FRB Five Nations Study – Round 7

In-person Interviews – Spring/Summer 2025

FRB Objectives

- **Determine if fitness standards set for high-speed machines align with public opinion of "acceptable to use" in everyday life in terms of overall look, feel, color and condition of security elements such as micro-optic features, color shifting ink, watermarks, etc.**
    - o   What is the public's overall tolerance to worn or unfit banknotes?
    - o   What specific aspects of fitness are most important to prioritize?
    - o   Should notes be kept in circulation shorter or longer than current fitness settings, or are current fitness settings aligned with usability and security needs?
- **Determine realistic lifespan of security features in circulation.**
    - o   What is the impact of wear on the ability of participants to authenticate micro-optic features?

Five Nations Objectives

Australia	
	- What security features the public use to authenticate our NGB banknotes? - How wear on the security features and the banknote impacts the public' ability to use and authenticate the banknotes. - At what wear level does the public find it difficult to authenticate and hence be able to detect a counterfeit banknote amongst genuine ones? - What are the appropriate fitness standards for banknotes in circulation – what changes should be undertaken?
England	TBD- Pending *[Ink wear and Foil wear]*
Canada	- How does note wear impact authentication success rate or authentication time? - Does value impact wear perception success rate or authentication time? - From these results, do our current fitness standards set for high-speed sorting machines align with authentication needs? Can we understand perceived differences between wear modes? - How are the secondary security features used in authentication? Do people flip the banknotes to use secondary features if the primary feature is compromised or illegible?
Mexico	**Determine if fitness standards set for high-speed machines align with public opinion of "acceptable to use" in everyday life in terms of overall look, feel, color and**

	condition of security elements such as micro-optic features, color shifting ink, watermarks, etc. o What is the public's overall tolerance to worn or unfit banknotes? o What specific aspects of fitness are most important to prioritize? o Should notes be kept in circulation shorter or longer than current fitness settings, or are current fitness settings aligned with usability and security needs? • **Determine realistic lifespan of security features in circulation.** o What is the impact of wear on the ability of participants to authenticate micro-optic features?

Approach

Ipsos is conducting 60 minute individual interviews across five international markets. In each market, we will conduct 40 IDIs across four-five days depending on the market. (Canada, UK, Australia-4 days fieldwork, Mexico- 5 days fieldwork). We may conduct an additional 40 IDIs in Chicago, depending on program needs.

Participant Criteria

- Participants must use banknotes of the local currency at least monthly
- **General Cash Users** must use banknotes at least monthly for personal transactions.
- **Business Cash Users** must use banknotes as part of their work responsibilities, with eligibility based on a series of questions about how often they accept cash payments, audit cash drawers, etc. Typical eligible participants are cashiers, bank tellers, store managers, small business owners, and service industry workers who are regularly tipped in cash. Business Cash Users do not have to use cash for personal cash transactions, but they may.
  - o **15 participants should meet the criteria for Business Cash Users.**
- In non-US markets, best effort to recruit 5 participants (General or Business Cash Users) who have also interacted with United States banknotes in the past two months. This may include people who have recently travelled to the US or elsewhere, receive USD from relatives or friends in the US, or receive tips from US or other tourists, however the reason they interact with US banknotes is not important.

Fieldwork Schedule

Market	Dates	Fieldwork Length
Chicago, IL	Pilot 5/7, FW 5/20-5/24	4-day
Sydney, Australia	6/10-6/13	4-day

Toronto, Canada	7/10-7/13	4-day
Mexico City, Mexico?	7/28-8/1	5-day
London, UK?	8/18-8/21	4-day

Daily schedule of sessions (4-day schedule- in local time)

Day 1		Day 2		Day 3		Day 4	
Moderator 1	Moderator 2	Moderator 1	Moderator 2	Moderator 1	Moderator 2	Moderator 1	Moderator 2
9-10am	9-10am	9-10am	9-10am	9-10am	9-10am	9-10am	9-10am
10:30-11:30	10:30-11:30	10:30-11:30	10:30-11:30	10:30-11:30	10:30-11:30	10:30-11:30	10:30-11:30
12-1	12-1	12-1	12-1	12-1	12-1	12-1	12-1
Lunch 1-2		*Lunch 1-2*		*Lunch 1-2*		*Lunch 1-2*	
2-3pm	2-3pm	2-3pm	2-3pm	2-3pm	2-3pm	2-3pm	2-3pm
3:30-4:30pm	3:30-4:30pm	3:30-4:30pm	3:30-4:30pm	3:30-4:30pm	3:30-4:30pm	3:30-4:30pm	3:30-4:30pm

Daily schedule of Spanish-language sessions (5-day schedule- in local time)

Day 1		Day 2		Day 3		Day 4		Day 5	
M1	M2	M1	M2	M1	M2	M1	M2	M1	M2
10-11am	10-11am	10-11am	10-11am	10-11am	10-11am	10-11am	10-11am	10-11am	10-11am
11:30-12:30 pm	11:30-12:30 pm	11:30-12:30 pm	11:30-12:30 pm	11:30-12:30 pm	11:30-12:30 pm	11:30-12:30 pm	11:30-12:30 pm	11:30-12:30 pm	11:30-12:30 pm
Lunch 12:30-1:30pm		*Lunch 12:30-1:30pm*		*Lunch 12:30-1:30pm*		*Lunch 12:30-1:30pm*		*Lunch 12:30-1:30pm*	
1:30-2:30pm	1:30-2:30pm	1:30-2:30pm	1:30-2:30pm	1:30-2:30pm	1:30-2:30pm	1:30-2:30pm	1:30-2:30pm	1:30-2:30pm	1:30-2:30pm
3-4pm	3-4pm	3-4pm	3-4pm	3-4pm	3-4pm	3-4pm	3-4pm	3-4pm	3-4pm

Moderation Guide

Guide Overview

- Introductions (3 min) - Moderator will openly display a sheet that displays the OMB Clearance statement to participants
- Warm up (2 min)
- Handling of stimuli (54 min)
  - o **Activity 1 | Acceptable/ Unacceptable Sorting Task (10 min)**
    - Present participants with a range of banknotes of varying denominations and conditions (from new to heavily circulated).
    - Instruct participants to sort the banknotes into "fit- acceptable" and "unfit- unacceptable" piles based on their own criteria.
  - o **Activity 2 | Acceptance Based on Scenario (20 min)**

- - Present participants with a series of scenarios involving the receipt or use of banknotes in various conditions (e.g., using the ATM, tipping, receiving change).
    - Ask participants to sort the likelihood of accepting or using the banknote in each scenario.
  - **Activity 3 | Authentication (24 min)**
    - Present participants with a range of banknotes of varying denominations and conditions (from new to heavily circulated). Letting them authenticate one at a time.
    - Instruct participants to determine if each banknote is authentic or counterfeit based on their own criteria.
  - *Eye Tracking:* Monitor participants' eye movements to identify specific areas of wear or damage that influence their authentication decisions.
- Wrap-up (1 min)

Introductions (3 minutes)

Thank you for coming in for today's session. My name is **[   ]** and I work for an independent research company called Ipsos. I'll be guiding you through the activities you'll be doing today. You will spend about 60 minutes here with me.

We will complete a few activities today handling cash and will spend some time talking about those tasks. Then towards the end of our session I'll have you put on the glasses you see in front of you. The glasses will track your eye gaze as you look at some prototypes I will share with you today.

As we go along, please don't hesitate to be honest with me – we are interested in any feedback you have for us and there are no right or wrong answers.

We are recording today's session, and I do have a couple colleagues who are observing us through a livestream. However, everything you share with us will be kept confidential. Your name will not be associated with anything you do or say here today, and the recording of this session will be deleted upon completion of this research study.

Please also keep in mind that you have signed an NDA, agreeing that you will not share with anyone what you see here today. Do you have any questions before we get started?

[Start recording]

Warm up [2 min]

First, I am interested to hear about how you use cash in your daily life.

1. When is the last time you used cash? What did you use it for?
    a. How do you typically use cash in your life?
2. Do you handle cash at work?
    a. What are your work responsibilities when it comes to handling cash?

Stimuli Handling

Intro

In a moment, I'm going to pass you an envelope of banknotes on the table in front of you and I am going to ask you to sort them into one of two groups: banknotes that are acceptable to use in your day-to-day life and banknotes that are not acceptable to use.

- For each banknote you'll handle today, you can and probably should pick them up to examine them.
- Any thoughts that come to mind please share by speaking them aloud. I'd like to know what you are thinking as you sort the banknotes.

Activity 1: Acceptable/ Unacceptable Sorting [10 min]

Intro

Here is the envelope of banknotes. Please sort them into bills that would be acceptable to use in your day-to-day cash transactions, on the left, and those that would not be accepted, on the right.

Be sure to talk aloud any thoughts you have as you are deciding. You have the next few minutes to look at each banknote and decide.

Moderator notes:	• Make note of serial numbers in acceptable/unacceptable pile • Make note of any participant comments or observable behaviors o E.G., Feeling the paper, holding it up to the light, etc • Do not comment or asking probing questions while participant is sorting

Deeper Understanding

[When Participant finishes sorting] Let's focus on the pile of cash you deemed **acceptable to use** in your day-to-day life. Feel free to reference the materials as you answer questions. **[Hand acceptable pile for reference]**

1. What aspects of the condition of the bank notes are most important to you when deciding whether or not it's acceptable in your day-to-day life?

2. Have you even encountered a bill that you thought was *acceptable* but when you tried to use it wasn't accepted somewhere?
    a. **[If yes]** Where was it not accepted and why?
    b. **[If yes]** What did you do when it wasn't accepted?

Now I'd like to learn more about the cash in the pile **unacceptable to use** in your day-to-day life. Feel free to reference the materials as you answer questions**. [Hand UNACCEPTABLE pile for reference]**

3. What aspects did you focus on when deciding what was NOT acceptable to use?

4. Have you **received** any banknote that you considered too worn or damaged to use in your day-to-day life?
    a. **[If yes]** What specifically made it seem too worn or damaged?
    b. **[If yes]** Were you able to use it? If so, where?

Activity 2: Acceptance Based on Scenario [20 min]

Intro

Next, I am going to have you **sort the banknotes** again into acceptable to use vs unacceptable to use but this time I am going to **give you some scenarios** I'd like you to consider.

As you are sorting, I want you to focus on what cash you would actually use in real life. Remember there are no right or wrong answers. I just want to learn what would be acceptable to you personally.

- For each banknote you'll handle today, you can and probably should pick them up to examine them.
- Any thoughts that come to mind please share by speaking them aloud. I'd like to know what you are thinking as you sort the banknotes.

Moderator notes:	• Make note of serial numbers in acceptable/unacceptable pile • Make note of any participant comments or observable behaviors o E.G., Feeling the paper, holding it up to the light, etc • Do not comment or asking probing questions while participant is sorting

Scenario 1: Imagine you're inserting cash into a vending machine which bills do you think would be accepted or not accepted, if any. *Focus on the quality of the bill and not its worth.*

[When Participant finishes sorting]

5. What did you think about when you were deciding which bills were acceptable to use at a vending machine?
   a. **[If doesn't mention]** Is the overall look of the bill something you consider?
   b. **[If doesn't mention]** How about the color?
   c. **[If doesn't mention]** Does the feel of the bill matter?
   d. **[If doesn't mention]** Did you focus on any imagery when deciding?

6. What aspects did you focus on when deciding what bills would NOT be acceptable to use at a vending machine?

Scenario 2: Let's say that you are tipping at a restaurant which bills could you use to tip and which ones not, if any. *Focus on the quality of the bill and not its worth.*

[When Participant finishes sorting]

7. What did you think about when you were deciding which bills were acceptable to use for a tip at a restaurant?
   a. **[If doesn't mention]** Is the overall look of the bill something you consider?
   b. **[If doesn't mention]** How about the color?
   c. **[If doesn't mention]** Does the feel of the bill matter?

    d. **[If doesn't mention]** Did you focus on any imagery when deciding?

8. What aspects did you focus on when deciding what bills would NOT be acceptable to use when tipping at a restaurant?

Scenario 3: What if you were gifting some cash to a friend or loved one for a special occasion. Which cash would you use for this? F*ocus on the quality of bill and not its worth.*

[When Participant finishes sorting]

9. What did you think about when you were deciding which bills were acceptable to give as a gift?
    e. **[If doesn't mention]** Is the overall look of the bill something you consider?
    f. **[If doesn't mention]** How about the color?
    g. **[If doesn't mention]** Does the feel of the bill matter?
    h. **[If doesn't mention]** Did you focus on any imagery when deciding?

10.   What aspects did you focus on when deciding what bills would NOT be acceptable to give as a gift?

[GENERAL USER] Scenario 4: Last let's imagine you just made a cash purchase at a clothing store and are getting change back. Which bills are acceptable to you as change, and which are not, if any? *Focus on the quality and not its worth.*

[BUSINESS USER] Scenario 4: Last let's imagine you are working a cash register and are accepting cash from customers. Which bills would you accept from a customer, and which would you not accept, if any? *Focus on the quality and not its worth.*

[When Participant finishes sorting]

11.   What did you think about when you were deciding which bills are acceptable to receive?
    i. **[If doesn't mention]** Is the overall look of the bill something you consider?
    j. **[If doesn't mention]** How about the color?
    k. **[If doesn't mention]** Does the feel of the bill matter?

l. **[If doesn't mention]** Did you focus on any imagery when deciding?

12. What aspects did you focus on when deciding what bills would NOT be acceptable to receive?

Deeper Understanding

Thanks for running through that experience with me. I'd like to learn a little more about what helped you choose what was acceptable or not in certain scenarios. As we are going through the next series of questions, feel free to consider everything we've talked about so far.

13. What, in your opinion, makes a bill unusable or unacceptable?

14. What, if anything, makes you feel confident that cash is usable or acceptable?

15. For you personally, are there certain situations/scenarios that require a "high quality" bill?
    a. If so, what are they?
    b. What classifies as a "high quality" bill for you?

16. Are there certain situations/scenarios that "low quality" bills are acceptable?
    a. If so, when?
    b. What does a "low quality" bill look like for you?

Activity 3: Authentication [24 min]

Calibration

Moderator notes:	• Make sure the recorder device has all wires connected, it is plugged in, turned on and ready to go before session begins. [Tobii Setup guide]

You can put these glasses on now. We'll begin by adjusting the fit and calibrating them to your eyes. We have three sizes of nose pieces available **(mod will have these on the table)**, please take minute to see if the glasses stay put when you move your head up and down.

- Are you wearing contacts today? [Note this in the datasheet in Notes Column A. Also note if P is wearing glasses and whether the session was run with them on- the ideal- or off.]

Moderator notes:	Make sure the glasses fit properly and change out nose piece as needed. To remove or insert nose piece, gently squeeze the ends together while pulling/pushing.
	   • Green dot: narrowest
	   • White dot: medium
	   • Black dot: widest

Now that we have a good fit, let's calibrate the eyeglasses. Please hold this card with your arm straight out in front of you and look at the dot in the center of the circle.

Moderator notes:	Click "Calibrate" on Tobi interface. If calibration is not working, first try switching the nose piece, then refer to the troubleshooting guide. [link] • Looking at a blank wall can help with calibration

Thank you, you can hand that card back to me. Next please hold out your index finger in front of you and, with your whole head, follow your finger while moving it all the way to one side and then the other.

Moderator notes:	If tracking is not great, recalibrate. Can also check the location of the pupils using [Insert Tobii instructions]. The pupils should be in the center. If not, the glasses need to be adjusted on the face and/or nose piece swapped.

Eye Tracking

For our next activity I am going to have you look at a different set of banknotes, this time with the goal of authenticating if they are real or counterfeit. I'd like you to assume that all of these are in circulation, and you're being handed each one to determine if it's real or counterfeit.

- For each banknote you'll handle today, you can and probably should pick them up to examine them.
- Remember that we need you to look at the banknotes through the glasses you are wearing, so avoid looking at them by looking down below the glasses.
- We need the eyeglasses to stay put in the same position through the session. If you feel that they have slid down your nose or shifted in anyway, that's ok just please let me know and we will recalibrate.
- Any thoughts that come to mind please share by speaking them aloud. I'd like to know what you are thinking.

[Hand participant first banknote] I'd like you to authenticate this banknote, verify whether it is real or counterfeit.

Moderator notes:	• Note if the participant does not look at the back of the banknote. • Note in the datasheet if participant attempts to use tactile cues to authenticate, and where they touch the banknote to do so. • Record any observations or thoughts shared by the participant in the datasheet, but do not probe or otherwise interfere with the participants natural handing of stimuli.

[When Participant authenticating 10? banknotes] You can go ahead and take off the glasses and set them down.

Deeper Understanding

Moderator notes:	• Note in Datasheet which participant chooses as real or counterfeit • Have banknotes deemed "real" or "counterfeit" available for the participant to reference when answering questions

17. When you were determining which bills were real what did you consider?
   a. **[If doesn't mention]** Is the overall look of the bill something you consider?
   b. **[If doesn't mention]** How about the color?
   c. **[If doesn't mention]** Does the feel of the bill matter?
   d. **[If doesn't mention]** Did you focus on any imagery when deciding?

18. Of the bills you looked at today which felt the easiest to authenticate? Why is that?
   a. Which was the hardest? Why is that?

Banknotes have different security features such as the blue security ribbon on the $100 dollar bill, the face of Alexander Hamilton as a watermark on the $10 bill or the raised printing on the collar of Lincoln's shirt on the $20.

19. …Were there any security features that you considered when deciding which bills were real or not real?
   m. **[If YES and doesn't mention]** Is the condition of the security ribbon something you consider?

      n. **[If YES and doesn't mention]** Does the visibility of the color shifting ink or clarity of the watermarks matter?

      o. **[If YES and doesn't mention]** What about the security thread?

20.   **[IF yes to Q19]** Were there any security features that were easier to use than others? Why is that?

      a. Were there any security features that were harder to use? Why is that?

21.   Have you ever checked a US banknote to verify that it was real and not counterfeit?

      a. **[IF yes]** How often, on average, do you authenticate your cash (verify that it is real)?

         i. What leads you to authenticate?

      b. **[IF no]** Why do you think you've never done that?

Wrap up

Thank you so much for your time today. That is all the questions I have you, unless there is something additional that we didn't get to talk about that you'd like to share, you are free to go on enjoying your day.