

Examining the Design Features of a Canadian CBDC

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Overview

Budget 2022 announced the Government's intent to launch a financial sector legislative review on the digitalization of money, including a Central Bank Digital Currency (CBDC), as part of its effort to maintain financial sector stability and security amid a changing payments landscape.

The Canadian Bankers Association's (CBA)¹ [previous position paper](#)² examining the potential issuance of a retail CBDC underscored the importance of establishing a clear vision for the policy objectives of a CBDC before any decision is made by the Parliament of Canada to issue one.

The Bank of Canada's (Bank) own research³ concludes that it is unlikely any "single CBDC design" would be able to achieve all the Government's stated policy objectives, and any decision to issue a CBDC would consequently entail trade-offs among the various design features of a potential retail CBDC. This paper examines these issues in more detail.

Design Considerations for a Canadian CBDC

The CBA agrees with the Bank's assessment that there is currently no need for a digital Canadian dollar⁴. Canada's evolving payments system is now realizing the benefits of the collective efforts and investments that the banks and other stakeholders in the ecosystem have made to enhance the general efficiency and convenience of consumer payments. In Canada, we already have reliable, secure, and near-instant payments between people within the country. Moreover, according to World Bank data⁵, our country has the most inclusive financial system in the G7 group of countries as more than 99 per cent of Canadians have an account at a financial institution. The incremental benefits a CBDC may offer to Canadians remain unclear in this context.

¹ The Canadian Bankers Association (CBA) is the voice of more than 60 domestic and foreign banks that help drive Canada's economic growth and prosperity.

² Canadian Bankers Association, *Examining the issuance of a Canadian CBDC*, August 2022. <https://cba.ca/examining-the-issuance-of-a-canadian-cbdc>

³ Darbha, Sriram. *Archetypes for a Retail CBDC*. Bank of Canada Staff Analytical Note, October 2022.

<https://www.bankofcanada.ca/2022/10/staff-analytical-note-2022-14/> and Henry, Christopher et al., *Unmet Payment Needs and a CBDC*, August 2023, <https://www.bankofcanada.ca/2023/08/staff-discussion-paper-2023-15/>

⁴ The Bank of Canada, *BoC Launches Public Consultation on Digital Dollar*, May 2023, <https://www.bankofcanada.ca/2023/05/bank-canada-launches-public-consultations-digital-dollar/>

⁵ The World Bank, *The Global Findex Database 2021*, <https://www.worldbank.org/en/publication/globalindex/Data#sec1>

Beyond the lack of an immediate need or clear policy rationale, as the previous CBA paper noted, it would be important for the Government to educate Canadians on the risks posed by a CBDC. We encourage the Bank and the Government to further consult Canadians on the potential risks and nuanced policy choice associated with a CBDC to obtain meaningful input on consumer preferences and concerns related to a CBDC.

It is also critical that the Government establish clear priorities between different ongoing modernization initiatives and provide a roadmap that outlines how these parallel work streams are connected in the near and longer term. These initiatives include ongoing plans to modernize the payments system and launch a consumer-driven banking regime (also known as open banking) as well as current discussions surrounding the appropriate regulatory treatment of crypto-asset arrangements, including stablecoins.

The CBA's first position paper stressed the importance of establishing and verifying the policy motivations for a retail CBDC before one is issued. We look forward to working with the Government to clarify its policy objectives and to explore whether the issuance of a CBDC is the most efficient way of achieving them. We also welcome discussions of the expected use cases for a retail digital dollar.

Given the complexity of these issues, the CBA believes that both the policy rationale and potential benefits of a CBDC require additional consultation. If the decision is made to issue a CBDC, the CBA would recommend the Bank adopt a multi-stage approach to the issuance of a digital dollar, similar to the approach that has been taken in other jurisdictions including the United Kingdom and the European Union. The initial stage should clearly define how a retail Canadian CBDC would be used, and focus on testing, developing, and issuing a digital dollar with basic functionality.

These decisions at the initial stage would ultimately inform the final design and functionality of a retail Canadian CBDC. By initially focussing on the four design features discussed below, the expectation is that other, more complicated features (such as programmability or cross-border interoperability) would be dealt with at a later stage of development.

Design Feature 1: Two-Tier Hybrid Model

A key decision at the outset of designing a CBDC is whether to proceed with a one-tier model that is fully operated by the Bank of Canada or a two-tier model that involves other stakeholders.

The CBA believes a two-tiered hybrid distribution model where end users maintain relationships with their existing financial services providers instead of establishing a new one directly with the central bank, as described by the Bank of International Settlements (BIS)⁶, is the model that would best balance the trade-offs between the benefits and risks

⁶ BIS, Annual Economic Report 2021, *CBDCs: an opportunity for the monetary system*, June 2021. <https://www.bis.org/publ/arpdf/ar2021e3.htm>. This model is also similar to the "platform model" proposed by the Bank of England in its recent consultation on the digital pound: <https://www.gov.uk/government/consultations/the-digital-pound-a-new-form-of-money-for-households-and-businesses>

related to the safety, stability, competitiveness, and efficiency of Canada's financial system. This is particularly the case in the absence of effective market conduct regulation for non-bank payment service providers⁷.

The Bank's research has also acknowledged the advantages inherent in a two-tier model that minimizes the operational burden placed on the Bank, as it is not equipped to verify customer identities or manage individual accounts that would be required under a one-tier model⁸.

Well-regulated financial service providers that have demonstrated the prudential stability and operational capability, including the use of settlement accounts at the Bank, would be required to take on the key functions of an effective CBDC regime in a two-tier model.

Design Feature 2: Account-Based Model

We believe that significant benefits would also be offered by an account-based model in which well-regulated financial service providers would have the sole responsibility for providing their customers with CBDC accounts (e.g., in the form of custodial e-wallets), while the Bank would be responsible for maintaining the core CBDC ledger and not the provision of individual CBDC accounts⁹.

Custodial e-wallets, as part of an account-based system requiring robust identity verification, would ensure higher levels of efficiency and interoperability with other payment vehicles. Individual transactions in this model would not be processed by the Bank, which has limited experience in managing retail customer accounts.

In the context of a two-tier hybrid system, an account-based model would also enhance the resilience of a CBDC and minimize operational risks by leveraging the existing security and stability offered by today's tested and trusted financial infrastructure supported by the operational processing, advanced risk management, and resilience of existing banks. Further, this type of model would remove the risk of a single point of failure that is present in a one-tier system where the central bank is the sole operator of the supporting infrastructure, including individual accounts.

Such a model would also minimize the risks to individual consumers related to the loss of their private keys in a token-based model. Indeed, the privacy protections offered by this model would require further discussions between participants in the CBDC ecosystem.

Design Feature 3: Non-Interest Bearing

We support the Bank's commitment noted in its public contingency plan that any retail CBDC "would earn no interest"¹⁰ and would be designed in such a way that a digital dollar in an e-wallet would not accrue interest, much

⁷ The current scope of the *Retail Payment Activities Act* does address some of the risks posed by non-bank intermediaries in a two-tier hybrid distribution model for a retail CBDC, but no provisions have been made for market conduct.

⁸ The Bank of Canada, *Should the Central Bank Issue E-Money*, Staff Working Paper 2018-58, December 2018. <https://www.bankofcanada.ca/wp-content/uploads/2018/12/swp2018-58.pdf>

⁹ This model is similar to the platform model proposed by the Bank of England in their recent consultation on a CBDC.

¹⁰ The Bank of Canada, *Contingency planning for a central bank digital currency*, February 2020, <https://www.bankofcanada.ca/2020/02/contingency-planning-central-bank-digital-currency/>

like a dollar in a physical wallet. As the Contingency Plan states, this would “mitigate adverse financial stability consequences that might arise if banks needed to resort to more expensive and fragile forms of funding”¹¹. This is consistent with the CBA’s first position paper, which emphasized that the stability of the financial sector should not be undermined by the issuance of a CBDC. Therefore, any deviation from this design commitment would require extensive additional consultation with stakeholders.

Design Feature 4: Limits on Total Holdings and Transactions

Given the difficulties surrounding the determination of the exact value of bank deposits that could migrate to CBDCs, especially during a period of transition, we believe the Government should impose limits on the maximum number of CBDC accounts, and value of holdings, that an individual customer would be allowed to hold, as well as limits on the maximum value of the CBDC transactions that a customer would be allowed to undertake on any given day.

Placing such limits on total CBDC holdings and transactions would not only help mitigate the risk of financial disintermediation, but also to help preserve the stability of our country’s financial system. Importantly, it could also work to minimize the risks related to money laundering and other financial crimes. As noted in the CBA’s initial position paper and the Bank’s own research, limiting the amount of CBDCs that can be held in a digital wallet could further help reduce various fraud-related risks faced by consumers¹².

Coordination Among Different Levels of Government

Finally, it is important for federal and provincial governments to coordinate with each other and relevant international standard setters regarding issues surrounding the design of a CBDC in the context of multiple other modernization initiatives that are currently under consideration. Without such alignment, effective CBDC implementation will be difficult. Consideration should also be given to other issues not covered in this paper such as the appropriate regulatory and governance framework for an effective CBDC ecosystem.

The CBA’s first position paper underscored its strong commitment to working with the Bank and its Government partners to explore the various considerations raised in the Bank’s contingency plan, including the ongoing need to assess alternative policy solutions to a CBDC, as Canada’s financial sector continues to evolve in the context of rapid technological advancements.

This reflects the longstanding commitment of Canada’s banking industry to promoting the safety, stability, competitiveness, and efficiency of Canada’s financial system and its continuing support for purposeful innovations that ensure Canadians are able to fully enjoy the benefits of participating in the digital economy.

¹¹ Ibid

¹² Kahn, C., & Rivadeneyra, F. (n.d.). *Security and convenience of a central bank digital currency*. October 2020. <https://www.bankofcanada.ca/wp-content/uploads/2020/10/san2020-21.pdf>