twilight

Unlocking trapped liquidity via digital assets

How a targeted digital asset treasury strategy can responsibly reduce your firm's liquidity buffers

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A conversation especially relevant for treasury, FP&A and funding & optimization teams.

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01

EXECUTIVE SUMMARY

Targeted digital asset use cases can reduce liquidity buffer requirements by more than 30%.

MARKET BACKGROUND

Today's financial ecosystem remains highly complex and fragmented. Fragmentation persists across regions, traded products, asset types and custodian footprints. Importantly, there is also deep fragmentation within every financial participant: across entities, technology and data stacks, people and processes.

Market fragmentation has historically shaped how treasury teams manage funding of their firm's obligations. Treasury must provide adequate funding across all obligations, while navigating an obstacle course of payment cutoffs, securities settlement cycles, FX timing and collateral mobility constraints.

Overall trading exposure may be fully hedged, but the fragmentation of TradFi markets can materially increase the liquidity and operational burden on treasury teams. In a multi-day settlement window, asset balances can be visible at group level while remaining unavailable, or difficult to mobilize, where they are most needed.

As such, most financial institutions are forced to compensate for the complexity of today's ecosystem by maintaining liquidity and capital buffers across their obligations. Global treasury divisions hold those buffers against two distinct scenarios:

01 **Economic risk** of increasing outflows, via client trading, market stress and volatility.

02 **Operational uncertainty** of whether cash and collateral can actually be used precisely where an obligation falls due, at a specific legal entity, currency, account and settlement window.

Buffers are an effective form of protection, but they are also expensive. Treasury teams can maintain sizeable deposits and collateral balances across custodians, CCPs and other infrastructure providers to protect against stress scenarios and operational friction. The cost of maintaining these buffers is material, reflecting both carry and opportunity costs as well as the liquidity impact on individual firms and the broader market.

> In this paper's stylized global-bank scenario, settlement frictions drive a USD 17.0bn precautionary liquidity buffer, with approximately USD 6.4mm of funding and bridge cost over a three-day constrained settlement window.

OUR APPROACH — ATLAS CASE STUDY

To manage expectations upfront, digital assets will not eliminate liquidity buffers entirely. They do not eliminate the underlying economic risks that require liquidity buffers. Their value lies instead in reducing the portion of those buffers attributable to operational uncertainty, driven by market fragmentation, settlement timing and asset inaccessibility.

The question we have therefore asked in this case study is: how can targeted digital asset usage release liquidity by reducing the operational component within today's buffers? The objective at this stage is not to assume broad adoption of digital assets, but to identify specific areas where governed digital rails can remove existing TradFi inefficiencies. We have performed our analysis in the context of “Atlas Bank”, an illustrative, internationally active bank.

18.0bn	25.0bn	12.0bn	±3.0bn	15.0bn
Operating / nostro balances	Volatile client deposits	Secured funding and repo	Variation-margin envelope	HQLA stock

All figures USD. Balance-sheet characteristics of the illustrative institution used throughout this paper.

KEY ASSUMPTIONS

A summary of the key assumptions made in the Atlas case study is set out below, with a more detailed set in the methodology appendix.

01 Any buffer reduction arises solely from lower operational and liquidity fragmentation requirements: no change to Atlas' underlying economic risk, and no regulatory capital or HQLA relief.

02 Atlas prefers targeted usage of tokenized assets, or “digital twins”, with the original asset still held at a TradFi depositary or custodian, using blockchain DLT platforms for asset settlement.

03 The key use cases modeled are a deliberate digital asset portfolio mix: tokenized Treasury assets used as collateral, enabling faster collateral mobilization; tokenized commercial bank deposits for more continuous movement of cash across entities and settlement locations; targeted stablecoin usage for selected cross-border and out-of-hours payment and FX settlement flows; and a wholesale settlement token used for intraday institutional cash settlement and liquidity rebalancing.

04 This is based on a mature digital asset adoption scenario within financial markets, broadly illustrative of a 2029–2031 horizon, rather than an estimate of immediately realizable savings.

05 Atlas' digital asset usage is also accompanied by:

a. Faster asset settlement across entities, regions and infrastructure providers. A conservative settlement window of 0.5 days is used, recognizing that a subset of TradFi inefficiencies will remain in play. The model does not assume universal real-time settlement: for eligible flows it uses an effective reuse window reflecting a mix of faster settlement where speed is valuable and retained netting windows where immediate settlement could increase intraday liquidity needs.

b. A mature but not universal future state. Benefits apply only to the share of activity where counterparties, assets and settlement rails meet the required eligibility, legal and operational conditions; remaining activity continues through traditional processes.

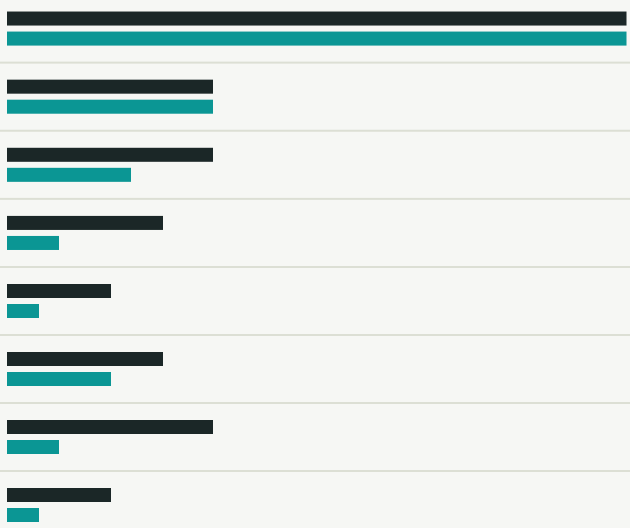
c. Confidential settlement, with supervisory auditability and institutional digital asset controls, viewed as a precondition that underpins every use case.

KEY CONCLUSIONS

Under the scenarios modeled, targeted usage of digital assets reduces Atlas Bank's liquidity buffer for operational uncertainty by approximately 30% overall, against the traditional infrastructure baseline.

FIG. 01 **Atlas Bank illustrative liquidity buffers**

Traditional infrastructure against digital asset-enabled, by buffer component. USD bn.



BUFFER COMPONENT	TRAD.	DIGITAL
Corporate drawdowns C	6.0	6.0
Retail runoff R	2.0	2.0
Margin & collateral demand M	2.0	1.2
FX mismatch funding X	1.5	0.5
Timing-mismatch premium T	1.0	0.3
Residual stress overlay S	1.5	1.0
Fragmentation / trapped liquidity F	2.0	0.5
Netting inefficiency N	1.0	0.3

17.0
Traditional required buffer, USD bn

11.8
Digital asset-enabled buffer, USD bn

5.2
Released, USD bn — a reduction of roughly 31%

TRADITIONAL DIGITAL ASSET-ENABLED BARS SCALED TO USD 6.0BN

We believe that the most significant gain will come through the removal of asset fragmentation. A more holistic digital asset inventory view — showing near real-time asset balances across key traded products, entities and collateral pools — will be a powerful tool for all firms. When combined with accelerated settlement of digital assets, requiring no movement of the underlying asset, this drives important buffer savings.

We also see material buffer savings executed via FX mismatch removal, margin efficiencies, settlement timing and executable netting. The extended paper below sets out the detail behind each savings bucket.

A reminder that this is a mature digital asset adoption scenario, based on a 2029–2031 illustrative range, rather than an estimate of immediately realizable savings. Benefits will emerge progressively as market participation, infrastructure coverage, asset usability and interoperability increase across relevant platforms and settlement networks. The scenario does not assume full DLT platform interoperability, but assumes that remaining fragmentation is no longer a principal constraint on the use cases modeled.

We should stress that we have deliberately taken a conservative approach to the digital asset buffer calculations. Liquidity savings could be significantly higher than the estimates provided, given the conservative nature of some of the core assumptions. A settlement timing of 0.5 days is one such average-case assumption, which will decrease significantly over time as constraints in the TradFi operating model are removed.[1]

Finally, this is an illustrative scenario only. The precise liquidity buffer impacts — both percentage reduction and absolute amounts — depend on each firm's bespoke set-up: traded products, asset mix including the TradFi and digital asset split, regional and entity footprint, and the technology and data operating model in play.

1 Institutions can calibrate this assumption to their own counterparties, operating model and settlement rails. Where settlement remains T+1 or longer, the timing benefit would be lower; where mature infrastructure supports intraday or near-real-time settlement, it may be higher.

Market landscape

GROWING TREASURY COMPLEXITY AND COST, WITH A PATHWAY TO DIGITAL ASSETS

Before evaluating any digital asset solution or operating model, it is worth being precise about the problem it is meant to solve. Digital asset infrastructure changes the operating conditions under which asset value moves, while leaving the economic nature of liquidity risk intact.[2]

Traditional infrastructure is robust, familiar and deeply embedded. Its limitation in a constrained settlement window is simply that cash, collateral and hedges often move on different clocks and cut-offs. Payment systems close by jurisdiction; securities settlement and collateral release follow cut-offs; FX settlement can depend on local rails; and legal entity mobility is constrained by time zones and by regulatory, tax and resolution considerations.

These features are prudent, but they cause treasury divisions to hold buffers against asset timing and usability, rather than only against economic exposure.

Regulation reinforces this operating reality. The Basel liquidity framework is built around cash outflows over a stress horizon and requires buffers composed of unencumbered assets readily convertible into cash. The Basel Sound Principles separately require banks to monitor liquidity across legal entities and currencies, manage intraday liquidity, and understand where collateral is held and how quickly it can be mobilized.

The strongest digital asset use cases are therefore the ones that improve the measurement and mobilization of already eligible liquidity, leaving core stress assumptions in place.

2 This paper treats client drawdowns and runoff behavior as fixed, and models the digital case through operational-friction effects across margin and collateral demand, FX and location mismatch, timing, fragmentation, netting and residual uncertainty.

> Digital assets add the most value in converting visible-but-constrained liquidity into usable liquidity, without weakening legal certainty, operational resilience or prudential discipline.
>
> MARKET LANDSCAPE

In terms of real-life initiatives, Project Agorá explores tokenized commercial bank deposits integrated with tokenized wholesale central bank money for cross-border payments. Market infrastructure models — such as Broadridge's DLR platform, HQLA[x] and DTCC's pending Tokenization & Collateral AppChain — all mobilize securities across settlement systems without moving the underlying securities in the traditional way. Intraday repo initiatives compress settlement from one and two-day cycles toward same-day and intraday execution. These provide practical benchmarks for the specific frictions modeled here.

In practice, accountability sits not only with digital asset teams, but with treasury, liquidity risk, FP&A, secured funding and optimization, collateral management and operations — the functions already carrying the cost of trapped or delayed liquidity. This direction is observable in the market.

A newer class of infrastructure is also emerging to combine these patterns: chain-agnostic settlement layers that mobilize custodian-held collateral through cryptographically verifiable pledge mechanisms, while preserving the confidentiality of positions and counterparties. This approach allows eligible claims to become operationally usable without routinely transferring the underlying asset. Some market designs achieve confidentiality through closed private ecosystems, while others prioritize interoperability on public infrastructure. The emerging institutional model increasingly seeks to combine both private and public confidentiality.

WHY THIS IS A “NOW” PROBLEM

Key forces have converged that make the usability premium both more expensive to carry today and more addressable.

01 **The cost of an idle buffer has re-priced.** After a decade of near-zero rates, precautionary liquidity again carries real funding and opportunity cost. A buffer that was effectively free to over-hold is now a measurable drag on net interest margin and return on assets. Liquidity trapped by timing and location, not risk, is now a board-level efficiency question.

02 **Settlement compression is becoming the standard, not the experiment.** The move to T+1 in major securities markets, accelerating intraday-repo volumes and live tokenized-deposit and wholesale-settlement pilots mean the operating environment treasuries calibrate against is actively shortening. Buffers sized for legacy multi-day cycles are increasingly conservative relative to where the market is moving.

03 **Parts of the infrastructure have crossed from pilot to production.** Tokenized money-market funds, regulated settlement corridors, DLT repo platforms and large-scale digital bond issuance are now observable in live market settings, even if adoption remains uneven across jurisdictions, counterparties and asset classes.

The implication is practical: institutions that decompose and defend their buffer now can release constrained liquidity while the tooling matures, rather than discovering later that competitors have already lowered their cost of carry. Acting early also lets calibration, controls and supervisory dialogue develop incrementally — the lower-risk path to a structurally leaner buffer.

Regulatory clarity has also continued to improve through initiatives such as the U.S. GENIUS Act, strengthening the policy foundation for regulated payment stablecoins while leaving reserve backing, redemption rights, issuer oversight and prudential treatment as central design requirements.

03

The proposed framework

A BUFFER YOU CAN DECOMPOSE AND DEFEND

If the problem is operational friction rather than economic risk, the benefit case must be built the same way: friction by friction, rather than as a single headline number.

The required liquidity buffer has been decomposed into gross modeled outflows, plus four explicit premiums that capture operational uncertainty.

FIG. 02 Buffer decomposition

$$B = O + T + S + F + N$$

B	Required buffer
O	Gross modeled outflows — corporate drawdowns (C) and retail runoff (R)
T	Timing-mismatch premium
S	Residual stress overlay
F	Fragmentation or trapped-liquidity premium
N	Netting-inefficiency premium
M	Margin and collateral demand
X	FX mismatch funding

The digital case is modeled through T, S, F, N, M and X. C and R remain fixed.

The model deliberately separates economic liquidity risk from operational friction. It does not assume that digital infrastructure changes underlying client behavior, corporate drawdowns, retail runoff or other economically driven funding needs. The modeled benefit is limited to operational friction that can credibly be reduced through improved visibility, mobilization, settlement coordination and reuse of eligible assets.

Three working disciplines help keep the result honest. They also let the calibration methodology remain fully reconcilable to the institution's FP&A assumptions.

01 **Decompose.** Break the buffer into gross outflows and the four operational premiums, so each driver can be challenged.

02 **Credit narrowly.** Only where a specific digital asset or rail reduces a defined friction inside an approved legal, counterparty and control perimeter, and only once across LCR, counterparty-risk and liquidity-buffer effects.

03 **Retain floors.** Keep residual floors for legal-entity ring-fencing, external settlement dependencies, counterparty adoption limits, operational fallback risk and supervisory conservatism.

DELIBERATELY CONSERVATIVE, BY DESIGN

Those disciplines are easiest to see in practice. In the stylized case that follows, we kept the digital stack to five key use cases — the kind most treasuries could adopt without re-architecting what they already run. Tokenized deposits are used only for commercial-bank money within an approved network; the stablecoin corridor is capped and treated as a settlement bridge, not an HQLA substitute; Treasury assets and tokenized MMFs used as collateral receive credit only where documentation, custody and eligibility rules make them usable; and a wholesale settlement token receives credit only after a controlled internal test confirms that ledger settlement, contractual discharge and legal finality align, and that fallback procedures operate under stress.

CONFIDENTIALITY: AN INSTITUTIONAL PRECONDITION

Private to the market, auditable to authorized parties.

The modeled reductions in fragmentation, FX mismatch and netting assume that institutions are willing to mobilize balances across shared digital infrastructure. In practice, that decision depends not only on settlement efficiency, but also on confidentiality. Treasury organizations are unlikely to expose funding positions, collateral movements, client activity or liquidity stress to competitors and other unauthorized network participants.

The institutional requirement is therefore confidential execution with controlled auditability. Cryptographic confidentiality can keep transaction data private by default, while allowing defined supervisors, auditors and authorized counterparties to obtain verifiable access under agreed governance and legal terms. Selective disclosure should be role-based, evidenced and revocable, or time-bound where the technical and legal design permits.

Confidentiality does not eliminate fragmentation by itself. It addresses an important adoption constraint that can otherwise cause institutions to remain within isolated networks or maintain duplicative infrastructure. Where confidentiality, interoperability, legal finality and operational controls are established together, shared digital rails can support liquidity mobility without requiring broad disclosure of commercially sensitive activity.

> The benefit modeled in this paper therefore assumes that institutions adopt rails meeting these requirements. If they do not, the relevant reduction should be scaled back and a higher residual floor retained.

04

Stylized case study — Atlas Bank

WHERE A RELEASE LIKE USD 5.2BN MIGHT COME FROM

Applied to a representative balance sheet, the digital asset framework described above turns that discipline into a transparent, line-by-line bridge.

Atlas Bank is a stylized global bank: USD 18.0bn operating and nostro balances, USD 25.0bn volatile client deposits, USD 12.0bn secured funding and repo, a ±USD 3.0bn variation-margin envelope, and USD 15.0bn of HQLA. The stress window is a three-calendar-day weekend and regional holiday overlap. Risk appetite, client behavior and portfolio composition are held constant across the traditional and digital cases; only operational friction is changed.

Every figure in the bridge rests on a small set of explicit assumptions, each capable of being tested and defended. They fall into two groups.

01	**Structural inputs** that describe the institution.
02	**Behavioral and calibration assumptions** that govern how much friction the digital stack is credited with removing.

TABLE 01 **Key modeling assumptions**

Structural inputs describe the institution; calibration assumptions govern credited friction removal.

ASSUMPTION	VALUE USED	BASIS, AND WHY IT IS SET HERE
Stress window	3 calendar days	A weekend plus a regional holiday overlap, used as a practical short-window stress for liquidity usability when payment and settlement rails are closed but obligations still fall due.
Operating / nostro balances	USD 18.0bn	The pool most exposed to wrong-location and fragmentation friction; sets the ceiling on what mobilization can address.
Volatile client deposits	USD 25.0bn	Drives corporate drawdown and retail runoff outflows, held constant across both cases, so no benefit is claimed from changed risk behavior.
Variation-margin envelope	±USD 3.0bn	Bounds margin and collateral demand (M); only operational over-posting and conversion handoff is credited, not market-risk-driven margin.
Offsetting settlement exposure envelope	USD 3.0bn	Economically offsetting PvP, DvP or collateral-linked exposures that are visible at portfolio level but not fully executable as liquidity because of CCP, bilateral, legal-entity, currency and settlement-timing silos. Used to calibrate the netting-inefficiency premium.
HQLA stock	USD 15.0bn	Included to anchor the institution's liquidity profile. The exercise does not assume release of regulatory minimum HQLA; any client-specific case would separately validate LCR, internal liquidity stress-test and ALCO constraints.
Funding carry	4.5% ann.	Representative blended cost of carrying precautionary liquidity in the current rate environment; used for the cost extension only.
Bridge premium	50bp ann.	Short-term wrong-location and cross-currency funding, plus collateral-mobilization cost over the window.
Reuse lag, eligible flows	~1.5d → ~0.5d	The timing improvement credited to digital rails; calibrated to observed intraday-repo and settlement-compression benchmarks, not a theoretical floor of zero.
Digital perimeter	5 governed use cases	Credit is limited to tokenized deposits, a capped stablecoin corridor, tokenized MMFs, tokenized Treasury receipts and a tested wholesale settlement token, each inside an approved legal, counterparty and control boundary.

TWO DISCIPLINING PRINCIPLES

Two principles discipline the assumption list. First, nothing that drives economic risk is allowed to move: deposit volatility, drawdown behavior, market risk and the HQLA floor are fixed, so the entire benefit is attributable to operational friction rather than to a more optimistic risk view.

Second, every credited improvement retains a residual floor: reuse lag stops at roughly 0.5 day rather than zero, FX and netting keep structural silos, and the stress overlay preserves a deliberate managerial cushion. The assumptions are intentionally conservative so the result is defensible to a supervisor, and a client-specific health check should always evaluate internally approved figures.

The main point is simple: the model asks which specific frictions create buffer today, which rail can reduce each friction, and what residual floor should remain.

> Digital values therefore represent calibrated reductions in eligible operational frictions, rather than assumed reductions in underlying economic liquidity requirements.

TABLE 02 **Calibration ledger**

How the traditional and digital values are derived, component by component.

COMPONENT	TRADITIONAL DERIVATION	DIGITAL DERIVATION / RESIDUAL
Corporate drawdowns C	USD 25.0bn volatile client deposits × 24% = USD 6.0bn	Held fixed at USD 6.0bn, so no benefit is claimed from changed client behavior
Retail runoff R	USD 25.0bn volatile client deposits × 8% = USD 2.0bn	Held fixed at USD 2.0bn, so no benefit is claimed from changed runoff behavior
Margin / collateral demand M	USD 3.0bn VM envelope × 40% cash-funding factor = USD 1.2bn, plus USD 0.5bn collateral-substitution friction and USD 0.3bn over-posting friction = USD 2.0bn	Market-risk-driven VM funding remains USD 1.2bn; operational collateral friction is removed through tokenized Treasury collateral mobility and tokenized MMF mobility
FX mismatch funding X	USD 18.0bn operating / nostro pool × 8.3% wrong-location factor = USD 1.5bn	USD 0.5bn residual retained for structural currency, jurisdictional and external-rail constraints
Timing-mismatch premium T	8.7% of USD 11.5bn traditional gross outflows = USD 1.0bn, reflecting settlement cutoffs and a ~1.5 business-day effective reuse lag	USD 0.3bn residual retained for flows outside the digital perimeter and external settlement dependencies
Residual stress overlay S	13.0% of USD 11.5bn traditional gross outflows = USD 1.5bn, covering model error, flow clustering and stress amplification	USD 1.0bn residual retained for model risk, client-behavior uncertainty and supervisory conservatism
Fragmentation / trapped liquidity F	USD 18.0bn operating / nostro pool × 11.1% trapped-liquidity factor = USD 2.0bn	USD 0.5bn residual retained for ring-fencing, currency restrictions, counterparty limits and incomplete adoption
Netting inefficiency N	USD 3.0bn offsetting settlement exposure envelope × 33% non-executable factor = USD 1.0bn	USD 0.3bn residual retained for CCP, bilateral and legal-entity silos

THE BUFFER SAVINGS DRIVERS, IN PLAIN TERMS

-1.5bn	**Fragmentation.** The largest saving. Balances that are visible at group level often sit in the wrong entity, currency or custody account when an obligation falls due. Digital rails enable a single pool of liquidity usable across entities, accounts and collateral pools, without moving the underlying assets.
-1.0bn	**FX mismatch.** Less cash held to bridge wrong-currency gaps. A bank can be fully hedged and still lack usable USD at the entity where a payment falls due, because the FX leg or inter-entity transfer cannot complete before the cutoff. Tokenized deposits move value inside the same settlement window. A USD 0.5bn floor remains for constraints digital rails cannot remove, such as external payment systems and jurisdictional limits.
-0.8bn	**Margin efficiency.** Reduced collateral drag, with market-risk margin untouched. Tokenized Treasury receipts and money-market fund units can be pledged directly, cutting over-posting and cash-conversion hand-offs. Verifiable pledge records prove what collateral is available, who owns it and whether it is encumbered, so less liquidity sits idle as a precaution.
-0.7bn	**Settlement timing.** Cash and securities come back faster, so less is parked in transit. The effective reuse lag on eligible flows falls from roughly 1.5 business days to roughly half a day through synchronized delivery-versus-payment. Flows that depend on external systems keep a residual premium.
-0.7bn	**Executable netting.** Offsets the firm can use, not just report. Positions netted on paper often cannot be netted in practice across CCPs, bilateral counterparties and legal entities. Synchronized settlement turns a defined portion of those offsets into usable liquidity; only the legally and operationally executable portion is credited.
-0.5bn	**Stress overlay.** Better information, a smaller uncertainty cushion. Near real-time, auditable settlement data reduces the unknowns that a treasury holds buffer against, supporting a modest reduction in the management overlay. The assumed severity of market stress and client behavior is unchanged.

TABLE 03 **Calibration bridge, traditional to governed digital substitution**

Digital reductions are residual amounts after asset substitution, each retaining a floor for structural constraints. USD bn.

BUFFER COMPONENT	TRADITIONAL	DIGITAL	RELEASED
Corporate drawdowns C	6.0	6.0	–
Retail runoff R	2.0	2.0	–
Margin & collateral demand M	2.0	1.2	0.8
FX mismatch funding X	1.5	0.5	1.0
Timing-mismatch premium T	1.0	0.3	0.7
Residual stress overlay S	1.5	1.0	0.5
Fragmentation / trapped liquidity F	2.0	0.5	1.5
Netting inefficiency N	1.0	0.3	0.7
Required buffer B	**17.0**	**11.8**	**5.2**

The buffer has a running cost too. Releasing it changes more than the balance sheet; it changes what the treasury pays to carry it.

The resulting buffer measures balance-sheet usage. A complementary three-day cost extension estimates the cost of carrying the precautionary buffer, and of funding wrong-location balances during the same window: a 4.5% annualized funding carry on the buffer plus a 50bp[3] annualized bridge premium on FX mismatch and collateral-sensitive balances.

Most of the cost benefit comes from the lower precautionary buffer rather than from the FX or collateral bridge premium, reinforcing that the value driver is usable liquidity, not faster settlement for its own sake. This extension is intentionally limited: it estimates the gross cost of carrying precautionary liquidity over the stress window and does not yet deduct implementation cost, legal work, custody and settlement charges, parallel-run expense, operating model change or onboarding effort. Those items belong in a client-specific ROI case.

FIG. 03 **Atlas Bank illustrative liquidity buffer costs**

Three-day window, traditional against digital asset-enabled.

USD 6.4M	USD 4.4M	USD 2.0M
Traditional three-day cost	Digital asset-enabled cost	Indicative benefit over the window

3 The 50bp premium captures short-term wrong-location funding, cross-currency settlement friction and collateral-mobilization cost over the three-day window.

FUNDING AND HEDGING COST EXTENSION

The liquidity buffer result measures balance-sheet usage. A related three-day cost extension, caused by operational constraints, estimates the cost of carrying the precautionary buffer over that time, plus funding wrong-location FX and collateral-sensitive balances during the same settlement window.

The base case applies a 4.5% annualized funding carry to the total buffer and a 50bp annualized bridge premium to FX mismatch and collateral-sensitive balances. The 50bp premium is intended to capture short-term wrong-location funding, cross-currency settlement friction and collateral mobilization cost.

The indicative benefit is therefore USD 6.43mm less USD 4.43mm, or USD 2.00mm, for that three-day period only. The overall cost saving, once extrapolated across a year, would be a significant number. The methodology appendix sets out the calculation detail.

In this illustrative scenario, the majority of the modeled three-day cost reduction comes from a lower precautionary liquidity buffer rather than from the FX or collateral bridge premium. This should not be read as diminishing the importance of digital asset collateral infrastructure: the relative contribution will vary materially by institution, portfolio and operating model, particularly where collateral mobilization, eligibility, settlement timing or cross-platform access are binding constraints.

05

Implementation considerations

A result this favorable is only as strong as the assumptions behind it, so it is worth being explicit about where careful judgment does the work. We see these less as obstacles and more as the calibration choices that separate a defensible result from a headline claim.

The first step is to identify binding constraints. A dollar of released liquidity has different value depending on whether the institution is constrained by LCR, internal liquidity stress testing, FTP, balance sheet, funding cost, client demand, counterparty limits or operational resilience.

01 **Released against monetizable.** Distinguish liquidity that is freed from liquidity that can actually be monetized through a binding treasury, capital, funding or client-demand constraint.

02 **One benefit waterfall.** Keep LCR, counterparty risk, balance sheet and buffer effects on a single waterfall, so no benefit is credited twice against the same exposure.

03 **All-in economics.** Reflect haircuts, custody and settlement charges, operating-model change, legal work, fallback procedures and parallel-infrastructure expenses, not just headline funding rates.

04 **Confirmed eligibility.** Credit tokenized instruments only where collateral eligibility, redemption mechanics, custody treatment, legal finality, transfer restrictions and counterparty acceptance have been confirmed for the specific use case.

05 **Realistic adoption.** Apply pragmatic residual risk assumptions for legal entity ring-fencing, external rails, CCP and triparty silos, onboarding and operational resilience testing.

Handled with this discipline, the modeled buffer reduction reads as a treasury cash-flow optimization argument that can be defended, calibrated and reconciled to FP&A, not a generalized tokenization ROI claim. In our experience that is the posture supervisors, boards and ALCOs respond to best.

FIG. 04 **Control and eligibility considerations**

At minimum, each credited rail should be tested against eight control questions.

01 **Collateral eligibility**
Is the instrument eligible under approved collateral schedules and internal policy?

02 **Redemption mechanics**
Can the asset be redeemed for cash inside the relevant settlement window?

03 **Custody treatment**
Where is the underlying asset held, under what title, and with what segregation?

04 **Legal finality**
Does ledger settlement discharge the contractual obligation, and when?

05 **Transfer restrictions**
Can the asset move across entities, currencies and jurisdictions when needed?

06 **Counterparty acceptance**
Will the counterparty, CCP or triparty agent accept the instrument in practice?

07 **Fallback procedures**
What happens under stress if the rail, platform or provider is unavailable?

08 **Confidentiality and disclosure**
Are positions or flows exposed to unauthorized parties, and is selective disclosure evidential?

The assessment should also consider whether the rail exposes positions, flow or funding activity to unauthorized parties, and whether selective disclosure mechanisms satisfy supervisory, audit and evidentiary requirements. If any of these controls are unresolved, the model should either reduce the credited benefit or retain a higher residual floor.

That raises two practical questions for any institution: how much of the buffer is held against friction rather than risk, and how much could a governed digital stack responsibly release?

START WITH A LIQUIDITY DIGITAL ASSET HEALTH CHECK

How much of your buffer is held against friction rather than risk?

The Atlas Bank case is a template, not a one-size answer. We cannot pretend to know your firm's buffer numbers and digital asset impacts before working through them with your team.

In a health check, Tonic maps your liquidity buffer across legal entities, currencies, collateral pools and settlement windows; identifies where buffer is held against operational friction; and estimates which portions could responsibly be released through governed digital rails.

WHAT YOU GET

Buffer waterfall

Decomposed across entities, currencies and collateral pools

Friction-by-friction release estimate

Each driver sized and defensible

Control and eligibility checklist

Tested rail by rail

Monetization view

Balance-sheet relief, funding cost reduction, client capacity or residual optionality

Methodology appendix

Gross outflows	Corporate drawdowns are calibrated at USD 6.0bn, equal to 24% of the USD 25.0bn volatile client deposit pool. Retail runoff is calibrated at USD 2.0bn, equal to 8% of the same pool. Both remain fixed in the digital case, so the model does not assume improved client behavior or lower economic stress.
Margin / collateral demand	The starting point is a USD 3.0bn variation-margin envelope. The model assumes 40% of that envelope creates a same-window cash or eligible-collateral funding requirement: $3.0 \times 40\% =$ USD 1.2bn. Traditional margin and collateral demand also includes USD 0.5bn of collateral-substitution friction and USD 0.3bn of over-posting friction, giving M traditional $= 1.2 + 0.5 + 0.3 =$ USD 2.0bn. In the digital case, the underlying VM funding requirement remains USD 1.2bn; only the USD 0.8bn operational friction component is credited.
FX mismatch funding	X represents funding-location risk, not directional FX market risk. The traditional case calibrates the bridge at USD 1.5bn, or 8.3% of the USD 18.0bn operating and nostro pool. The digital case reduces X to USD 0.5bn by crediting a capped settlement corridor, tokenized deposit transfer and PvP settlement capacity, while retaining a residual for structural currency constraints, jurisdictional transfer limits, external rails, counterparty adoption and flows outside the digital perimeter.
Timing-mismatch premium	T is calibrated at USD 1.0bn, or 8.7% of traditional gross outflows of USD 11.5bn. This corresponds to an effective liquidity reuse lag of roughly 1.5 business days across payment cutoffs, FX settlement cycles and collateral release processes. The digital case reduces T to USD 0.3bn, consistent with a move toward roughly 0.5 day of reuse lag for eligible flows, while retaining a residual for flows outside the approved perimeter.
Stress overlay	S is calibrated at USD 1.5bn, or 13.0% of traditional gross outflows. This is a management overlay for model error, client-flow clustering, behavioral uncertainty and stress amplification beyond modeled outflows. The digital case reduces S to USD 1.0bn only for improved observability, reconciliation evidence and tested fallback controls; it does not reduce stress severity or client behavior risk.

Fragmentation / trapped liquidity	F is calibrated at USD 2.0bn, or 11.1% of the USD 18.0bn operating and nostro pool. It represents liquidity visible at group level but not immediately deployable because it sits in the wrong entity, currency, account, custodian or collateral location. The digital case reduces F to USD 0.5bn, retaining a floor for legal-entity ring-fencing, currency restrictions, counterparty limits and incomplete network adoption.
Netting inefficiency	N is calibrated at USD 1.0bn, or 33% of the USD 3.0bn offsetting settlement exposure envelope. This captures the difference between economic offsets visible at portfolio level and offsets that are operationally executable as liquidity. The digital case reduces N to USD 0.3bn only where synchronized PvP, DvP, cash-leg or collateral-leg settlement makes the offset usable; residual CCP, bilateral and legal-entity silos remain. The 33% non-executable factor is conservative against multilateral-netting benchmarks; CHIPS settles roughly USD 1.8tn daily at approximately 26:1 liquidity efficiency.
Calibration ranges	The point estimates are deliberately conservative within practitioner ranges: temporary FX and location bridge of roughly 5–12% of operating liquidity, timing add-on of roughly 8–10% of gross outflows, stress overlay of roughly 10–20% of gross outflows, trapped-liquidity premium of roughly 5–15% of operating liquidity, and netting non-executability of roughly 25–50% of the offsetting exposure envelope. A client-specific health check would replace these assumptions with internally approved stress-test, FP&A, legal-entity, collateral and settlement-access data.

FIG. 05 **Funding and hedging cost extension**

$$H = H_{funding} + H_{FX} + H_{collateral}$$

$$H_{FX} = X \times 50bp \times 3 / 365$$

$$H_{collateral} = M \times 50bp \times 3 / 365$$

Traditional three-day cost: 6.29 + 0.06 + 0.08	6.43mm
Digital-enabled cost: 4.36 + 0.02 + 0.05	4.43mm
Indicative benefit: 6.43 – 4.43	2.00mm

All figures USD, for the three-day stress window only.

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DISCLAIMER

The Atlas Bank case is stylized and illustrative; figures are indicative outputs of a calibration model and are not a forecast or assurance of outcomes. Tonic retains its reusable model templates and advisory methodology. Client-specific inputs, assumptions, sensitivities and outputs are intended to be transparent, reviewable and reconcilable to the client's own treasury, FP&A and risk-management framework. This document does not constitute legal, accounting, tax, regulatory or investment advice.

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TWILIGHT

Twilight develops institutional digital settlement infrastructure combining chain-agnostic connectivity, cryptographic confidentiality and selective disclosure. Its infrastructure is designed to support regulated settlement, collateral mobility and treasury workflows across public and permissioned networks while preserving controlled audit access for authorized parties.

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