that make them difficult to consistently monitor, value, and mobilize. Tokenization and GenAI enable these characteristics to be built into digital infrastructure. Core components of this pillar include:

- **Data ingestion:** Advanced tooling can extract key economic and legal terms from unstructured documents into structured data.
- **Programmable asset behavior:** Smart contracts encode asset-specific rules, enabling consistent and automated execution.
- **Cash flow intelligence:** Principal, fee, and interest payments, payments in kind, revolver activity, and other payment behaviors can be translated into the criteria that define how a tokenized loan should operate.
- **Automated asset servicing:** Smart contracts validate eligibility and entitlements, auto-executing asset and cash movements to speed and de-risk asset servicing and transfer settlement.
- **Reduced reconciliation:** Shared ledgers establish a single, synchronized source of truth across participants.

BNY is exploring how to leverage AI-powered capabilities to extract unstructured data from credit agreements to power loan smart contracts that enforce how a tokenized loan operates. This could include the hierarchy of covenant structures, financing dependencies, payment behaviors, and relevant connections to market data. Taken together, these elements help define the behavior of the loan itself. By turning unstructured documentation into operational data, this would help create the foundation for more automated and scalable private market workflows.

> Deep expertise enables the ability to reimagine the end-to-end lifecycle of private markets at the asset, fund, and portfolio levels with blockchain and AI, and enables investors to seamlessly navigate the subscriptions, redemptions, capital calls, trade settlement, and portfolio and asset level data to assess and report risk performance.
>
> – Emily Portney
>
> Global Head of Asset Servicing

> Tokenization of private assets reduces business functions, processes and workflows around them, providing composable building blocks for more efficient, versatile and higher velocity structured products.
>
> – Gurjit Jagpal
>
> Global Head of Private Markets Digital Innovation and Executive Platform Owner for Loans

Pillar Three: Certainty of Asset Servicing and Settlement

Historically, private market transactions have been manual, episodic, and relationship driven. Traditional settlement relies on sequential coordination across multiple parties, which can result in delays and failed transactions. For private credit, that has meant loan transfers taking up to 30 business days to complete and cash wires that are often difficult to match and reconcile. Tokenization enables near-instant delivery-versus-payment (DvP), synchronizing asset and cash movements and reducing operational risk. Critical aspects of this pillar include:

- **DvP settlement:** Settlement takes place only when both the rights and the cash are in the box.
- **Structured liquidity and secondary markets:** Programmable rules allow for more structured and predictable transfer environments while enforcing governance.
- **Embedded compliance:** Transfer restrictions, KYC/AML requirements, and jurisdictional rules can be applied in real time with certainty of settlement.
- **Automated capital calls and distributions:** Smart contracts synchronize cash flows with real-time ownership records, so transfers can continue to settle around funding events.
- **Reduced settlement friction:** Asset and cash movements are synchronized, lowering the risk of cash breaks, reconciliation failures, and delayed settlement.

BNY is exploring the potential of this model and the benefits of executing transfers in a DvP manner, for example, reducing the risk of cash breaks and helping confirm that settlement only happens when both the seller has agreed to the sale and the buyer has the digital cash or tokenized deposits to match the transfer. In practice, this means supporting a more controlled transfer process in which settlement occurs only when both the asset transfer and the corresponding digital cash or tokenized deposit are ready to be exchanged.

Pillar Four:
Collateral Utility and Financing

Through the identification of the asset and the understanding of the underlying terms and cash flows, market participants can unlock the ability to utilize the asset as collateral. The growing relevance of private assets in the collateral ecosystem can in turn spur the growth of secondary market activity and contribute to the overall growth of the asset class. As markets move toward more continuous, or "always-on" operating models, delays in traditional cash movement can become a constraint on liquidity and efficiency. Tokenized representations of cash and instruments such as U.S. Treasurys, that have long been the foundation of global collateral markets, can help address this gap by enabling faster settlement, intraday liquidity, and more dynamic collateral management. Key drivers of this pillar include:

- **Collateral security:** The ability to pledge private assets with safety and security in real-time to unlock more efficient financing opportunities.
- **Improved financing flexibility:** Private assets become more transferable, more financeable, and more usable within broader portfolio and funding frameworks.
- **Dynamic collateral management:** Tokenized representations of cash and high-quality collateral can enable faster settlement, intraday liquidity, and more dynamic collateral management.
- **Collateral optimization:** Market participants can mobilize capital more efficiently, pledging and reallocating collateral with greater speed and precision while reducing idle balances.
- **Broader market functionality:** Greater collateral utility can support pricing, market making, risk mitigation, and optimization across a broader range of eligible assets.

BNY is building the infrastructure needed to move from collateral movement to intelligent collateral optimization, orchestrating cross-venue collateral flows and extended-hours Treasury activity. The objective is not simply to move collateral, but for BNY to enable more intelligent collateral optimization across funding, liquidity, and risk management workflows.

> Reimagining private assets on chain with programmable smart contracts has the potential to unlock this asset class as new collateral with enhanced mobility, enabling additional liquidity and risk management tools to support resilient capital markets.

– Laide Majiyagbe
Global Head of Markets

POTENTIAL FUTURE FRAMEWORK IN ACTION: PRIVATE CREDIT USE CASE

Create	Deploy	Distribute	Transact	Administer	Report
Loan originated between borrower and lender(s)	Loan funded and activated for servicing and trading	Loan marketed and pledged as collateral to secondary market investors	Loan traded/ transferred and optionally settled vs. cash	Loan serviced for scheduled and unscheduled events	Loan and cash reporting for borrower and investors
Loan **identifier and details** distributed privately on-chain	Loan specific **smart contract rules generated** on-chain	Loan **asset information permissioned** on-chain	Loan **position exchanged versus digital cash** on-chain	Loan **principal and cash asset servicing** applied on-chain	**Full loan and cash position history** and reference data on-chain

Interoperability: The Defining Force Multiplier

Tokenized assets derive value from the networks they can access. Interoperability, the ability to move and manage tokenized assets, along with associated cash and data seamlessly across systems including blockchains, custody and settlement platforms, fund administration systems, triparty collateral venues, as well as reporting and analytics tools, is key to unlocking the potential benefits from tokenization. Without it, digital infrastructure risks recreating the same fragmentation that exists today, with workflows duplicated across siloed platforms and limited connectivity between participants. As private markets evolve, asset managers, custodians, administrators, and liquidity venues must operate within a connected ecosystem where assets, cash, and collateral can move efficiently, and the degree of interoperability achieved will determine whether tokenization remains a series of isolated use cases or develops into systemic market infrastructure.

> Tokenization powers a wholesale transformation - a full lifecycle evolution, that turns manual, fragmented processes into highly automated, always-on market infrastructure that enables the modernization of private markets.
>
> – Carolyn Weinberg
>
> Chief Product and Innovation Officer

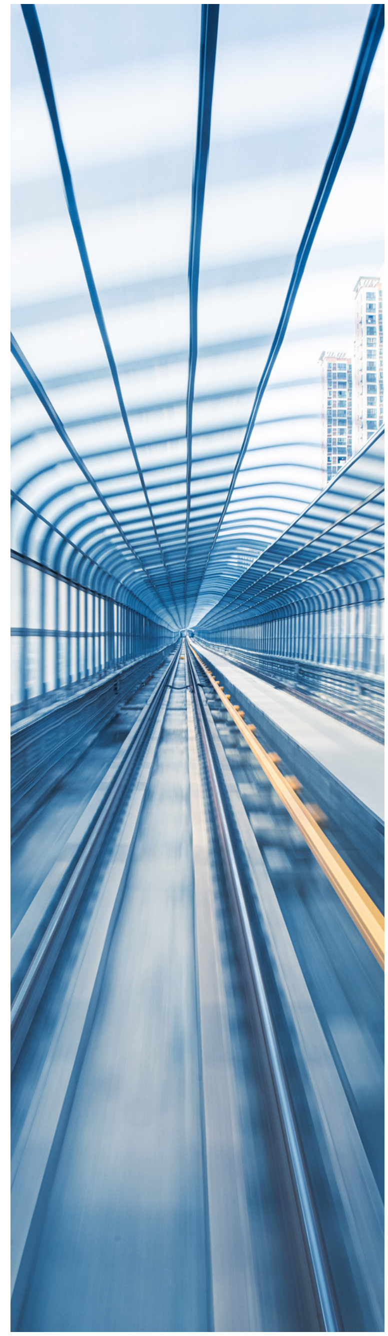
> The future of private markets will be shaped as much by infrastructure as by investment performance. The opportunity for clients is a more connected and efficient architecture that supports transparency, resilience, and more flexible access to liquidity.
>
> – Cathinka Wahlstrom
>
> Chief Commercial Officer

For private markets, greater interoperability with liquid collateral and digital cash could make these assets more transferable, more financeable, and more usable within broader portfolio and funding frameworks. When tokenized assets are interoperable with liquid collateral and digital cash, market participants can mobilize capital more efficiently, pledging and reallocating collateral with greater speed and precision while reducing idle balances. This shifts liquidity management from a supporting function to a core element of market infrastructure. As liquidity is the lifeblood of private markets — mobility makes it flow.

Final Thoughts

As private markets become more central to capital formation, the next phase will require a re-architecting of the core infrastructure that supports them. That means building the foundational capabilities to identify assets consistently, structure and operationalize their terms and cash flows, transfer them with certainty of settlement, and use them more dynamically within collateral and funding frameworks. Connected through interoperable infrastructure, these capabilities can help reduce fragmentation and enable private assets to function more efficiently and at greater scale.

BNY operates at the center of global financial markets, across custody, trustee, collateral, settlement, payments, investment management, and data. Our role in U.S. Treasurys, collateral, and liquidity markets is particularly critical, providing the link between emerging digital asset capabilities and the traditional funding and risk management frameworks that underpin global markets. BNY is investing to build the infrastructure needed to support this evolution, with a focus on interoperability, resilience, and integration across both traditional and digital financial ecosystems. This model is designed to connect private assets with broader ecosystems, enabling seamless entry and exit through integrated on-ramps and off-ramps, and supporting more dynamic capital formation and allocation at scale. Our position provides a unique vantage point to advance digital market infrastructure in a way that integrates with existing systems rather than fragmenting liquidity across parallel platforms.



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[1]Juan Mier, CFA, "The Rise of Evergreen Funds: A New Way to Access Private Markets," Morningstar, April 10, 2026, https://www.morningstar.com/business/insights/blog/rise-of-evergreen-funds