



Future of Digital Money & Tokenization

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**TREASURY & TRADE
SOLUTIONS**

The Digital Money Format Race

The battle between **physical and digital** money recedes. The contest is between different formats of digital money: **liabilities vs non-liabilities**, **regulated vs non-regulated**, and **tokens vs accounts formats**.

CENTRAL BANK MONEY	COMMERCIAL BANK MONEY	ELECTRONIC MONEY	'STABLECOINS'	PUBLIC CRYPTOCURRENCIES
<p><i>"A liability of the central bank"</i></p> <p>It exists in two forms:</p> <ul style="list-style-type: none">• Reserves – held by commercial banks• Cash in circulation	<p><i>"A liability of a commercial bank in favor of depositor"</i></p> <ul style="list-style-type: none">• Stored in accounts• dominant form of digital money.• One side of risk- taking balance sheets.	<p><i>"A liability of a regulated non-bank payment company"</i></p> <ul style="list-style-type: none">• Redeemable on demand at par value• Usually does not pay interest.	<p>May or may not be liabilities of a regulated institution.</p> <ul style="list-style-type: none">• <i>Should</i> be redeemable on demand at par value• Intended to deliver tokenization benefits w/out volatility	<p><i>"Not liabilities and often unregulated."</i></p> <ul style="list-style-type: none">• Intangible assets traded on exchanges and peer to peer.
Sovereign currency			Non-Sovereign currency	
Liability of regulated institution: promise to pay a known entity on demand at par value			Weaker or non-existent redemption rights by token holders, often unregulated issuers	
Account based representation: double entry bookkeeping			Token based representation	

The descriptions, categorizations and regulatory treatment of types of digital assets or crypto assets are dynamic in nature and Citi continues to monitor key developments.

The Tokenization Thesis

Those who believe that the future of financial services is tokenized think that blockchain can deliver always-on, multi-asset, programmable infrastructures that will deliver industry efficiencies and innovation:



- Non-sovereign currencies
- Commodity forms of money
- Anonymity/pseudonymity
- Proof of work
- Legal uncertainty
- Tokenomics



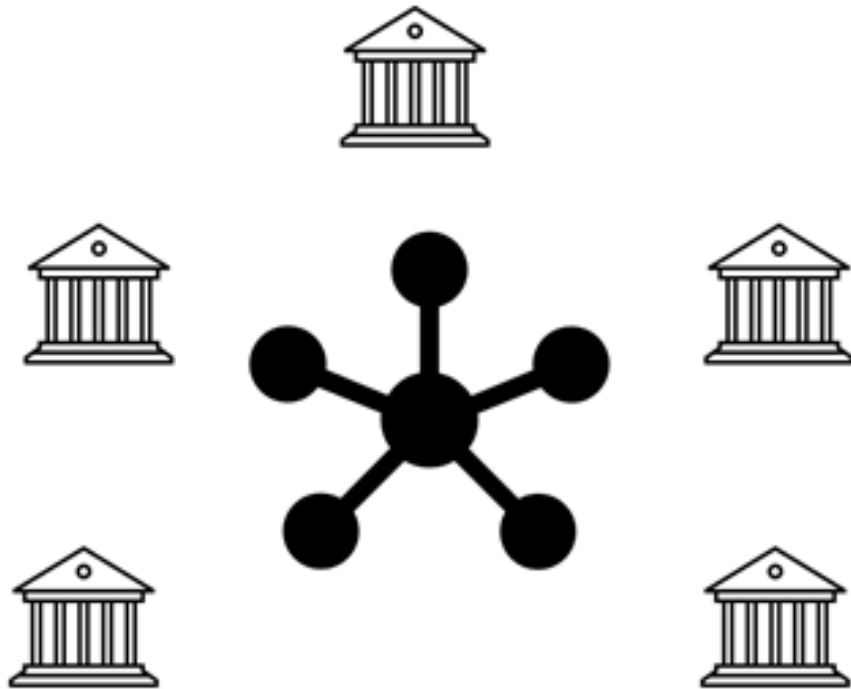
- 24*7
- Multi-asset
- State machine
- Programmable
- Resilient
- Innovation

RLN Paradigm Shift: Money on the Network

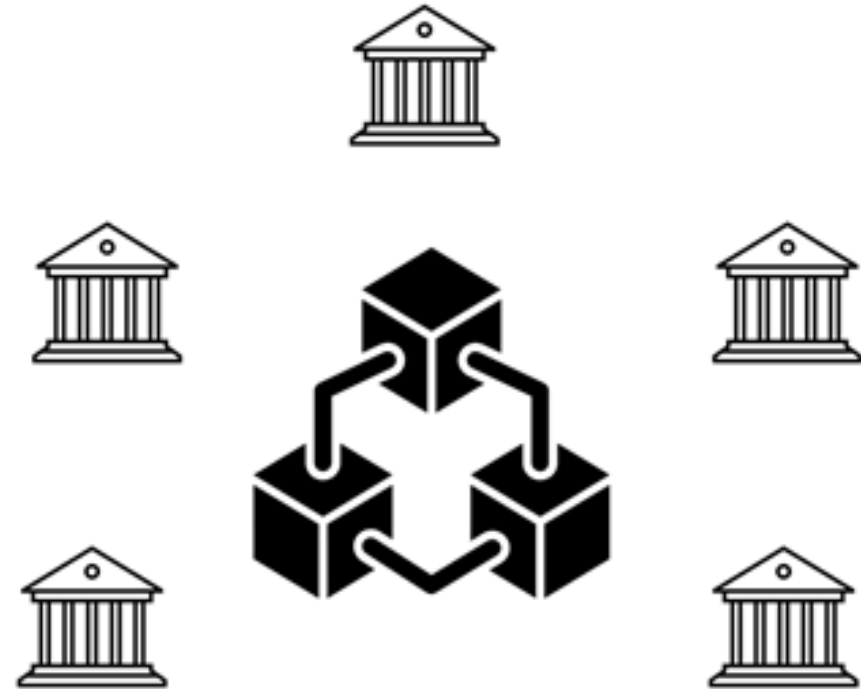
THE MESSAGING PARADIGM

VERSUS

THE SHARED LEDGER PARADIGM



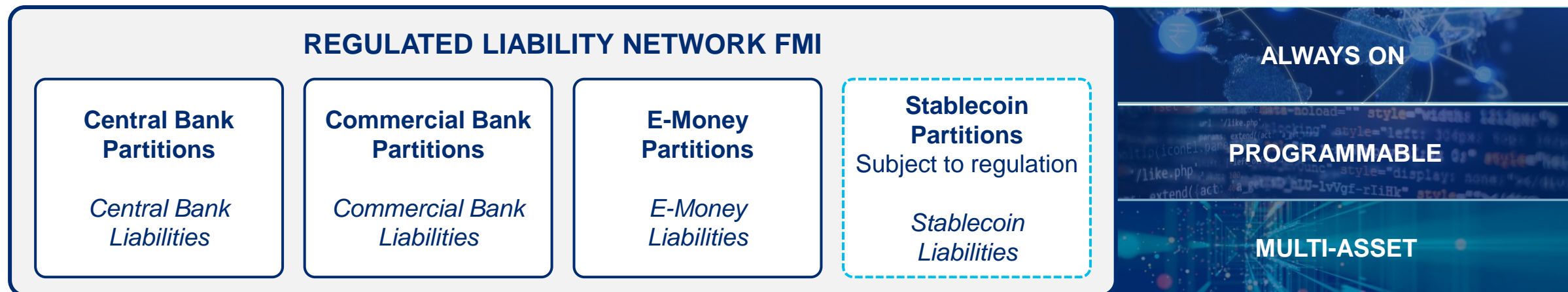
The money is at the edges of the network



The money is in the network

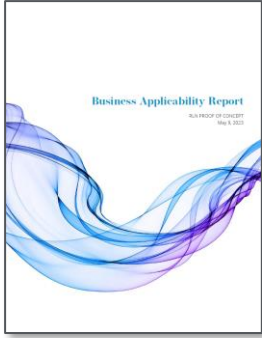
The Regulated Liability Network Concept

The Regulated Liability Network (RLN) is an FMI operating a **shared ledger** with all sovereign money on the same chain including: **central bank money**, **commercial bank money** and **electronic money**.



- Maintain the **'two tier'** system – not only customer interface but also balance sheet
- Defuse the disintermediation effect of **'narrow' CBDC** proposals
- Avoid the fragmentation caused by the development of individual **'bank coins'**
- Include central bank money from multiple jurisdictions, creating **Global RTGS** capability
- Next generation of **multi-currency settlement** infrastructure, addressing CPMI/BIS work on cross border
- Explore less siloed financial system – **multi-asset infrastructure**

US RLN Proof of Concept Results



Business Report Findings

- The PoC demonstrated that the basic operations of the RLN concept can **effectively provide domestic and cross-border credit transfers**
- **Global payments in USD** could be **significantly improved** through a system like RLN with **24*7 availability and increased operational efficiency**
- The creation of a **global instant dollar payment system** would augment USD as an **international settlement currency** and **facilitate global trade and financial settlements**



Technical Feasibility

- The technical sandbox **successfully met all functional requirements** to deliver the RLN concept
- The PoC demonstrated potential to deliver a payments system that can process and settle **24x7 in near-real time**, support **interoperability**, ensure **privacy**, facilitate **programmability** through smart contracts, and deliver capital efficiency
- The PoC demonstrated the **RLN concept is technology agnostic**, and not reliant on a specific technology

Non-functional requirements were not in scope

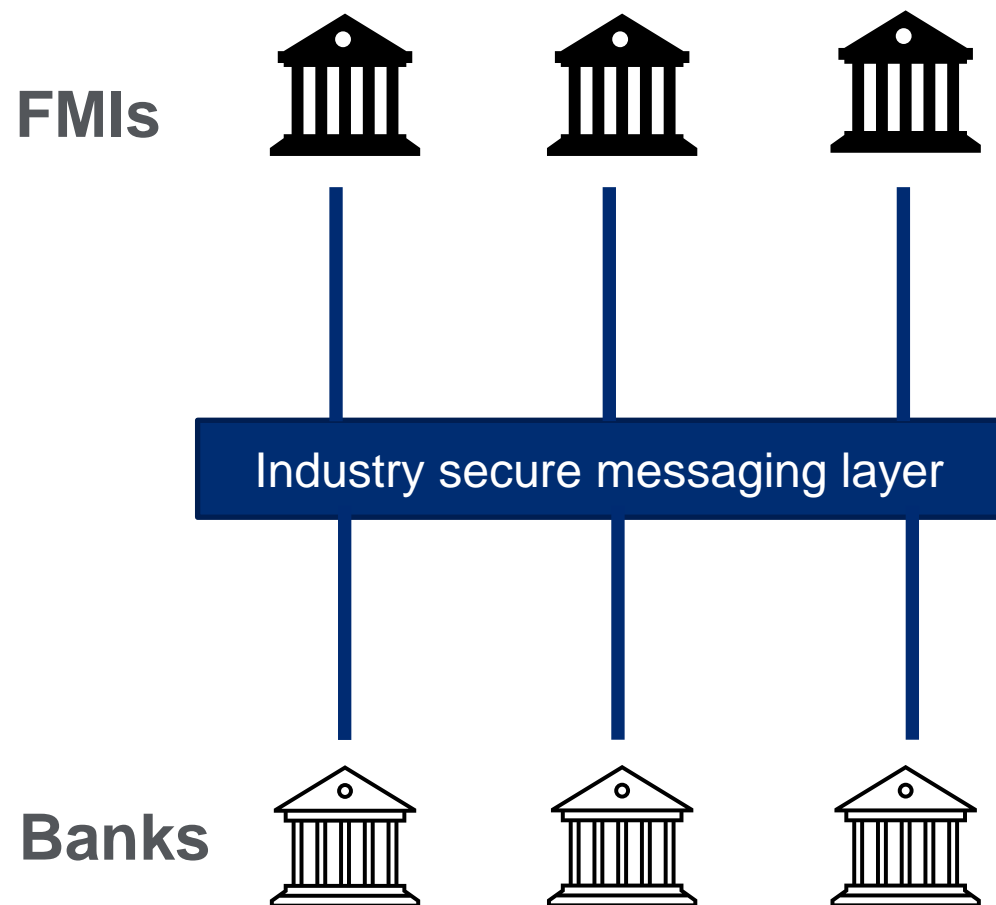


Legal Viability

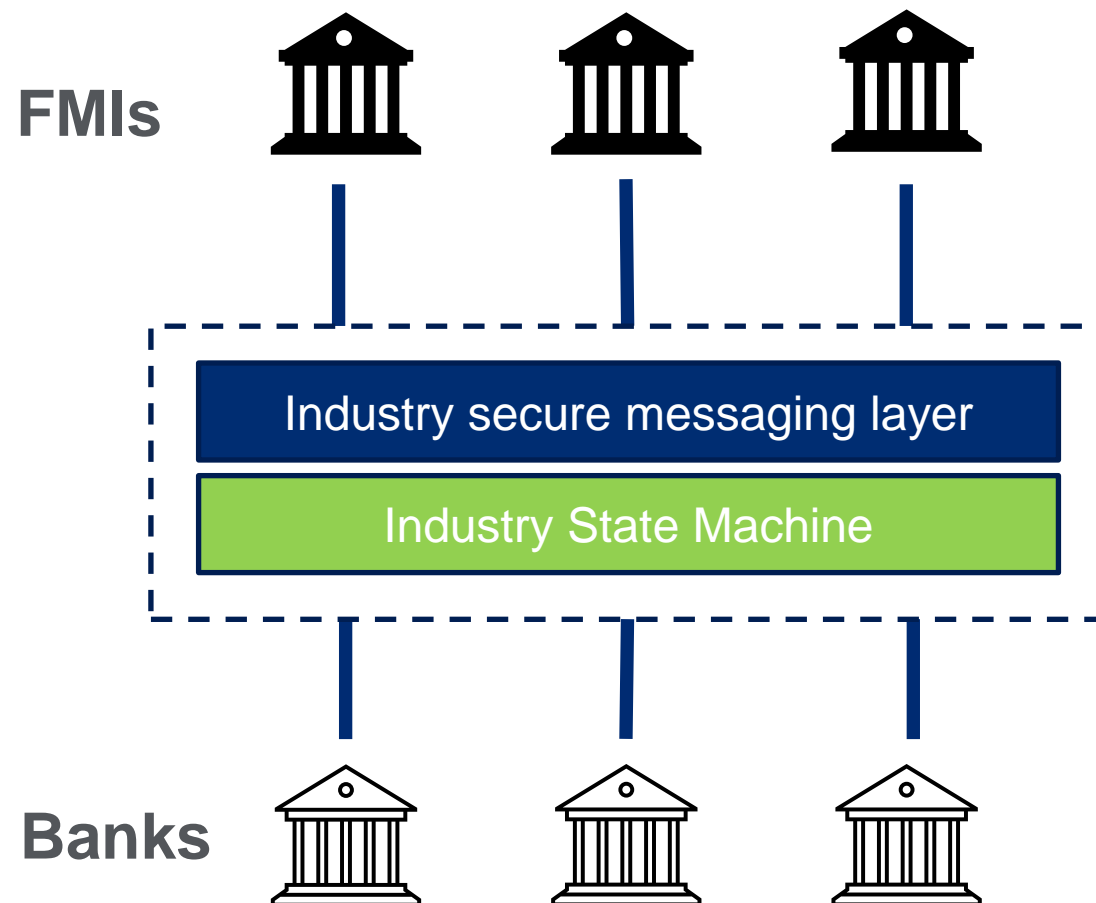
- A payment system based on the RLN concept could **likely be created within existing rules and regulations**, most likely as a Financial Market Utility (FMU) and funds transfer system
- Deposit tokens should be considered **equivalent to normal bank deposits** in all respects, including FDIC insurance
- Within the RLN construct, **wCBDC** should be considered as equivalent to **normal bank reserves**
- **Finality of settlement** can be achieved within the RLN

A New Layer for the Regulated Financial System?

MESSAGING ERA



TOKENIZED ERA



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