Document 12

Reserve Bank
of New Zealand
Te Pūtea Matua

Central Bank Digital Currency (CBDC)
Aparangi ā Te Pūtea Matua
CBDC Forum Session 4

Wednesday, 15 March 2023

Nau mai, haere mai Welcome

Robbie Taylor

Housekeeping

Robbie Taylor

Reserve Bank
of New Zealand
Te Pūtea Matua

Relationship Charter.

The Reserve Bank aspires to build and maintain the best 'regulator/regulated' supervisory relationships possible, with all the different regulated entities. This Charter represents a mutual undertaking of how the parties will work together to achieve this aspiration. We will regularly measure our performance against the commitments set out in the Charter and share the lessons.

Our mutual commitments

Our behaviours will be

Honest
positions are openly stated, constructively, freely and frankly

Diligent
provide clear expectations and deliver on them

Achievement focused
work together to achieve sound and efficient outcomes

Open-minded
each other's perspective is constructively sought and understood

Professional
disagreements can happen on issues, not people

Our communication will be

Clear
easily understood, with decisions explained

Targeted
made to the right people in governance and management

Consistent
one organisation, one message, one tone

Timely
communication with no surprises

Ground rules

Relationship charter

- Respecting diversity of background, thought and expression
- Encouraging participation and fun
- Chatham House rules

Probity

- No anti-competitive behaviour (price-setting, division of markets, agreements lessening competition, cartels etc), and raise a hand if concerned
- This is a "sales pitch free zone"
- Mis/representing CBDC Forum membership or its work

CBDC Forum members

Name	Organisation	Name	Organisation
Adrian Smith	BlinkPay	Alexandra Sims	University of Auckland
Brian Bonar	ANZ	Conrad Morgan	Worldline
David Corbett	PowerFinance	Fran Strajnar	Techemy
Jane Retimana	Payments NZ	Jennifer Ferreira	Victoria University
Joanne Dacombe	Disabled Persons Assembly	John Warwick	Foodstuffs
Michelle Kitney	Volunteering NZ	Mitchell Pham	FintechNZ
Paul Quickenden	EasyCrypto	Simon Jensen	Buddle Findlay
Andrew Dodd	ASB	Mitesh Mistry	Kiwibank
Lee Timutimu	Arataki Systems		

Chair and secretariat

Chair	Robbie Taylor
Secretariat	Navina Soondram – liaison
	Makoto Seta – policy lead
RBNZ Team	Andrew McCallin
	Amber Wadsworth
	Tim Duston
	Roanna McLeod

Agenda for today

Time	#	Item	Presenters
10:00am	1.	Welcome & update from Reserve Bank	Robbie Taylor
10:30am	2.	CBDC policy framework	Amber Wadsworth
11:30am		Break	
11:35am	3.	Forum supporting design exploration	Andrew McCallin, Tim Duston
12:20pm		Lunch	
1:00pm	4.	Forum supporting design exploration (cont'd)	Andrew McCallin, Tim Duston
1:30pm	5.	Member-led session: accessibility & inclusiveness	s 9(2)(g)(i)
2:15pm		Break	
2:20pm	6.	Open discussion	
2:50pm	7.	Wrap up	Robbie Taylor
3:00pm		Close	

Item 1:
Update from Reserve Bank

Robbie Taylor

CBDC insights from discovery trip

Item 2:
# CBDC policy framework

Amber Wadsworth

Purpose

In this session we will:

- Report back on the Innovation and Integrity design recommendations following our last session with you

- Seek your feedback on how the CBDC design principles are evolving into a fulsome policy framework

- Our design principles and policy framework inform our design choices

Session outline

- Recap the innovation and integrity aspects of a CBDC (10 mins)

- Describe how the design principles are evolving (10 mins)

- Brainstorm the design principles and general feedback (35 mins)
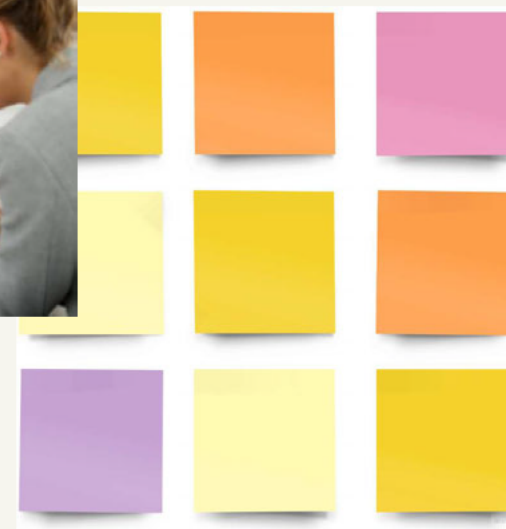
Background

- The design of a CBDC is informed by our intended public outcomes

- The design principles capture these outcomes

- We are undertaking analysis to understand the design implications within each principle

CBDC design principles

CBDC design principles

1. **Uniform**
Exchanged 1:1 with cash and support NZD as unit of account

2. **Universal**
Provide basic saving and payments to all households

3. **Cash-like**
Freedom and autonomy (privacy) in saving and paying, personal back-up, enable peer-to-peer

4. **Innovative**
Uses and drives innovation in New Zealand's money and payments, potential new monetary tool

5. **Integrity**
Resilient, secure, final and compliant

6. **Managed Issuance**
Avoids unnecessary disruption to financial and monetary system

CBDC Issued to all

1. Recap: Innovation and Integrity aspects of CBDC

Reporting back on our advice following your feedback

CBDC design principles

CBDC design principles

1. Uniform
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Provide basic saving and payments to all households

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Avoids unnecessary disruption to financial and monetary system

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Resilient, secure, final and compliant

4. Innovative
Uses and drives innovation in New Zealand's money and payments, potential new monetary tool

Last session

We captured your thoughts on the pain points and opportunities in NZ's money and payments

And discussed how a CBDC could drive innovation and ensure integrity – using scenarios

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This enabled us to

- Verify our preliminary findings

- Finalise our policy advice on:

  - The opportunities for improving innovation and reliability in NZ money and payments

  - How a CBDC could deliver these opportunities – adding details to the Innovation and Integrity design principles

  - Recommendations for CBDC design based on those principles

Design recommendations

The CBDC asset should sit outside the bank account structure, and provide for customisation of money and payment actions

The CBDC platform should:

- Provide enhanced payment functionality

- Be reliable, compliant and secure

- Interoperable with other systems

- Integrated with services built on the platform

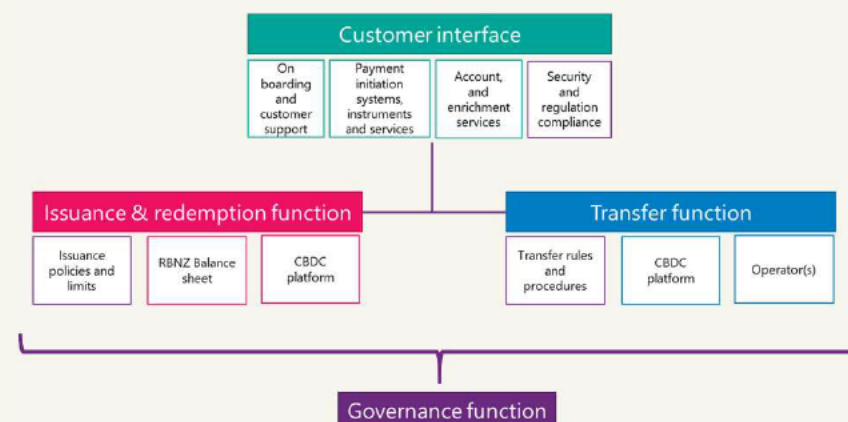- Be flexible and responsive to future consumer demands
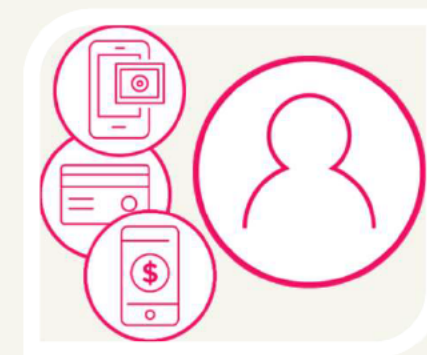
Design recommendations

The CBDC ecosystem should be multi-tiered

RBNZ owns and control the governance of a CBDC ecosystem and the issuance and redemption of CBDC assets

A multi-tier ecosystem

Potential range of services and providers

		RBNZ	New oversight structure	New infrastructure providers	New PSPs	Existing PSPs	New customer services	Financial institutions	Independent ATMs	Merchants
Govern	Establishing policies (Govern ecosystem and its parts)	✓	✓							
	Oversight and monitoring	✓	✓							
	Have/use delegated authority (To act on behalf of governing body for certain decisions)		✓	✓				✓		
	Approve new members/service providers to ecosystem*	✓	✓	✓						
Issue	Issue CBDC** (Create/redeem tokens or accept funds for CBDC on ledger)	✓			✗	✗	✗	✗	✗	✗
	Distribute CBDC to users			✓		✓	✓	✓	✓	✓
Transfer	Payment initiation	✗	✓	✓	✓	✓	✓	✓		✓
	Check transactions can be fulfilled		✓	✓	✓	✓	✓	✓		
	Validate /clear & settle transactions***	✓		✓		✓		✓		
	Develop and maintain transfer system software (open or closed source, sets transfer rules)			✓		✓		✓		
	Security maintenance			✓		✓		✓		
Front-end	Customer on boarding (including KYC)	✗					✓	✓		
	Account services	✗				✓	✓	✓	✓	✓
	Cash integration				✓	✓	✓	✓	✓	✓
	Customer protection and support services						✓	✓	✓	✓

2. CBDC design principles

CBDC design principles

CBDC design principles

CBDC Issued to all

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Freedom and autonomy (privacy) in saving and paying, personal back-up, enable peer-to-peer

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Uses and drives innovation in New Zealand's money and payments, potential new monetary tool

5. Integrity
Resilient, secure, final and compliant

6. Managed Issuance
Avoids unnecessary disruption to financial and monetary system

Purpose of design principles

- Capture all our objectives

- Guide our decisions as we narrow down a set of CBDC design options

- Help us evaluate CBDC design options

Money and payment objective

Endorsed in 2022

NZ has reliable and efficient money and payments systems that support innovation and inclusion

How the principles are evolving

Updating the wording of the principles themselves

Adding more depth behind each principle in the form of supporting criteria

Updating the wording

2021 Design principles		2023 Updated Design principles
Uniform	→	Uniform
Universal		**Universal**
Cash-like		**Private**
Integrity	→	**Integrity**
Innovative	→	Innovative
Managed issuance	→	Managed issuance

Purple denotes attributes that have been split out of the 'cash-like' design principle

2023 updated design principles

2023 Updated Design principles

Uniform
Exchanged 1:1 with cash and support NZD as unit of account

Universal
Provide basic payments to all households

Private
Users are free from scrutiny or observation. Users have full control over information about themselves, their physical world and their transactions

Integrity
Unquestionable operationally resilient, not able to be double-spent, final settlement and have appropriate compliance and risk management controls and comply with all regulations

Innovative
Supports the development of value enhancing new or improved forms of money technologies, payment functionality and money and payments systems and services

Managed issuance
A CBDC should be issued and governed by the Reserve Bank in a manner that avoids unnecessary disruption to the cash system, the wider financial system and monetary policy settings

Adding supporting criteria

2023 Updated Design principles	2023 Supporting criteria
Uniform	
Universal	Inclusive: • Meaningful choice • Autonomy
Private	Data governance Assurance
Integrity	Reliable: Resilient, Safe
Innovative	Efficient: • Competition • Interoperability Feasible: • Simple • Balances commercial incentives
Managed issuance	

Using the design principles

1. Guidance for design options

2. Inform an evaluation matrix (yet to be drafted) that will assess the design options

Using the design principles

2023 Updated Design principles	2023 Supporting criteria	Implied design features to explore further *Selected examples*
Uniform		
Universal	Inclusive: • Meaningful choice • Autonomy	• Offline capability
Private	Data governance Assurance	• Minimum data collection
Integrity	Reliable: Resilient, Safe	
Innovative	Efficient: • Competition • Interoperability Feasible: • Simple • Balances commercial incentives	• Instant peer-to-peer and point-of-sale payments
Managed issuance		• Balance limits

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Discussion

1. What should be captured in the design principles as they evolve?

2. What design choices do you think we should explore given the design principles?

Activity

- You will be broken into three groups:

  - Two in room and one online

  - Each group will have an RBNZ facilitator, who will screen share a miro board and enter in your comments to the board

    ◦ Group 1 – Amber

    ◦ Group 2 – Makoto & Navina

    ◦ Group 3 - Roanna (online)

  - You can view the board at the link shared in comments (previously shared with you)

Lets go to miro

Q. What should be captured in the design principles as they evolve?

2023 Updated Design principles	2023 Supporting criteria
Uniform *Exchanged 1:1 with cash and support NZD as unit of account*	
Universal *Provide basic payments to all households*	Inclusive: • Meaningful choice • Autonomy
Private *Users are free from scrutiny or observation. Users have full control over information about themselves, their physical world and their transactions.*	Data governance Assurance
Integrity *Unquestionable operationally resilient, not able to be double-spent, final settlement and have appropriate compliance and risk management controls and comply with all regulations.*	Reliable: Resilient, Safe
Innovative *Supports the development of value enhancing new or improved forms of money technologies, payment functionality and money and payments systems and services.*	Efficient: • Competition • Interoperability Feasible: • Simple • Balance commercial incentives
Managed issuance *A CBDC should be issued and governed by the Reserve Bank in a manner that avoids unnecessary disruption to the cash system, the wider financial system and monetary policy settings.*	

Q. What design choices should we explore given the design principles?

2023 Updated Design principles	2023 Supporting criteria	Implied design features to explore further *Selected examples*
Uniform		
Universal	Inclusive: • Meaningful choice • Autonomy	• Offline capability
Private	Data governance Assurance	• Minimum data collection
Integrity	Reliable: Resilient, Safe	
Innovative	Efficient: • Competition • Interoperability Feasible: • Simple • Balance commercial incentives	• Instant peer-to-peer and point-of-sale payments
Managed issuance		• Balance limits

Item 3:

Forum supporting design exploration

Andrew McCallin, Tim Duston

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1. Purpose & background context

Purpose:

To engage the Forum to select and commission a CBDC design exploration activity that examines CBDC design issues or design trade-offs. We will work with our supplier to explore this, and at a future meeting we will present the outcomes of the commissioned exploration and have an interactive session

- The RBNZ is engaging an experienced third party CBDC supplier to help us:

  ➤ Build knowledge to inform CBDC policy, design and technical considerations

  ➤ Support findings with demonstrations of how a CBDC for Aotearoa might work and function

  ➤ Assess the technical and operational feasibility of introducing a CBDC in NZ

  ➤ Support the development of robust CBDC options and to inform an Indicative Business Case

- We would like to involve the CBDC Forum in shaping key areas, reviewing the results, and providing feedback to inform CBDC design options

2. What RBNZ's 'exploration' success looks like

The 'Design explorations' part of the CBDC work program will use a combination of advice and technical activities, which may include demonstrations or conducting experiments in a simulation environment. They will inform the development of design options that best align with our objectives, policy outcomes, and design principles. We're doing this so that:

✓ We gain increased confidence in our preferred direction of travel, including within this Forum

✓ We learn more about key tensions, trade-offs, and uncertainties in CBDC design options to inform decision making

✓ We can reflect lessons and outcomes in our Stage 2 recommendations

✓ We can communicate lessons and outcomes to this Forum and our internal stakeholders

✓ We can validate and clarify design choices and policy positions

3. Proposed roles

We'd like to approach this in the following way:

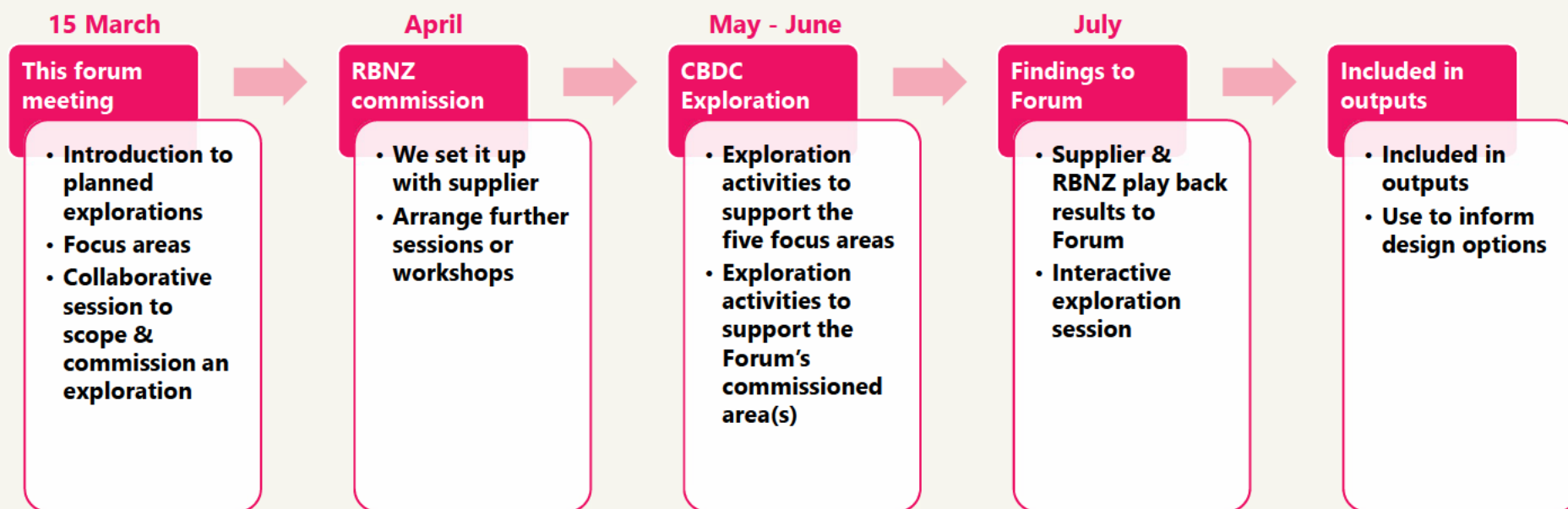| **CBDC Forum members will:**	**RBNZ – CBDC Exploration Team will:**
• **Commission exploration(s)** • **Participate** in any shared sessions or updates in relation to the exploration(s) • **Provide guidance and practical feedback** to support this work • **Address any concerns or issues** identified	• **Manage the supplier's** activities to progress the commissioned exploration • **Communicate progress** with Forum members • **Playback results** with the supplier to the Forum in interactive sessions • **Reflect outcomes** in our Stage 2 deliverables

4. Proposed process

We'll agree today what you'd like to explore, aiming to report back in July*

15 March	April	May - June	July	
This forum meeting	**RBNZ commission**	**CBDC Exploration**	**Findings to Forum**	**Included in outputs**
• **Introduction to planned explorations** • **Focus areas** • **Collaborative session to scope & commission an exploration**	• **We set it up with supplier** • **Arrange further sessions or workshops**	• **Exploration activities to support the five focus areas** • **Exploration activities to support the Forum's commissioned area(s)**	• **Supplier & RBNZ play back results to Forum** • **Interactive exploration session**	• **Included in outputs** • **Use to inform design options**

*Notes & caveats:

- We will provide progress updates on both the commissioned exploration and all other explorations where sensible
- RBNZ will need some flexibility to validate with the supplier the scope, arrangements and viability of the Forum's commissioned work

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5. Activity today

Once we agree what to explore, we'll take that to our supplier for them to propose an approach, and timing

Today we'd like to:

- Agree an area for CBDC exploration which is mutually beneficial to Forum members and to the wider RBNZ CBDC programme
- Discuss the scope of that exploration
- Agree draft wording for our supplier
- Agree what level of interaction you'd like over the course of the work
- Agree next steps

Today we don't want to:

- Discuss the details of technology
- Identify or propose solutions
- Expand the scope of the CBDC programme of work or change timelines
- Agree work that we might not be able to complete within our timeframes and budget

6. Discussion questions

What part of the CBDC ecosystem would you like to concentrate on?	**What area would you most like to explore?**	**What are the specifics of what you would like to explore?**
Do you want to concentrate on:	*For example & next slide:*	*What are the questions and scope that you would like to explore?*
• The **users**? (i.e. people and businesses using a digital currency)	• Privacy	• Questions to explore
• The **market**? (i.e. products and services)	• Innovation	• Clarifying scope description or context
• The **platform**? (i.e. the systems functionality to support issuing and transferring a digital currency)	• Limits on balances or transactions	• Guidance on what you would like to see delivered
	• Key user propositions; unique selling points	
	• Offline payments	

7. Illustrative examples for guidance

Some areas are not well suited to being commissioned due to timing or nature of the issue – as denoted by **x**). Others are available options (✓). Non exhaustive list for illustrative guidance

Digital Currency Asset	Platform	Market	Users
✓ None	✓ Programmable payments / smart contracts etc ✓ Offline payments ✓ User account & wallet limits ✓ Privacy and data ✓ Payments & data overlay service models ✓ management model ✓ Payment system relationship strategy (to support user funding/defunding)	✓ Use cases ✓ Enabling innovation ✓ CBDC payments acceptance at POS / online ✓ Payment system interoperability ✓ Distribution models	✓ Use cases ✓ Compelling user propositions ✓ Uptake and adoption strategies ✓ Communications (incl myth busting) ✓ Inclusion strategies
X Digital currency representation (e.g. token or account) X Integrity X Legal basis X Programmable money X Liability claim on central bank	X Ledger type X Minting, issuing, redeeming, destroying X Transfers X Remunerated / interest bearing X Intermediary access	X Supervision & compliance X Govt involvement (i.e. acceptance, providing basic CBDC services, etc)	X User needs (being progressed separately via research)

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8. Discussion notes

Break for lunch