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Impact of Central Bank Digital Currencies on Corporate Treasury Management: Opportunities and Challenges

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Abstract: ***The emergence of Central Bank Digital Currencies (CBDCs) presents a transformational development in the financial ecosystem — affecting payments, liquidity, settlement, and risk management. Corporate treasury functions, responsible for managing liquidity, funding, payments and risk, may be significantly impacted by the introduction of CBDCs. This paper examines the potential effects of CBDCs on corporate treasury management, analysing both opportunities (such as real-time settlement, greater transparency, programmability of money, reduced counterparty risk) and challenges (including system/infrastructure changes, regulatory uncertainty, liquidity disintermediation, treasury-bank relationship shifts). A structured framework is developed for treasury decision-makers to assess CBDC adoption implications across key treasury dimensions: liquidity management, payments & settlements, funding & financing, risk management, and organisational capability. The paper further outlines research and implementation issues, offering a roadmap for treasury teams in corporates to prepare for a CBDC-enabled future.***

Keywords: Central Bank Digital Currency (CBDC), Corporate Treasury, Liquidity Management, Payments & Settlement, Treasury Risk Management, Programmable Money, Treasury Infrastructure

1. Introduction

Over the past decade, central banks globally have intensified their investigations into the issuance of CBDCs — digital forms of central-bank money. The introduction of CBDCs may alter fundamental aspects of money, payments, settlement and bank-liabilities. At the same time, corporate treasury departments are under pressure to improve efficiency, enhance funding flexibility, tighten risk management, and digitalise operations. The intersection of CBDCs and corporate treasury management merits careful study.

Treasury functions typically focus on working-capital optimisation, liquidity forecasting, funding and capital structure, payment execution, and risk mitigation (foreign-exchange, interest-rate, counterparty). The evolution of payments infrastructure (real-time payments, e-wallets, blockchain/distributed ledgers) has already started to reshape treasury operations. The arrival of CBDCs therefore offers both new opportunities and new risks.

This research explores how various forms of CBDCs — whether wholesale (institutional) or retail (corporate/consumer) — may impact corporate treasury management. It proposes a conceptual framework to analyse the impact, and discusses managerial implications, design-and-implementation issues, and a roadmap for treasury readiness.

2. Literature Review

The literature on CBDCs is growing, but there is relatively limited work specifically focused on corporate treasury functions. Key strands of literature include:

a) CBDC design, monetary policy and banking implications

Work by the International Monetary Fund (IMF) explores how the issuance of a retail CBDC may affect monetary policy transmission and bank-deposit dynamics: "level effects" and "transmission effects" of CBDC on the macro economy. Infante et al. (2024) review how design features (remuneration, limits) affect banking disintermediation and financial stability. Dong & Xiao (2021) adopt a corporate-finance perspective, showing how CBDC design (interest-bearing, substitute vs complement) influences firm investment and banking.

b) CBDCs and payments/settlement infrastructure

Consulting studies highlight that wholesale CBDCs are aimed at improving settlement efficiency and cross-border payments, especially for large institutions and corporates. Incorporating programmable money and tokenised assets is also being discussed. From a treasury perspective, CBDCs introduce opportunities for liquidity management, visibility and payments automation — provided regulatory frameworks align.

c) Corporate treasury management and technology evolution

Industry analyses point out that treasury departments are increasingly embracing automation, real-time liquidity planning, and leveraging novel technologies (DLT, APIs, tokenisation). One analysis of blockchain integration in cross-border treasury operations highlights that the shift is structural rather than incremental.

d) Gap in literature: treasury-specific impact of CBDCs

Despite the growing work on CBDC design, macro-impacts, banking stability and payments infrastructure, there remains limited published academic research that examines how corporate treasury functions will specifically adapt to CBDCs- across liquidity, funding, payments, risk, and organisational capability. This paper aims to fill that gap.

3. Conceptual Framework:

Impact of CBDCs on Corporate Treasury Management
A framework is proposed that maps treasury functions (liquidity management, payments & settlement, funding & financing, risk management, organisational/technology capability) to potential CBDC effects.

a) Liquidity Management
Near-real-time settlement enabled by CBDC reduces float, idle balances, and enables tighter cash-pooling across geographies. Programmable money enables automated intercompany transfers triggered by predefined conditions. Corporates may access central-bank-issued money (versus only bank deposits) which can alter the composition of treasury assets, potentially reducing counterparty risk but possibly increasing exposure to central-bank liability risk. Treasury may face liquidity fragmentation if CBDC holdings sit outside traditional bank cash-pools, complicating pooling and forecasting.

b) Payments & Settlement
Settlement in central-bank money (rather than bank-money) can reduce settlement-risk and shorten the cash-conversion-cycle. Programmable features allow supply-chain financing to be deeply embedded in treasury operations (automatic payment on delivery confirmation). Operational integration challenges include treasury systems, bank connectivity, ledger interoperability, data privacy, and parallel run of legacy and CBDC rails.

c) Funding & Financing
Corporate treasury may access funding via new structures built on CBDC rails (tokenised deposits or central-bank-money financing), changing cost of capital or access to liquidity. Treasury-bank relationships may evolve if corporates hold CBDC balances directly. If CBDCs cause bank disintermediation, it may reduce credit availability or increase cost of bank funding.

d) Risk Management
Counterparty risk may reduce with central-bank-money settlement. Treasury will face new technology risks (cyber/security of CBDC wallet infrastructure), regulatory risk (new rules around CBDC usage), and potential liquidity risk. Foreign-exchange and cross-border settlement risk may reduce with multi-CBDC platforms, but regulatory and operational risk may increase.

e) Organisational & Technology Capability
Treasury teams must upgrade infrastructure to integrate with CBDC rails, support real-time data, adopt smart-contract logic, manage wallets and accounts. Treasury professionals will require understanding of digital currency architecture, programmable money, cybersecurity, and inter-operability protocols. Policies and controls must be updated for CBDC holdings, conversions, and counterparty limits.

4. Discussion

Opportunities and Challenges for Corporate Treasury

a) Opportunities
- Faster cash-conversion and improved liquidity optimisation
- Greater transparency and control through programmable money
- Reduced counterparty/settlement risk
- Innovation in funding structures, including tokenised deposits and multi-CBDC cross-border settlement
- Competitive advantage in supply-chain finance through faster payment terms and supplier financing

b) Challenges
- Infrastructure and integration complexity
- Regulatory and design uncertainty
- Treasury-bank relationship disruption
- Liquidity and pooling risk
- Technology and cybersecurity risk
- Cross-border and interoperability issues

Managerial Implications and Roadmap for Treasury Teams

Treasury should proactively prepare for CBDCs with the following steps:
- Scan and assess CBDC developments in relevant jurisdictions.
- Conduct impact analysis by mapping treasury processes against CBDC effects.
- Pilot CBDC rails for non-critical flows to gain experience.
- Upgrade technology and establish partnerships with banks/fintechs supporting CBDC rails.
- Update treasury policies to cover CBDC holdings, conversion, and risk management.
- Train treasury staff in digital-currency concepts, programmability, cyber-risk management.
- Continuously review assumptions and refine strategy as CBDC designs and regulations evolve.

5. Research Agenda and Limitations

Future research could include:
- Empirical case studies of corporates using CBDC-based treasury flows
- Quantitative modelling of treasury liquidity outcomes under CBDCs
- Comparative studies across jurisdictions with different CBDC designs
- Risk assessment frameworks quantifying technology, bank-relationship, and liquidity risks
- Analysis of how CBDC adoption changes the bank-corporate relationship

Limitations include the nascent stage of CBDCs, uncertain design features, and variability in corporates' readiness and regulatory environments.

6. Conclusion

CBDCs have the potential to significantly transform corporate treasury management by offering faster settlement,

improved liquidity optimisation, programmable features, and new funding possibilities. Treasury teams face challenges in integration, regulatory uncertainty, bank relationship changes, and new operational risks. By mapping treasury functions to a CBDC-enabled framework, corporates can harness benefits while managing risks, positioning treasury as a strategic enabler in the digital money era.

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